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Inclusion, Innovation & Ethics

3.4.4

FIRST PAGE OF RESEARCH PAPERS PUBLISHED IN SCOPUS/WEB OF SCIENCE/UGC CARE INDEXED JOURNALS IN THE YEAR 2023

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175	The Relationship of Human Rights and Public Health: Advancing a Collaborative	Sanjay Pal, Jitendra Yadav, Puja Kumari, Geeta Shrivastava, Pratishtha Mishra	Department of Pharmacy	Journal of Harbin Engineering University	2023	1006-7043.	175

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190	Correlation between Education Qualification, Annual Income, Awareness of Artificial Intelligence, and Their Impact on Online Shopping	Rajeev Sharma, Dilip Dutt Varshney, Arvind Hans, Chiging Yamang, Neeta Deepaware	Faculty of Business Management & Commerce	Journal of Harbin Engineering University	2023	1006-7043	190
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287	Impacts On The Organizational Awareness Adoption Of Cloud Computing	Prakash Divakaran, Subir Chattopadhyay, Saurabh Kumar, Swati Saxena	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	287
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289	Analyzing Network Function Virtualization in 5g Communication	Shivangi Dwivedi, Ankur Kumar Agrawal, Nyarik Geyi, Meenakshi Kumari	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	289
290	A Comparative Study of Private and Public Sector Healthcare Services	Ashutosh Saxena, Saurabh Kumar, Sangeetha Prasad, Mukesh Chaturved	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	290
291	The Most Effective B2b Marketing Strategies	Subir Chattopadhyay, Chiging Yamang, Shalu Agrawal, Neeta Deepaware	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	291

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292	Different Components Affecting the Productivity of Employees in Indian Organizations	Subir Chattopadhyay, Prakash Divakaran, Saurabh Kumar, Swati Saxena	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	292
293	Factors Effective Financial Management Behaviour of Individuals in Recent Times	Arvind Hans, Sangeetha Prasad, Ankur Kumar Agrawal, Neeta Deepaware	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	293
294	Applicability of School Management Model for Smooth Functioning	Mukesh Chaturvedi, Nyarik Geyi, Anurag Shakya, Prakash Mishra	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	294
295	Role of Leadership Style for Influencing Employee Turnover Rate in Selected Companies	Meenakshi Kumari, Chiging Yamang, Rajeev Sharma, Ashutosh Saxena	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	295
296	Need of Hrm Practices in Present Times with Respect to it Organizations	Dinesh Kumar Pandey, Prakash Divakaran, Sidharth Jain, Shivangi Dwivedi	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	296
297	Assessing the Impact of Brand Image on Customer Retention Under the Mediation Effect of Customer Satisfaction	Saifullah Khalid, Sangeetha Prasad, Ashok Kumar Purohit, Swati Saxena	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	297
298	Examining the Impact of Risk Management Process on Project Succession Rate	Anupama Verma, Nyarik Geyi, Arsalan Ahmad, Neeta Deepaware	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	298

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299	Impact of Different Leadership Styles on the Productivity of Employees	Subir Chattopadhyay, Chiging Yamang, Shalu Agrawal, Neeta Deepaware	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	299
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301	Identify the Framework of the Performance Management System in Smes	Ashutosh Saxena, Saurabh Kumar, Sangeetha Prasad, Mukesh Chaturvedi	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	301
302	Managing the Process of Marketing in Higher Education Institutes	Shivangi Dwivedi, Ankur Kumar Agrawal, Nyarik Geyi, Meenakshi Kumari	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	302
303	Necessity of Supply Chain Management in Food Processing Industries	Swati Saxena, Ankur Kumar Agrawal, Chiging Yamang, Dinesh Kumar Pandey	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	303
304	Practice of Change Management and its Impact on Performance of Companies	Neeta Deepaware, Ankur Kumar Agrawal, Prakash Divakaran, Saifullah Khalid	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	304
305	Factors Influencing Decision Choice of Working Women	Anurag Shakya, Anupama Verma, Prakash Divakaran, Prakash Mishra	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	305

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306	Practices of Customer Relationship Management in E-Commerce	Ashutosh Saxena, Sidharth Jain, Subir Chattopadhyay, Prakash Divakaran	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	306
307	Application development of smart grid system	Dr. Lokesh kumar	Faculty of Engineering and Applied Sciences	Journal of Harbin Engineering University	2023	1006-7043	307
308	Co-treatment of stabilized landfill leachate and municipal wastewater in a granular activated carbon-sequencing batch reactor (GAC-SBR)	Dr. Shubhrasekhar Chakraborty	Faculty of Agriculture	Process Safety and Environmental Protection	2023	0957-5820	308
309	Relativistic modeling of stellar objects in a Schwarzschild's coordinates with embedded class one spacetime	Dr. Amit Kumar Prasad	Faculty of Engineering and Applied Sciences	European Physical Journal C	2023	1434-6052	309
310	Structure -based drug design-guided identification of estrogen receptor binders	Mrs.Rojalini Samanta	Department of Pharmacy	Molecular diversity	2023	1573-501X	310
311	Optimization of Microwave-assisted Extraction Technique for Flavonoids and Phenolics from the Leaves of Oroxylum indicum (L.) Kurtz Using Taguchi L9 Orthogonal DesignOO	Mrs.Rojalini Samanta	Department of Pharmacy	Pharmacognosy Magazine	2023	0976-4062	311
312	A Static Machine Learning Based Evaluation Method for Usability and Security Analysis in E-Commerce website	Dr. Sharmistha Roy	Faculty of Computing & Information Technology	IEEE Access	2023	2169-3536	312
313	Invo-Substitute: Three Layer Encryption For Enhanced E-Commerce Website Security Using Substitution Cipher	Dr. Sharmistha Roy	Faculty of Computing & Information Technology	Pharmaceutical Negative Results	2023	2229-7723	313

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314	Resume Screening Classification using Artificial Intelligence and Natural Language Processing	Dr. Md. Amir Khusru Akhtar	Department of Computer Science & Engineering	European Chemical Bulletin	2023	2063-5346	314
315	Modified matrix minima method for subset constrained transportation problem and its performance evaluation with respect to the optimal solution by mathematical model	Dr. Jayantika Pal	Faculty of Business Management & Commerce	International Journal of Students Research in Technology & Management	2023	2321-2543	315
316	Break Down Resumes into Sections to Extract Data and Perform Text Analysis using Python	Md. Amir Khusru Akhtar	Department of Computer Science & Engineering	International Journal on Recent and Innovation Trends in Computing and Communicati on	2023	2321-8169	316
317	Automated Resume Parsing and JobDomain Prediction using Machine Learning	Md. Amir Khusru Akhtar	Department of Computer Science & Engineering	Indian Journal of Science and Technology	2023	0974-6846	317
318	Reliability and responsiveness of endurance shuttle walk test to estimate functional exercise capacity in patients with chronic obstructive pulmonary disease: A Systematic Review and Meta-Analysis	Shagufa Amber, Jamal Ali Moiz, Aqsa Mujaddadi	Department of Physiotherapy and Paramedical Sciences	Oman Medical Journal	2023	2070-5204	318
319	An Exhaustive Analysis of the Influence of Social Relationships on Mental	Sanjay Pal , Puja Kumari , Jadab Dutta	Department of Pharmacy	Samdarshi	2023	2581-3986	319

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321	An Analytical Study of Human Resource Development in Private Sector Banks of Uttar Pradesh	Anurag Shakya, Anupam Shakya, Anupama Verma	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	321
322	Effect of Process Parameters on Deposition Rate in Saw (sub-merged arc welding) using Taguchi L9 Array	Avatar Singh Kuntal, Mohan Maheshwari, Asim Ahamad	Faculty of Engineering and Applied Sciences	Samdarshi	2023	2581-3986	322
323	A Study on Training and Development and its Effectiveness in Banking Industries	Sidharth Jain, Nitin Kumar Agarwal, Dinesh Pandey, Prakash Divakaran, Prakash Mishra	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	323
324	The Significance of Communication in Improving the Employability of Women in Rural Regions: A Review	Akanksha Singh, Manjri, Lopamudra Satapathy, Jagriti Upadhyay, Joram Yari	Faculty of agriculture	Samdarshi	2023	2581-3986	324
325	An Empirical Study on Artificial Intelligence Impacts on Human Resource Management with Reference to IT Employee	Mohammad Arsalan Ahmad, Sephalika Sagar, Nyarik Geyi, Prakash Mishra	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	325
326	Analysis of Weld Defects Using Non-Destructive Testing (NDT) Techniques: A Comprehensive Review	Avatar Singh Kuntal, Mohan Maheshwari, Asim Ahamad	Faculty of Engineering and Applied Sciences	Samdarshi	2023	2581-3986	326
327	Socio-Cultural Factors and Their Profound Impact on Language Learning: A Comparative Study	Preeti Pankaj Gupta, Prakash Chandra Panda, Tana Nutul, Vineeta Kaur Saluja	Faculty of Humanities & Social Sciences	Samdarshi	2023	2581-3986	327

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329	Impact of Digital Marketing on Consumer Buying Behaviour of Furrkhabad District U.P.	Anurag Shakya, Anupam Shakya, Dinesh Kumar Pandey	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	329
330	The National Education Policy (NEP) of 2020 in the Context of an Interdisciplinary and Holistic Approach to Education	Sanjay Pal, Sandip Paul, Jadab Dutta	Faculty of Humanities & Social Sciences	Samdarshi	2023	2581-3986	330
331	Evaluating the Factors Influencing the Choice of Digital and Social Media Marketing Strategies	Shalu Agrawal, Shabana Bano, Yibom Bagra, Ankit Khare, Salima Bhattarai	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	331
332	Phytochemical Analysis and Medical Benefits of Ocimum sanctum (Tulsi)	Neha Singh, Rupsa Seth, Brishnendra Mishra	Department of Pharmacy	Samdarshi	2023	2581-3986	332
333	Relevance of Mahatma Gandhi's Educational Philosophy in India in Context to NEP-2020	Ram Kumar Pathak, Prakash Chandra Panda, Jadab Dutta	Faculty of Humanities & Social Sciences	Samdarshi	2023	2581-3986	333
334	A Recent Update on Phytochemistry and Pharmacological activity of Anogeissus latifolia plant	Suneel Kumar, Dashrath Singh, Harish Kumar Singh	Department of Pharmacy	Samdarshi	2023	2581-3986	334
335	Formulation and Evaluation of Mucoadhesive Microspheres of Atenolol for Nasal Delivery	Rahul Singh, Abdul Wadood Siddiqui, Rojalini Samanta, Ananga Mohan Das, Pranal Chhetri	Department of Pharmacy	Samdarshi	2023	2581-3986	335

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337	The Role of Television in Health Communication: A Comprehensive Examination of HIV/AIDS Awareness and Behavioral Change in India	Santosh Kumar Gautam, Shahnaaz Zabi, Amandeep Kaur	Faculty of Journalism & Mass Communication	Samdarshi	2023	2581-3986	337
338	Digital Media: Issues and Challenges	Manisha Upadhyay, Deepmala Gupta, Rupa Kumari, Dipongpou	Faculty of Journalism & Mass Communication	Samdarshi	2023	2581-3986	338
339	Study of HRM as Tool for Managerial Success	Saurabh Kumar, Arvind Hans, Chiging Yamang	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	339
340	Construction of Roads using Plastic Waste	Harit Priyadarshi, Kavyansh Yadav, Rahul Kumar Gupta, Meenali Modi	Faculty of Engineering and Applied Sciences	Samdarshi	2023	2581-3986	340
341	Impact of Stainless Steel Slag and Recycled Concrete Aggregate on the Strength Characteristics of Concrete	Nasim, Mahesh Kumar, Aman Garg, Rahul Kumar Gupta	Faculty of Engineering and Applied Sciences	Samdarshi	2023	2581-3986	341
342	Response of Sodium Chloride and Calcium Chloride Salinity on Biochemical Changes of Different Wheat Varieties (Triticum aestivum L.)	Shailendra Singh, Mayank Pratap, Priyanka Dubey, Jayita Dandapat, Techi Yatchi	Faculty of agriculture	Samdarshi	2023	2581-3986	342
343	Advancements and Applications of 3D Printing Technology	Kunal, Kishan Pal Singh, Shweta, Asim Ahamad	Faculty of Engineering and Applied Sciences	Samdarshi	2023	2581-3986	343

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345	Analysis of Critical Digital Marketing Elements to Understand Purchase Behavior	Sidharth Jain, Piyush Kumar, Dinesh Pandey, Prakash Divakaran, Prakash Mishra	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	345
346	Nursing Students Knowledge and Practice regarding Body Mechanics among Nursing Students in Selected Area of Aligarh	Meenakshi Bisht, Jaya Nutan Surin, J. Rukumani, Hishey Lamu Bhutia	School of Nursing	Samdarshi	2023	2581-3986	346
347	Agricultural Robotics: The Future of Indian Farming	Pavan Kumar Singh, Pramod Kumar, Ratnesh Kumar, Sunil Kumar, Lipi Rina	Faculty of agriculture	Samdarshi	2023	2581-3986	347
348	Motivational function of the Performance Appraisal System at Hindustan Aeronautic Limited	Sujit Kumar Mahapatro, Md Saifullah Khalid, Nyarik Geyi	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	348
349	Resource Use Efficiency of Paddy Cultivation and Constraints in Ambedkarnagar District of Uttar Pradesh	Pavan Kumar Singh, Akanksha Singh, Ratnesh Kumar, Sunil Kumar, Lipi Rina	Faculty of agriculture	Samdarshi	2023	2581-3986	349
350	Prison System in India Under Constitutional Perspective Genesis and Culmination	Haider Ali, Tulika Sinha, Neeraj Rai, Pankaj Choudhury	Faculty of Legal Studies	Samdarshi	2023	2581-3986	350
351	Phytochemical Evaluation and Pharmacological Effect of Turmeric [Curcuma longa]Rhizome	Neha Singh, Rupsa Seth, Brishnendra Mishra	Department of Pharmacy	Samdarshi	2023	2581-3986	351
352	Syzygium cumini (L.): A Review of its Phytochemical Constituents and Pharmacological	Suneel Kumar, Dashrath Singh, Harish Kumar Singh	Department of Pharmacy	Samdarshi	2023	2581-3986	352

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354	An Analytical Study of Relationship between Shares Prices and Macroeconomic Variables for Bombay Stock Exchange Sensex Based Companies	Sidharth Jain, Nitin Kumar Agarwal, Dinesh Pandey, Prakash Divakaran, Prakash Mishra	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	354
355	A Comparative Evaluation of Branded Drug Generic Drug: Paracetamol Tablet	Yadvendra Singh Thenuan, Shubham Sharma, Sakshi Verma, Barun Ranjan Sarkar, Suraj Sharma	Department of Pharmacy	Samdarshi	2023	2581-3986	355
356	Study on Diversity of Microbial Flora of Vermicompost	Rakesh Kumar Sharma, Soni Singh, Rojalini Samanta, Brishnendra Mishra, Swarnim Rai	Department of Pharmacy	Samdarshi	2023	2581-3986	356
357	Role of Nanorobotic in Healthcare	Priyanshi Goyal, Abdul Wadood Siddiqui, Pankaj Kumar, Ananga Mohan Das	Department of Pharmacy	Samdarshi	2023	2581-3986	357
358	Study of Engine Performance Parameters using Different Blends of Biodiesel-Review	Shweta, Kishan Pal Singh, Asim Ahamad	Faculty of Engineering and Applied Sciences	Samdarshi	2023	2581-3986	358
359	Performance Evaluation of SVPWM Fed Induction Motor Drive with Three-Level Inverters and Variable Load	Shivam Upadhyay, Dheeresh Upadhyay, Abhishek Pandey	Faculty of Computing & Information Technology	Samdarshi	2023	2581-3986	359
360	The Effects of Work-Life Integration Programmes on Employee Morale and Performance	Niyati Sharma, Anupama Verma, Nyarik Geyi, Shivangi Dwivedi, Amit Srivastav	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	360

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361	Evaluating the Ripple Effect of Supply Chain Management Practices on Supply Chain Profitability: Study of Cement Industry	Rajeev Sharma, Shashi Kant Dikshit, Meenakshi Kumari	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	361
362	A Study of Work-Life Balance among Married Women Employees: Challenges and Solutions	Shalu Agrawal, Shabana Bano, Yibom Bagra, Ankit Khare, Salima Bhattarai	Faculty of Business Management & Commerce	Samdarshi	2023	2581-3986	362
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366	Public Relations Research: Present Situation and Future Prospects	Mayank Kumar Jain, Deepmala Gupta, Rupa Kumari, Dipongpou	Faculty of Journalism & Mass Communication	Samdarshi	2023	2581-3986	366
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370	Drying Kinetics and Performance Analysis of Thermal Storage Based Hybrid Greenhouse Dryer for Uniform Drying of Tomato Flakes	Asim Ahmad, Om Prakash, Anil Kumar, and Md Shahnawaz Hussain	Faculty of Engineering and Applied Sciences	Journal of Thermal Science and Engineering Applications, ASME	2023	1948-5093	370
371	Thermal and CFD Analyses of Sustainable Heat Storage-Based Passive Greenhouse Dryer Operating in No-Load Condition	Asim Ahmad, Om Prakash, Shailesh Kumar Sarangi, Prashant Singh Chauhan, Rajeshwari Chatterjee, Shubham Sharma, Raman Kumar, Sayed M Tag, Abhinav Kumar, Bashir Salah, Syed Sajid Ullah.	Faculty of Engineering and Applied Sciences	Sustainability, MDPI	2023	2071-1050	371
372	Parabolic trough solar collectors: A sustainable and efficient energy source.	Asim Ahmad, Om Prakash, Rukaiya Kausher, Gaurav Kumar, Shatrudhan Pandey, SM Mozammil Hasnain	Faculty of Engineering and Applied Sciences	Material Science for Energy Technology	2023	2589-2991	372
373	Environomical analysis of green building having various window-to-wall ratio	Asim Ahmad, Om Prakash, Pranav Nayan, Anil Kumar, Bharath Bhushan, Rajeshwari Chatterjee.	Faculty of Engineering and Applied Sciences	AIP Conference Proceedings	2023	1551-7616	373
374	Environomical analysis of sensible heat storage-based greenhouse dryer	Asim Ahmad, Om Prakash, Anil Kumar, Md Shahnawaz Hussain	Faculty of Engineering and Applied Sciences	AIP Conference Proceedings	2023	1551-7616	374
375	Nano indentation studies on ceramic thinfilms coatings deposited using sputtering process for energy applications	G Vijaya, Singh M Muralidhar, Manish Kumar, Amit Kumar, MS Ashok Kumar, Dheeraj Kumar, Shatrudhan Pandey, SM Mozammil Hasnain, Abhishek Kumar Singh, Gaurav Kumar	Faculty of Engineering and Applied Sciences	Materials Science for Energy Technologies, Elsevier	2023	2589-2991	375

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377	Designing, Modeling, and Fabrication of a Novel Solar-Concentrating Spittoon against COVID-19 for Antibacterial Sustainable Atmosphere	Abhimannyu Sharma, Dheeraj Kumar, Amit Kumar, Nadeem Faisal, Naresh Kumar, Shatrudhan Pandey, SM Mozammil Hasnain, Tahani Mohamed Al-Hazani, Abdullah A AlKahtane, Saad Alkahtani, Rajeshwari Chatterjee	Faculty of Engineering and Applied Sciences	Sustainability, MDPI	2023	2071-1050	377
378	Emission Reduction and Performance Enhancement of CI Engine Propelled by Neem Biodiesel-Neem Oil-Decanol-Diesel Blends at High Injection Pressure	MM Khan, AK Kadian, RP Sharma, SMM Hasnain, A Mohamed, AE Ragab, A Zare, S Pandey	Faculty of Engineering and Applied Sciences	Sustainability, MDPI	2023	2071-1050	378
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380	Enhanced Onsite Treatment of Domestic Wastewater Using an Integrated Settler-Based Biofilm Reactor with Efficient Biogas Generation	Surya Pratap Singh, Meena Kumari Sharma, Shatrudhan Pandey, SM Mozammil Hasnain, Fahad M Alqahtani, Faisal M Alessa	Faculty of Engineering and Applied Sciences	Sustainability, MDPI	2023	2071-1050	380

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381	A Hybrid Model based on Convolution Neural Network and Long Short-Term Memory for Qualitative Assessment of Permeable and Porous Concrete	Manish Kumar, Shatakshi Singh, Sunggon Kim, Ashutosh Anand, Shatrudhan Pandey, SM Mozammil Hasnain, Adham E Ragab, Ahmed Farouk Deifalla	Faculty of Engineering and Applied Sciences	Case Studies in Construction Materials, Elsevier	2023	2214-5095	381
382	Computational modeling of sigmoid functionally graded material (SFGM) Plate	Jai Kumar Sharma, Sateesh Kumar, Nishant Kumar, S M Mozammil Hasnain, Shatrudhan Pandey, Ahmed Farouk Deifalla, Adham E Ragab	Faculty of Engineering and Applied Sciences	Materials Research Express, IOP	2023	2053-1591	382
383	Monitoring of thermo-cycles in fibre laser welding of duplex stainless steel 2205 sheets and its correlation with microstructures and mechanical properties	Gulshad Nawaz Ahmad, Nirmal Kumar Singh, Brajendra Nath Tripathi, Syed Sadique Anwer Askari, Shatrudhan Pandey, Ali Zare, S M Mozammil Hasnain	Faculty of Engineering and Applied Sciences	Materials Research Express, IOP	2023	2053-1591	383
384	Study of Thermal And Mechanical Behavior by Analyzing Reinforcement Effect of Graphene Nanoplatelets on Polyamide-66 Composite System Developed via Melt-Mixing Technique	Ranjan Kumar, Sujeet Kumar Mishra, S M Mozammil Hasnain, Shatrudhan Pandey, Ahmed Farouk Deifalla, Sudeepan Jayapalan	Faculty of Engineering and Applied Sciences	Materials Research Express, IOP	2023	2053-1591	384
385	Feasibility of sequential anaerobic-aerobic integrated settler-based biofilm reactor for onsite treatment of domestic wastewater	Surya Pratap Singh, Meena Kumari Sharma, Shailesh Kumar Sarangi, Shatrudhan Pandey, Ahmed Farouk Deifalla, SM Mozammil Hasnain	Faculty of Engineering and Applied Sciences	Environmental Research Communications, IOP	2023	2515-7620	385

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386	Assessment of the mechanical and durability characteristics of bio-mineralized Bacillus subtilis self-healing concrete blended with hydrated lime and brick powder	Mohd Abu Bakr, Birendra Kumar Singh, Ahmed Farouk Deifalla, Shatrudhan Pandey, Ahmed Hussain, Adham E Ragab, Sahir Sultan Alvi, SM Mozammil Hasnain	Faculty of Engineering and Applied Sciences	Case Studies in Construction Materials, Elsevier	2023	2214-5095	386
387	Understanding drug addiction: causes, effects and treatment strategies	Kavita Sharma, Archana Sahu, Firuza Begum	Department of Pharmacy	Journal of Research Administration	2023	1539-1590	387
388	Analyzing the implementation challenges and opportunities of the right to education act (rte) in light of the national education policy 2020: a comparative study	Yatendra Pal , Ranjana Singh, Shimpi Kumari Chaturvedi, Vinay Tripathi, Vipul Jain, Ashutosh Saxena	Faculty of Humanities & Social Sciences	Journal of Research Administration	2023	1539-1590	388
389	An organization theory perspective on the corporate decision to oppose fasb standards	Ankur Kumar Agrawal , Md. Saifullah Khalid, Nyarik Geyi, Jai Anand Shukul, Vipul Jain	Faculty of Business Management & Commerce	Journal of Research Administration	2023	1539-1590	389
390	A comprehensive analysis of DNA fingerprinting techniques and related present-day advances and uses	Sanjay Pal , Tulshi Shringi, Balwinder Kaur	Department of Physiotherapy and Paramedical Sciences	Journal of Research Administration	2023	1539-1590	390
391	Embracing the essence of Brahma muhurta: the magical hour before dawn	Dhanya. T , Shivansh Chandra Sharma, Shimpi Kumari Chaturvedi	Faculty of Humanities & Social Sciences	Journal of Research Administration	2023	1539-1590	391
392	Comparative analysis of approaches, methods, processes, techniques, styles and strategies in education	Ram Kumar Pathak, Ashok Kumar Upadhyay, Prakash Mishra, Sumit Gupta, Amandeep Kaur, Reena Thapa	Faculty of Business Management & Commerce	Journal of Research Administration	2023	1539-1590	392
393	Enhancing secondary level students' learning through ict: a comprehensive review and future directions	Yatendra Pal, Ashok Kumar Upadhyay, Vinay Singh, Nyarik Geyi, Ankit Khare	Faculty of Computing & Information Technology	Journal of Research Administration	2023	1539-1590	393

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394	Disparities between genders in investing approaches: an information processing viewpoint	Ankur Kumar Agrawal , Md Saifullah Khalid , Nyarik Geyi , Jai Anand Shukul, Vipul Jain	Faculty of Business Management & Commerce	Journal of Research Administration	2023	1539-1590	394
395	Addressing the preservation of food, strategies for the development of bioprotective cultures	Lopamudra Satapathy, Sanjay Pal, Priyanka Dubey, Techi Yatchi	Faculty of Agriculture	Journal of Research Administration	2023	1539-1590	395
396	Enhancing transportation efficiency and safety through internet of things (iot) technologies: a comprehensive review	Love Kumar , Md.AmirKhusruAkhtar, Sandip Kulkarni, Sumit Singh Sonkar	Faculty of Computing & Information Technology	Journal of Research Administration	2023	1539-1590	396
397	Exploring the implications of artificial intelligence in decision-making and employment	Anuradh Yadav, Ritushree Narayan, Sheetal Choudhary	Faculty of Computing & Information Technology	Journal of Research Administration	2023	1539-1590	397
398	Green synthesis of silver nanoparticles using tagetes erect leaves and investigate its antimicrobial and antioxidant activity	Soni Singh, Rojalini Samanta, Brishnendra Mishra, Swarnim Ra	Department of Pharmacy	Journal of Research Administration	2023	1539-1590	398
399	Ethics and plagiarism in academic research: a critical analysis	Kavita Sharma , Ashutosh Shukla, Laishram Malem Mangal	Faculty of Business Management & Commerce	Journal of Research Administration	2023	1539-1590	399
400	Implementing integrated teacher education program curriculum in relation to NEP2020	Ram Kumar Pathak, Shimpi Kumari Chaturvedi, Ashutosh Saxena, Somya Bansal, Shaifali Rachna Puri	Faculty of Humanities & Social Sciences	Journal of Research Administration	2023	1539-1590	400
401	Impact of node mobility on the performance of AODV, bellman ford and ZRP routing protocolsin MANET	Rajesh Kumar Upadhyay , Md. Amir Khusru Akhtar	Faculty of Computing & Information Technology	Journal of Research Administration	2023	1539-1590	401
402	Edible vaccines: a novel approach to immunization	Jitendra Saraswat , ShailzaNimmi Guria,Amandeep Kaur	School of Nursing	Journal of Research Administration	2023	1539-1590	402

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403	Unveiling manipulation tactics: strategies for brands to acquire more customers	Shalu Agrawal , Ankit Khare, Meenakshi Kumari, Yibom Bagra, Salima Bhattarai	Faculty of Business Management & Commerce	Journal of Research Administration	2023	1539-1590	403
404	Clustering of web search results: techniques, applications, and challenges	Amit Kumar Upadhyay , Vinay Singh , Manish Saxena	Faculty of Computing & Information Technology	Journal of Research Administration	2023	1539-1590	404
405	An analysis of talent management's impact on organizational performance	Unnati Jadaun , Viplav Pandey, Yibom Bagra, Dilip Singh Hazari, Salima Bhattarai	Faculty of Business Management & Commerce	Journal of Research Administration	2023	1539-1590	405
406	Molecular and biochemical profiling of angiotensinconverting enzyme in clinical isolates and its clinical implications in disease prognosis	Rojalini Samanta , Soni Singh, Pranal Chhetri, Franco Gohain	Department of Pharmacy	Journal of Research Administration	2023	1539-1590	406
407	Multilevel education for sustainability through ICT education and technology	Vinay Singh, Ram Kumar Pathak, Rahul Solanki, Dinesh Mishra	Faculty of Computing & Information Technology	Journal of Research Administration	2023	1539-1590	407
408	Role of artificial intelligence in biotechnology	Md.Amir Khusru Akhtar , Love Kumar, Sandip Kulkarni, Sumit Singh Sonkar, Soni Singh	Faculty of Computing & Information Technology	Journal of Research Administration	2023	1539-1590	408
409	Role of computers in digital forensics	Manoj Varshney , Himanshu Verma, Sheetal Choudhary, Vishal Khatri	Faculty of Computing & Information Technology	Journal of Research Administration	2023	1539-1590	409
410	An extensive examination of work-life balance and its influence on employee performance and job satisfaction	Unnati Jadaun , Salima Bhattarai , Munish Kumar Sharma, Yibom Bagra, Dilip Singh Hazari	Faculty of Business Management & Commerce	Journal of Research Administration	2023	1539-1590	410
411	A study on empowerment of women in India	Shalu Agrawal , Ankit Khare, Leena Shrivastav, Yibom Bagra, Salima Bhattarai	Faculty of Business Management & Commerce	Journal of Research Administration	2023	1539-1590	411

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412	Analysis of computer crime research: trends, challenges, and implications	Jitendra Yadav, Pratishtha Mishra, Atibha Vijaya Singh, Pankaj Choudhury	Faculty of Legal Studies	Journal of Research Administration	2023	1539-1590	412
413	Study of contemporary techniques of teaching in education in reference in nep-2020	Ram Kumar Pathak , Shimpi Kumari Chaturvedi, Ashutosh Saxena, Somya Bansal, Shaifali Rachna Puri	Faculty of Humanities & Social Sciences	Journal of Research Administration	2023	1539-1590	413
414	The internet of things (iot) and its significance in education	Md.Amir Khusru Akhtar , Love Kumar,Sumit Singh Sonkar, Sandip Kulkarni	Faculty of Computing & Information Technology	Journal of Research Administration	2023	1539-1590	414
415	A review: cholesterol and its management	Neha Singh , Kaminee Sahu, Franco Gohain, Bhupen Subba	Department of Pharmacy	Journal of Research Administration	2023	1539-1590	415
416	A description of the drug information centre in India including its functions and challenges	Shubham Sharma, Pankaj Tiwari, Abhishek Pandey, Bhupen Subba	Department of Pharmacy	Journal of Research Administration	2023	1539-1590	416
417	An overview of unusual and rare disease: auto-brewery syndrome	Priyanshi Goyal , Kaminee Sahu, Ananga Mohan Das	Department of Pharmacy	Journal of Research Administration	2023	1539-1590	417
418	Current developments in therapeutic strategies for the management of diabetes: an extensive review	Akash Upadhyay , Abdul Wadood Siddiqui, Sailesh Narayan, Brishnendra Mishra	Department of Pharmacy	Journal of Research Administration	2023	1539-1590	418
419	In vitro micropropagation of *Psoralea corylifolia*: an endangered medicinal herb	Sangita Kujur , Soni Singh, Priyanka Ojha, Chamta Gurung	Department of Physiotherapy and Paramedical Sciences	Journal of Research Administration	2023	1539-1590	419
420	Revolutionizing urban living: applications of IOT in smart cities	Love Kumar,Sharmistha Roy, Shailja Varshney, Dinesh Mishra , Manish Saxena	Faculty of Computing & Information Technology	Journal of Research Administration	2023	1539-1590	420
421	Performance of routing protocols with varying node density and group mobility model in mobile ad-hoc	Rajesh Kumar Upadhyay and Md. Amir Khusru Akhtar	Faculty of Computing & Information Technology	Journal of Research Administration	2023	1539-1590	421

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422	The impact of pedagogical and ICT training on teachers' approaches to online teaching and use of digital tools	Ram Kumar Pathak, Rohit Kumar ,Nirdesh Kumar, Dinesh Mishra	Faculty of Computing & Information Technology	Journal of Research Administration	2023	1539-1590	422
423	Development and assessment of a gel containing moxifloxacin hydrochloride encapsulated in cubosomes for targeted delivery to the eye	Shubham Sharma, Pankaj Tiwari, Abhishek Pandey, Bhupen Subba	Department of Pharmacy	Journal of Research Administration	2023	1539-1590	423
424	Essentials of nursing practice: foundations and core concepts	Ms. D. Regina Rebello	School of Nursing	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	424
425	Medical-surgical nursing: care across the lifespan	Mr. Bikram Mazumdar	School of Nursing	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	425
426	Nursing assessment and diagnosis: a holistic approach	Ms.Shilza Nimmi Guria	School of Nursing	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	426
427	Nursing ethics and legal issues: a practical guide	Ms. Shradha Alka Soreng	School of Nursing	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	427
428	Nursing informatics: leveraging technology for better patient outcomes	Ms. Regina Kujur	School of Nursing	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	428
429	A Review paper on Employee Engagement	Dinesh Pandey, Unnati Jadon, Prakash Divakaran, Prakash Mishra	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	429
430	Impact on Digital Marketing in Rural and Urban Areas: Opportunities,	Kumari Jyotsana, Shalu Agrawal, Yibom Bagra, Ankit Khare, Salima	Faculty of Business Management & Commerce	Journal of Higher Education Theory and	2023	2158-3595	430

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431	Development and Assessment of Effervescent Granules Containing Ibuprofen	Shubham Sharma, Vivek Chaurasia, Sandeep Kumar Kurmi, Suraj Sharma	Department of Pharmacy	Journal of Higher Education Theory and Practice	2023	2158-3595	431
432	Evaluation of Antidiabetic Effect of Ricinus Communis Leaves	Suneel Kumar, Reetesh Yadav, Ananga Mohan Das	Department of Pharmacy	Journal of Higher Education Theory and Practice	2023	2158-3595	432
433	Spirulina: An Excellent Nutritional Supplement Good for Health Benefits	Rakesh Kumar Sharma, Reetesh Yadav, Balwinder Kaur	Department of Pharmacy	Journal of Higher Education Theory and Practice	2023	2158-3595	433
434	Impact of Platelet-Rich Plasma Injections on Patients with Osteoarthritis	Vivek Chaurasia, Shubham Sharma, Sandeep Kumar Kurmi, Suraj Sharma	Department of Pharmacy	Journal of Higher Education Theory and Practice	2023	2158-3595	434
435	Nuclear Medicine and Artificial Intelligence: A Boon for Cancer Patients	Priyanshi Goyal, Pankaj Tiwari, Ananga Mohan Das	Department of Pharmacy	Journal of Higher Education Theory and Practice	2023	2158-3595	435
436	Polypharmacy Among the Elderly Population: A Comprehensive Review Study	Yadvendra Singh Thenuan, Rojalini Samanta, Ananga Mohan Das3, Pranal Chhetri	Department of Pharmacy	Journal of Higher Education Theory and Practice	2023	2158-3595	436
437	Chitosan/polymers-impregnated mucoadhesive film for extended drug release of 5-fluorouracil: In vitro studies	Rahul Kumar Singh, Sailesh Narayan, Brishnendra Mishra, Swarnim Rai, Reena Singh	Department of Pharmacy	Journal of Higher Education Theory and Practice	2023	2158-3595	437
438	Sociological Aspects of Crime: Understanding Causes, Consequences, and Responses	Vikas Sharma, Shiv Prakash Singh, Pankaj Choudhury, Aishwarya Sharma	Faculty of Legal Studies	Journal of Higher Education Theory and Practice	2023	2158-3595	438
439	The Impact of Social Media on Consumer Buying Decisions	Md Saifullah Khalid, Shalu Agrawal, Nyarik Geyi, Jai Anand Shukul, Vipul Jain	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	439

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440	Enzyme-Linked Immunosorbent Assay (ELISA): Principles, Methods, and Applications	Rakesh Kumar Sharma, Ritesh Yadav, Balwinder Kaur	Department of Pharmacy	Journal of Higher Education Theory and Practice	2023	2158-3595	440
441	Revolutionizing Pharma and Healthcare: The Power of Artificial Intelligence	Yadvendra Singh Thenuan, Rojalini Samanta, Ananga Mohan Das, Pranal Chhetri	Department of Pharmacy	Journal of Higher Education Theory and Practice	2023	2158-3595	441
442	Recent Opportunities and Biomedical Applications of 3D Printing in Healthcare	Pankaj Kumar, Priyanshi Goyal, Franco Gohain	Department of Pharmacy	Journal of Higher Education Theory and Practice	2023	2158-3595	442
443	Simultaneous saccharification and co-fermentation of paddy straw using cellulolytic enzymes and thermotolerant yeast	Soni Singh, Rojalini Samanta, Brishnendra Mishra, Swarnim Rai	Department of Pharmacy	Journal of Higher Education Theory and Practice	2023	2158-3595	443
444	Green HRM - An Emerging Trend in HR Practices	Arvind Hans, Unnati Jadon, Prakash Divakaran, Prakash Mishra	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	444
445	Evaluating Assistive Technology for People with Various Disabilities: A Systematic Analysis	Sanjay Pal, Sangita Kujur, Laxmi Rana, Pema Wangden Bhutia	Department of Physiotherapy and Paramedical Sciences	Journal of Higher Education Theory and Practice	2023	2158-3595	445
446	Artificial neural network-supervised control of an inverted pendulum system with changing system parameters as well as external disturbance	Dheeresh Upadhyay, Lokesh Kumar	Faculty of Computing & Information Technology	Journal of Higher Education Theory and Practice	2023	2158-3595	446
447	Artificial Neural Networks:A Review Study	Dheeresh Upadhyay, Lokesh Kumar	Faculty of Computing & Information Technology	Journal of Higher Education Theory and Practice	2023	2158-3595	447
448	Evaluation of Algorithms to Improve Blood Glucose Level Control	Lokesh Kumar, Dheeresh Upadhyay	Faculty of Computing & Information Technology	Journal of Higher Education Theory and Practice	2023	2158-3595	448

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449	Impact of Artificial Intelligence in Human Resource Management	Anurag Shakya, Anupama Verma , Somya Bansal, Chiya Mihu, Prakash Mishra	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	449
450	Impact and Challenges of Implementation of GST on E-Commerce Sector	Arvind Hans, Anuarg Shakya, Somya Bansal, Chiging Yamang, Shivangi Dwivedi	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	450
451	Investment Landscape in India: Opportunities, Challenges, and Future Prospects	Leena Shrivastav, Ankur Kumar Agrawal, Nyarik Geyi, Jai Anand Shukul, Vipul Jain	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	451
452	Financial Management Strategies for Sustainable Growth and Value Creation	Leena Shrivastav, Ankur Kumar Agrawal, Nyarik Geyi, Jai Anand Shukul	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	452
453	Hybrid Vehicle Design using MATLAB/SIMULINK	Abhishek Pandey, Shivam Upadhyay	Faculty of Computing & Information Technology	Journal of Higher Education Theory and Practice	2023	2158-3595	453
454	Heart Disease Prediction Using Machine Learning Algorithms	Shivam Upadhyay, Vinay Singh, Roma Singh	Faculty of Computing & Information Technology	Journal of Higher Education Theory and Practice	2023	2158-3595	454
455	Human Face Recognition Using Image Processing	Shivam Upadhyay, Vinay Singh, Syed Umer	Faculty of Computing & Information Technology	Journal of Higher Education Theory and Practice	2023	2158-3595	455
456	Employee Well-Being and Job Satisfaction in Private Sector Banks	Niyati Sharma, Md. Saifullah Khalid, Nyarik Geyi, Shivangi Dwivedi, Amit Srivastav	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	456
457	A Survey of the Impact of Digital Marketing on Consumer Behaviour	Leena Shrivastav, Niyati Sharma, Prakash Divakaran, Ankit Khare	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	457
458	Job Satisfaction a Tool for Performance Management– A Study of Banking Sector	Meenakshi Kumari, Niyati Sharma, Ishwer Singh, Ankit Khare	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	458

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459	A Comparative Study of Work-Life Balance and Job Satisfaction among Working Women in the Banking and Education Sectors	Niyati Sharma, Md. Saifullah Khalid, Amit Srivastav, Nyarik Geyi	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	459
460	Impact of Social Media Marketing on Indian Businesses	Anuarg Shakya, Anuapam Verma, Chiging Yamang, Somya Bansal, Shivangi Dwivedi	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	460
461	Determinants of Personal Financial Management Behavior: The Moderating Role of Financial Literacy in the Relationship	Ankur Kumar Agrawal, Anupama Verma, Nyarik Geyi, Jai Anand Shukul, Vipul Jain	Faculty of Business Management & Commerce	Journal of Higher Education Theory and Practice	2023	2158-3595	461
462	Genetic engineering in agriculture: applications and ethical considerations	Alisha Kumari,Vikas Yadav,Techi Yatchi,Iti Gontia	Faculty of Agriculture	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	462
463	The role of emotional intelligence in teaching effectiveness and classroom management	B Phalachandra	Department of Humanities & Social Sciences	SHODHAK A Journal of Historical Research	2023	0302-9832	463
464	The influence of teacher professional development on instructional practices and student achievement	Neerja Dhankar	Department of Humanities & Social Sciences	SHODHAK A Journal of Historical Research	2023	0302-9832	464
465	The impact of technology integration in the classroom: a meta-analysis of student learning outcomes	S.Choudhary	Department of Humanities & Social Sciences	SHODHAK A Journal of Historical Research	2023	0302-9832	465
466	Promoting critical thinking in education: approaches, challenges, and best practices	B Phalachandra	Department of Humanities & Social Sciences	SHODHAK A Journal of Historical Research	2023	0302-9832	466
467	Educational Policies and Student Outcomes: An Examination of Global Education	Neerja Dhankar	Department of Humanities & Social Sciences	SHODHAK A Journal of Historical Research	2023	0302-9832	467

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468	The effect of early childhood education on cognitive and social development	S.Choudhary	Department of Humanities & Social Sciences	SHODHAK A Journal of Historical Research	2023	0302-9832	468
469	Fundamentals of civil engineering: principles and applications	Mr. Rahul Kumar Gupta,Dr. Mahesh Kumar	Faculty of Engineering and applied sciences	Shodhak : A Journal of Historical Research	2023	0302-9832	469
470	Geotechnical engineering: soil mechanics and foundation design	Mr. Anurag,Dr. Harit Priyadarshi,Mr. Talkeshwar Ray	Faculty of Engineering and applied sciences	Shodhak : A Journal of Historical Research	2023	0302-9832	470
471	Infrastructure resilience in the face of natural disasters	Mr. Rahul Kumar Gupta,Dr. Mahesh Kumar	Faculty of Engineering and applied sciences	Shodhak : A Journal of Historical Research	2023	0302-9832	471
472	Mechanism and tools used for resource allocation in cloud	Dr. Dinesh Mishra, Dr. Javed Wasim, Dr. Manish Saxena, Dr. Md. Amir Khusru Akhtar	Department of Computer Science & Engineering	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	472
473	Role of cloud computing in information technology framework	Mr. Abhishek Kumar Gupta, Dr. Dinesh Mishra, Dr. Roma Singh, Dr. Ritushree Narayan	Faculty of Computing & Information Technology	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	473
474	Applicability of modern machine learning techniques in present era	Mr. Amit Upadhyay, Dr. Sheetal Choudhary, Dr. Dinesh Mishra, Ms. Naghma Khatoon	Faculty of Computing & Information Technology	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	474
475	Use of machine learning approaches for enhance learning environment	Ms. Bhawna Singh, Dr. Sandip Kulkarni, Dr. Sharmistha Roy, Dr. Dinesh Mishra	Faculty of Computing & Information Technology	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	475
476	Developing an accurate intelligent decision-making method for the construction of pulmonary tuberculosis diagnosis system	Dr. Vinay Singh, Dr. Sandip Kulkarni, Dr. Dinesh Mishra, Sharma Sonu Kumar	Faculty of Computing & Information Technology	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	476
477	Concept and classification of grid computing systems	Hamza Zaki, Dr. Manish Saxena, Dr. Dinesh Mishra, Mr. Ranjan Ganguli	Faculty of Computing & Information Technology	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	477
478	Integration of machine learning along with deep learning	Manoj Va, Dr. Roma Singh, Dr. Dinesh Mishra, Dr. Md. Amir	Faculty of Engineering and applied	Phalanx: A Quarterly Review for	2023	2320-7698	478

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	applications in various domains	Khusru Akhtar	sciences	Continuing Debate			
479	Algorithms used for digital image segmentation techniques	Umesh Chand Sharma, Dr. Sheetal Choudhary, Dr. Dinesh Mishra, Dr. Ritushree Narayan	Faculty of Computing & Information Technology	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	479
480	Filtering of digital images by using labview approach	Dr. Javed Wasim, Dr. Sandip Kulkarni, Dr. Dinesh Mishra, Ms. Naghma Khatoon	Faculty of Computing & Information Technology	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	480
481	Discussing a possible solution for identity and access management (iam) to help enterprise it organizations	Mr. Amit Upadhyay, Dr. Roma Singh, Dr. Dinesh Mishra, Dr. Vinay Singh	Faculty of Computing & Information Technology	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	481
482	Intrusion detection and prevention mechanism for detecting attacks in computer system	Umesh Chand Sharma, Dr. Sheetal Choudhary, Dr. Dinesh Mishra, Mr. Ranjan Ganguli	Faculty of Engineering and applied sciences	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	482
483	Detecting harmful malware by using machine learning algorithms	Hamza Zaki, Dr. Manish Saxena, Dr. Dinesh Mishra, Dr. Md. Amir Khusru Akhtar	Faculty of Engineering and applied sciences	Phalanx: A Quarterly Review for Continuing Debate	2023	2320-7698	483
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Evaluating The Role Of Pharmacy Exit Exams In Advancing Pharmacy Practice In India: A Comprehensive Review

Abdul Wadood Siddiqui[1], Dashrath Singh[2], Rojalini Samanta[3], Ananga Mohan Das[4], Pranal Chhetri[5]
[1]Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract:
The implementation of exit exams for Diploma in Pharmacy (D. Pharm) holders is aimed at fostering a culture of diligence and dedication among students. With the healthcare sector in India experiencing significant growth, pharmacists are presented with numerous career prospects, provided they can meet the escalating demands for innovation, research, skills, knowledge, and talent within the field. The pharmacy profession is in a state of dynamic evolution as it progresses towards becoming a global leader in the field. Exit exams serve as valuable quality indicators for assessing academic programs and the teaching standards of educational institutions. Mandating exit exams will establish new benchmarks designed to enhance the overall learning experience for all students. These exams have a demonstrably positive impact on student performance and will undoubtedly contribute to the advancement of the pharmacy profession in India.

KEYWORDS: Pharmacy, India, exit exam, pharmacy practice.

Introduction

India, a developing nation comprising 28 states and 7 union territories in South Asia, is an independent and secular republic. In India, a Diploma in Pharmacy (commonly abbreviated as D Pharm or D Pharma) is the minimum qualification for entry into the pharmacy profession. This diploma can be obtained after completing a two-year and three-month study program. A significant proportion of practicing pharmacists in the country hold this diploma.

The foundation of pharmacy education in India dates back to 1949 when the first D. Pharm pharmacy education college was established in Jalpaiguri, West Bengal. The Pharmacy Council of India introduced Diploma in Pharmacy (D. Pharm) as the mandatory qualification for entering the pharmacy profession in 1953, marking an important milestone in the field.

Before 1932, select hospitals and educational institutions in India offered training to individuals who served as "Compounders" in medical supply stores and hospitals. The training programs for these "Compounders" were known as compounder's training courses. The Christian Medical College in Vellore, founded in 1900, introduced a degree program for compounders' training in 1921, which was subsequently transformed into a D. Pharm course in 1958.

To be eligible for the D. Pharm program, students must have completed their higher secondary education in the science stream, including subjects such as physics, chemistry, and either biology or mathematics. The institution offering the D. Pharm program must adhere to the academic study program requirements specified in Regulation 7 and receive approval from the Pharmacy Council of India as mandated by Section 12(1) of the Pharmacy Act of 1948.

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Parental Demographics and School Selection: An Empirical Study of Jharkhand, India

Md Saifullah Khalid[1], Deepshikha Saxena[2], Md. Irfan Alam [3], Nyarik Geyi[4], Jai Anand Shukul[5], Vipul Jain[6]

[1]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand, India
[2]Associate Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP, India
[3]Associate Professor, Jharkhand Rai University, Ranchi, Jharkhand, India,
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[6]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Corresponding author: Md Saifullah Khalid
Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand, India

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Effect of Online Teaching and Learning on Academic Performance in Higher Education: An Informative Study

Maksud Ahmed[1], Ajay Kumar Singh[3], Bechan Singh[3], Ashok Kumar Upadhyay[4]
[1]Research Scholar, Department of Education, Assam University, Silchar, Assam
[2]Professor, Department of Education, Assam University, Silchar, Assam
[3]Assistant Professor, Faculty of Education, Usha Martin University, Ranchi
[4]Librarian and Associate Professor, Department of Library and Information Science, Mangalayatan University, Aligarh, UP

Corresponding author: Maksud Ahmed
Research Scholar, Department of Education, Assam University, Silchar, Assam

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Protection of Human Rights of Women- International and National Perspective - A Study

Haider Ali[1], Tulika Sinha[2], Neeraj Rai[3], Pankaj Choudhury[4]

[1]Associate Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP

[2]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand

[3]Associate Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP

[4]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:

The notion of Human Rights was in existence in India since the Vedic period. One can easily interpret above Vedic Prayer from the Human Rights point of view. It connotes that may everybody in this universe be happy and healthy. In short 'The welfare of Humanity as a whole'.

Keywords:

Introduction

The notion of Human Rights was in existence in India since the Vedic period. One can easily interpret above Vedic Prayer from the Human Rights point of view. It connotes that may everybody in this universe be happy and healthy. In short 'The welfare of Humanity as a whole'.

This shows Indian universal perspective of Human Rights. No matter Further Human Right developed as a western concept and got International accreditation and recognition in the late 18th century. The philosophy "Every man has a right to dignity" was advocated in the US Declaration of independence in 1776.[1]

Human Rights are naturally acquired by the Human beings on earth. A right means freedoms that are guaranteed. It is true to say that Human Rights are nothing but various freedoms guaranteed to human beings. The present situation is such that no one is aware about things to which he is entitled. Society consists of various small groups having different identities. Roscoe Pound emphasized upon the concept of 'balancing of interests' in his theory known as Social Engineering Theory. Pound had insisted that, "the structure of public, social and individual interests are all, in fact, individual interests looked at from different points of view for the purpose of clarity and therefore, in order to make the system work properly, it is essential that when interests are balanced, all claims must be translated into the same level and carefully labeled."[2]

One can easily apply the said theory to the theme of the present paper i.e. each and every unit of the society shall consider the welfare of all.

[1] Pattanayak **Pradeepta Ranjan, "Human Rights-A Protean Perspective", Indian** Bar review, Vol. xxviii (1): 2001, p 51.

[2] See generally, **Roscoe Pound's Social Engineering Theory.**

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Scoping Review On Medication Reviews And Clinical Outcomes In Individuals With Dementia

Dashrath Singh[1], Shubham Sharma[2], Aditya Dev Rajora[3], Barun Ranjan Sarkar[4], Tashi Choden Lepcha[5]
[1]Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract:
Individuals diagnosed with dementia often grapple with challenges related to polypharmacy and inappropriate medication use. They may potentially benefit from regular medication reviews. Despite this, the advantages of such reviews remain underexplored in this population. This scoping review aims to pinpoint existing knowledge gaps regarding the effects of medication reviews on clinical outcomes in older adults with dementia.
The search for relevant studies encompassed three databases (Ovid MEDLINE, Ovid EMBASE, and Scopus), spanning from their inception to January. A combination of keywords and medical subject headings was employed to identify pertinent studies. After the removal of duplicate entries and the exclusion of ineligible articles, 22 publications emerged from the initial pool of 8346, forming the basis for this review.
In total, 57 distinct outcomes were identified, including aspects related to medication use evaluation (n = 17), drug-related interventions (n = 11), drug-related problems (n = 10), dementia-associated behavioral symptoms (n = 8), cost-effectiveness (n = 2), drug-related hospital admissions (n = 1), alongside additional outcomes categorized as "other" (n = 7).
This scoping review exposes several gaps in the existing research. One notable gap is the scarcity of studies examining the impact of medication reviews on medication management capacity and medication adherence, quality of life, and mortality.

KEYWORDS: Older adults; dementia; medication review; drug-related problems.

Introduction

Dementia is an overarching term encompassing various neurodegenerative and progressively irreversible disorders characterized by cognitive decline and a gradual loss of daily functioning, often accompanied by behavioral issues. Cognitive impairment (CI) or dementia impacts critical cognitive functions, including learning, memory, reasoning, attention, comprehension, language, and judgment. With the risk of dementia diagnosis rising significantly with age, the global prevalence is projected to surge from 50 to 150 million by 2050, driven by the aging global population. Presently, dementia stands as the seventh leading cause of death and a major contributor to disability and dependency among older individuals worldwide. Individuals with dementia, their caregivers, families, and society at large bear the weight of social, psychological, physical, and financial consequences.

In Canada, the annual healthcare expenditure for dementia, inclusive of out-of-pocket expenses for caring for those with dementia, reached CAD 10.4 billion in 2016. Older adults living with dementia frequently contend with coexisting medical conditions, such as hypertension, diabetes mellitus, coronary artery disease, stroke, and heart failure, which are notably prevalent in this demographic. Individuals with cognitive impairment or dementia, in particular, are highly susceptible to drug-related problems (DRPs), with an estimated 41% of hospital admissions in older adults with dementia having a partial or complete link to DRPs, surpassing rates in

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A Comprehensive Review Of Quantitative Literature On Swallowing Challenges In Adult Patients With Oral Dosage Forms

Shubham Sharma[1], Sujata Kumari[2], Sakshi Verma[3], Franco Gohain[4], Bhupen Subba[5]
[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract:
The objective of this systematic review was to identify and critically evaluate the existing body of evidence concerning challenges related to the administration of solid oral dosage forms (SODFs), such as tablets, to inpatients across various healthcare settings, including hospitals, nursing homes, and long-term stay units (LTSUs). The literature search was conducted in September 2021 and repeated in June across multiple databases, including PubMed, EMBASE, CINAHL, Scopus, Web of Science, The Cochrane Library, PsycINFO, and ProQuest. Data from each eligible study, including details such as author, publication year, country, participant count, title, follow-up duration, study design, inclusion and exclusion criteria, data collection methods, relevant outcomes, and key findings, were collected and organized using a Microsoft Excel® spreadsheet. Among the 3,023 records initially identified, a final selection of 12 articles was included in the systematic review.
Out of these twelve studies, seven reported on the prevalence of challenges associated with swallowing SODFs, with rates ranging from 10% to 34.2%. Additionally, nine of the twelve studies documented the methods employed to address issues related to SODFs, with tablet crushing being the most commonly cited approach. Given the significant prevalence of swallowing difficulties and the subsequent practice of crushing medications in response to these challenges, concerns are raised about the potential for medication administration errors to occur.

KEYWORDS: Solid oral dosage form (SODF), medication administration, difficulty swallowing, dysphagia, medication manipulation, inpatient.

Introduction

One of the most prevalent and effective approaches to prevent, manage, and treat diseases and health issues is through the use of medications. Nonetheless, research findings have highlighted that, despite the evident benefits of medicines in aiding patients, many individuals do not adhere to their prescribed medication regimens, a phenomenon recognized by healthcare professionals as non-adherence. Non-adherence can be either unintentional or intentional. Unintentional non-adherence often results from factors like forgetfulness, limited resources, or cognitive and psychological challenges, especially in older adults. Intentional non-adherence, on the other hand, stems from a deliberate decision, influenced by perceived necessity for the medication or a desire to modify the treatment, including altering doses. The factors driving intentional non-adherence are diverse and can encompass difficulties in swallowing medication, among other reasons. Non-adherence carries numerous adverse consequences, including disease progression for patients and increased healthcare utilization and costs. A review of interventions aimed at improving adherence underscores the importance of tailoring strategies to address the specific barriers to medication adherence faced by each individual patient.

Oral administration remains the most common route for medication delivery. Nevertheless, some patients encounter challenges in taking their medications this way due to diagnosed or perceived difficulties in swallowing. Dysphagia, a medical term for swallowing difficulties, encompasses a wide range of conditions,

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Gender-Discriminatory Criminal Laws in India: A Critical Analysis

Jitendra Yadav[1], Mamta Rani[2], Pankaj Choudhury[3], Pratishtha Mishra[4], Kritika Singh[5]

[1,2]Assistant Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP

[5]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand

ABSTRACT:

Despite India's efforts to protect its women over the years, the country's rising crime rate has made it more important than ever to verify that any spikes in crime data result from actual increases in criminal activity rather than lawbreakers taking advantage of the system. As a core value of constitutional democracy, constitutional integrity is given high priority by the Indian judicial system. By redefining gender-specific regulations, gender-neutral laws guarantee equal protection for all citizens. Feminist organizations and female activists are fighting against these regulations on the grounds that they may do more harm than good. Proponents of gender inclusive legislation claim that it normalizes the fact that men face the same challenges as women. Without taking these suggestions into account, the Criminal Law (Amendment) Act of 2013 was passed, making men the only ones subject to punishment for crimes like sexual assault, stalking, adultery, voyeurism, rape, domestic violence, dowry death and workplace harassment. This study examines statutory provisions, judicial precedents, and potential future measures to enhance implementation and forestall abuse of authority.

Keywords: Gender, Equality, Harassment, Criminal Law (Amendment) Act 2013

Introduction

India has been engaged in efforts to safeguard the well-being of its female population over an extended period. However, the escalating incidence of criminal activities necessitates a critical examination to ascertain that the surge in statistical data is primarily attributable to actual criminal occurrences rather than the misuse or exploitation of legal provisions. The Indian judiciary accords considerable importance to the preservation of constitutional integrity, which is widely regarded as a fundamental ethical principle of constitutional democracy. Given that India is the world's largest democracy and possesses the world's longest written Constitution, it is imperative to prioritize the adherence to constitutional principles such as social justice, individual liberty, rule of law and fundamental equality.

The 2013 Justice Verma Committee report sought to restore societal trust by addressing instances of sexual assault and abuse perpetrated against males. Nevertheless, the enactment of the Criminal Law (Amendment) Act 2013 occurred without due regard for the recommendations that had been put forth. The existing legislation exclusively imposes penalties on individuals of one gender, specifically

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Investment Patterns And Preferences Of Youth In Ranchi: A Study On Financial Behavior

Neha Kumari[1], Sidharth Jain[2], Loveneesh Goutam[3], Shabana Bano[4], Chiging Yamang[5], Swati Saxena[6]

[1,4]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Yogoda Satsanga Mahavidyalaya, Ranchi, Jharkhand

[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[6]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

Corresponding author: Neha Kumari
Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

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A Comparative Evaluation Of Financial Performance Of Public Sector Banks And Private Sector Banks In India

Neha Kumari[1], Rajeev Sharma[2], Ashish Mohan[3], Nyarik Geyi[4], Shivangi Dwivedi[5], Amit Srivastav[6]

[1]Assistant Professor, Faculty of Business Management and Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Amity School of Business, Amity University, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
[6]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Corresponding author: Neha Kumari
Assistant Professor, Faculty of Business Management and Commerce, Usha Martin University, Ranchi, Jharkhand

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Broadening The Involvement Of Pharmacists In Non-Alcoholic Fatty Liver Disease Management

Neha Singh[1], Sushant Kumar Sharma[2], Sakshi Verma[3], Franco Gohain[4], Bhupen Subba[5]
[1]Associate Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract:
Non-alcoholic fatty liver disease (NAFLD) presents an increasingly urgent global health concern, emphasizing the importance of timely identification for effective treatment and the prevention of chronic liver conditions' progression. Given the anticipated shortage of specialized healthcare professionals, particularly hepatologists and gastroenterologists, the role of pharmacists assumes a crucial position in NAFLD management. This article highlights the potential of pharmacists in community pharmacy settings, not as diagnosticians, but as facilitators in identifying and screening individuals at elevated NAFLD risk using validated non-invasive tools like portable devices and calculators. By prioritizing patient education, referrals, and continuous monitoring, pharmacists can enhance NAFLD management, ultimately improving patient outcomes. Strengthening the impact of pharmacists in early NAFLD detection and management can be achieved through collaborations with healthcare institutions and the integration of patient self-assessment tools. This collaborative approach holds promise for advancing liver health within the community.

KEYWORDS: NAFLD; pharmacist; roles; hepatology; community pharmacy.

Introduction

Non-alcoholic fatty liver disease (NAFLD) is characterized by an elevated lipid content within the liver, amounting to approximately 5.5% of the liver's volume as estimated through histology or imaging. A more severe variant of NAFLD involves the presence of inflammation and cell death. Presently, approximately 25–38% of the population exhibits NAFLD characteristics, and these numbers are on the rise, with an estimated 4613 cases per 100,000 person-years. The incidence rate is higher in males compared to females and in individuals who are overweight or obese compared to those with a normal weight. In tandem with the increasing rates of obesity, the prevalence of NAFLD is a significant contributor to the escalating burden of chronic liver diseases on a global scale. An advanced stage of the disease, known as nonalcoholic steatohepatitis (NASH), has witnessed a recent 2.0–2.5-fold increase and is significantly linked to liver-related health issues. Additionally, NASH is anticipated to become the second most prevalent cause of liver transplantation.

Nafld Stages And Clinical Manifestations

NAFLD is categorized into four stages based on the presence of distinct pathological characteristics. While the progression of NAFLD may not necessarily follow a linear order, the initial stage, termed hepatic steatosis, is marked by the excessive accumulation of intrahepatic triacylglycerols (IHTG) in the liver. This condition primarily results from abnormal hepatic lipid metabolism, irrespective of the presence or absence of obesity.

In human studies, it has been observed that 20% of NAFLD cases progress to increased inflammation and cellular stress, leading to an advanced stage of the disease known as NASH, which constitutes the second phase. NASH has emerged as a significantly contributing factor to the development of hepatocellular carcinoma (HCC) in patients undergoing liver transplantation.

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Legal Protection of Women and Judicial Response to Misuse

Mamta Rani[1], Jitendra Yadav[2], Amarnath Gupta[3], Laishram Malem Mangal[4], Shivangi Chouhan[5]

[1,2]Assistant Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand

[4]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP

ABSTRACT:

With persistent incidents of sexual assault, domestic violence and female feticide, India has been called out for its treatment of women. As a result, women are more likely to experience discrimination, prejudice and violence, contributing to an already unbalanced gender ratio. A substantial increase in false cases under Section 498A has been attributed to women taking advantage of legal loopholes to unfairly harm their spouses and family members. Reforms to family law and the status of women are intertwined with broader debates about the rights of minorities and the role of government. Because of the way the law is set up now, women can use it for their own benefit, resulting in false accusations that put innocent people in prison and the destruction of families. Protecting men's rights and health is an important goal of lawmaking. Legislation meant to safeguard women has its origins in a different era, when women held a different position in society, but times have changed and so have attitudes and expectations about women.

Keywords: Female Feticide, Domestic Violence, 498A, National Crime Records Bureau

Introduction

The Indian legal framework has been criticized for granting rights to women without imposing liabilities, while men face discriminatory liabilities. The Indian Penal Code, Code of Criminal Procedure and Indian Evidence Act were amended in 1983 to address psychological abuse inflicted upon vulnerable wives. Section 498A of the Indian Penal Code, 1860 stipulates that individuals who inflict cruelty upon a woman are subject to imprisonment for up to three years and may also be required to pay a fine. Section 406 of the Indian Penal Code, 1860 prescribes the prescribed penalties for the offense of criminal breach of trust. In the event of the return of "Streedhan" is not fulfilled, wives possess the legal right to initiate legal proceedings against their in-laws in accordance with the relevant section. The Protection of Domestic Violence Act of 2005 grants the Magistrate the authority to initiate legal proceedings under section 498-A of the Indian Penal Code in suitable circumstances.

International efforts have been undertaken to safeguard women, but there is a distinct group of women who often abuse their power within law enforcement, suppressing retaliation and exploiting legal mechanisms as they see fit. The use of provisions outlined in the Indian Penal Code, Code of Criminal Procedure and Domestic Violence Act of 2005 can be effective tools for individuals seeking to resolve personal grievances with their husbands and in-laws. However, the provisions in the statute books were intended to protect married women against acts of exploitation, but they have been exploited by unethical litigants to further their hidden agendas. Domestic violence is not limited to wives in India,

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A Comprehensive Study on Cruelty against Males in Contemporary Society

Mamta Rani[1], Jitendra Yadav[2], Amarnath Gupta[3], Laishram Malem Mangal[4], Shivangi Chouhan[5]

[1,2]Assistant Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand

[4]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP

ABSTRACT:

This paper investigates the often-overlooked issue of cruelty against males in contemporary society. While gender-based violence has traditionally focused on females as victims. This study delves into the various forms of cruelty experienced by males encompassing physical emotional and societal dimensions. It explores the prevalence causes and consequences of cruelty against males. It examines the role of societal norms, stereotypes and cultural factors in perpetuating such violence.

There is aim to focus on the underreported experience of male victims and challenges prevailing stereotypes that may deter them from seeking help or disclosing their experiences. It investigates the efficacy of existing support systems and legal frameworks in addressing cruelty against males and proposes recommendations for more inclusive policies and awareness campaigns. Gender based violence is neglected aspect. This paper contributes to a more comprehensive understanding of the issue, seeks to reduce the stigma surrounding male victims and advocates for increased recognition, support and intervention for male who experience cruelty. Ultimately the aim is to promote gender equality and more equitable responses to gender-based violence.

Keywords: Gender, Cruelty, Violence, Society, Victim

Introduction

Gender-neutral legislation is a transformative approach that redefines the traditional framework of gender-specific laws, aiming to provide equal protection and rights to all individuals, irrespective of their gender identity or expression. Nevertheless, the existence of opposition from feminist groups and women activists has generated apprehension regarding the potential negative consequences of gender-neutral legislation, suggesting that such laws may not effectively achieve the intended goal of ensuring equal protection for both genders. Proponents contend that the enactment of gender-inclusive legislation will serve to establish a societal norm that acknowledges the presence of comparable challenges faced by men, akin to those experienced by women.

The fundamental rights to human dignity, equality and the freedom to choose one's occupation inherently encompass protection against any type of assault or harassment. Without a doubt, it can be asserted that the Indian Constitution ensures the provision of fundamental liberties to every

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Optimizing Pulmonary Arterial Hypertension Pharmacotherapy In The Intensive Care Unit: A Guide To Management Considerations

Mansi Sharma[1], Rahul Singh[2], Aditya Dev Rajora[3], Barun Ranjan Sarkar[4], Tashi Choden Lepcha[5]
[1]Assistant Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract:
Pulmonary arterial hypertension is a rare and progressive disease associated with significant morbidity and mortality risks. There are several approved medications that target three major disease pathways for treatment. However, managing pulmonary arterial hypertension pharmacotherapies in a patient admitted to an intensive care unit presents distinct challenges. Factors such as intubation and altered mental status may hinder the continuation of home oral and/or inhaled therapy, and disease progression may necessitate therapy escalation. This review will primarily address practical strategies for the ongoing administration of home pulmonary arterial hypertension pharmacotherapy and therapy escalation.

KEYWORDS: Pulmonary arterial hypertension; intensive care unit; enteral administration.

Introduction

Pulmonary arterial hypertension (PAH) is a complex condition necessitating early treatment and vigilant monitoring. The past thirty years have witnessed significant growth in the availability and accessibility of targeted pharmacotherapies for PAH, leading to an increased number of patients receiving these treatments. This article offers insights into common considerations surrounding the administration of oral or inhaled PAH medications within an acute care environment. These considerations encompass the enteral administration of medications, potential challenges related to renal and hepatic function, and notable drug interactions.

PAH is a rare and progressive disorder characterized by a mean pulmonary arterial pressure exceeding 20 mmHg, a pulmonary capillary wedge pressure below 15 mm Hg, and a pulmonary vascular resistance above 2 Wood units, as determined through right heart catheterization. Classified as World Health Organization (WHO) Group 1 pulmonary hypertension, PAH has numerous underlying causes, including idiopathic factors, heredity, drug-induced factors, connective tissue disorders, HIV infection, and portal hypertension. Its pathophysiology is intricate and multifaceted, with vasculopathy being a pivotal characteristic. When left untreated, PAH inevitably results in right ventricular (RV) failure and fatality. In developed nations, PAH has an approximate prevalence of 55 cases per million adults. The evolution of pharmacotherapy over the past three decades has led to the approval of sixteen distinct medications or drug formulations for PAH patients. These include phosphodiesterase-type 5 inhibitors (PDE5i), soluble guanylate cyclase (sGC) stimulators, endothelin receptor antagonists (ERAs), prostacyclin analogs (PCAs), and selective prostacyclin receptor (IP) agonists. Combining these treatments based on individual risk stratification has led to enhancements in exercise capacity, hemodynamic parameters, and clinical outcomes.

Patients admitted to the intensive care unit (ICU), whether due to deteriorating PAH or unrelated medical conditions, possess unique clinical profiles that necessitate careful consideration by the healthcare team. In addition to optimizing volume status, providing RV support, and maintaining cardiac output (CO), healthcare providers must deliberate over how to manage the patient's PAH pharmacotherapy. When assessing the patient's

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The Impact of Cryptocurrencies on Traditional Financial Markets: A Comprehensive Review

Meenakshi Kumari[1], Rajeev Sharma[2], Ashish Mohan[3], Yibom Bagra[4], Shivangi Dwivedi[5], Salima Bhattarai[6]

[1]Assistant Professor, Faculty of Business Management and Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Amity School of Business, Amity University, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
[6]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Corresponding author: Meenakshi Kumari
Assistant Professor, Faculty of Business Management and Commerce, Usha Martin University, Ranchi, Jharkhand

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An in-Depth Analysis of the Misuse of Laws by Women

Jitendra Yadav[1], Mamta Rani[2], Pankaj Choudhury[3], Pratishtha Mishra[4], Kritika Singh[5]

[1,2]Assistant Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP

[5]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranchi, Jharkhand

ABSTRACT:

Misuse of laws by women is often overlooked phenomenon. It is a complex and controversial issue within the legal landscape. The aim of this study is to investigate instances where legal mechanisms designed to protect individuals have been allegedly exploited or misused by women for various motives, including personal vendettas, financial gain or strategic advantage in family disputes. This paper examines the context, motivations and consequences of the misuse of laws by women. It also explores the societal and systematic factors that may contribute to such misuse including cultural expectations, gender dynamics and flows within the legal system itself.

The paper acknowledges the importance of maintain a gender-neutral approach to the examination of legal misuse, emphasizing the need to avoid perpetuating stereotypes or undermining legitimate cases of victimization. This paper focus on the controversial issue to foster informed discussions, challenge existing narratives and contribute to the development of more effective legal frameworks that prevent misuse without compromising the protection of genuine victims. It endeavors seek to inform policymakers, legal practitioners and the public on the complexities surrounding the misuse of laws by women, encouraging a balanced and equitable approach to justice that upholds the principles of fairness and equality for all individuals.

Keywords: Women, Misuse, Victim, Laws, Society

Introduction

The misuse of laws is a complex and contentious issue and when it involves women, it becomes particularly sensitive, while laws are essential tools for achieving justice and equality. There are instances where individuals, regardless of their gender, misuse them for personal gain or ulterior motives. The misuse of laws by women is multifaceted issue that deserves careful consideration.

Misuse of laws can manifest in various ways such as false accusations, manipulation of legal processes or exploring protective measures for personal advantage. These actions can have serious consequences including damage to the reputation, emotional distress and financial loss. The misuse of law by women in India is a serious issue that has been receiving increased attention in recent years. In India, women are often discriminated against and are not provided with equal rights and opportunities, leading to a gender bias in many aspects of life. This gender bias is further exacerbated by the misuse of law by women. There are numerous instances of women using the law to their advantage, often at the expense of men. This practice is not only unethical but also unconstitutional. The Indian

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Vocationalization of Higher Education: Usha Martin University Experience

Md. Amir Khusru Akhtar[1], Saurabh Kumar[2], Arvind Hans[3], Chiging Yamang[4], Swati Saxena[5], Vipul Jain[6]

[1]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, India
[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[3]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, India
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[6]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Corresponding author: Md. Amir Khusru Akhtar
Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, India

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Pharmacological Evaluation Of Medicinal Plants: A Review Of Recent Studies

Abdul Wadood Siddiqui[1], Dashrath Singh[2], Rojalini Samanta[3], Ananga Mohan Das[4], Pranal Chhetri[5]
[1]Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract:
In this study, we conducted a series of pharmacological tests to assess the effects of Euphorbia neriifolia Linn. (a member of the Euphorbiaceae family) leaf hydro-alcoholic extract. Our investigation encompassed the evaluation of its analgesic, anti-inflammatory, diuretic, antidiarrheal, and antiulcer properties. All experiments were carried out on rats, utilizing varying doses (100, 200, and 400 mg/kg), with the LD50 of the extract determined to be 2779.71 mg/kg.
The results of our study revealed compelling findings. Notably, Euphorbia neriifolia exhibited a robust analgesic effect against thermal stimuli ($P<0.001$), while also demonstrating significant effects in response to mechanical and chemical noxious stimuli ($P<0.01$). The anti-inflammatory activity of Euphorbia neriifolia was also pronounced, with statistical significance ranging from $P<0.001$ to $P<0.01$, particularly at a dose of 1000 mg/kg. In models of carrageenan-induced paw edema and cotton pellet-induced granuloma, the extract displayed considerable anti-inflammatory effects ($P<0.001$ to $P<0.01$).
Furthermore, our findings indicated that the extract acted as an effective hypernatraemic and hyperchloraemic diuretic, significantly increasing urine volume. Euphorbia neriifolia also exhibited laxative properties by increasing wet defecation, particularly in conjunction with castor oil. In addition to its anti-inflammatory and diuretic effects, the extract provided substantial protection against ethanol-induced ulceration, and this protective effect was dose-dependent. On pyloric ligated ulceration, the extract similarly exhibited a dose-dependent effect.
Biochemical analysis of the gastric mucosa demonstrated that the extract led to significant increases in total hexoses ($P<0.001$), hexosamine ($P<0.05$), sialic acid, and total carbohydrate content ($P<0.001$), while resulting in a decrease in total protein content ($P<0.001$).
These pharmacological activities are likely attributed to the presence of phytoconstituents such as tannins, flavonoids, alkaloids, and triterpenoidal saponins in the Euphorbia neriifolia extract.

KEYWORDS: Euphorbia neriifolia, analgesic, anti-inflammatory, diuretic, laxative, antiulcer.

Introduction

Since ancient times, diverse societies and civilizations across the globe have relied on herbal remedies for various ailments. Over the past few decades, there has been a growing trend of people self-administering herbal medicines without the need for a prescription. These herbal treatments are often perceived as safe, given their natural origins. Herbal formulations have gained widespread recognition as therapeutic agents, offering potential benefits in the realms of diabetes management, arthritis relief, enhancement of sexual function, liver protection, cough remedies, memory enhancement, and adaptogenic properties.

In the pursuit of understanding the scientific basis behind these claimed therapeutic potentials, Euphorbia neriifolia Linn. (a member of the Euphorbiaceae family) has been selected as the focal point of our study. This

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Analyzing Standby Leakage Current in CMOS Circuits Using the Sleepy Approach

Shivam Upadhyay[1], Rajesh Kumar Upadhyay[2], Dheeresh Upadhyay[3], Nanda Shakti[4]

[1,3]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India

[2]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India

[4]Assistant Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand

ABSTRACT:

Due to their size and need for a faster operating speed, CMOS-based VLSI circuits scale in a downward direction. As is well known, a major difficulty in CMOS technology is leakage power consumption of current. In order to manage the leakage current, we have also taken into account size, leakage power, average power, and speed of operation (delay). In succeeding nanoscale technologies, the sub threshold voltage is decreasing, which has the side consequence of increasing leakage current. We have also researched earlier methods that cause an integrated circuit's leakage power to rise. Due to the fact that transistors leak even when they are not in use, and circuits still lose a considerable amount of power when they are not in use. Maximum leakage current is provided by the sleepy approach.

Keywords: Average power, Leakage power, sleep transistor.

Introduction

In power dissipation of CMOS digital circuits comprises both static and dynamic components. Increased sub threshold leakage current via a transistor when it is off results from shrinking the size of the digital circuit to achieve fast operating speed. The fact that a transistor is not off is another area where leakage might occur. Leakage power may be decreased using a variety of VLSI techniques[1].

For a CMOS circuit, the power dissipation is caused by the dynamic and static components during the active mode of operation, whereas the standby leakage current is responsible for the power dissipation during the standby mode. The static power consumption of hand-held electronics based on nanoscale technology is a major issue. With the advancement of technology, leakage power has grown due to downscaling in size and improvements in operating speeds of CMOS VLSI circuits [5].

In succeeding nanoscale technologies, the sub threshold voltage is decreasing, which has the side consequence of increasing leakage current.

The channel length and transistor feature sizes are getting decreased for newer technological generations. To preserve performance, the threshold voltage and gate oxide thickness are also trimmed back. We have also researched earlier methods.

For scaled-down technologies to work well, the sub threshold voltage is decreasing to keep up with the lower supply voltage. Nanometer technologies' lower sub threshold voltage results in more leakage current since transistors cannot be totally turned off. The drain to source leakage current when the transistor is off is known as sub threshold current. Reduced leakage (static) power consumption is therefore crucial during the circuits' idle or standby states [2]. The overall power dissipation of a

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Development And In Vitro Assessment Of Norfloxacin In Situ Ophthalmic Gel

Chandan Kumar Singh[1], Sujata Kumari[2], Prottay Dutta[3], Millo Antu[4], Muna Subba[5]
[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim

Abstract:
Topical anti-infectives are commonly employed for the treatment of bacterial conjunctivitis and corneal infections caused by susceptible bacterial strains like S. aureus, S. epidermidis, S. pneumoniae, and Enterobacter cloacae. These anti-infectives are traditionally administered into the eyes using formulations such as eye drops, eye ointments, and other conventional methods. However, they are often associated with issues such as rapid flushing, irritation, and inadequate retention within the eye. To address these shortcomings, a new formulation called in situ gel has emerged, offering a solution for the effective application of anti-infective agents via the ophthalmic route.
In this research, an in situ gel of Norfloxacin was developed, utilizing various grades of Hydroxypropyl Methyl Cellulose and Carbopol 934. Multiple in situ gel formulations were created and subjected to a thorough evaluation, encompassing assessments of visual appearance, clarity, pH, in vitro gelation, rheological properties, drug content analysis, and in vitro drug release. A total of eight formulations were developed, and upon optimization, Formulation F8 exhibited excellent gelling strength, clarity, acceptable pH, and improved in vitro drug release. This formulation is deemed promising as an in situ gel for Norfloxacin application.

KEYWORDS: In Situ, Norfloxacin, Gel, Retention, Formulation, Ophthalmic.

Introduction

The human eye is a uniquely vital organ in the human body, susceptible to a range of ailments that can severely impact its function and even lead to loss of eyesight. To address various eye conditions, there exists a plethora of ophthalmic drug delivery systems, categorized as conventional and newer drug delivery methods. Conventional methods, such as eye drops, have historically yielded suboptimal results in terms of bioavailability and therapeutic efficacy due to the rapid elimination of the drug caused by the dynamic nature of tear fluid and its high turnover rate.

To enhance the therapeutic benefits of entrapped drugs, different ophthalmic drug delivery systems have been employed, including inserts, ointments, suspensions, and aqueous gels. While these systems prolong the residence time of the administered dose, they are not without their limitations, such as blurred vision from ointments and reduced patient compliance due to insert-related discomfort.

A solution to these challenges is provided by in situ gel drug delivery systems, prepared using various polymers that exhibit Sol to Gel transition characteristics triggered by specific pH and temperature conditions. Initially in liquid form, in situ drug delivery systems undergo a phase conversion in the eye's cul-de-sac, transforming into visco-elastic gels. In recent years, a significant number of in situ gel-forming systems have been reported, induced by factors such as pH, temperature, and ions, to create more effective ocular drug delivery systems.

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Steering Workforce Layoffs: Strategies and Issues

Anupama Verma[1], Ankur Kumar Agrawal[2], Nyarik Geyi[3], Jai Anand Shukul[4], Amit Srivastav[5]

[1]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Corresponding author: Anupama Verma
Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

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Zinc Oxide Nanowires

Nanda Shakti[1], Anil Kumar[2], Praveen Bhatt[3], Rahul Solanki[4]
[1]Assistant Professor, Faculty of Engineering and Applied Science Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Associate Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, Department of Physics, Sikkim Professional University, Gangtok, Sikkim

Corresponding author: Nanda Shakti
Assistant Professor, Faculty of Engineering and Applied Science Usha Martin University, Ranchi, Jharkhand

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Contribution Of Language And Literature In The Creation Of Culture

Manisha Upadhyay[1], Ashok Kumar Upadhyay[2], Rupa Kumari[3]

[1]Assistant Professor, Department of Journalism and Mass Communication, Mangalayatan University, Aligarh, UP, India

[2]Librarian and Associate Professor, Department of Library and Information Science, Mangalayatan University, Aligarh, UP, India

[3]Assistant Professor, Faculty of Journalism and Mass Communication, Usha Martin University, Ranchi, Jharkhand, India

ABSTRACT:

Indian culture is thought to the oldest one. India's culture and customs have endured. Despite the world's fast transformation every nation's culture must include both language and literature. Language is a medium through which society and people are expressed. One can comprehend the evolution of many languages and civilizations in India via literature. The Braj language functioned as the main literary language in central India and was the literary language of India from the 13th century until the 20th century. Language has supplied guidance to develop social advancement and cultural ideals via literature in every period of time. It might be argued that language and literature have been crucial in advancing culture.

Keywords: Culture, Customs, Language, Literature, Civilization, Transformation.

Introduction

Indian culture is incredibly old and has a rich cultural legacy. India is always mentioned in relation to civilization and civilizations. Indian culture has maintained its original shape despite the changes time. Ancient mythical, historical, and spiritual ideas have merged seamlessly into contemporary Indian society. Any nation, state, territory, or hamlet benefits from its culture in terms of self-worth and pride. Language and literature both contribute significantly to the development of this civilization.

What is Culture?

So what exactly is culture? This has to be first understood. Simply expressed, culture is the civilized and advanced form of the way of life, beliefs, language, traditions, and practises that people embrace in a given community. Humans are composed of more than just their physical bodies; their souls and minds also have a significant impact on those bodies. Culture develops the mind and spirit in the same way that food keeps the body healthy. Promoting culture and cultural values for the attractiveness, refinement, and civilization of people and families is therefore crucial for the dignity of society. Culture both accentuates and unites the distinctions between two communities. It promotes cultural understanding and transcends nationalism.

As a result, social feelings increase which in turn feed national sentiments. Therefore, it is in the national interest to develop culture and cultural values. Culture, according to Acharya Narendra Dev, is the cultivation of consciousness. In favourable circumstances, culture grows and flowers but it also declines in unfavourable circumstances. Culture is generated via collaboration between civilizations, not through conflict. The habits, ideas, way of life, arts, music, etc. of one generation are passed on to the following generation. From one generation to the next and from the second to the third, this process never ends. Any values that are communicated become a part of the culture that exists in society. Thus, culture never becomes stationary.

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Understanding Helicobacter Pylori Pathogenesis: Prevalence And Molecular Mechanisms

Rakesh Kumar Sharma[1], Yadvendra Singh Thenuan[2], Harish Kumar Singh[3], Deepshikha Pradhan[4], Sandeep Kumar[5]

[1]Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
An estimated 4.4 billion individuals worldwide are affected by Helicobacter pylori infection, with its prevalence varying significantly across the globe, reaching its peak in Africa (70.1%) and lowest in Switzerland (18.9%). This persistence is particularly marked in developing nations and is primarily attributed to low socio-economic status and inadequate sanitation. Helicobacter pylori infection has been linked to various pathological conditions, posing a substantial challenge to the global health community.
This review offers an extensive overview of the prevalence of Helicobacter pylori infection and its correlation with disease outcomes, drawing upon numerous case studies and emphasizing the significance of detection through gastric biopsy. Additionally, this review presents recently uncovered molecular mechanisms that contribute to a deeper understanding of the underlying events that drive the epidemiological impacts. The data and mechanistic pathways presented herein contribute to more effective regulation of Helicobacter pylori infection and support the development of innovative pharmaceutical solutions for treating associated clinical conditions.

KEYWORDS: miRNA, Cancer, Helicobacter pylori, CagA.

Introduction

Helicobacter pylori, a Gram-negative bacterium primarily residing in the human stomach, is associated with a spectrum of gastrointestinal disorders, including peptic ulcer disease, chronic gastritis, gastric mucosa-associated lymphoid tissue lymphoma, vitamin B12 deficiency, anemia, gastric cancer, and even neurodegenerative diseases. Formerly regarded as a food contaminant, the groundbreaking work of Barry Marshall and Robin Warren, involving the successful isolation and cultivation of spiral bacteria, established H. pylori as a colonizer of the stomach, overturning the prior assumption of gastric sterility. This pivotal discovery led to the Nobel Prize in Physiology or Medicine in 2015, recognizing their "discovery of the bacterium Helicobacter pylori and its role in gastritis and peptic ulcer disease."

This newfound knowledge has not only aided in the development of preventive therapies but also in the formulation of drugs for treating a wide range of diseases arising from H. pylori infection, ultimately enhancing clinical management. Although the prevalence of Helicobacter pylori infection is declining in developed nations, it continues to spread rapidly in developing regions due to several factors. Diagnosis of H. pylori infection can be achieved through various tests and effectively treated with antibiotics. However, the escalating challenge lies in the rising antibiotic resistance. Compounding this issue is the current lack of preventive strategies, such as vaccination and early diagnosis, to counteract the onset of pathogenesis.

While numerous reviews on Helicobacter pylori pathogenesis have been previously published, this review prioritizes clinical study findings, providing a comprehensive perspective on the gravity of pathogenesis

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Exploring The Relationship Between Malaria Outcomes And The Four Basic Abo Blood Group Phenotypes

Soni Singh[1], Devendra Singh[2], Prottay Dutta[3], Giogi Nania[4], Pratikcha Rai[5]
[1]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, UP
[2]Associate Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract:
The connection between Rh blood group and Plasmodium falciparum infection's severity has been a subject of clinical inquiry, with varying findings. Numerous studies have attempted to establish a link between Rh groups and the occurrence and recurrence of malaria, but the results have remained inconclusive. In this study, spanning eleven months from August 2018 to June 2019, we investigated blood samples from malaria patients at People's Medical College and Hospital in Bhopal. The study included all patients diagnosed with malaria, and analysis was performed using both marginal smear and Quantitative Buffy Coat (QBC) methods. Blood groups were determined using forward and reverse typing techniques.
Results: Out of the 100 cases examined, 61 tested positive for Plasmodium falciparum, and 31 cases were positive for Plasmodium vivax infection. The distribution of blood groups among the patients was as follows: 21 were group A, 40 were group B, 36 were group O, and 1 belonged to the AB group.
Conclusions: Our findings suggest that blood group 'O' may confer an advantage over other blood groups due to variations in rosetting ability among red blood cells (RBCs) with different Rh blood groups. Blood group 'O' exhibited a reduced rosetting potential, which could be a contributing factor to the differential host susceptibility to malaria.

KEYWORDS: Plasmodium falciparum, Plasmodium vivax, Red Blood Cells (RBCs), White Blood Cells (WBCs), Blood Groups.

Introduction

Malaria, a parasitic disease with an ancient history, afflicts humanity. This human ailment is a protozoan infection that targets red blood cells and is transmitted through the bites of female Anopheles mosquitoes, which feed on blood. Malaria is a disease carried by mosquitoes and is caused by parasites belonging to the Plasmodium genus, including P. falciparum, vivax, ovale, malariae, and Knowlesi. These malarial parasites are a type of protozoan found within the subclass Coccidia and the Plasmodium genus. This group encompasses numerous species responsible for causing malaria in both mammals and birds. The parasites' asexual life cycle, known as schizogony, occurs within the red blood cells of vertebrates, which serve as intermediate hosts, while the sexual cycle, or sporogony, takes place in mosquitoes, which act as the definitive hosts. Plasmodium vivax has the broadest geographical distribution, spanning tropical, subtropical, and temperate regions, while Plasmodium falciparum is also widely distributed, primarily in tropical areas. Plasmodium malariae appears sporadically in various parts of the world, and Plasmodium ovale is mainly confined to central West Africa and certain South Pacific islands.

In the realm of blood classification, nearly 300 blood group systems have been identified thus far. Among them, the ABO and Rh blood group systems stand out as the most significant and clinically important. The vast

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Henry Mayhew's London Labour & The London Poor: Revisiting Victorian Street Children

Mukul SK[1], Kavita Sharma[2], Prakash Chandra Panda[3], Vineeta Kaur Saluja[4], Vinay Tripathi[5]

[1]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Professor, Department of English, Mangalayatan University, Jabalpur, Madhya Pradesh
[5]Assistant Professor, Department of English, Himalayan University, Itanagar, Arunachal Pradesh

Corresponding author: Mukul SK
Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

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Innovative Methods Adopted to Hindustani Music Training: From Guru-Shishya Tradition to the System of Open and Distance Learning - An Analytical Study

Debasis Chakraborty[1], Vilas Palkhe[2], Bechan Singh[3], Prakash Chandra Panda[4]

[1]Associate Professor, Department of Visual and Performing Arts, Mangalayatan University, Aligarh, Uttar Pradesh

[2]Assistant Professor, Department of Visual and Performing Arts, Mangalayatan University, Aligarh, Uttar Pradesh

[3]Assistant Professor, Faculty of Education, Usha Martin University, Ranchi, Jharkhand

[4]Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand, India

ABSTRACT:

Art and culture are an integral part of society. Just as the use of science and technology is essential in the development of art, music and other fine arts are a common part of culture. Guru Shishya tradition of education is mentioned in the Vedic period. Various treatises on music were written in ancient times, and scientific musical decisions later made groundbreaking contributions to the propagation of music and the construction of musical instruments.

Bharata Muni in his book 'Natyasastra' described the 'Sarna Chatushtayi' Siddhanta as a method based on scientific analysis. In ancient times, Gurukul system was prevalent in India, students lived in Gurugriha and served the Guru for years after gaining knowledge. But gradually school education system came in India and through such education system learning became easy and accessible for all. History of the reigns of the Guptas and later emperors reveals that music teachers were appointed to teach in schools even during the reign of Maharaja Chandra Gupta Vikramaditya. Taxila and Nalanda universities had separate departments of music. Classical music style was prevalent in ancient India, But after the Mughal influence, Khayal style of singing was introduced. In the 19th century, voluminous literature was produced in Indian vernaculars, which also gave an impetus to the development of music. The distance education system was introduced so that music students in far-flung areas could easily avail the availability of music teaching materials and curricula.

Keywords: Gandharva music, Natya Shashtra, Sarna Chatushtayi, Taxila and Nalanda, gurushisya tradition, Open and distance learning, institutional education.

Introduction

Along with the progress of human civilization, the development of art-culture can be observed in stages because a civilized society never develops without art-culture. One of the main subjects of art-culture is 'music' and this is probably why 'music' is so closely associated with life. . The Indian music education system has been given a place of sanctity and respect. Music began as an integral part of socio-religious life in India. Indian music encompasses many forms including classical music, folk music, filmi, dance, instrumental etc. Its history spans several millennia. We know that in the Vedic

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Concept on Immunology: A Review

Gunjan Rani[1], Dashrath Singh[2], Rojalini Samanta[3], Barun Ranjan Sarkar[4], Tashi Choden Lepcha[5]
[1]Associate Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract

The role of the immune system is important and complex yet challenging to remove or eliminate pathogenic agents. The immune system has specific and nonspecific components. Some constituents of immune system act without specific recognition of the target, others have without specificity. The regulation of the immune response and maintenance of immunity to self are critical to the health of the human beings and animals. The knowledge of the various basic components of the normal immune system is essentially required for evaluation or control immune function. This review covers the knowledge of various basic individual components of the immune system and how they will interact to protect the host from infectious agents.

Key Words: Immunity, spleen, bone marrow, antigen, antibody, Innate.

Introduction

Immunology the branch of biomedical science concerned with the response of the organism to antigenic challenge and all the biological, serological, and physical chemical effects of immune phenomena [1]. The study the immunology consists three basic critical factors like specificity refers to host's response to an individual and memory. It implies once body has responded to an agent, it will react vigorously during a subsequent exposure. Recognition of non-self: Means that the host will develop resistant to agent that is foreign to itself [2]. The term **"immune"** is derived from the Latin word "immunis" (literally means, safe or free from taxes or free from burden) meaning "exempt," or the state of protection from infectious disease.[3] In other words, immunity is the ability of the body to specifically counteract with foreign organisms or substances [3]. A person may develop or acquire immunity after the birth. The acquired immunity is not inherited but it is specific resistance to infection developed during the life of the individual. However, it results from the production of antibodies and sensitized lymphocytes [4].

Immunity can be broadly classified into two types [5]
Innate or nonspecific Immunity
Acquired or Adaptive (specific) Immunity
Natural Acquired Immunity
Naturally acquired active immunity
Naturally acquired passive immunity
Artificially Acquired Immunity
Artificially acquired active immunity
Artificially acquired passive immunity

Innate Immunity

The term innate immunity refers to the basic resistance to disease that a species possesses as the first line of defense against infection. Innate immunity system is that part of immune system with which we are born; that means it does not change nor adapt to specific pathogens [5].

Acquired Immunity

In comparison to innate immunity, acquired (adaptive) immunity develops when the body is exposed to various antigens and builds a defense that is specific to that antigen.
Acquired immunity is of two types-
Naturally acquired immunity
Artificially acquired immunity
(a) Naturally Acquired Immunity:
Naturally acquired immunity (NAI) is of two types-
Naturally acquired active immunity

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Developing A Grounded Theory Approach To Stress Management In Forensic Medicine Organizations

Suneel Kumar[1], Akash Upadhyay[2], Madona Mathew[3], Pratikcha Rai[4], Giogi Nania[5]
[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Lecturer, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Forensic Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
Background: Work-related stress is defined as the detrimental reaction individuals experience in response to excessive pressures and demands arising from their job responsibilities. Occupational stress is an adaptive response to external circumstances that may result in physical, psychological, or behavioral irregularities among the organization's members.
Objectives: Given the unique work environment of forensic medicine organizations, this study aims to establish a stress management model tailored to the specific needs of such institutions.
Methods: This research is rooted in exploratory studies with a fundamental approach. Due to the qualitative nature of this study, a grounded theory strategy was employed. A total of 12 senior managers and experts from the forensic organization, possessing management and scientific records related to value creation, were chosen as participants. All interviews were recorded, transcribed, and analyzed using MAXQDA (version 10), with immediate coding and analysis conducted for each interview.
Results: The research findings were categorized into six main causal categories: background, intervention, context, strategies, and consequences. These categories formed the basis for explaining the stress management model in forensic medicine. In this model, forensic medicine, and the services offered by its units, are considered unique businesses dealing with service provision under exceptional circumstances. The services provided in this context result from a two-way communication process between the forensic staff and the service recipients.
Conclusions: The findings indicate that, as a general guideline, managers within forensic organizations should place a high priority on implementing organizational changes aimed at enhancing working conditions in their operations to effectively manage occupational stress.

KEYWORDS: Occupational Stress, Forensic Medicine, Grounded Theory, Iran.

Introduction

Occupational stress is an inherent aspect of the professional sphere, stemming from job-related experiences. To some extent, it can serve as a motivational force driving individuals to enhance their performance. However, more often than not, it yields adverse consequences. The definition of occupational stress varies across scholars. Sauter et al. define it as the interaction between working conditions and an individual's characteristics, where the demands of the work environment, and the ensuing pressures, exceed the individual's capacity to manage. Hui et al. view occupational stress as an adaptive response to external conditions leading to physical, psychological, or behavioral abnormalities in organizational members. The National Institute of Occupational Health and Safety describes it as a misalignment between job demands and an individual's abilities, skills, and preferences. In simpler terms, occupational stress arises when the expectations placed on an individual in a job do not align with their preferences and desires.

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In A Village By A River: A Microcosm Of Marginalized Miseries In Mistry's Novel

Prakash Chandra Panda[1], Supriya Deogharia[2], Preeti Pankaj Gupta[3], Mukul SK[4], Shaifali R. Puri[5]

[1]Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

[2]Research Scholar, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

[3]Associate Professor, Department of Arts, Mangalayatan University, Aligarh, Uttar Pradesh

[4]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

[5]Associate Professor, Department of English, Himalayan University, Itanagar, Arunachal Pradesh

Corresponding author: Prakash Chandra Panda
Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

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Black Esssentialism and Beauty as a White Construct in Toni Morrison's The Bluest Eye

Sandip Paul[1], Farhana Farooqi[2], Prakash Chandra Panda[3], Mukul SK[1], Utsarga Ghosh[1], Anupama Shekhawat[4]
[1]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Department of Arts, Mangalayatan University, Aligarh, UP
[3]Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Professor, Department of English, Himalayan University, Itanagar, Arunachal Pradesh

Corresponding author: Sandip Paul
Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

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Implementation of Skill-Based Education in the Context of NEP-2020

Ram Kumar Pathak[1], Rajesh Kumar Upadhyay[2], Bechan Singh[3], Aamarpali Roy[4], Jai Anand Shukul[5]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP

[2]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh

[3]Assistant Professor, Faculty of Education, Usha Martin University, Ranchi, Jharkhand

[4]Associate Professor, Department of Chemistry, Himalayan University, Itanagar, Arunachal Pradesh

[5]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

ABSTRACT:

Education has always been visualized as a system that focuses on the development of a skilled labour force. In this context, educationists and policymakers have always suggested pathways for the implementation of skill-oriented courses. The enhancement of skills contributes to the augmentation of productivity and employability within both the organized and unorganized sectors of the workforce. Recently it has been reported that there is a gap in the skill set of students. NEP especially highlights this concept. The National Education Policy 2020 is regarded as a potentially advantageous development in this context since it is expected to address this disparity by equipping students with skills that are applicable to the industry, therefore preparing them to become competent professionals in the future. This research paper aims to examine the initiatives undertaken by the Government of India in the field of skill development and assess the current state of the skill gap in the country. The catalytic impact of NEP on skill development was further investigated. The National Education Policy 2020 serves as a catalyst for the implementation of skill-based education.

Keywords: National Education Policy, Vocational Training, Skill Development etc.

Introduction

Skills and knowledge play a crucial role in stimulating economic growth and promoting social development within a society. Countries with higher degrees of flexibility have more success in effectively addressing the challenges and opportunities arising from both domestic and global labour markets. Currently, India is facing a notable shortage in the accessibility of a suitably skilled and proficient workforce. Based on estimations, the percentage of the Indian labour force that has undergone formal skill training is around 2.3%, a much lower figure compared to the considerably greater proportions recorded in other nations. The United Kingdom, Germany, the United States, Japan, and South Korea have reported respective rates of 68%, 75%, 52%, 80%, and an astonishing 96%. A considerable proportion of the highly educated workforce exhibits limited or insufficient job-specific skills, hence making them mostly ill-suited for employment. Therefore, it is crucial for India to give priority to the growth of skill training programs in order to successfully meet the demands of employers and promote economic development.

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The Role Of Effective Patient Communication In Medical Imaging: Insights From Radiographers

Shalini Singh[1], Saloni Singh[2], Regina Kujur[3], Pema Wangden Bhutia[4], Franco Gohain[5]
[1,2]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[3]Associate Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[4]Associate Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
Background: Effective patient communication is a crucial responsibility of radiographers, as their adeptness in this aspect significantly enhances the diagnostic process, lowers expenses, heightens patient contentment, alleviates anxiety, and expedites the patient's recuperation process.
Objectives: This study sought to explore radiographers' perspectives on the significance of patient information across diverse domains of medical imaging. In this descriptive cross-sectional research, 112 out of 120 (93%) radiographers employed in western Iranian university hospitals participated through random sampling and voluntary means. Data was gathered via a researcher-designed questionnaire featuring 13 specific questions rated on a 5-point Likert scale. After ensuring content validity and test-retest reliability (0.74), data was collected and analyzed using SPSS software version 15.
Results: Most radiographers demonstrated a strong understanding of the importance of patient information in terms of pre-examination preparation (94.6%) and radiation safety (84.6%). In contrast, 58% of radiographers perceived informing patients about radiology equipment and examination procedures as less critical, while 86.6% believed that educating patients about various body positions was less important. The majority of radiographers felt a responsibility to inform patients about pre-examination preparation (80.4%), radiation protection (87.5%), and body positions (95.5%). However, 40.1% of radiographers believed that educating patients about radiology department equipment and examination procedures was primarily the responsibility of the doctor and required specialized knowledge.
Conclusions: Radiographers emphasized the significance of providing patients with information regarding pre-examination preparation and radiation protection. However, they believed that educating patients about the radiology equipment and examination procedure had no direct impact on the quality of the resulting images. Radiographers generally considered it to be the doctor's responsibility to inform patients about radiology equipment and examination procedures.

KEYWORDS: Patient Education, Informing Patients, Radiology, Medical Imaging, Radiographers.

Introduction

Educating and protecting patients is a paramount responsibility of healthcare professionals. Patient education encompasses planned learning experiences that employ various methods, such as teaching, counseling, and behavior modification techniques, to influence patients' knowledge and health behaviors The fundamental principle of patient education is that patients effectively apply the information and skills they acquire for their intended purpose. In the realm of radiology, informing patients is doubly crucial due to the need to minimize patients' exposure to radiation and the potential adverse effects of X-rays on the body. Patient education significantly contributes to the successful and standardized conduct of radiographic examinations. It's essential to underscore that accurate positioning enhances diagnostic quality and image detail.

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A Comprehensive Study on Localization Strategies used in IoT based Sensor Networks

Sucheta Panda[1], Rajesh Kumar Upadhyay[2], Sushree Bibhuprada B. Priyadarshini[3]

[1]Department of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand

[2]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, Uttar Pradesh

[3]Department of Information Technology, Siksha O' Anusandhan University, Bhubabeswar, Odisha

Corresponding author: Sucheta Panda
Department of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand

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Assessment Of Osteoporosis Incidence In Healthcare Professionals At A Tertiary Healthcare Facility In India

Alka Singh[1], Diksha Vishwakarma[3], Anupriya Hansdak[3], Pema Wangden Bhutia[4], Taba Ampu[4]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Nursing Tutor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[4]Associate Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
Background: Osteoporosis, often overlooked and underdiagnosed, is a condition marked by diminished bone density, increasing the vulnerability to fractures. Despite the expanding recognition of this ailment and its associated complications, routine osteoporosis screening is not standard practice. Incorporating regular screening can facilitate early identification and intervention.
Materials and Methods: The aim of this investigation was to assess the bone mineral density (BMD) of healthcare professionals, specifically doctors and nurses, employing a calcaneal ultrasound heel bone densitometer. This was a cross-sectional study conducted at a tertiary care hospital, encompassing a total of 863 participants. BMD was determined through calcaneal quantitative ultrasonography, and T-scores were subsequently computed.
Results: In our study, the prevalence of osteoporosis and osteopenia was comparable between men and women. Notably, nearly 50% of staff nurses exhibited T-scores below the normal range. Surprisingly, contrary to common assumptions, the occurrence of osteoporosis among doctors was higher in males than in females. In conclusion, this study underscores that healthcare professionals face a similar risk of osteoporosis as the general population, emphasizing the need for routine screening and preventive measures to mitigate the impact of osteoporosis and its associated complications.

KEYWORDS: Bone density, Quantitative ultrasonography of the calcaneus, Low bone mass, Brittle bone disease.

Introduction

Osteoporosis stands as the most prevalent systemic ailment affecting the skeletal system, characterized by diminished bone mass, deterioration in bone microarchitecture, heightened fragility, and susceptibility to fractures. This condition invariably progresses silently, posing a substantial global public health concern with significant morbidity, mortality, and socioeconomic ramifications. It is projected that by the year 2050, approximately half of the world's fractures will occur in the Asian region. The lifetime risk of suffering osteoporotic fractures in the hip, spine, and wrist is reported to be 40%, with one in three women over the age of 45 at considerable risk of osteoporosis-related fractures.

Low bone density is a primary risk factor for osteoporosis and the associated fractures, making the early identification of bone fragility paramount. Various noninvasive methods have been developed for osteoporosis detection, with the dual-energy X-ray absorptiometry (DEXA) being the gold standard recommended by the World Health Organization (WHO). Nevertheless, DEXA has inherent limitations that hinder its widespread use for mass osteoporosis screening. The escalating prevalence of osteoporosis in developing nations necessitates the establishment of a population-based screening program.

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Is Art Imitation? Imagination? Intuition? Expression?

Ramkrishna Ghosh[1], Vilas Phalke[2], Sandip Paul[3], Vineeta Kaur Saluja[4]

[1,2]Associate Professor, Department of Visual and Performing Arts, Mangalayatan University, Aligarh, Uttar Pradesh

[2]Assistant Professor, Department of Visual and Performing Arts, Mangalayatan University, Aligarh, Uttar Pradesh

[3]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand, India

[4]Professor, Department of English, Mangalayatan University, Jabalpur, Madhya Pradesh

Abstract

Art changes from time to time. The meaning of art must change. Art must go on. The benefit of art must be understood. Art can be used in many ways. We need to change our mindset to bring art into our daily lives. We have to broaden our thinking. Every problem, whether it is mental or it is physical, can be solved through art. Art is the solution for living a better life and a peaceful life. Art reflects culture. Culture reflects life. Therefore, art reflects life. Art can be used as therapy, as treatment and as medicine. Art can be used as a healing tool for mental patients. Art heals..

Key Words: Creativity, Imitation, Intuition, Expression, Peace.

Introduction

If we want to see the development of Art and Culture, then we need to start from Cave Paintings. We all know and feel that Cave Paintings are the best examples of our Culture and Creativity. Culture and creativity have been the cement that binds together not only hearts and souls, but entire societies and nations. They are catalysts for development. Creative activities contribute significantly to youth employment and careers. We know, by experience, that art knows no boundary: it is the expression of the many different cultures. People from the beginning wanted to express themselves. Expressing our thoughts, feeling, ideas is a natural tendency. We all want to express. We all want to know and enjoy the different cultures. We all have a lot to share. We want to communicate with others. It is our natural wish, it is our natural urge and it is our natural need. But *how*?

Drawing and Painting is one of the best medium to express our thoughts, ideas, feelings and experiences. It is one of the best tools to express our emotions. But how? Actually the point is that we all cannot be good at speaking, we all cannot be good at expressing our feelings, our emotions, our thoughts verbally. We all have a lot to say, but we cannot speak properly. We cannot arrange words properly. What to do? This is a problem. This is a very genuine problem. We need to understand this. There are many people who are facing this problem. For them, ***Drawing and Painting is the solution.***

We are human being. We are surrounded by nature. ***"Nature is our best teacher."*** **said William Wordsworth**. We love nature. We want to be with nature. We observe nature and try to copy them through drawing and painting. It is natural. It comes automatically. We don't plan to do it. From the very beginning, people thought that art means 'Imitation'. Art means imitating something from nature. Even a famous Greek Philosopher Aristotle's theory supported this idea. **Aristotle says, *"Art Imitates Nature"***. Imitation was the central idea of art. So artists of all kinds started imitating nature to create a beautiful piece of art work.

Nature is beautiful. So art should be beautiful. Nature is always accurate and perfect, so art should be accurate and perfect. Nature means Beauty, art also means Beauty. Nature gives life, art also gives life. Nature teaches a lot of things to human being. Nature is a great teacher. In the same way art teaches people how to live. Art teaches people how to make a living. Art develops people's Aesthetic Sense. So from the beginning there is a good relationship between Nature and Art.

It was a thought that art means Beautiful Landscape, art means Beautiful Portrait, and art means Beautiful Composition, Beautiful Nude, Beautiful Human Figure, Realistic and Perfect Drawing. Above all, art means Beauty. Art reflects Beauty. Even art is Beauty whether it is painting, sculpture, music, architecture and so on.

Now, this was the meaning of art till Ninetieth Century, means till Impressionism. After Impressionism, means end of ninetieth century; there was a great change in painting. It was totally a different perspective. Vincent Van Gogh, Dutch Painter, Post–Impressionist artist brought that change. Edvard Munch, Norwegian Painter brought

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Implementing Risk-Based Quality Control In The Surgical Pathology Laboratory: A Concise Review And The Formulation Of Personalized Quality Control Strategies

Jitendra Saraswat[1], Puja Kumari[2], Pankaj Kumar[3], Giogi Nania[4], Chamta Gurung[5]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract:
One of the most crucial tools for mitigating or preventing diagnostic errors in the surgical pathology laboratory is the establishment of a comprehensive quality management system. Within this system, risk analysis and quality assurance serve as pivotal components to ensure the sustained effectiveness of the quality management program. Quality assurance involves the essential aspects of program design, encompassing closely linked activities of quality control and quality monitoring-evaluation initiatives.

The concept of risk-based thinking entails meticulous planning for potential risks and their systematic management. This involves the identification of conceivable hazards and risks that may hinder the realization of predefined objectives, leveraging the available information. Laboratories are tasked with a multitude of interconnected functions to operate effectively. To accomplish their objectives, they must exhibit the capacity to quantitatively assess and evaluate process performance, while concurrently validating the efficacy of prior decisions and enhancing operational efficiency. The implementation of a robust quality management process holds the potential to heighten the dependability of laboratory results.

This study endeavors to chart a course for the detection, vigilant monitoring, and reduction of diagnostic errors in the surgical pathology laboratory, in alignment with the recommendations of international regulatory bodies. It seeks to develop a quality plan rooted in risk management that encompasses the entirety of the analytical process. Acknowledging the possibility of errors is a fundamental aspect of discussing laboratory quality control in surgical pathology. In this context, investments in ongoing medical education and patient safety, coupled with the nurturing of new pathologists equipped with a discerning perspective, are indispensable for enhancing the practice of pathology.

KEYWORDS: Quality Control Plan, Risk Management, Quality Monitoring

Introduction

The primary objective of the quality management system in surgical pathology (SP) is to serve as an instrumental tool in the delivery of laboratory services, aimed at minimizing and preventing errors. A successful quality management process contributes to an enhanced dependability of laboratory results. Quality assurance (QA) and risk management are integral components within the purview of quality management. Quality control (QC) and Quality assessment are the subcomponents of the broader quality assurance program. QC centers on the fulfillment of specified quality requirements, while quality assurance concentrates on providing a level of confidence that these requirements are met. The application of QC methodologies empowers a laboratory to identify and rectify deficiencies in analytical processes, averting the potential disclosure of erroneous patient results. Encouragingly, there have been studies dedicated to the enhancement of SP and cytology quality over

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Geometrical Conception in Folk Art: Madhubani Painting of Bihar

Prem Lata, Poonam Rani[2], Roshni Kumari[3]

[1]Assistant Professor, Department of Visual and Performing Arts, Mangalayatan University, Aligarh, Uttar Pradesh

[2]Associate Professor, Department of Visual and Performing Arts, Mangalayatan University, Aligarh, Uttar Pradesh

[3]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand, India

ABSTRACT:

Art is the inner thought of human beings which expressed absolutely. When art is categorized in different forms, we consider the forms of numerous work by human that flourished in our society. The research study will explore every kinds of traditional arts like folk art, tribal art, ancient perspec-tive of rock art etc. in Indian context. In this study we are owed to impress by Indian culture whether biased with religion and several traditional practices across the country. On the account of Indian culture folk art, fine art, sculpture; music, dance, drama are the special feature of study. In this research study folk art of India will be broadly cover.

Keywords:.

Introduction

Art is the inner thought of human beings which expressed absolutely. When art is categorized in different forms, we consider the forms of numerous work by human that flourished in our society. The research study will explore every kinds of traditional arts like folk art, tribal art, ancient perspec-tive of rock art etc. in Indian context. In this study we are owed to impress by Indian culture whether biased with religion and several traditional practices across the country. On the account of Indian culture folk art, fine art, sculpture; music, dance, drama are the special feature of study. In this research study folk art of India will be broadly cover.

In this study, the term geometrical conception which is core view of linear representation in each and every art forms that in light of visual media or present before the society. The geometrical signs always show the visual dimension like point, curve line, straight line, oval, circle, rectangle, square, dot and dashes. And every folk artist likes in painting rendering or in craftsmanship he concludes idea from same sign. After in creation of a shape or model he uses the same linear activity with a particular theme or subject which is plotted in mind.

Linear visualization in folk art is the basic conception of drawing by the artist or artisan who indulged in this type of artwork. In art process for folk idea the concept of drawing work always fulfilled by the colour. The present study, the social term as folk art does the visual presentation in society as a several art forms of India comprise the states who are also par-ticipating to promotion in Indian Art and Culture. Folk Art is not limited in ideology of concrete forms in art and craft, sculpture, architecture; it is in broad sense of folk culture and folklore study from India and pres-ent society. In the term of folk art includes the differ-ent art field as music (vocal, instrumental), dance (Katthak, Kuchipuri, Oddissi, Bharatnatyam, etc.) and too independently attracts the same in folk literature by the human of Indian context.

"Madhubani painting is also an art which has been recognised globally. Indian art mostly references to religion, culture, traditional and so on". Folk Art of India is a religious among various ethically

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Transgression, Censorship and Beyond: A Study

Utsarga Ghosh[1], Anuradha Yadav[2], Sandip Paul[3], Prakash Chandra Panda[4], Doi Ette[5]

[1,3]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[4]Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, Department of English, Himalayan University, Itanagar, Arunachal Pradesh

Corresponding author: Utsarga Ghosh
Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

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An In-Depth Examination of Localization Methods Employed in Wireless Sensor Networks(WSNs)

Sucheta Panda[1], Rajesh Kumar Upadhyay[2], Sushree Bibhuprada B. Priyadarshini[3]

[1]Department of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand

[2]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, Uttar Pradesh

[3]Department of Information Technology, Siksha O' Anusandhan University, Bhubabeswar, Odisha

Corresponding author: Sucheta Panda
Department of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand

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Enhancing the Flexure Behavior of Single and Double Layer High Strength Reinforced Concrete Beam

Nasim[1], Mahesh Kumar[2], Rahul Kumar Gupta[3], Talkeshwar Ray[4]

[1]Assistant Professor, Department of Civil Engineering, Mangalayatan University, Aligarh

[2]Professor, Department of Civil Engineering, Mangalayatan University, Aligarh

[3]Assistant Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand, India

[4]Department of Civil Engineering, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:

The paper's main focus is on comparing the flexural behaviour of doubly layer high strength (DLHS) reinforced concrete beams with single layer high-strength (SLHS) reinforced concrete beams. The research combines physical experiments with computational modelling (FEA) to gain a comprehensive understanding of how different concrete classes and layering affect the beams structural performance. The comparison aim to determine how the inclusion of an additional layer (double layer) in one of the beam affects its structural performance under a flexural load.

Keywords: Single Layer Beam, Double layer beam, High strength concrete (HSC), Flexure, Finite element analysis (FEA).

Introduction

A combination of high strength concrete (H.S.C.) in the compression zone and lower strength concrete in the tension zone of reinforced concrete. When using two different types of with varying properties concrete. Using high strength concrete (H.S.C.) for high rise structure can be advantegeous in terms of load bearing capacity and structural performance. This approach can help reduce costs while still maintaining structural integrity.

In my research study or analysis comparing the cost and flexural behaviour of double layer concrete beams using different type of concrete. The cost reduction of 28.26% when using two layer of high strength concrete comapred to using a combination of normal concrete (N.C) and H.S.C. This suggest that using H.S.C fpr both layers is more cost effective. After obtaining promising cost reduction results in the parametric study, an experimental program and finite element analysis were conducted to evaluate whether the flexural behaviour of the two beams.

Experimental program

In this study, two RCC beams, a single-layer reinforced concrete beam and a double-layer reinforced concrete beam, were subjected to flexure load testing. The single-layer RCC beam RCCB1-1 had a mean compressive strength of 110 N/mm2 (C110/115), whereas the double-layer RCC beam RCCB 1-2 had a mean compressive strength of 80 N/mm2 (C80/95) for the tension zone and 110 N/mm2 (C110/115) for the compression zone. Both beams have the same length (L = 2m) and dimension, 120 x 240 mm. The percentage of longitudinal and transverse reinforcement steel in each beam is 1.9%. The spacing and diameter of stirrups at the beam's are 6 @ 100 mm and 6 @ 150 mm in the beam's center, respectively. The beam was tested using a Compressive Universal testing machine (UTM) or a hydraulic press with a single concentrated load. The strain on different heights of the portion of the

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Provisioning Of Medical Diagnostic Laboratory Services In India: An In-Depth Analysis

Rakesh Kumar Sharma[1], Sweta Toppo[2], Divya Shikha[3], Giogi Nania[4], Chamta Gurung[5]
[1]Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract:
Context: Diagnostic services play a critical role in shaping medical decisions that, in turn, have significant implications for the nation's overall health. However, the landscape of diagnostic services in India lacks comprehensive exploration within the existing literature.
Aims: This study aimed to provide insights into the operations and provision of diagnostic services by Indian diagnostic laboratories.
Materials and Methods: The study employed a combination of exploratory field visits and an extensive literature review to gain a comprehensive understanding of the Indian healthcare system.
Results: Indian diagnostic laboratories can be categorized based on the nature of services offered and their governance structures. Significant variations were observed in terms of financing, available resources, quality assurance mechanisms, and patient accessibility to services among these diverse laboratory types.
Conclusions: The study's findings highlight that patients' access to laboratory services is intricately linked to the operational aspects of laboratories, including their governance, financial models, available resources, service quality assurance, and patient-centric service delivery.

KEYWORDS: Indian diagnostic laboratories, Operational aspects of Indian medical laboratories, Laboratory diagnosis in India, Indian medical laboratory services

Introduction

Diagnostic laboratory services are pivotal in shaping both individual and population-level healthcare decisions. A comprehensive understanding of a country's laboratory services is crucial for the success of health-related programs. In the context of India, a diverse array of laboratories exists, falling under either the public or private sector category, and further classified into 'Hospital-attached' laboratories (HAL) and 'Stand-alone' laboratories (SAL), as depicted in Figure 1.

HALs encompass laboratories that are either integral parts of hospitals, referred to as 'Hospital-attached fixed' laboratories (HAFL), or are closely associated with hospitals as 'Hospital-attached mobile' laboratories (HAML). SALs, on the other hand, are laboratories not directly linked to hospitals and may be operated by government bodies, individuals, or corporate entities.

HAFLs can take the form of hospital-owned laboratories or contract private laboratories provided space within hospital premises. Public HAFLs are distributed across primary, secondary, and tertiary levels of healthcare. At the primary healthcare level, laboratories can be found in rural settings, including sub-centers (SCs), primary healthcare centers (PHCs), and community health centers (CHCs), as well as urban dispensaries, serving the primary healthcare needs of the population. In the secondary tier, laboratories are located in urban areas, such as sub-district hospitals (SDHs), maternity and child hospitals (MCHs), and district hospitals (DHs). Tertiary care hospitals affiliated with medical colleges house diagnostic laboratories at the tertiary level, providing healthcare

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Assessing Hand Grip Strength: A Study On Medical Laboratory Technicians

Saurabh Mishra[1], Sangita Kujur[2], Avishikta Ray Das[3], Priyanka Ojha[4], Chamta Gurung[5]
[1]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract:
Introduction: Evaluating hand grip strength plays a crucial role in the assessment of hand injuries. As hands undergo various physiological and anatomical changes with aging, the impact of these changes on hand function remains inadequately understood. This study aimed to investigate hand grip strength among medical laboratory technicians in India.
Methods: A cross-sectional study was conducted, involving 108 medical laboratory technicians aged between 20 and 50 years. Additionally, 38 control subjects were included from Mumbai and Kolkata. Hand grip strength was measured using the Jamar Hand Grip Dynamometer.
Results: The results revealed that hand grip strength increased up to the age of 40 years for males and 35 years for females among medical laboratory technicians. Subsequently, there was a gradual decline in grip strength. The primary factor contributing to this decline was aging, resulting in a reduction in muscle mass. Other contributing factors included a lack of physical activity, inappropriate work schedules, and the use of poorly designed tools. A significant difference in mean handgrip strength was observed between males and females in all age groups. Notably, the dominant hand exhibited significantly greater handgrip strength than the non-dominant hand for both males and females ($p<0.05$). Furthermore, a positive and significant correlation between age and grip strength in the dominant hand was identified ($p<0.05$).

KEYWORDS: Hand Grip Strength, Medical Laboratory Technicians, Muscle Strength, Aging, Dominant Hand, Non-Dominant Hand

Introduction

Hand grip strength serves as a readily accessible indicator of physical well-being and muscular performance. It not only reveals a person's handedness but can also serve as a predictive measure of overall physical capabilities. It finds utility in assessing upper limb impairment, evaluating nutritional health, and plays a crucial role in injury prevention and rehabilitation. The measure of handgrip strength is influenced by several factors, including age, gender, and body size. Additionally, it reflects an individual's health status and level of physical activity. Occupation type exhibits a distinct relationship with the level of grip strength, as evidenced by recent research in the Chinese population, which identified correlations between grip strength and anthropometric factors such as forearm circumference, height, and weight. Interestingly, grip strength tends to be higher in the dominant hand for right-handed individuals, though no significant disparities between hands were observed in left-handed individuals.

Within the realm of medical laboratories, handgrip strength assumes significant importance. Laboratory procedures entail repetitive tasks that carry various risk factors, notably awkward postures, repetitive motions, and excessive force application. These tasks encompass a range of activities, including pipetting, microscopy, microtomy, and operating equipment such as cell counters, biosafety cabinets, and cryostats, all of which require the extensive use of handgrip strength. The specialized nature of the work performed by medical laboratory

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The investigation focused on the mechanical properties of recycled concrete aggregate when subjected to various curing conditions

Nasim[1], Mahesh Kumar[2], Kabita Kashyap[3], Rahul Kumar Gupta[4]

[1]Assistant Professor, Department of Civil Engineering, Mangalayatan University, Aligarh

[2]Professor, Department of Civil Engineering, Mangalayatan University, Aligarh

[3]Department of Civil Engineering, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand, India

ABSTRACT:

Waste from construction and destruction is created daily all around the world. Therefore, it would seem that utilizing recycled concrete aggregate in the manufacturing of new concrete is a useful way to utilize concrete waste. The experimental investigation conducted to assess the impacts of varying percentages of recycled concrete aggregate (RCA) under various curing conditions is presented in this paper. The proportions of dolomite to recycled coarse aggregate were, in order, 0:100%, 25:75%, 50:50%, and 100:0%. The mechanical (compressive and splitting strength) and mass transport (ISAT and sorptivity) properties of the concrete were examined. Three distinct curing environments were applied to the concrete examples: moist (standard), open-air, and painted specimens made with the material (Curassol 1). After 28 days, laboratory-produced primary concrete was crushed to yield coarse recycled concrete aggregates. The findings demonstrated that, for all ages and recycling percentages, paint material curing was the most effective way of curing; however, at 100% recycling, water curing produced the highest values of both compressive and tensile strengths. Additionally, at age 28 days, complete replacement of coarse aggregates in moist curing produced the best compressive strength. Concrete permeability decreased when water was utilized for curing in all circumstances when recycled aggregate was used.

Keywords:

Introduction

Crushing concrete to create coarse aggregates for the production of new concrete is one of the most common ways to produce environmentally friendly concrete. This reduces both the consumption of natural resources and the disposal of concrete refuse in landfills [1]. Thus, the concept of using recycled concrete aggregate in the production of new concrete appears to be an efficient method for reusing concrete detritus. Prior to their use in structures, however, it is necessary to evaluate the strength of new concrete made with recycled concrete aggregate.

The mechanical behavior of recycled concrete coarse aggregates has been investigated by numerous researchers [1–9]. Furthermore, a number of writers have mentioned the potential for producing structural concrete from recycled aggregates [10–13]. However, only a few of them looked into how curing circumstances affected the mechanical qualities of concrete that contained recycled particles.

Curing is a process that prevents over-drying and adds enough water to the concrete mass so that the cement reaches the appropriate level of hydration. The effect of curing circumstances on the compressive strength of recycled concrete is an intriguing topic for research because the curing

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The Rising Role of Women Entrepreneurs in India's Economy

Komal Ghiya[1], Shabana Bano[2], Niyati Sharma[3], Md Tanweer Alam Sunny[4], Amar Jamnekar[5], Tenzin Choephel[6]

[1,5]Assistant Professor, Department of Management, GH Raisoni University, Amravati, Maharashtra

[2]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[4]Assistant Professor, Department of Law, GH Raisoni University, Amravati, Maharashtra

[6]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

Corresponding author: Komal Ghiya
Assistant Professor, Department of Management, GH Raisoni University, Amravati, Maharashtra

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Predicting The Laboratory Of The Future: Innovative Technological Advancements In Laboratory Medicine

Akashdeep Singh[1], Vikash Kumar[2], Avishikta Ray Das[3], Pranal Chhetri[4], Franco Gohain[5]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi,
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
Laboratory medicine plays a pivotal role in public health and healthcare delivery, employing a wide range of analytical techniques to furnish healthcare professionals with timely, objective data for guiding disease prevention, diagnosis, treatment, and monitoring. Fueled by a culture of innovation, recent technological strides have ushered in a transformation in modern laboratory medicine, enhancing its significance and visibility in healthcare and clinical decision-making.
Remarkable innovations in laboratory automation, genomics, nuclear magnetic resonance spectroscopy, mass spectrometry, microfluidics, and electronic tools have reshaped the landscape of omics research. The increasing adoption of these technologies, coupled with their integration into micro technology and point-of-care testing, has yielded better patient outcomes and reduced the gap between clinical and laboratory domains, promoting a patient-centric healthcare approach.
However, to fully leverage these advancements, the harnessing of medical big data generated by these novel techniques necessitates new tools like artificial intelligence and data mining. These tools are essential for realizing the potential of these groundbreaking technologies.
This review provides an overview of recent technological breakthroughs in laboratory medicine, accompanied by a critical evaluation of their clinical relevance and future prospects. It also explores the promise and potential of precision and personalized medicine, emphasizing the role of advanced information technology in its successful implementation

KEYWORDS: Laboratory medicine; innovation; precision medicine; biotechnology

Introduction

Laboratory medicine is a cornerstone of healthcare, providing healthcare professionals with objective data for making informed decisions in disease prevention, risk assessment, diagnosis, prognosis, treatment, and patient monitoring. Recent technological leaps in laboratory medicine have significantly enhanced clinical diagnostics and monitoring, thereby elevating patient care quality and reinforcing the field's importance in healthcare.

Traditionally, clinical chemistry, hematology, and microbiology testing demanded substantial manual labor from laboratory staff, entailing multiple steps from specimen collection to disposal. However, recent decades have witnessed the adoption of highly automated analyzers in clinical chemistry and hematology laboratories, substantially enhancing testing efficiency, reducing costs, and minimizing laboratory-related errors.

Moreover, remarkable progress in genetics and genomics, nuclear magnetic resonance (NMR) spectroscopy, mass spectrometry (MS), and microfluidics has unfolded alongside increased laboratory automation, ushering in a new era of laboratory medicine. Next-generation and single-cell sequencing, for instance, have revolutionized genomics and transcriptomics, enabling high-throughput, cost-effective whole-genome DNA and RNA sequencing. Advances in NMR and MS technologies have redefined proteomics and metabolomics, extending their applications across various clinical domains. Microfluidic technology, notably lab-on-a-chip systems,

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Synthesis Of A Novel Organoantimony And Its Antibacterial Studies

Dinesh Kumar Sharma[1], Ravi Kant[2], Jagesh Kumar Ranjan[3], Aamarpali Roy[4], Amit Kumar[5]

[1,2]Professor, Institute of Applied Sciences, Mangalayatan University, Aligarh, UP, India

[3]Assistant Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand

[4]Associate Professor, Department of Chemistry, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Chemistry, Sikkim Professional University, Gangtok, Sikkim

ABSTRACT:

The present manuscript deals the synthesis of novel organic derivatives of antimony through modified method. The newly synthesized organoantimony were characterized for their antibacterial activity against pathogenic bacterial strains and it was found that the compound show great efficacy against pathogenic bacterial strains.

Keywords: Organoantimoney, pathogenic, antibacterial

Introduction

The medicinal importance of organoantimony compounds against *trypanosomes* and *Leishmania* was well established (1) and they are also being used as antibacterial and antifungal agents in textile industry (2). In recent past organoantimony compounds have also been shown to exhibit moderate to significant antiproliferative activity (3-5), however no toxicological studies have been reported so for. Antimicrobial, anti-tumor and CNS activity of a variety of organoantimony compound has been reported earlier (6-9). Organoantimony (III) compounds show inhibitory effects against Ehrlich ascites tumor (4, 5) and also respond against P388 leukemia (10). A mutagenic potential of some diphenylntimony (III) derivatives has also been evaluated (11). Only recently Chinese workers showed organoantimony (V) derivatives as potential cytotoxic agents and even in some cases surpass cis-platin therapeutic activity (12-14). Literature reveals that acetates in organoantimony derivatives could behave as monodentate, bidentate or as bridging ligands depending on the oxidation state (+3 or +5), the physical state of the compound (solid or solution) and the various substituent present on the acetate group itself (15-25). The present manuscript deals the synthesis of novel organic derivatives of antimony followed by its characterization for antibacterial activity against pathogenic bacterial strains.

Experimental

Synthesis: Diphenylantimony (III) chloride, Ph_2SbCl, was prepared by the redistribution reaction (26). Typical experimental details of the reactions are described below.

Reaction of Diphenylantimony(III)chloride with glycine

In the stirring solution of diphenylantimony(III) chloride (1m mol), glycine (1m mol) was added in the presence of trimethyl amine (1ml) in toluene and stirred under anhydrous oxygen free nitrogen atmosphere for 6-7 hr followed by refluxing for 3 more hr to ensure the completion of the reaction. The flocculent white precipitate of $Et_3N.HCl$ (M.P. 240˚C) was formed and filtered off. This filtrate on

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The Current Landscape of Women-Led Enterprises Empowering the Indian MSME Sector

Md Tanweer Alam Sunny[1], Shabana Bano[2], Niyati Sharma[3], Amar Jamnekar[4], Prakash Mishra[5], Somya Bansal[6]

[1]Assistant Professor, School of Law, G H Raisoni University, Amravati, Maharashtra, India
[2]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[4]Assistant Professor, Department of Management, G H Raisoni University, Amravati, Maharashtra, India
[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[6]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Corresponding author: Md Tanweer Alam Sunny
Assistant Professor, School of Law, G H Raisoni University, Amravati, Maharashtra, India

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Evaluating The Present And Envisioning The Future: Medical Laboratory Technology In India

Akashdeep Singh[1], Puja Kumari[2], Avishikta Ray Das[3], Pranal Chhetri[4], Franco Gohain[5]
[1]Assistant Professor, Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi,
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
Medical Laboratory Technology (MLT) in India has experienced notable progress in recent years, making substantial contributions to the nation's healthcare infrastructure. This summary offers insights into the present state of MLT in India, emphasizing its pivotal role in diagnostics and patient well-being. Additionally, it delves into the obstacles confronting this field and its potential outlook, with a particular emphasis on emerging developments and avenues

KEYWORDS: Medical Laboratory Technology, Diagnostic Services, Healthcare Sector, Obstacles, Future Opportunities, India

Introduction

Medical Laboratory Technology (MLT) program - This curriculum is designed to equip students with the skills necessary to function as proficient laboratory technologists. Graduates are capable of collecting blood, tissue, and various bodily fluid samples, conducting medical tests, analyzing the results, and generating comprehensive reports for disease detection. The program encompasses instruction in blood bank administration, lab equipment management, and imparts knowledge on maintaining and cleaning laboratory equipment. Moreover, students are trained in biomedical waste management and adhere to stringent quality control standards in accordance with the National Accreditation Board for Testing and Calibration Laboratories (NABL) regulations.

Review Of Literature

As of the present day, there are 144 colleges in India that offer a total of 182 courses in Medical Lab Technician education. These institutions, known as medical technician colleges, specialize in imparting knowledge and skills related to life-saving techniques and first aid. The Medical Technician course is structured for individuals aspiring to build a career in the healthcare industry, providing comprehensive training in emergency life-saving procedures.

Students attending medical technician colleges in India receive instruction in essential emergency medical activities. These colleges also grant accredited certifications in Emergency Medical Technician (EMT) and facilitate promising placement opportunities for their graduates. Prospective candidates interested in pursuing this course should possess a background in the medical field or hold a 10+2 qualification in the science stream with a minimum of 50% from a recognized school and board. Both Bachelor's and Diploma degrees are available for this program in India.

Some of the leading medical technician colleges in India include the Indian Institute of Emergency Medical Services (IIEMS), Institute of Paramedical, Management and Technologies (IPMT), CT University, Hind Institute of Medical Sciences (HIMS), Christian Institute of Health Sciences and Research (CIHSR), and ITM - Institute of Health Sciences (ITM MUMBAI).

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A Study on Cashless Transaction in India

Dinesh Kumar Pandey[2], Anurag Shakya[2], Anupam Shakya[3], Chiging Yamang[4], Somya Bansal[5], Neeta Deepaware[6]

[1]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Jharkhand

[2]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Sri Babu Singh Daddu Ji Krishi Mahavidyalaya , Fatehgarh, Farrukhabad, UP

[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

[6]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

Corresponding author: Dinesh Kumar Pandey
Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Jharkhand

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Role of Adaptive Neural Network in the Stabilization of Non-Linear System

Dheeresh Upadhyay[1], Rajesh Kumar Upadhyay[2], Lokesh Kumar[3]

[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India

[2]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India

[3]Assistant Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand

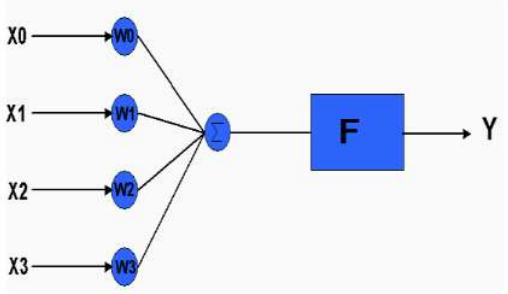
ABSTRACT:

Because of their distinctive qualities, neural networks can manage non-linear systems. An adaptive neural network controller may be created so that it automatically creates a controller for the estimated system uncertainty after estimating some system uncertainty. In order to provide effective control, the controller reduces system uncertainty by using information obtained online to determine exactly what the system is right now. It is important to note that many traditional adaptive estimating and control approaches for linear systems may be generically characterized as strategies that employ linear approximation structures for systems with known system order. (of course, this is for the state feedback case and ignores the results for models where the order is not assumed known). Usually, the issues in these situations are constructed in such a way that the linear approximator—for example, a linear model with configurable parameters—can accurately reflect the underlying unknown function that it is attempting to approximate. This research presents a simulation of a non-linear system using an adaptive neural network for stabilization. The non-linear system is assumed to be the inverted pendulum. This work aims at stabilizing the inverted pendulum. It is challenging to stabilise the extremely non-linear system known as the inverted pendulum.

Keywords: Adaptive Neural Network (ANN), RBF (Radial Basis Function), MLP (Multi Layer Perceptron).

Introduction

Non-linear functions are parameterized as neural networks. The network's weights and biases are its parameters.The parts of a biological neuron are the foundation for the model that follows (Fig. 1). The dendrites are represented by the inputs X0-X3. Weights W0-W3 are multiplied by each input. The neuron model's output, Y, is a function, F, of the sum of the signals at the input [5].



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Correlation Of Mrd Status And Relapse In Acute Myeloid Leukemia

Jitendra Saraswat[1], Sangita Kujur[2], Divya Shikha[3], Giogi Nania[4], Chamta Gurung[5]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract:
The presence of minimal residual disease (MRD) subsequent to the attainment of complete remission (CR) following induction therapy can serve as a predictor for relapse in acute myeloid leukemia (AML). These findings indicate a potential association between relapse and MRD at the time of morphologic remission. Our primary aim was to validate the previously proposed hypothesis, exploring whether MRD and relapse offer distinct and independent prognostic insights.
Methods and Patients: We analyzed data from a cohort of 87 adult AML patients who successfully achieved CR following induction therapy. Subsequently, bone marrow samples were collected upon the achievement of complete remission, and MRD was assessed using 5-color multiparameter flow cytometry.
Results: Among the 87 patients who attained morphological CR, 28 experienced relapses or exhibited refractory AML. Notably, 40 patients (48.2%) exhibited flow cytometric evidence of MRD, out of which 16 (18.3%) eventually experienced a relapse, while 24 (27.5%) did not relapse. The incidence rate of relapse was notably higher among MRD-positive cases, accompanied by a heightened hazard ratio.
In conclusion, MRD levels appear to be significantly correlated with the prognostic factors associated with relapse in AML patients

KEYWORDS: MRD, flow cytometry, Relapse, RFS

Introduction

Acute myeloid leukemia (AML) is a complex ailment with varying responses to treatment, resulting in complete remission (CR) rates spanning from 20% to 90%. Relapse is the most frequent event, ultimately leading to mortality, occurring in 10% to 95% of cases. Risk assessment depends on numerous factors linked to both the patients and the disease, evaluated at the time of diagnosis. Factors such as age, the origin of AML (de novo versus secondary), cytogenetics, and molecular abnormalities provide only limited predictive value. An alternative approach, not mutually exclusive, is to incorporate data gathered as treatment commences, particularly concerning minimal residual disease (MRD) measured via multiparameter flow cytometry (MFC). Increasing evidence suggests that MRD levels post-induction therapy independently correlate with relapse and overall survival.

The prognostic importance of the response to induction therapy is also recognized, with a recent study demonstrating that achieving CR is independently linked to extended relapse-free survival (RFS). The study presented here delves into the correlation between MRD, clinical response, and relapse through flow cytometry.

Material and methods:

2.1 Patients

For our study, we utilized bone marrow (BM) and peripheral blood samples from patients diagnosed with AML at DRBRAIRCH, AIIMS, New Delhi, India. The study was conducted between December 2013 and March 2016 and included a cohort of 100 newly diagnosed AML patients. Routine diagnostic flow cytometry analyses

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Synthesis And Antitumor Studies Of Novel Organic Derivatives Of Antimony

Dinesh Kumar Sharma[1], Ravi Kant[2], Jagesh Kumar Ranjan[3], Nitin Jaiswal[4], Aamarpali Roy[5],
[1,2]Professor, Institute of Applied Sciences, Mangalayatan University, Aligarh, UP, India
[3]Assistant Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand
[4]Professor, Department of Chemistry, Sikkim Professional University, Gangtok, Sikkim
[5]Associate Professor, Department of Chemistry, Himalayan University, Itanagar, Arunachal Pradesh

Abstract

The present manuscript presented herewith describes the synthesis of novel organic derivatives of antimony through modified method followed by their characterization as antitumor/anti cell proliferation agent. The new organic derivative of antimony shows potential antitumor activity against human breast cancer (MCF-7) and mammary cancer (EVSA-7) cell lines.

Key Words: Organoantimony, cytotoxic, antitumor, carcinogens.

Introduction

It is observed that organoantimony compounds play an important role in controlling the tumor growth (1). Early work on organoantimony (III) both *in-vitro* and *in-vivo* showed that these compounds were more active than their organotin congeners against Ehrlich ascites tumor (2). The cross resistance of this compound and cis-platin in a human ovarian carcinoma and other human cell line has been demonstrated and the results suggesting that these complexes share a common mechanisms of resistance due to an accumulation defect (3-5). The recent studies indicated that these compounds are implicated in over expression of the multi-drug resistance associated protein (MRP), which is a drug export pump (6-8). This is a possible mechanism by which human cells can avoid the cytotoxic effect of heavy metals administered as drugs (9).

Experimental

Synthesis: The synthesis of organoantimony compounds was performed by following novel method (10).

Reaction of Diphenylantimony(III)chloride with glycine

In the stirring solution of diphenylantimony(III) chloride (1m mol), glycine (1m mol) was added in the presence of trimethyl amine (1ml) in toluene and stirred under anhydrous oxygen free nitrogen atmosphere for 6-7 hr followed by refluxing for 3 more hr to ensure the completion of the reaction. The flocculent white precipitate of $Et_3N.HCl$ (M.P. 240˚C) was formed and filtered off. This filtrate on concentration under vacuum condition gives a light off white solid which was recrystallized by petroleum ether (40-60˚C).

Reaction of phenylantimony(III)dichloride with glycine

In the stirring solution of phenylantimony(III) dichloride (1m mol), glycine (2m mol) was added in the presence of trimethyl amine (1ml) in toluene and stirred under anhydrous oxygen free nitrogen atmosphere for 7 hr followed by refluxing for 3 more hr to ensure the completion of the reaction. The flocculent white precipitate of $Et_3N.HCl$ (M.P. 240˚C) was formed and filtered off. This filtrate on concentration under vacuum condition gives an off white solid which was recrystallized by petroleum ether (40-60˚C).

Reaction of phenylantimony(III)dichloride with glycine

In the stirring solution of phenylantimony(III) dichloride (1m mol), glycine (1m mol) was added in the presence of trimethyl amine (1ml) in toluene and stirred under anhydrous oxygen free nitrogen atmosphere for 6 hr followed by refluxing for 2 more hr to ensure the completion of the reaction. The flocculent white precipitate of $Et_3N.HCl$ (M.P. 240˚C) was formed and filtered off. This filtrate on concentration under vacuum condition gives white solid mass which was recrystallized by petroleum ether (40-60˚C).

Antitumor activity

This method was carried out to estimate the effect of test compound on the growth of tumor cells. The human breast cancer cells lines (MCF-7) and mammary cancer (EVSA-7) cell lines were employed. The cancer cell lines were co-incubated with the test compounds at 1 µg/ml doses for 96 hrs and the cell growth count was measured by MTT assay (11). The basic principle involved in this assay depends upon the reduction of tetrazolium salt. The yellow colored tetrazolium MTT, [3-(4, 5-dimethylthiazol-2-yl)-2, 5,-diphenyl tetrazolium bromide] is reduced by metabolically active cells in part by the action of dehydrogenase enzymes to generate reducing equivalents such as NADH and NADPH. The resulting intra cellular purple colour zones was solubilized and quantified by spectrophotometer method. The MTT was dissolved in PBS at a concentration of 5

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FACULTAD DE LETRAS

Typologies of Service Innovation in the Indian Context: A Comprehensive Literature Review

Neha Choudhary[1], Shalu Agrawal[2], Anand Prasad Sinha[3], Yibom Bagra[4], Ankit Khare[5], Salima Bhattarai[6]

[1]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Business Management and Commerce Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Department of Management, Birla Institute of Technology, Ranchi, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[6]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Corresponding author: Neha Choudhary
Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

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Mastering Paramedic Science: A First-Person Journey Of Skill Acquisition

Rajesh Kumar[1], Diksha Vishwakarma[2], Brishnendra Mishra[3], Komal Kriti[4], Deepshikha Pradhan[5]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Lecturer, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract:
Paramedic students must acquire both fundamental and advanced clinical skills to ensure patient safety and effectively operate complex medical equipment. To address the challenges posed by time and resource constraints on students, educators, and institutions, health professional training programs have increasingly incorporated alternative teaching methods such as simulation and multimedia. These innovative approaches help students develop their clinical expertise before embarking on clinical placements.
Paramedic education facilities are equipped with simulation equipment, providing students with a safe and controlled environment to practice psychomotor skills crucial for their roles. Nevertheless, this learning environment often encounters disruptions, or "noise," including the presence of educators, ambient sounds from other students, staff, or equipment, which can hinder a clear and precise observation of the intricate details of the skills being taught. This study sought to address these issues by introducing video learning resources.
While the use of video as a learning tool is not a new concept, this project introduced three unique aspects that make it particularly innovative and beneficial for learners. First, the videos were presented from a first-person point of view (1st PPOV), allowing students to experience the learning process as if they were the ones performing the skills. Second, these video learning materials were easily accessible via mobile devices, such as smartphones, providing students with the flexibility to engage with the content wherever and whenever they preferred. Lastly, the use of QR codes streamlined access to the online videos, enhancing the overall learning experience.
The study produced six 1st PPOV video vignettes, each less than two minutes in length, providing clear and instructive demonstrations of selected psychomotor clinical skills essential for acute care provision. The research findings revealed a positive impact on students' (n=87) skill acquisition, offering a comprehensive view and deeper understanding of these skills in their clinical context. Additionally, the ability to access these videos on mobile phones proved to be a significant advantage. Encouraged by these results, participants expressed their desire for additional 1st PPOV skills to be incorporated into the blended learning design across all areas of their Paramedic Science program

KEYWORDS: First person point of view, experiential learning, paramedic science, paramedic science skills, skill acquisition, video learning materials, learning in the first person.

Introduction

Paramedic skills are unequivocally life-saving, but the process of acquiring them is often challenging. A pivotal aspect of this learning journey is the use of first-person point of view videos, enabling individuals to access and grasp these skills at their convenience (Fukkink, Trienekens, & Kramer, 2010).

A groundbreaking assessment of paramedic education, as documented in the report by Willis, Pointon, and O'Meara (2009), pinpointed three crucial enhancements to curriculum development and delivery. First, there's a pressing need for cost-effective, student-centered approaches to teaching clinical skills. Second, the establishment of a distinctive signature pedagogy specific to paramedic education is imperative. Lastly,

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Revolutionizing Healthcare: A Comprehensive Review of AI-Based Medical Equipment Adoption and Its Impact

Zohaib Hussain[1], Md. Saifullah Khalid[2], Umesh Chandra Sharma[3], Ashutosh Saxena[4], Nyarik Geyi[5]

[1]Ph.D. Scholar, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh

[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

Corresponding author: Zohaib Hussain
Ph.D. Scholar, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

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Synthesis Of Novel Organoarsenic And Their Antitumor Efficacy Against Mcf-7 And Evsa-7 Tumor Cell Lines

Dinesh Kumar Sharma[1], Ravi Kant[2], Debaprasad Dev[3], Jagesh Kumar Ranjan[4], Vinesh Kumar[5]
[1,2]Professor, Institute of Applied Sciences, Mangalayatan University, Aligarh, UP, India
[3]Professor, Department of Chemistry, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand
[5]Associate Professor, Department of Chemistry, Sikkim Professional University, Gangtok, Sikkim

Abstract

The present manuscript describes the novel route for the synthesis of new organoarsenic derivatives of glycine through modified method followed by their characterization as antitumor/anti cell proliferation agent against human breast cancer (MCF-7) and mammary cancer (EVSA-7) cell lines. It was found that the new organic derivatives of arsenic show potential efficacy against tumor cell lines.

Key Words: Organoarsenic, cytotoxic, antitumor, carcinogens.

Introduction

Experimental

The importance of metal based drugs lies in the fact that they are essential components for various physico-chemical processes occurring in living system (1). The spectrum of the metal based drugs has been expanded as they have found their place among a class of potential biologically active compounds (2-5). It is surprising to observe that metal are able to induce cancer and also to treat the cancer while some are able to perform both (5). It is known that almost all metals are able to generate reactive oxygen species, which extend for the treatment of cancer (6). Arsenic can induce the cancer and also used to treat the cancer that is it shows paradox behavior (7). Arsenic is well known to its acute toxicity and it can induce the cancer (8). Although it does not seem to be a mutagen *in-vivo*, it interacts with DNA molecules. Arsenic exposure in certain animal modules and in human contributes to skin neoplasia by stimulation of several growth factors (9). Arsenic acts as a tumor promotion by modulating the signaling pathways which are responsible for cell growth (9). Arsenic induces chromosomal abnormalities and disruption of DNA methylation and repair systems (10). Arsenic induced oxidative stress with subsequent DNA damage which could explain its toxicity. By inducing the apoptosis, arsenic can eliminate transformed cells, which could protect organisms from cancer and possibly could be its mechanisms of action against tumors cells (11).

Experimental

Synthesis: The synthesis of novel organic derivatives of arsenic was carried out by following method (12).

Reaction of Diphenylarsenic(III)chloride with glycine

In the stirring solution of diphenylarsenic(III) chloride (1m mol), glycine (1m mol) was added in the presence of trimethyl amine (1ml) in toluene and stirred under anhydrous oxygen free nitrogen atmosphere for 6-7 hr followed by refluxing for 3 more hr to ensure the completion of the reaction. The flocculent white precipitate of $Et_3N.HCl$ (M.P. 240˚C) was formed and filtered off. This filtrate on concentration under vacuum condition gives a light off white solid which was recrystallized by petroleum ether (40-60˚C).

Reaction of phenylarsenic(III)dichloride with glycine

In the stirring solution of phenylarsenic(III) dichloride (1m mol), glycine (2m mol) was added in the presence of trimethyl amine (1ml) in toluene and stirred under anhydrous oxygen free nitrogen atmosphere for 7 hr followed by refluxing for 3 more hr to ensure the completion of the reaction. The flocculent white precipitate of $Et_3N.HCl$ (M.P. 240˚C) was formed and filtered off. This filtrate on concentration under vacuum condition gives an off white solid which was recrystallized by petroleum ether (40-60˚C).

Reaction of phenylarsenic(III)dichloride with glycine

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Transforming Branded Clothing Retail: Augmented Reality's Impact on Customer Experience and Purchase Behavior

Pushpesh[1], Md. Saifullah Khalid[2], Sidharth Jain[3], Neeta Deepaware[4], Chiya Mihu[5]

[1]Research Scholar, Faculty of Business Management & Commerce, Usha Martin University, Angara, Ranchi, India

[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Angara, Ranchi, India

[3]Professor, Institute of Business Management and Commerce Mangalayatan University, Aligarh, UP

[4]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

Corresponding author: Pushpesh
Research Scholar, Faculty of Business Management & Commerce, Usha Martin University, Angara, Ranchi, India

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Unlocking Healing Potentials: Soft Tissue Manipulation As Mechanotherapy

Alka Singh[1], Gourab Jyoti Roy[2], Reena Thapa[3], Tailang Dumi[4]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
This concise review offers a valuable perspective on the significant role of soft tissue manipulation/mobilization (STM) as an influential and direct mechanotherapy approach with wide-reaching implications in the realms of physical rehabilitation, disease prevention, and health promotion. STM, exemplified by therapeutic massage, whether administered manually or with the assistance of mechanical devices, stands as a prominent form of manual therapy employed by clinicians globally to address common musculoskeletal pain conditions. Mechanotherapy, in this context, utilizes non-invasive mechanical stimuli applied to the body's surface, effectively influencing molecular, cellular, and tissue structures and functions through mechanotransduction processes, ultimately yielding improved clinical outcomes.
The article also furnishes a concise overview of mechanotransduction, with a particular emphasis on the ECM-integrin cytoskeleton pathway. Furthermore, it delves into the effects of STM's mechanical stimulation on various types of bodily tissues. The review underscores the need for ongoing research to further validate STM as a viable, cost-effective treatment option, especially in an aging population. The clinical relevance of STM is explored, emphasizing the importance of approaching STM intervention as a precise prescription, wherein optimal pressures and frequencies are meticulously tailored to achieve the desired therapeutic outcomes and propel the field of soft tissue manual therapies forward

KEYWORDS: Soft tissue manipulation; Soft tissue mobilization; Massage; Mechanotherapy; Manual therapy; Physical therapy; Rehabilitation.

Introduction

Musculoskeletal (MS) conditions are both prevalent and economically burdensome, affecting individuals across their lifespan and encompassing various tissue types. Clinicians routinely employ manual therapy approaches to address these conditions and other related disorders. Notably, a study revealed that as many as 87% of physical therapists integrate manual therapy into their daily practice.

Soft tissue manipulation/mobilization (STM), exemplified by therapeutic massage, stands out as a subtype of manual therapy. It can be administered manually or with the assistance of rigid devices. Instrument-assisted soft tissue mobilization (IASTM) is a variant of STM, employing rigid instruments to deliver highly targeted forces to specific tissue areas. Despite the well-documented historical efficacy of STM, there still exists an extensive gap in our understanding of its underlying mechanobiology. In essence, STM operates as a mechanotherapy, and recognizing it as such can potentially enhance its application and optimize treatment outcomes.

Fundamentally, mechanotherapy can be defined as any intervention employing mechanical stimuli to induce biological changes through mechanotransduction processes, ultimately aiming to enhance functionality [9,10]. Mechanotransduction pathways convert mechanical stimuli applied to the body into cellular, molecular, and tissue responses. Virtually all cells exhibit mechanosensitivity to their immediate surroundings, where physical

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Relevance of Inscription and Coins in Indian History: An Overview

Sagufta Parveen[1], Roshni Kumari[2], Laishram Malem Mangal[3]

[1]Assistant Professor, Department of Arts, Mangalayatan University, Aligarh, UP, India

[2]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Department of Legal Studies, Himalayan Univesity, Itanagar, Arunachal Pradesh

ABSTRACT:

Through the ages, humans have attempted to reconstruct, characterize, and understand their own pasts. This endeavour is known as history. With the aid of several resources like literary and archaeological sources a historian can research and evaluate the political and socioeconomic scenario of today. Among them Inscriptions and coins is significant part of these, mainly when studying the ancient and early medieval periods consider the most trustworthy sources of information and contained myth. Despite the fact that we possess an enormous amount of literal sources, the majority of them have religious connections and have chronological issues. So far as role of coins is concerned, from prehistoric times to the present, coins have a long history that is connected to economic history, minting technology history, image history on coins, and coin collecting history. In addition to being used for money, coins are still commonly utilized. Numismatics has always reflected the political, economic, artistic, and social trends of the time in which it originated. As a matter of fact, it plays a crucial part in the uniqueness of a nation or age. In order to demonstrate the value of these archaeological materials for historical and archaeological research, this paper examines the function and significance of coins and inscriptions throughout Indian history. It is also intended to draw attention to the importance of coins and inscriptions as source of considerable value to the study of Indian history.

Keywords: Epigraphy, Inscription, Coins, Paleography, Dhamma, Numismatics

Introduction

Epigraphy is the study of inscriptions; an inscription is anything that is written or etched on a material such as bricks, clay, shells, pottery, metal, wood, ivory plagues, bronze statues, etc. Interpreting the wording of inscriptions and evaluating the data they hold are aspects of epigraphy. Paleography, the study of ancient writing, is also included. In many regions of Asia, the historical practice of engraving cave walls or stone monuments to honor religious rites, conquests, and other significant events dates back thousands of years. The oldest known inscriptions date to the third century B.C. and were written in Prakrit language. However, with the arrival of Ashoka the Great, the custom of writing inscriptions gained popularity.

There are Ashokan inscriptions in Afghanistan, Pakistan, India, and Nepal, found in 47 locations, they have a total of 182 variations, including 2 edicts that are thought to be fraudulent. Written in Prakrit, they are mostly inscribed in Brahmi script throughout the Indian subcontinent, although they also exist in Khroshti script and Aramaic in the northwest. They may be located in six distinct locations in Afghanistan and are written in both Aramaic and Greek. The inscriptions found in Ashokan buildings shed light on his life and times, his empire's size, and his internal and external policies. Through his

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Thermal Technology: A Study of the Thermal performance of the Rural Houses and its Management

Pushpesh[1], Md. Saifullah Khalid[2], Dheeresh Upadhyay[3], Neeta Deepaware[4], Tad Nime[5]

[1]Research Scholar, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, India

[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, India

[3]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP

[4]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

Corresponding author: Pushpesh
Research Scholar, Faculty of Business Management & Commerce, Usha Martin University, Angara, Ranchi, India

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Evaluating The Efficacy Of Physical Therapy In Managing Paramyotonia Congenita Symptoms: A Case Study

Arfa Alam[1], Diksha Vishwakarma[2], Reena Thapa[3], Tailang Dumi[4]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
Background: Paramyotonia Congenita (PMC) is an uncommon genetic condition that disrupts the normal function of sodium ion pumps within muscle cells, leading to delayed muscle relaxation following activation. It can manifest with symptoms such as localized or widespread muscle stiffness, often accompanied by varying degrees of discomfort. This case report aims to outline the physical therapy strategies employed and the resulting treatment outcomes in a 13-year-old female diagnosed with Paramyotonia Congenita.
Case Summary: A 13-year-old girl diagnosed with Paramyotonia Congenita presented with a 4-month history of heightened low back and bilateral hip discomfort. The treatment approach encompassed the utilization of therapeutic heating modalities, aquatic therapy, and targeted stretching exercises. Additionally, patient and family education, along with the facilitation of an individual education plan, were integral components of the intervention.
Outcome Measures: The patient received care over the course of 13 sessions at an outpatient clinic. During this period, notable enhancements in the patient's range of motion for the shoulder, hip, and back were observed, along with an alleviation of pain. The evaluation of range of motion was conducted using goniometric measurements, while pain levels were quantified using both a 0-10 visual analog scale and the Wong-Baker FACES pain rating scale.
Conclusion: Physical therapy interventions could offer a viable approach for alleviating pain in a 13-year-old girl with Paramyotonia Congenita (PMC). The use of heat application as a treatment modality has demonstrated the potential to reduce pain for multiple days, with deeper heating techniques showing greater efficacy in pain reduction over extended durations. Nevertheless, further research is essential to comprehensively assess the effectiveness of physical therapy in PMC treatment, with a specific focus on the application of deep heat and other therapeutic modalities

KEYWORDS: Physical Therapy, Paramyotonia Congenita, Rehabilitation, Intervention, SCN4A gene mutation.

Introduction

Paramyotonia Congenita (PMC) is a rare genetic disorder impacting the sodium ion pump at the muscle level, resulting in delayed muscle relaxation following activation [1]. The condition's nomenclature stems from "myotonia," signifying muscle stiffness and increased resting muscle tone, which intriguingly occurs during exercise, not afterward, thus earning it the moniker "paradoxical myotonia." A congenital onset is attributed to an SCN4A gene mutation, which may lead to specific issues with the potassium ion pump.

Symptoms typically emerge within the first decade of life and persist throughout an individual's lifespan. Episodic symptoms in those with PMC can extend for weeks to months. Common triggers for these symptoms encompass weather or ambient temperature changes, mild to moderate exercise, or increased functional activity stress.

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A Study on Select Human Resource Practices, Self-Efficacy and Organizational Citizenship Behavior in Private Sector Banks in Jharkhand

Bidisha Sarkhel[1], Arvind Hans[1], Unnati Jadaun[2], Mary Jerman Ekka[1], Garima Anand[1], Kavita Kumari[1], Prakash D. Achari[3]
[1]Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

Corresponding author: Bidisha Sarkhel
Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

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Development of Language and Literature in the Medieval Period under the Protection of Central and Regional Politics

Sagufta Parveen[1], Shimpi Kumari Chaturvedi[2], Pankaj Choudhury[3], Atibha Vijaya Singh[4]

[1]Assistant Professor, Department of Arts, Mangalayatan University, Aligarh, UP, India

[2]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP

ABSTRACT:

During the medieval period, the development of language and literature was strongly influenced by political structures at both the central and regional levels. Here's how politics shaped the development of language and literature during this period medieval rulers and kings were patrons of the arts and literature. They often sponsored poets, writers, and scholars, providing them with the resources and security needed to create literary works. In medieval society, a standardized court language developed, which often differed from the local languages spoken by common people. This court language was used in literature, poetry and official documents, whereas local rulers and regional politics preserved and promoted these local languages and under their patronage, regional dialects and languages continued to flourish. The main subject of this study to focus on the development of language and literary works under various central, regional and local patron-ship.

Keywords: dialects, languages, Medieval, regional, Literature

Introduction

Medieval Indian culture combines Indian and Persian philosophy, literature, art and architecture. The development of vernacular literature was an important development during the medieval period. Growing regional identities facilitated the development of new literary and artistic forms. An important development was the expansion of regional languages such as Bengali, Gujarati, Marathi and Telugu. The popularity of translations increased the number of readers and facilitated the exchange of ideas.

Development of Regional Literature:

During the Middle Ages (13–15 centuries), a large number of regional dynasties came into existence and many regional languages arose. The saints of the Bhakti movement contributed immensely to the development of literature in regional language. Although the development was directly influenced by Persian, many literary works of high quality were produced in regional languages such as Hindi, Marathi and Bengali, with the patronage of regional politics and the spread of the Bhakti movement, which first flourished in the 8th century. The patronage provided by Muslim rulers, especially Sultan Alauddin Hussain Shah, in promoting Bengali literature is noteworthy. The emergence of all these languages resulted in the decline of Sanskrit as they came to be used as the medium through which

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Effect Of Isometric Exercises Using An Active Therapeutic Movement Device For Patients With Acute Low Back Pain

Arfa Alam[1], Diksha Vishwakarma[2], Reena Thapa[3], Tailang Dumi[4]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
Background: This study aimed to investigate the effects of isometric exercise, utilizing ATM®2, on patients with acute low back pain (LBP), differentiating between flexion and extension types.
Methods: The study included twenty participants (age 39.7±8.0 years, 12 males / 8 females) experiencing acute LBP for less than four weeks. Participants were categorized based on the direction of pain-inducing movements, distinguishing between flexion and extension types. Subsequently, both types were randomly assigned to two groups: the ATM®2 exercise group and the usual care group. Each group received treatment three times a week for two weeks, amounting to six sessions.
Results: In cases of extension-type LBP, the ATM®2 exercise group exhibited a significant immediate decrease in pain (p=0.04). Over the course of two weeks, both the ATM®2 group and the usual care group showed significant pain reduction (p=0.01, p=0.001). In flexion-type LBP, both the ATM®2 exercise group and the usual care group experienced significant pain reduction (p=0.001, p=0.03) during the two-week intervention. However, neither group demonstrated an immediate effect.
Conclusion: Isometric exercise with ATM®2 may offer immediate and short-term relief for acute LBP, with more pronounced effects in patients with an extension-type pattern. ATM®2 exercises have the potential to alleviate acute LBP. Furthermore, it is a topic for future research to investigate whether this pain reduction influence persists into the natural course of chronic LBP

KEYWORDS: Acute low back pain, isometric exercise, therapeutic exercise, ATM®2, visual analogue pain scores, Rolland-Morris disability questionnaire

Introduction

Low back pain (LBP) stands as the most prevalent musculoskeletal condition, affecting 17.5-30% of individuals over their lifetime. Presently, the prevalence rate is estimated at 18.3%, with a 1-month prevalence of 30.8%. Despite its commonality, a specific diagnosis is only attainable in approximately 15% of cases. The remaining cases are often categorized as non-specific LBP, which can be further classified based on symptom duration: acute (lasting less than three months) or chronic (persisting for more than three months).

A recent systematic review has identified several effective conservative, non-medical treatments for non-specific LBP, including manual or manipulative therapy, massage, acupuncture, psychological and mind-body interventions, multidisciplinary care, and diverse forms of exercise. Additionally, research indicates that the efficacy of interventions varies between patients with acute and chronic LBP. For instance, local heat treatments and pharmacological therapies (such as NSAIDs and muscle relaxants) prove beneficial for patients with acute but not chronic LBP. Conversely, behavioral treatment, multidisciplinary care, and certain forms of exercise appear effective for chronic but not acute LBP. Specifically, lumbar stabilization exercises or a belt-like compressive device demonstrate effectiveness for individuals with non-specific chronic LBP. However, the efficacy of exercise therapy for acute non-specific low back pain remains unclear.

ONOMÁZEIN

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE
FACULTAD DE LETRAS

Employee Wellbeing at Work: A Critical Review

Bidisha Sarkhel, [1] Arvind Hans[1], Ankur Kumar Agrawal[2], Babu Sudarshan[1], Prakash D. Achari[3], Ankit Khare[4]
[1]Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[3]Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

Corresponding author: Bidisha Sarkhel
Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

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Respiratory Physiotherapy In Allergic Bronchopulmonary Aspergillosis: A Case Study On Efficacy And Outcomes

Alka Singh[1], Gourab Jyoti Roy[2], Reena Thapa[3], Tailang Dumi[4]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
Background: Allergic bronchopulmonary aspergillosis (ABPA) is a condition characterized by reversible airway obstruction, often occurring in individuals with asthma, cystic fibrosis, and bronchiectasis.
Methods: This study implemented a home-based respiratory physiotherapy program utilizing The Acapella DH® for oscillatory positive expiratory pressure (OPEP) and the POWER brea the Plus® device for two weeks, with sessions held five days a week, twice a day (10 minutes in the morning and another 10 minutes in the afternoon). The study aimed to assess the effectiveness of this respiratory therapy through spirometry in a clinical case of ABPA, bronchial asthma, and bronchiectasis.
Results: The initial spirometric evaluation at week zero showed notable improvements in all spirometric lung function parameters after the home-based treatment program. The percentage change revealed enhancements in Vital Capacity (VC) - week 1 (0.80%), week 2 (1.09%), Tidal Volume (VT) - week 1 (0.91%), week 2 (1.04%), Expiratory Reserve Volume (ERV) - week 1 (1.14%), week 2 (1.24%), Inspiratory Reserve Volume (IRV) - week 1 (0.66%), week 2 (1.04%), and Inspiratory Capacity (IC) - week 1 (0.69%), week 2 (0.71%). Additionally, there was a reduction in respiratory times, including inspiratory time (Ti) - week 1 (-0.31%), week 2 (-0.38%), expiratory time (Te), and total inspiratory and expiratory time (Tt) - week 1 (-0.24%), week 2 (-0.31%).
Conclusions: The home-based pulmonary treatment plan utilizing OPEP and POWER Brea the Plus demonstrated a significant improvement in lung function among individuals with ABPA, bronchiectasis, and asthma, resulting in an enhanced quality of life

KEYWORDS: Physiotherapy techniques, spirometry, allergic bronchopulmonary aspergillosis, inspiratory capacity

Introduction

Aspergillus is a fungus with the potential to opportunistically invade the human respiratory tract. Typically, it thrives in a saprophytic state in soil or vegetation, but it can become airborne in the form of spores, making it widespread. In some cases, it resides as a saprophyte in the bronchial tree and can lead to various lung diseases, including allergic bronchopulmonary aspergillosis (ABPA), which can affect individuals with bronchial asthma. The prevalence of this rare disease varies from one country to another.

The first documented cases of ABPA were reported by Hinson, Moon, and Plummer in 1952 in England. According to Denning and colleagues (2013), the estimated prevalence of ABPA in adults with asthma is around 2.5% (with a range of 0.72-3.5%), indicating that the global burden of ABPA potentially affects over 4.8 million people.

ABPA manifests differently in individuals, with some experiencing isolated episodes of the disease, while others suffer from recurrent outbreaks accompanied by bronchiectasis and upper lobe retraction, as revealed by

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FACULTAD DE LETRAS

Green Marketing Practices: A Comprehensive Literature Review and Synthesis

Shabnam Ghouse[1], Md. Saifullah Khalid[2], Saurabh Kumar[3], Yibom Bagra[4], Dilip Singh Hazari[5]

[1]Research Scholar, Faculty of Business Management & Commerce, Usha Martin University, Jharkhand

[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Jharkhand

[3]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[5]Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP

Corresponding author: Shabnam Ghouse
Research Scholar, Faculty of Business Management & Commerce, Usha Martin University, Jharkhand

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Investigating The Impact Of Fascial Manipulation On The Lateral Thigh Region In Mechanical Low Back Pain: A Comprehensive Study

Alka Singh[1], Aniket Kumar Mishra[2], Pema Wangden Bhutia[3], Balwinder Kaur[4]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Clinical Tutor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
Background: Low back pain (LBP) is a highly prevalent musculoskeletal ailment, affecting approximately 90% of individuals during their lifetime, with recurring episodes experienced by up to 50% of the affected population. Prior research has emphasized the advantages of fascial manipulation for chronic low back pain when compared to manual therapy alone. Detecting fascial densification in specific points of the lateral thigh region during the acute phase of low back pain is crucial, as targeting these points with deep friction aims to restore the natural gliding properties of the fascia, resulting in immediate relief of low back pain, increased range of motion, and enhanced functionality.
Methods: This study included sixty participants who were randomly assigned to two groups using a simple randomization method. The allocation was performed by the primary investigator before baseline assessments. Group A, the control group, received conventional exercises, including core stability exercises, while Group B, the experimental group, underwent fascial manipulation of the lateral thigh region in the lower limb. Both groups received interferential therapy for 20 minutes as part of conventional low back pain treatment over a 15-day period. The participants' pain levels were assessed using the Numeric Pain Rating Scale (NPRS), and range of motion (ROM) was evaluated to identify any lumbar region restrictions caused by fascial densification. The Oswestry Disability Index (ODI) was used to assess functional activities of daily life. Scores for these measures were recorded both before and after the interventions for both groups.
Results: Pre- and post-test results were analyzed using both paired and unpaired t-tests. The study utilized outcome measures such as the Numeric Pain Rating Scale, Modified Schober's test, and the Oswestry Disability Index. An unpaired t-test comparing post-test values between Group A and Group B revealed a highly significant difference ($p<0.001$) in terms of pain relief, improved range of motion, and enhanced functional abilities among subjects in Group B compared to those in Group A.
Conclusion: Fascial manipulation of the lateral thigh region demonstrated its effectiveness over conventional exercises, yielding clinically and statistically significant improvements in pain relief, range of motion, and daily functional activities among subjects with mechanical low back pain.

KEYWORDS: Low back pain, Fascial Manipulation, Range of Motion, Core Stability, Functional Activities

Introduction

Low back pain (LBP) is a widespread musculoskeletal issue, affecting as many as 90% of individuals at some point in their lives, with about 50% experiencing recurring episodes. LBP is not a specific ailment but rather a symptom.

The lumbar spine offers mobility to the lower back region, with surrounding muscles and ligaments providing essential support. The muscular stability is maintained by groups such as the erector spinae, multifidus, abdominals, iliopsoas, gluteus medius, and thoracolumbar fascia.

INJ INTERNATIONAL NEUROUROLOGY JOURNAL

Strategies for ICT Integration in Teacher Education

Anuradha Yadav[1], Ram Kumar Pathak[2], Ashok Kumar Upadhyay[3], Ranjan Ganguli[4], Roma Singh[5]
[1,2]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[3]Librarian and Associate Professor, Department of Library and Information Science, Mangalayatan University, Aligarh
[4]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

Abstract

In the present scenario, we can see that the development of technology has changed the world outside the classroom. The reason why ICT has troubled learners is that technology has promoted development in many ways – first, helping people to participate actively in society in all ways such as social, economic, and political life. The second is to leverage technological innovation as a means of human development leading to economic progress and increased productivity. ICT is becoming an integral element for educational reforms and innovations at all levels of education. It is recommended that the authority of the institution should leverage teacher trainers with ICT resources in the institution and sponsor them on training and retraining programs to produce ICT-compliant products. The advancements provided by ICT resources in higher education can be evident through access to quality resource materials and instructional delivery. This can be achieved only if it is comprehensively integrated into the teaching process in the teacher education system. Productive instructional delivery enhances learners' creative and intellectual development through the use of ICT resources, for example, the use of multimedia images, graphics, audio, text, and motion for high-quality learning.

Key Words: ICT, Teacher Educators, Utilization, Strategies for ICT , Availability, Accessibility.

Introduction

As the world is rapidly moving into the age of digital media and information, it has established its stronghold in all aspects of life. the field of ICT has made a deep and strong impact on the quantitative and qualitative aspects of teaching and learning in educational centers. the use of ICT creates a win-win situation for both teachers and students. nowadays, intensive efforts are being made in almost every country to transform the teaching force and academic staff into technology-literate and skilled workers.

The Education Commission (1964-66) emphasized that in a world based on science and technology, it is education that determines the level of prosperity, welfare, and security of the people and that a sound program of professional education of teachers is essential for the qualitative improvement of education.

change is the only constant in nature. so, teachers are expected to keep learning new skills and to change and adapt themselves to keep pace with modern developments, so that they can make optimum use of information and communication technology in their teaching process. pertinently, the area of most rapid change is that of ICT. In today's world, teachers should mentor their students in how to learn, how to grow in the future, how to develop study skills, how to conduct fundamental research, how to examine, evaluate, and access information, and also how to question and then dismantle the unauthentic structure of knowledge and cognition, if need be. learning through the use of ICT can happen anytime and anywhere. similarly, there are many resources such as information collected from the internet for technology in teaching and learning. however, ICT integration in education is no longer dependent on printed materials alone. knowledge can be gained through video clips, audio sounds, visual presentations, etc ICT is being applied more in instruction, learning, and assessment, it is considered one of the powerful tools for educational change and improvement.

in this regard, the use of ICT in education includes the effectiveness of the use of ICT among teachers and learners, and the barriers or challenges associated with its use are also considered.

the objective of the study is to assess and gain more knowledge about the impacts of the use of information and communication technologies in education programs. there is also an emerging need or support for good technology as a powerful tool for the teaching and learning process, and to acquire advanced technical knowledge and skills required for teachers and learners in the above educational program, adaptive innovative methods of teaching also demand in-depth observation or evaluation of whether curriculum standards have been

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A Study On The Effect Of Performance Management System And Rewards & Recognitions On Job Satisfaction & Turnover Intention In Private Banks Of Ranchi, Jharkhand

Arvind Hans[1], Unnati Jadaun[2], Neha Kumari[3], Shabana Bano[4], Shubham Sourav[5], Sangeetha Prasad[6]

[1]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, Uttar Pradesh
[3,4]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[5]MBA Student, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[6]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

Corresponding author: Arvind Hans
Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

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The Challenges of Implementing ICT in Teacher Education

Ram Kumar Pathak[1], Anuradha Yadav[2], Prakash Chandra Panda[3], Nirdesh Kumar[4], Dinesh Mishra[5]

[1,2]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP

[3]Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Physics, Sikkim Professional University, Gangtok, Sikkim

[5]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP

ABSTRACT:

Teaching is becoming one of the most challenging professions in our society where knowledge is expanding rapidly and modern technologies are demanding teachers to learn how to use these technologies in their teaching. Information and communication technology (ICT) can provide more flexible and effective ways for professional development for teachers, improve pre-service and in-service teacher education, and connect teachers to the global teacher community.

this paper presents an overview of challenges and demands interrelated to teachers' digital skills and technology integration into educational content and processes. The paper raises a debate about how technologies have created new skills gaps in pre-service and in-service teacher training and how that affected traditional forms of teacher education. Accordingly, it is discussed what interventions might be applicable to different contexts to address these challenges. It is argued that technologies should be viewed both as the field where new competencies should be developed and at the same time as the method used in developing learning environments for teacher-students.

Keywords: ICT, Teacher Educators, Utilization, The Challenges of Implementing ICT.

Introduction

It is without a doubt that technology-related factors as well as teachers' digital competencies are considered significant and relevant elements associated with in-service and pre-service teachers' integration of information and communication technologies (ICT) in their teaching practice However, the meaningful integration of ICT in the classroom does not solely depend upon such factors. A variety of models have emphasized the importance of in-service and pre-service teachers' affective-motivational factors in their use of ICT in classrooms model incorporates affective-motivational variables such as attitudes and self-efficacy Within the technology acceptance model, in-service and pre-service teachers' attitudes towards ICT are also considered as essential factor for the decision and integration of ICT. Another example is barriers to technology integration framework which identifies crucial factors that can either limit or foster teachers' ICT implementation efforts:

(a) External variables,
(b) Internal variables.

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The Impact Of Morphological Traits On Cricket Batsmen's Batting Performance: A Comprehensive Review

Arfa Alam[1], Akansha Anand Saxena[2], Muna Subba[3], Mihin Rinu[4]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
Background: Batting performance in cricket is traditionally assessed by the batting average and strike rate of a batsman. The advent of T-20 cricket matches has placed significant emphasis on a batsman's strike rate, prompting coaches and team management to seek ways to increase it. Elevating the strike rate necessitates a batsman's ability to execute powerful boundary shots, enabling them to score maximum runs within a minimum number of balls faced. Thus, this study was designed to investigate the influence of body size on the batting performance of cricket batsmen.
Methods: The literature for this study was sourced from cricket coaching manuals, cricket literature, cricket batting videos, biographies of cricket batsmen, and research articles. Academic documents were identified and selected from databases such as Google Scholar, Research Gate, EBSCO, and ProQuest, covering the period from 1990 to 2019.
Results: The comprehensive literature review suggests that a batsman's stature, longer legs, extended arms, and lean body mass have a positive impact on their ability to execute powerful cricket shots. Additionally, having well-developed muscle strength contributes to increasing the initial velocity of a bat swing, allowing for successful and powerful shots in cricket.
Conclusions: While the height and limb length of batsmen are associated with improved batting performance, specific training can further enhance a cricket batsman's ability to execute powerful shots. A recommended avenue for future research is to explore the impact of training on batting performance.

KEYWORDS: Physical characteristics, Batsmen, Batting technique, Cricket Bowling, Bat swing.

Introduction

A powerful cricket shot is a critical response that enables a batsman to counter fast and swinging deliveries from quick bowlers. These shots encompass both horizontal and vertical bat swings. Batsmen utilize these shots, both on the front and back foot, to capitalize on opportunities for scoring boundaries, whether in the form of fours or sixes, from a single delivery. The threat of a quick bowler's rapid delivery heightens the challenge for batsmen, as it can result in head injuries or mis-hits. Therefore, an attacking shot is the batsman's strategic response to confront quick bowlers, with a prevailing belief that taller batsmen have an advantage in executing powerful shots compared to their shorter counterparts. Tall batsmen, equipped with longer arms and legs, can generate greater bat swing velocity and force in their shots. Furthermore, research has indicated a positive correlation between a cricketer's larger body size and their ability to perform front foot and back foot off-drives.

Several previous studies have highlighted a positive relationship between body size, handgrip strength, and a cricketer's batting performance. Earlier reviews have primarily concentrated on the front-foot batting technique handgrip strength, and coaching methodologies. However, it has been suggested that cricket batting necessitates a comprehensive examination through interdisciplinary research, encompassing back-foot shot techniques. Regrettably, a significant gap in research exists concerning the analysis of a batter's body size and its impact on their batting technique and attacking shots.

INJ INTERNATIONAL NEUROUROLOGY JOURNAL

Literary Depictions of Misogynistic Barriers to Women's Success

Shimpi Kumari Chaturvedi[1], Ashok Kumar Upadhyay[2], Deepshikha Saxena[3], Anupama Shekhawat[4]
[1]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[2]Librarian and Associate Professor, Department of Library and Information Science, Mangalayatan University, Aligarh, UP
[3]Associate Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[4]Professor, Department of English, Himalayan University, Itanagar, Arunachal Pradesh

Abstract

This research paper investigates into the depiction of misogyny as a barrier to women's success in literature. By examining a selection of literary works, it aims to explore the complicated ways in which literature has portrayed and critiqued the societal impairments women face in achieving success due to misogynistic attitudes and universal disparities. This analysis offers insights into the impact of these portrayals on our understanding of gender dynamics and the potential for literature to challenge and change these barriers.

Key Words: Misogyny, Women's Success, Gender Equity, Empowerment, Resistance, Social Change, Intersectionality, Patriarchy, Dystopian, Depictions.

Introduction

Background and Rationale

Misogyny, the entrenched preconception against women, has been a inescapable issue throughout history, deeply engrained in social, cultural, and historical contexts. It establishes in various forms, from gender-based discrimination and violence to systemic biases that obstruct women's progress in various spheres of life, including literature.

Literature, as a reflection of society, has often portrayed the realities of gender inequality, women's struggles, and the barriers they face in their pursuit of success. This portrayal has not only served as a mirror to society but also as a powerful tool to critique and challenge misogynistic norms.

The background section will briefly summarize the historical context of misogyny, its role in reinforcing traditional gender roles, and its connection to the literary world. It would also highlight the significance of studying misogyny's depiction as a barrier to women's success in literature, emphasizing how this examination can contribute to a deeper understanding of gender dynamics and offer insights into societal change.

Rationale:
The rationale explains why it is essential to conduct research on this specific topic. Here are some key points:
Social Relevance: Gender equality and women's empowerment are central to contemporary social and political discussions. Understanding how literature portrays misogyny as a barrier to women's success can shed light on the dynamics of gender discrimination and help society address these issues effectively.

Literature's Influence: Literature is a potent medium that can both reflect and shape societal attitudes. Analyzing literary portrayals of misogyny's impact on women's success can reveal how these narratives contribute to public perceptions and potentially drive societal change.

Intersectionality: This research acknowledges the intersectionality of gender with other factors like race, class, and sexuality, which can exacerbate the barriers women face. It seeks to explore how literature addresses these complex intersections.

Empowerment and Advocacy: Understanding how literature depicts women overcoming misogynistic barriers can inspire empowerment and serve as a resource for advocacy, providing role models and narratives of resilience.

Academic Contribution: This study contributes to the field of literary analysis by focusing on a specific thematic element (misogyny as a barrier to success), offering a nuanced perspective on gender studies within the realm of literature.

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The Impact Of Nurse Staffing Levels On Patient Outcomes: A Multifaceted Case Study

Senthil T[1], Millo Antu[2], Shailza Nimmi Guria[3], Muna Subba[4]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[3]Assistant Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim

Abstract:
Background: Numerous studies have established a clear correlation between staffing levels and patient outcomes concerning specific nurse-sensitive indicators. These studies reveal that lower patient-to-nurse ratios, characterized by fewer patients per nurse, are linked to improved outcomes.
Objectives: To investigate the correlation between nursing staff attributes, including the hours worked by both permanent and temporary staff and nurse hours per patient day, and patient outcomes encompassing pressure ulcers, patient falls, upper gastrointestinal bleeding, pneumonia, sepsis, shock, and deep vein thrombosis.
Design: A case study using retrospective hospital data, at ward level.
Setting: An advanced cardio-respiratory NHS Trust located in England, encompassing a total of two hospitals.
Participants: Every patient, including those categorized as day cases, who received in-patient admission at either hospital within a span of 12 months.
Methods: Data were obtained from the hospitals' corporate information systems. Clinical areas were classified into two groups: lower dependency, which includes general wards, and critical care, encompassing ICU and high dependency units. The association between nurse staffing attributes and patient outcomes was evaluated using either a Poisson or negative binomial regression model, as appropriate. Our aim was to determine if patient outcomes were influenced by nurse hours per patient day, the proportion of permanent nurse hours relative to total hours, and the proportion of permanent nurse hours relative to the combined total of permanent and bank hours.
Results: In the lower dependency category, which includes general wards, a tenuous link was observed between nurse staffing and most of the outcomes. In contrast, the high dependency critical care areas yielded limited significant findings, with a noteworthy reduction in the sepsis rate being the only notable result as the ratio of permanent staff hours increased.
Conclusions: The research showcased the potential of utilizing available hospital data to investigate the connection between nurse staffing and patient outcomes. Nonetheless, the identified associations were feeble and did not consistently reproduce the results of earlier studies.

KEYWORDS: Nurse staffing; Patient outcomes; Quality of care.

Introduction

There is a growing global focus on examining the connection between nurse staffing, both in terms of quantity and skill mix, and healthcare outcomes. Nurse staffing constitutes a significant portion of a hospital's budget and warrants careful examination to manage costs while upholding the quality of care (Shuldham, 2004). Administrators are keen on devising methods to evaluate the quality of care delivery, with the aim of forecasting the potential effects of staffing level modifications on patient outcomes.

Background

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A Review on Therapeutic Potential Study in Selenicereus undatus (Dragon Fruit)

Shubham Sharma[1], Yadvendra Singh Thenuan[2], Prottay Dutta[3], Abhishek Pandey[4], Bhupen Subba [5]
[1,2]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP, India
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract

Because of its enormous curative potential, dragon fruit has attracted the interest of various scientists in recent years. Many phytochemical constituents with excellent pharmacological properties are present in the fruit. It is customarily used to make colors. Utilization as an antioxidant, antibacterial, antidiabetic, anticancer, and nutraceutical are a few of its discovered recently therapeutic applications. It is possible to extract the phytoconstituents from the fruit's skin, flesh, and seeds. Betacyanin, vitamin C, and lycopene are all recognized to be rich in fruit. The current review will focus on dragon fruit's pharmacological properties and phytochemical constituents. It also explains the fruit's security mechanisms. The review will clear the way for further studies into this amazing fruit.

Introduction

In addition to the advent of numerous new ailments over the past century, there have also been outbreaks of diseases including cancer and infectious disorders. The goal of the research is to win the war against such diseases. Numerous synthetic compounds that can be used as medications have been discovered as a consequence of extensive research and development. However, these compounds' negative impacts lead to a significant issue. A trend toward using natural goods is currently underway. Active ingredients with natural sources, such as plants, have been used since antiquity. Natural goods have been utilized in conjunction with allopathic treatments as first-line therapies, dietary supplements, or therapeutic adjuvants. The study of natural products' potential as therapies are now blossoming (1,2) "Dragon fruit" is one such natural fruit that has gained popularity in recent years. It is generally known that dragon fruit has both medicinal and dietary benefits. Natural products have bioactive phytoconstituents, which can be used as a nutraceutical formulation known as functional foods. Dragon fruit has been identified as a functional food. The present review focuses on dragon fruit's phytochemical and pharmacological properties to unveil its potential therapeutic applications. Three varieties of dragon fruit are cultivated, which show distinct colors of the skin and flesh. These include the following:

1. Hylocereus undatus 2. Hylocereus polyrhizus 3. Hylocereus megalanthus

The fruit, which is often referred to as pitaya fruit, is a member of the Selenicereus genus of climbing cacti. Many Asian nations, including Malaysia, the Philippines, Vietnam, Thailand, and Taiwan, eat it (3). Dragon fruit, dragon pearl fruit, pitahaya, strawberry pear, night-blooming cereus, and Cinderella plant are a few of the popular names for the plant. According to Morton (1987), it is also referred to locally as buah naga or buah mata naga (Malay/Indonesia), long Guo (China), and Thanh long (Vietnam). The plant is being grown more often as a result of studies emphasizing its potential for application in medicine (4,5). Fruits and blooms of the plant contain pharmacologically effective components (6,7). The major subject of this review is the Selenicereus fruit. According to Masyarakat Biodiversitas Indonesia and Universities' Sebelas Maret's Program Pascasarjana (2009), the fruit is oval in shape (Figure 1) and has a sweet and sour flavor. There are edible seeds embedded in the pulp that resembles kiwi fruit (8). The fruit can be consumed raw or added to beverages, sweets, etc. (9). Essential vitamins like vitamin C and minerals like calcium and phosphorus are found in the fruit's flesh (10). Both the flesh and peel of dragon fruit include pigments such as betacyanin (11). The current review compiles details on the pharmacological properties, phytochemical components, and safety of dragon fruit. To gather information regarding dragon fruit, a literature search was conducted in several databases between 1980 and 2019 including Science Direct, Google Scholar, PubMed, Scopus, ProQuest, and others.

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Review on Isolation and Identification of Bioactive Peptides from Plants

Ravi Shekher[1], Soni Singh[2], Rakesh Kumar Sharma[3], Rojalini Samanta[4], Sandeep Kumar Kurmi[5], Pranal Chhetri[6]

[1,2]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, UP

[3]Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, UP

[4]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand

[5]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh

[6]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

ABSTRACT:

Bioactive peptides are small protein fragments which have a positive impact on the functions and conditions of living beings. Peptides have shown several useful properties for human health including antimicrobial, antifungal, antiviral and antitumor activities. These compounds are produced by almost all species of life. As a result, researchers have tried to synthesize bioactive peptides to study their properties and applications in various areas. It is also used in the treatment of infection and prevention of variety of diseases. Bioactive peptides are basically proteins synthesized in the cell in the form of large polypeptides which cleaved and can be modified into active compounds. Bioactive peptides in plants are defined as secondary metabolites that influence pharmacological and toxicological effects in man and animals. Traditionally indigenous seeds of medicinal plants viz Hygrophila auriculata, Abrus precatorius, Moringa oleifera, Croton tiglium, Withania somnifera and Psoralae corylifolia are used in different illnesses condition and have been evaluated for antifungal activities against Aspergillus niger, Mucor mucedo, Fusarium solani, Ganoderma lucidum and antibacterial activities against Bacillus subtilis, Pasmultocida,Escherichia coli and Staphylococcus aureus.

Keywords: Plant based antimicrobial peptide, Protein hydrolysates, Anticancer compounds, Physiological effects of bioactive peptides.

Introduction

Bioactive peptides are small isolated fragments of proteins synthesized in the cell that have unique physiological activities in the form of large polypeptides (Wang *et al., 2019*), which can be cleaved and modified to give active products (Durand *et al., 2021*). These organic peptides are risk-free, nontoxic, and have no negative side effects. These days, a major focus of study has been on the creation and characterisation of bioactive peptides because they have a lot of potential as nutraceuticals and functional foods. Bioactive peptides are thus considered as next-generation therapeutic agents that, in the near future, will likely replace pharmaceuticals with serious side effects. The bioactive peptides play important roles in physiological functions, as signaling molecules and in

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Liquid-Liquid Flow in Vertical & Slightly Inclined Pipe: A Review

Ashutosh Kumar[1], Mukesh Sharma[2], Kunal[3], Talkeshwar Ray[4]
[1]Assistant Professor, Faculty of Engineering and Applied Science Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Department of Mechanical Engineering, Birla Institute of Technology, Mesra, Ranchi, Jharkhand
[3]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP
[4]Assistant Professor, Department of Civil Engineering, Himalayan University, Itanagar, Arunachal Pradesh

Abstract

A study of liquid-liquid flow is important to better comprehend the more complicated scenarios involving two-phase flow. To study this investigation has been done on liquid-liquid flow via conduits of Vertical & slightly inclined flow pipe. The kind of flow regimes. Influences the design and operation of pipelines by determining a critical description of two-phase flow. Characteristics like flow pattern maps with different oil viscosity (μo) different diameters, different inclinations, flow rate and water fraction, water with kerosene, mineral oil, naphthenic oil, mineral oil, N0-15 white industrial oil, Lubrax gear oil, etc. of last two decades are chosen for the two-phase flow. The investigations demonstrated a noticeable difference in flow pattern while flowing through vertical & Slightly Inclined Pipes in different diameters with different viscosity of the oil.

Key Words: Flow Pattern map; Vertical and slightly inclined pipe, Liquid-liquid flow; Pressure drop; Oil-Viscosity (μo).

Nomenclature:

B	Oil bubbles in the water
B_D	Big Drops
$B_{w/o}$	Water in oil bubbly flow
CE W/o	Churn flows with water drops in oil.
CAF	Core Annular flow
CAFS	Core annular with swirling motion and waves at the interface
CAFB	Core Annular with bamboo waves at the interface
$D_{w/o}$	Dispersed water in the oil phase
D_B	Dispersed bubbly
$D_{o/W}$	Dispersed oil in the water phase
$D_{o/w\&(w/oemulsion)}$	Dispersion of oil in water & water in oil emulsion
Dos/w	Oil-in-water slug
$D_{o/wPS}$	Oil dispersion in water pseudo slug flow
$D_{o/w}CT$	Oil dispersion in water Counter current flow
$D_{w/o(w/o\ emulsion)}$	Dispersion of water in oil (water in Oil Emulsion)
O/w Drops	Oil in water Drops
$S_{o/w}$**($O_{s/w}$):**	Slugs of oil in water
$S_{w/o}$	Water in oil slugs flow
TF	Transition flow pattern
UAF	Unstable Annular Flow
VFD $_{o/w}$	Oil in water very fine dispersed flow
W/o(W/O Emulsion)	Water in an oil-water emulsion
W/O Drops	Water in an oil Drops

Introduction

Liquid-liquid flow is a complicated process that involves the movement of two or more incompatible fluids. Al-Azzawi et al.(2021) also called pseudo-homogeneous flow, is frequently encountered in a diverse range of equipment such as extraction columns, cooling devices, continuous reactors, and pipelines used in the transport of crude oil (Mydlarz et al.,2014) processes such as petroleum, geothermal, chemical, petrochemical, foodstuff, and pharmaceutical industries. Through the process energy and oil industries, the real-time flow of two fluids in a pipe (either gas-liquid or liquid-liquid) happens in a variety of applications. Different patterns can emerge

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The Nursing Shortage In India And Its Connection To International Nurse Migration

Meenakshi Bisht[1], Sasmita Donald Kinny[2], Amandeep Kaur[3], Srijana Mishra[4]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim

Abstract:
Within any healthcare system, the quality and nature of services delivered are predominantly influenced by the health workforce. Globally, data consistently indicate that healthcare systems face nursing shortages, with variations based on regional disparities and the urban-rural divide. While nursing services play an indispensable role in both preventive and curative aspects of India's healthcare framework, historical records demonstrate a persistent shortage of nurses in the country since its independence.
Numerous studies have identified a complex interplay of professional, social, and economic factors as contributors to the nursing scarcity in India. These same factors also incentivize Indian nurses to explore opportunities for international migration. High-income countries have recognized India as a valuable reservoir of well-trained, English-speaking nurses, and they actively recruit from this pool to address their own nursing shortages. This has led to a substantial outflow of nursing professionals from India, potentially exacerbating the challenge of ensuring consistent access to high-quality healthcare services, particularly for disadvantaged populations.

KEYWORDS: Effecting a meaningful transformation in India's nursing landscape requires a steadfast and resolute political commitment.

Introduction

Human resources within the healthcare sector play a pivotal role in shaping the overall health of a population, contributing diverse skills and fulfilling various vital functions within the healthcare system. The insufficiency of healthcare workers has detrimental effects on a country's health system, diminishing both the quality and efficiency of services provided.

Global data underscores a widespread deficiency of healthcare workers, as noted in the JLI report of 2004. Irrespective of national boundaries, imbalances in the distribution of healthcare workers represent a substantial challenge for health systems worldwide. Some countries with greater healthcare demands find themselves with inadequate healthcare staff, while nations with relatively lower healthcare requirements become heavy consumers of healthcare services. The availability of healthcare professionals frequently falls short of meeting the health needs of the population, and many countries face acute shortages of nurses, with healthcare workers distributed unevenly across regions, whether urban or rural.

Nurses, among other healthcare professionals, directly contribute to the delivery of healthcare services, making them an integral component of the healthcare system. To address these shortages, high-income countries engage in the active recruitment of foreign nurses. Notably, a significant portion of migrating nurses originates from developing countries, with India emerging as one of the primary source countries providing nurses to developed nations. This exodus of nurses from both the public and private healthcare sectors has substantial consequences on the healthcare systems of the source country, especially those already grappling with suboptimal healthcare infrastructure.

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A Review on Role of Nanotechnology in the Development of Therapeutics

Shubham Sharma[1], Yadvendra Singh Thenuan[2], Prottay Dutta[3], Abhishek Pandey[4], Bhupen Subba [5]
[1,2]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP, India
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract

Nanoscience or Nanotechnology is the study of the unique properties of materials that have range between 1 100 nm, and nanotechnology is the application of such research to create or modify novel objects.
The ability of nanotechnology to manipulate structures at the small scale allows for the creation of nanomaterials (1 3). Nanomaterials can be used in the healthcare fields. Nanomaterials are unique as they provide a large surface area to volume ratio.

Key Words: Nanotechnology in medicine and healthcare

Introduction

Nanoscience or Nanotechnology is the study of the unique properties of materials that have range between 1-100 nm, and nanotechnology is the application of such research to create or modify novel objects.
The ability of nanotechnology to manipulate structures at the small scale allows for the creation of nanomaterials (1-3). Nanomaterials can be used in the healthcare fields. Nanomaterials are unique as they provide a large surface area to volume ratio.

Nanoscience is the study of phenomenon and manipulation of materials at molecular and macro-molecule scales, where properties differ significantly from those at large scale.

Nanotechnologies have had a significant impact in almost all industries and areas of society as it offers
Better built,
Safer and cleaner,
Longer-lasting and
Smarter products for medicine, everyday life, agriculture and other industries. (4)

The use of nanomaterials in everyday products can be generally divided into two types. First, nanomaterials can be merged or added to a pre-existing product and improve the composite objects.

Secondly, nanomaterials such as nanoparticles can be used directly to create products. The benefits of nanomaterials could potentially affect the future of nearly all industrial sectors. (5)

Nanotechnologies have **changed advances in medicine**, specifically in **diagnostic methods, and drug delivery**. Given below table illustrates the areas where nanotechnologies have had a significant role.

S. No.	Area	Applications
1	Healthcare	Development of personalised medicine Precise and accurate drug delivery systems Nanotechnology plays an important role in improving the therapeutic efficacy of drugs. Nanoparticles can be used as contrast agents in imaging techniques like MRI, CT, and ultrasound Nanotechnology can improve the solubility of poorly water-soluble drugs, making them more easily absorbed in the body and enhancing their therapeutic effectiveness
2	Cosmetics	Nanotechnology is used in cosmetics and personal care products for better delivery of active ingredients and improved skin penetration. Nanoscale particles can enhance the texture and appearance of cosmetic products.
3	Environment	Reduce pollution by acting as molecular sieves for capture of pollutants Detect pollutants in the air and water through new disposable sensors

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Impact of NPA Management on Profitability Analysis of Indian Commercial Banks

Manoj Kumar Sahoo[1], Shabana Bano[2], Anurag Shakya[3], Neha Kumari[4], Ishwer Singh[5], Somya Bansal[6]
[1]Assistant Professor, Amity Business School, Amity University, Chhattisgarh
[2,4]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi
[3]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[6]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Abstract

The article explores the complex connection between managing Non-Performing Assets (NPAs) and analyzing profitability in Indian commercial banks. The escalating burden of NPAs has emerged as a critical concern, exerting substantial adverse effects on the banking sector's financial health and overall economic stability. The study scrutinizes the impact of efficient NPA management strategies on the profitability metrics of Indian commercial banks. Through a comprehensive analysis spanning a significant period, encompassing various bank-specific indicators, this research endeavors to elucidate the significant role of NPA management in shaping the financial landscape of Indian banks. The findings illuminate that effective NPA management directly correlates with enhanced profitability, evidenced by metrics such as return on assets and return on equity. Moreover, the research explores diverse bank-specific attributes, including net interest margin, non-interest income, and operational efficiency, to discern their influence on the interplay between NPA management and profitability. By investigating the dynamics of NPA management and its repercussions on profitability, this article aims to provide valuable insights and recommendations to enhance the financial resilience of Indian commercial banks, ultimately fostering a robust and stable banking sector contributing to the nation's economic growth and development.

Key Words: Non-Performing Assets, Profitability, Bank, Management

Introduction

The current global financial crisis which has been attracting the attention of policy framer and academicians is due to the problem of Non-Performing Assets (NPA). Today, the word NPA is creating terror in the banking industries and corporate houses. In other words, the NPA is like a —big red balloon that causes cancer in the banking system of India. But now NPAs are an important subject matter for Indian banks. Even before Indian banks gear up to meet the Basel III standards, they have to fight the NPA crisis that threatens to strike at its very heart. The banking industries health is measured through NPAs. The performance of private sector banks have defeated by the brilliant performance of public sector banks in regard to financial operations (ASSOCHAM, India, 2014). However, the mounting NPAs are the only problem of these banks over the years. The major portion of the total NPAs of public sector banks are contributed from the NPAs of priority sector and the non-priority sector. According to a recent survey by Business Standard on balance sheet of 10 public sector banks (PSBs) shows that 23% of corporate loans in the non-priority sector became worse at the end of financial year 2018 compared to 15.6 % at the end of 2017 financial year. On the contrary, the private sector banks NPAs have revealed a declining trend (ASSOCHAM, India, 2014). The cause of this decline is due to the tightening of the credit appraisal system over the years by the private sector banks. The profitability of banks reduces due to the increase in NPAs. Therefore, to improve the profitability and efficiency of banks, NPAs must be shrinking to the controllable and manageable level. The liquidity, profitability and solvency position of banks affected by a high degree of NPAs which implies probability of huge credit defaults by the banks. Therefore, the financial sustainability of the Indian banking sector requires for maintenance of adequate capital. On the contrary, to keep the Indian banks at par with international standard, Basel norms may be applied with great focus. Hence, to achieve the financial sustainability, banks should develop their recovery mechanism, quality of assets and higher provisions.

Objectives of the Study:

This research work has been undertaken for achieving the below mentioned objectives.

1) To study the current status of NPAs of Commercial Banks in India
2) To analyse the impact of NPA management on the profitability position of commercial banks in India.

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Prevalence Of Coronary Artery Disease Risk Factors In Women: A Comprehensive Analysis

Praveen Kumar Tailor[1], Shagufa Amber[2], J. Rukumani[3], Hishey Lamu Bhutia[4]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[4]Principal-Inchare, College of Nursing, Sikkim Professional University, Gangtok, Sikkim

Abstract:
Aim: This study sought to assess the prevalence of coronary artery disease (CAD) risk factors among women.
Materials and Methods: A descriptive survey design was employed to collect data from women aged 35 to 55 residing in a selected community in Kerala, India.
Results: The majority of women (35.3%) fell within the 35-39 years age group, with 63.7% having an educational background up to the 10th standard, and 55.9% being engaged in household work. The study found that 35.0% of the women practiced unhealthy dietary habits, 72.5% had insufficient physical activity, and 75.4% experienced moderate to severe stress. Moreover, 63.7% of the women were classified as obese (BMI≥25 kg/m2), and 87.3% had abdominal obesity (WC ≥80 cm). Among the participants, 63.7% were overweight (>25 kg/m2), while 87.3% had abdominal obesity (≥80 cm). Furthermore, the study revealed that 19.6% of the women had a systolic blood pressure of ≥140 mm Hg and 22.5% had a diastolic blood pressure of ≥90 mm Hg. Approximately 37.2% of the women had fasting blood sugar levels exceeding 100 mg%, with 12.7% having FBS levels ≥126 mg %. Additionally, 39.2% of women exhibited high total cholesterol levels (>200 mg %).
Conclusion: Identifying risk factors is crucial for CAD prevention.

KEYWORDS: Women, Prevalence of Risk Factors, Coronary Artery Disease.

Introduction

Coronary artery disease (CAD) stands as the leading cause of adult mortality worldwide. While some risk factors are beyond one's control, such as advancing age, male gender, family history, and racial background, there are also modifiable risk factors. These include smoking or tobacco use, excessive alcohol consumption, inadequate intake of fruits and vegetables, physical inactivity, hypertension, diabetes mellitus, overweight, obesity, dyslipidemia, and stress. It's worth noting that CAD tends to affect Indians at least a decade earlier in their most productive middle age compared to individuals in European countries. India also reports a high prevalence of these risk factors, as established by the INTERHEART study, which underscores the role of behavioral and conventional risk factors in predicting coronary heart disease risk among Indians. According to a 2017 report by the Indian Council of Medical Research (ICMR), cardiovascular diseases rank as the primary cause of death among Keralites. This shift is attributed to substantial lifestyle changes over the past two decades and the rapid urbanization leading to an increased burden of coronary risk factors.

CAD has now become the leading cause of mortality for women worldwide, encompassing both industrialized nations and developing economies. Extensive studies conducted in India reveal that risk factors are notably prevalent among women. Consequently, there's a growing necessity for comprehensive research focusing on a younger age group to emphasize the importance of preventive cardiology in the early years of life. Sedentary lifestyles, unhealthy dietary habits, and elevated stress levels, particularly among women, have become conspicuous. In fact, psychological factors like depression, perceived stress at home, a low locus of control, and significant life stressors put women at risk of ischemic heart disease and myocardial infarction. Moreover,

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Revolutionizing Nursing Education In India: Present Challenges And Solution

Nidhi Garg[1], Regina Rabello[2], Mihin Rinu[3], Muna Subba[4]
[1]Nursing Tutor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim

Abstract:
This paper aims to comprehend the existing challenges within nursing education in India. Nursing education is currently in high demand worldwide as it strives to produce capable nurse leaders and executives. The level of nursing knowledge a student acquires is directly correlated with the competencies they will develop in the future. Enhancing skills, adjusting to evolving curricula, and employing competitive teaching and learning approaches across all nursing programs are imperative in the present era.

KEYWORDS: International Council of Nurses (ICN)..

Introduction

The International Council of Nurses (ICN) underscores the importance of a robust national nursing education system in its statements on nursing education, nursing practice, nursing service, and the social and economic well-being of nurses. This system is deemed essential for delivering high-quality nursing care. Nursing education is evolving to produce not only knowledgeable individuals but also well-qualified professionals capable of meeting the evolving needs of a transforming society, with a focus on delivering top-tier care grounded in scientific evidence. Integrating evidence-based education modules into the curriculum, designed to enhance the critical thinking and decision-making abilities of nurses, is seen as a means to fulfill this requirement.

In this context, nursing education strategies have transitioned from idealism to pragmatism, encouraging students to inquire and seek out the best evidence rather than adhering to traditional rote learning. Providing students with access to quality education can be achieved by maintaining a well-rounded balance between theory and clinical practice. To accomplish this, we require a skilled nursing workforce that can adapt to the changes in educational policies, demonstrating an eagerness to learn and explore new technological advancements.

It is imperative to address the current and emerging challenges in nursing education. The ICN Nursing Education Network is actively engaged in addressing global nursing education issues. Preparing a diverse 21st-century nursing workforce is of paramount importance in addressing issues such as international migration, the global healthcare landscape, and the worldwide nursing shortage. The authors of this paper propose numerous strategies to overcome the challenges in nursing education. These strategies encompass not only the integration of theory into clinical practice but also emphasize evidence-based practice, innovative teaching-learning methods, and the provision of appropriate training and professional development for educators to enhance learning skills and stay updated.

Current Issues

2.1. Alignment of nursing practice with theory

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Adapting to Unprecedented Times: A Comprehensive Review of Consumer Behavior Shifts in the Direct Selling Industry Amidst the COVID-19 Pandemic

Shabnam Ghouse[1], Md. Saifullah Khalid[2], Ashok Kumar Purohit[3], Chiging Yamang[4], Swati Saxena[5]
[1]Research Scholar, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

Abstract

Direct selling is the method by which products can be sold directly to the customers. Nowadays all types of goods like cosmetics (Avon beauty), nutritional (Herbalife), medicines (Modi care) etc. can be sold by direct selling. During COVID, when all the methods of marketing was not possible direct selling companies have grown at a rapid scale as the customers looks for online solutions to full fill their needs. e- business also grew during the pandemic. The pandemic started a ripple effect of unemployment, job displacement, salary cut etc due to complete lockdown. In such situation, the scope of direct selling unlocked various sustainable opportunities. Consumer behavior is a psychological process as the consumer is attracted to the goods they are emotionally attached with. So the advertising media should be very effective in order to increase direct selling in the consumer behavior. In the paper various facts and figures of direct selling changing the consumer behavior will be discussed further.

Key Words: Direct selling, consumers, e – business, Sustainable opportunities

Introduction

Pandemics have marked the beginning of significant changes. As reports of Covid-19 spread through markets, governments of different countries prepared for the worst. The Indian Government also announced lockdown as a common solution with various levels and restrictions. For a long time, e-commerce was last resort of offline retail. But this Lockdown has given an impetus where online consumption will no longer be synonymous with status and convenience, but rather a need and pattern of purchase. As the specific vaccines for Covid-19 were yet to be found, lockdown was seen as the most effective way to curb the spread of the virus. Lockdown aimed at reducing the graph by social distancing. People were requested to stay at home. Schools and colleges were closed, work from home option was given to employees (Shah et al. 2020). This compelled people to go out only for essential activities. Thus, Covid-19 caused a drastic change in the consumption pattern.

The term 'essentials' was misunderstood and misinterpreted. Markets were closed, food delivery trucks were halted at the checkpoints, milk vans were sent back, workers were not allowed in factories and mandis. All this led to shortage of essentials and an unprecedented rise in the price of goods. Though after 2-3 days the Government did announce that all the essential good were available. Yet the production, storage, transportation and delivery management still remained a problem (Ahmad, 2020) People started accepting the new norms, and a gradual shift was seen in their buying pattern. With a gradual decrease in panic levels, a shift could be felt towards online shopping. People were aware of the pandemic and social distancing norms, but due to mental or political pressures imposed, resistance to restrictions are seen to be rising. Therefore, effective strategic management is to be employed to curb and restrict the spread of the virus. The pandemic saw businesses, governments and organizations adapt themselves to a dynamically changing environment. As the mode of operation transitioned from offline to online, from office to home, from centralized to decentralized, industries saw both internal and external transitions. The Direct Selling industry in the country too witnessed these changes.

Some of the key factors that have made direct selling a successful selling module include: The entire business of direct selling, for the companies who had vision to invest in digital assets and technology, can be conducted via a screen without physical intervention (Wotruba, T. R 1996) In times such as the coronavirus, this is the best option available for anyone looking to be a direct seller as the business is completely virtual in nature. The pandemic also increased the rate of unemployment.

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Unlocking Potential: Nurse Practitioners' Roles Within The Indian Healthcare System

Neha Kushwaha[1], Jaya Nutan Surin[2], Muna Subba[3], Mihin Rinu[4]
[1]Nursing Tutor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

Abstract:
Nurse practitioners, who constitute 30.5% of India's healthcare workforce, serve as a fundamental pillar in the nation's healthcare system. Given the significant shortfall in the provision of essential primary care services, particularly for the most vulnerable populations, the demand for nurse practitioners in India is unmistakable. The current state of nursing in India underscores the pressing need for policy adjustments that would empower nurses to become central figures in primary care delivery. It also lays the foundation for the effective operation of Health and Wellness Centers, with nurse practitioners assuming a leadership role in public health throughout India.
With enhanced training, qualifications, and formal recognition, nurse practitioners can deliver comprehensive, top-tier healthcare. In this research paper, we evaluate the compelling requirement for nurse practitioners to function as the initial point of contact for healthcare services. We draw upon global evidence that establishes the link between nurse practitioners and improved health outcomes, broader coverage, and increased healthcare accessibility. We also delve into their training prerequisites, their role in home-based care, and their potential to facilitate efficient referral mechanisms. Furthermore, we outline a strategy for evaluating their effectiveness.
This policy research paper presents a strong argument for implementing a policy that designates nurse practitioners as the primary providers of initial healthcare services.

KEYWORDS: First contact providers, health policy reform, health wellness centers, healthcare delivery, leadership, nurse practitioners

Introduction

The roots of the nursing profession as a compassionate and impactful vocation can be traced back to Florence Nightingale, affectionately known as the "Lady with the Lamp." Nightingale's unwavering commitment to advancing healthcare laid the bedrock for nursing as an immensely significant profession within the healthcare domain.

Nurses represent the cornerstone of India's healthcare system, comprising a substantial 30.5% of the entire healthcare workforce in the country. The 1978 Declaration of Alma-Ata stands as a pivotal moment in the twentieth century within the public health sphere, recognizing primary healthcare as an indispensable component in the pursuit of universal health coverage.

In India, a nation with an estimated population of 1.3 billion, a myriad of health challenges are confronted, ranging from lifestyle-related diseases and infectious conditions to emerging health threats like the Covid-19 pandemic. Communicable diseases, maternal and nutritional deficiencies persist as prominent contributors to mortality, while non-communicable diseases and mental health disorders are on the ascent, thereby exerting substantial pressure on the quality of primary healthcare delivery. Insufficient healthcare accessibility, suboptimal performance, and shortcomings in infrastructure and human resources all converge to impede the effectiveness of the primary healthcare system.

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Lip Print Analysis: An Initial Study Concerning the Female Population in Jharkhand

Madona Mathew[1], Jaseel Abdul Kader V[1], Soni Singh[3], Aamarpali Roy[4]
[1]Assistant Professor, Faculty of Forensic Sciences, Usha Martin University, Ranchi, Jharkhand, India.
[2]PG student, Department of Forensic Science, Jharkhand Raksha Shakti University, Ranchi, Jharkhand, India
[3]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, UP, India
[4]Assistant Professor, Department of Chemistry, Himalayan University, Itanagar, Arunachal Pradesh

Abstract

Cheiloscopy, the study of lip prints, has gained prominence in forensic and biometric applications due to its uniqueness and potential for personal identification. This research paper presents a comprehensive study of cheiloscopy among females in the age group of 18 to 30 in the Indian state of Jharkhand. The study aimed to document and analyze lip print patterns, classify them according to existing systems, and assess the variability and uniqueness of lip prints within this demographic. A sample of 200 female participants was selected, and their lip prints were recorded and analyzed. The research also explores the potential forensic and biometric applications of lip prints in the context of personal identification and criminal investigations.

Key Words: Cheiloscopy, biometrics, lip prints, Jharkhand

Introduction

The field of forensic science, characterized by its relentless pursuit of innovation and precision, plays an indispensable role in modern criminal investigations. Within this multifaceted discipline, various forensic methodologies and techniques have emerged as invaluable tools in the quest for personal identification and the elucidation of crime. Among these, the art and science of cheiloscopy, or lip print analysis, have garnered recognition for their potential in forensic and biometric applications. Lips, an iconic feature of the human visage, exhibit a striking diversity of patterns, textures, and contours. It is this unique individuality of lip features that beckons forensic scientists and researchers to explore the intricate world of lip print analysis. As fingerprints have become synonymous with personal identification, the distinctiveness of lip prints offers a parallel avenue for forensic inquiry.

The state of Jharkhand, situated in eastern India, boasts a rich tapestry of culture and diversity, reflecting the amalgamation of various ethnic groups and traditions. Within this captivating landscape, we embark on a pioneering journey to investigate and document the lip print patterns of the female populace aged 18 to 30.

The significance of this study reverberates through the corridors of forensic science and beyond. It holds the promise of contributing to the ever-evolving body of knowledge in this field, expanding the horizons of personal identification techniques, and potentially serving as a vital tool in criminal investigations. As we navigate the unexplored terrain of lip print analysis in Jharkhand, we are propelled by the twin engines of scientific curiosity and a profound commitment to advancing the cause of justice.

The fascination with lip prints as a means of personal identification dates back several decades. Much like fingerprints, lip prints are recognized for their uniqueness and individuality. The study of these patterns, known as cheiloscopy, encompasses the examination and classification of the various features present on the human lip. It involves the analysis of grooves, furrows, and wrinkles, which collectively constitute a distinctive lip print. These patterns are influenced by a multitude of genetic, developmental, and environmental factors, rendering each individual's lip print as unique as their fingerprint. This inherent distinctiveness forms the cornerstone of its utility in forensic and biometric applications.

Cheiloscopy has the potential to serve as a complementary technique to fingerprint analysis, particularly in cases where fingerprint impressions are incomplete or unavailable. Additionally, the non-invasive nature of lip print collection makes it a valuable tool for forensic investigators. The patterns etched on the lip remain relatively stable throughout an individual's lifetime, undergoing minimal alterations. This temporal stability further enhances the appeal of lip prints as a viable means of personal identification.

The human population is characterized by its incredible diversity, encompassing variations in genetic heritage, lifestyle, and cultural practices. Within this tapestry of humanity, regional and demographic differences emerge

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SMART CITY VEHICLE ACCIDENT MONITORING AND DETECTION SYSTEM USING IOT

Ajay Kumar[1], Love Kumar[2], Md. Amir Khusru Akhtar[1], Abhishek Pandey[1], Ravi Prakash Srivastava[3], Sandip Kulkarni[4]

[1] Faculty of Computing & Information Technology Usha Martin University, Ranchi India
[2]Department of Computer Engineering and Applications, Mangalayatan University, Aligarh
[3]North East Hill University Shillong, India
[4]Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

Abstract

With the rapid increment in the population, roadways have been extremely affected by a lot of accidents, and many people lose their life due to that accident. It is a very concerning topic that needs to be covered for reducing accidents. This article is about the solution to reduce road accidents. In this article, smart city vehicle accident monitoring and detection systems will be discussed. MEMS (Micro electro mechanical system) sensor has been used to detect the accidents and send the information to the server's and GPS have been used in the development of smart city vehicle monitoring and decision systems. The immediate location of the victim is traced by using a GPS modem. The alert message is sent through the Arduino mega controller. The article will focus on detecting gas present inside the vehicles and the heartbeat of the victim measured through the sensor used.

Key Words: MEMS, GPS, GSM, Arduino, and smart city, IoT, Raspberry Pi 4

Introduction

IoT is the future of the upcoming technology that is used for developing smart city vehicle accident monitoring and detection systems. IoT is the network of the physical devices used for exchanging the message without human involvement. Physical devices provided an IP address for data transmission through the embedded system such as the sensor and the Arduino software.

This article is about design an automated system that reduces the time gap between the accident and deployment of the medical response. The combination of the emergency medical services system with the accident can be useful for the designing of the system. In the article, piezoelectric sensors and accelerometers have been used to trigger the microcontroller. GSM and GPS module is for providing database. Microcontroller is used by the solution to detect the accidents, all the operations such as detecting and reporting are controlled through the microcontroller. The system mainly focuses on the accident by minimizing the action time after the accidents occurred. Due to the reliance on a single sensor, there are high probability chances of generating wrong output. A vibration sensor was issued for detecting the accident. In this system, accident location is not shared only an accident alert is provided.

All the relevant information regarding health, emergency contact number as well as hospital details through the initial registration are stored in the android app.

In this article. A non-intrusive and real-time system is designed in this paper. In the existing research, the input used for the system is taken as subjective measurements. In this article, the eye closure ratio has been used as an input parameter to detect the drowsiness of the driver. With the help of the buzzer, the driver is altered in the case when the eye closure ratio deteriorates from the standard ratio.

The rest of the paper is organized as follows. Section 2 discusses background and related works. Section 3 presents the overview of the Accident Detection and Monitoring System. Section 4 discusses tests cases to check the viability and working of the system. Section 5 presents result and discussions. Finally, Section 6 concludes the paper.

Background and Literature review

2.1Background

In the article, piezoelectric sensors and accelerometers have been used to trigger the microcontroller. GSM and GPS module is for providing database.

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The Impact Of Genetically Modified (Gm) Crops In Modern Agriculture: A Review

Akanksha Singh[1], Pramod Kumar[2], Lopamudra Satapathy[3], Jagriti Upadhyay[4], Joram Yari[5]

[1]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh

[2]Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh

[3]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh

[5]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:

The practice of genetic modification in plants dates back to 10,000 years ago in Southwest Asia, marking the inception of human-led plant breeding through artificial selection and selective breeding. Over time, progress in agricultural science and technology has spearheaded the present-day revolution in genetically modified (GM) crops. These GM crops offer potential solutions to existing and anticipated challenges in commercial agriculture, as evidenced by successful cases in Indian cotton and Australian canola.

Nevertheless, the embrace of GM crops is not without contention. Controversial studies like the Monarch Butterfly study and the Seralini affair, coupled with ongoing issues related to insect resistance and potential health hazards, have raised concerns among the public and policymakers. This has even led to complete or partial bans on GM crops in specific countries. Despite these challenges, the GM seed market is currently witnessing a robust growth rate, projected at approximately 9.83–10% compound annual growth rate (CAGR).

Looking ahead, the future of GM crops appears promising, with ongoing research focusing on biofortification, precise DNA integration, and stress tolerance. These research avenues hold the potential to significantly enhance productivity and prosperity in the realm of commercial agriculture.

Keywords: Genetic modification, GM, Agriculture, Crop.

Introduction

Genetic modification, abbreviated as GM, is a domain within biotechnology that revolves around altering the genetic makeup of living organisms to enable them to carry out specific functions. The origins of genetic modification for the purpose of domesticating and utilizing plants can be traced back 10,000 years, when our ancestors engaged in practices known as "selective breeding" and "artificial selection." Coined by Darwin, these terms encompass the deliberate selection of parent organisms with desirable traits, such as hardier stems, and breeding them to propagate these traits.

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Erosion Of Tropical Stream Ecosystems: A Menace From Agricultural And Mining Activities

Pramod Kumar[1], Sharda Dubey[2], Priyanka Dubey[3], Jayita Dandapat[4], Techi Yatchi[5]

[1]Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh

[2]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh

[3]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh

[4]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand

[5]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:

In tropical regions, soil erosion is frequently exacerbated by various factors, including the high erodibility of geologically ancient and weathered soils, intense rainfall, improper soil management, deforestation, and mining activities. Stream ecosystems that flow through agricultural or mining areas often bear the brunt of the problem, as they become significantly impacted by the substantial influx of eroded material into the stream channels. This heightened turbidity not only obscures the water but also smothers in-stream habitats, adversely affecting the riparian zone. These changes, in turn, alter habitat and food web structures, placing severe pressure on biodiversity, as the aquatic and riparian flora and fauna are ill-equipped to handle such high rates of erosion and sedimentation.

Furthermore, the eroded material can become contaminated with pesticides or heavy metals, exacerbating the adverse impact on ecosystem functions and services. The loss of surface material and deepening of erosion gullies result in a depletion of nutrient and carbon content in the soil and a drop in water tables. This creates a detrimental "lose-lose" situation, affecting both agricultural productivity and environmental integrity.

Several examples illustrate how this destructive cycle can be interrupted through integrated catchment management that combines "green" and "hard" engineering approaches for habitat restoration. In this review, we provide a comprehensive summary of current research findings on this issue, focusing on case studies from tropical regions, including Suriname and Brazil.

Keywords: Agricultural catchments, headwater streams, siltation, suspended sediment, turbidity, environmental impact, biodiversity.

Introduction

Soil erosion resulting from human land use is a well-documented and extensively explored subject in the fields of agronomic sciences and biogeochemistry. This erosion primarily involves the mobilization and transport of soil particles, leading to the loss of finer and less dense particle fractions. This includes humus particles and clay, both of which play crucial roles as carriers of soil

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Internet of Things (IoT) and big data for industry 4.0

Ajay Kumar[1], Umesh Chandra Sharma[2], Ravi Prakash Srivastava[3], Md. Amir Khusru Akhtar[1], Abhishek Pandey[1], Sandip Kulkarni[4]

[1] Faculty of Computing & Information Technology Usha Martin University, Ranchi India
[2]Department of Computer Engineering and Applications, Mangalayatan University, Aligarh
[3]Department of Information Technology, North East Hill University Shillong, India
[4]Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

Abstract

Big data for industry 4.0 and IoT are explained properly in this study. The concept of IOT and big data evaluate the concept of value chain in the revolution of industry 4.0.The processing of data can be done in an accurate manner in order to deliver the information. The strategies of big data integrate the function by depending on the production of the industry. Along with this, implementation of industry 4.0ismaintained properly with the help of proper Internet of Things. Implementation of IoT can play a crucial role in maintaining huge amount of data, which can play a crucial role in maintaining rapid growth of industry 4.0. In the function of the Internet of things, considerable gains in terms of higher uptime, expedited production, and fewer errors are evaluated. The analysis of big data is used to play a crucial role in the estimation of IOT and industry 4.0. The study describes the domain of internet of things which is a key factor in increasing the efficiency of the industry

Key Words: Internet of things, big data, industry 4.0, value chain, and technology

Introduction

The study is used to evaluate the functions of IOT for industry 4.0. IoT and big data can provide a strategy of solutions to industries, as well as a magnitude of modern and innovative applications and services. The appropriate and sufficient resources evaluate the context and the background of the study. Big data is described as the collection of massive volumes of data made achievable by sophisticated and analytical capabilities for monitoring and analysing various digital data streams. Big data and the Internet of Things are recognised as important components of Industry 4.0, which allow the new industrial revolution. Efficiency of big data is maintained properly for the estimation of industry 4.0. This study can provide all essential information about proper and effective function of Internet of things and big data. There is an overview of literature which is used to find the research gap in the study. Different research questions and objectives are also discussed in the study. Research methodology provides sufficient detail of methods which are also demonstrated in the study. Along with this, the sections of the result provide a finding which is used to highlight the relationship between different items of the data.

Overview of Literature (to find out researchgap)

Concept of IOT and big data

The process of internet of things is regarded as a quickly evolving revolutionary technology with numerous applications, functions, and services in a wide range of markets and industries. According to Manavalan and Jayakrishna (2019), the concept of big data refers to a vast collection of structured, unstructured, or semi-structured data that is utilized to assess process parameters. Big data and IOT is used to handle enormous amounts of data in real time and store it using various storage methods.In big data system big data file can massive massive amount of data properly, which directly has an impact on dist6ributed database properly.. The processing of IOT and big data consist of large amount of data which are used for the evaluation of the system. The concept of Internet of things helps in analyzing the functions that are used to define the functions of velocity, volume, and variety factors. The IOT helps in interacting with the principles to implement the functions of suitable applications.

The IOT is used to relate the functions on the basis of suitable factors of the development process. The different unstructured data are generated with the help of Internet of things required by the system of big data. The Internet of Things (IoT) has enabled this procedure to be performed at a low cost, with ease of access and flexibility of use. The strategy of IOT and big data are changing the evaluation of the process to generate value by extracting as much information as possible from data to gain better business insights. The given diagram shows the processing of IOT and big data (Flores et al. 2018).

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Green Tea In Agriculture: A Decade Of Health-Promoting Advances

Mayank Pratap[1], Vikas Yadav[2], Ratnesh Kumar[3], Sunil Kumar[4], Lipi Rina[5]

[1,2]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh

[3]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh

[4]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand

[5]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:

Tea consumption traces its roots to ancient China more than 4,000 years ago and presently ranks as the second most popular beverage worldwide, surpassed only by water. This aromatic beverage is crafted by steeping cured leaves from the Camellia sinensis plant in hot water. The association between tea consumption, particularly green tea, and its potential health benefits has spurred intensive investigations into the specific compounds that may ward off various chronic diseases, such as atherosclerosis, cancer, obesity, and diabetes. Notably, the diverse array of phenolic compounds found in tea, including phenolic acids and flavonoids, exhibit formidable protective properties against these ailments.

While research on the health aspects of green tea and its principal phenolic component, catechins, has been ongoing for several decades, significant breakthroughs have emerged in the past 5 to 10 years. This review primarily spotlights seminal studies conducted within this timeframe, with a particular focus on the connections between health and green tea, emphasizing the role of catechins.

Keywords: Green tea; phenols; flavonoids; oxidative stress; inflammation; health; catechins.

Introduction

Tea has its origins in China, dating back over 4,000 years, where it quickly became a cherished and luxurious commodity esteemed for its delightful flavor, captivating aroma, medicinal virtues, and rich cultural heritage. The pinnacle of tea's prominence came during the Tang Dynasty (A.D. 618–906) when its cultivation and trade routes expanded beyond China's borders. The tea protocols and ceremonies, as meticulously detailed by Lu Yu (733–804) in his literary masterpiece, "Cha Chang" or "The Classic of Tea," marked the earliest treatise on the subject. Steam processing of tea leaves became the established tradition, accompanied by precise instructions for leaf preparation and brewing techniques. Lu Yu's contributions transformed the entire tea-making process into an art form, setting the benchmark for tea cultivation and production in China, with this ceremony later influencing the traditions in Japan.

During the 6th century, tea found its way to Japan and Korea, establishing yet another flourishing market. The tea journey continued as it was introduced to Indonesia and India, eventually making its way to Europe around 1610, most notably reaching Holland and England. At this juncture in global history, tea was so highly prized that it served as a form of currency and a vital element in international trade.

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Review Study On The Orodispersible Tablet

Sujata Kumari[1], Archana Sahu[2], Firuza Begum[3], Chamta Gurung[4]
[1]Assistant Professor, Department of Pharmacy, Institute of Bio-Medical Education & Research, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Abstract

At present time, the oral route is the most common and easily administered the various types of dosage forms like tablets, capsules, syrups, suspensions, elixirs etc. but some patients (paediatrices, geriatrices, bed-ridden etc.) are faces the difficulties to swallow of these formulations. So our researches are delevoped the new type dosages form are known as the Orodispersible Tablet is most commonly and widely used system because increase the patient compilance of all types patients such as paediatrics, geriatrics etc., to increase the bioavailability, time of duration of effectiveness etc. because these types of tablets are administered without requirements of water or other liquids in anytime and anywhere. These types of formulations are developed by the various new methods such as tablet moulding, spray drying, frezze drying, sublimation & mass extrusion and some new patent techniques are used like zydis technology, flash dose technology, flash tab technology etc. The orodispersible tablets are more beneficial from conventional dosage forms

Key Words: Orodispersible Tablets, Conventional & Patented Techniques, Evaluation

Introduction

It is the greatest or most preferably suitable system of drug entered for all groups patients by oral route.(1) Today the formulation of different types dosage forms are the basic requirement for the population. The various types of different dosage forms such as tablets, capsules, pills, syrups, suspensions, injections, vaccines, ointments, pastes, suppositories, transdermal patches, aerosols etc. are administered by different types of drug delivery route but most convenient route is the oral cavity because easily administered the drugs.(2)

However, traditional dosage forms likes tablets and capsules administered by a glass of suitable liquids may be not convenient in favor of a few elderly patients because of changes in various physiologic and neural circumstances linked with aging including trouble in swallowing/dysphagia, hand tremors, weakening in their eyesight, hearing, memory, risk of choking in addition to change in taste and smell. Conventional dosage forms also present faces challenges to administered drugs for other patients groups such as pediatric patients like psychologically challenged, confined to bed and stubborn patients. Moreover, the patients travelling with less or no water carry so no intake the conventional dosage forms.(3) Researchers developed a advanced drug delivery system is known as the Orodispersible tablets by oral route and to help overcome these difficulties.(4)

A term used by the "European Pharmacopoeia" orodispersible tablet, this tablet dissolve in the mouth within 3 seconds after swallowing it.(5) The ODTs are located in the mouth and allow to make contact with saliva so those tablets are diffuse in the mouth and produce the therapeutic response on the body. These tablets are swallowed without requirement of water so these are the advantage from the conventional dosage form. Such a tablet breakdown the small particles or melts in the oral cavity from a tough solid to a gel like structure. These tablets easily swallow by all groups patients without requirements of water and good pleasant taste and smell. The ODTs are prepared of the very porous and soft molded matrices or form a compressed tablet with the help of very low pressure as compare to the conventional dosage forms.

Definition US Food and Drug Administration Center for Drug Evaluation and Research (CDER) defines, in the 'Orange Book', an Orodisperaible tablets as a solid unit dosage form with contains the medicinal materials, which is easily dissolve in a few seconds to minutes after located on the tongue. The Mouth Disintegrating Tablets is a solid unit dosage forms containing with drug and excipients that quickly disintegrates and dissolve in the mouth without need of water and these tablets are dissolve or breakdown in 60 seconds or less. ODTs are also known as Oro-disperse, mouth dissolving, rapidly disintegrating, fast melt, quick dissolve and freeze dried wafers, melt in mouth tablets, rapimelts, Porous tablets, Orodispersible, fast disintegrating tablets quick dissolving or rapidly disintegrating tablets.(6) These system are a innovative and mainly beneficial system of formulations which combine the advantage of both liquid and conventional formulations.(7)

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A Review on Challenges and Advances in On-Chip Antenna Design for Millimeter Wave Applications

Shivam Upadhyay[1], Rajesh Kumar Upadhyay[3], Abhishek Pandey[3]
[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, India
[2]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, India
[3]Associate Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand

Abstract

High speed, large bandwidth for short distance wireless communication has made unlicensed millimeter-wave (mm-wave) band best suitable for the design of 60 GHz WPAN systems. Moreover the demand for high level of integration and miniaturization involves design of antenna along-with the front end circuits on the same chip leads to System On-Chip design. This paper presents a comparative discussion on various On-Chip antenna designs proposed in different CMOS technologies. Discussion starts with a brief introduction of applications and regulations of 60GHz wireless communication followed with the gain and efficiency limitation of Antenna On-Chip (AoC) solution designed over Silicon substrate

Key Words: 60GHz, On-Chip Antenna, Silicon, CMOS Technology

Introduction

New wireless applications in low frequency band which is already overcrowded demanded for high frequency band. Therefore signals in the frequency range from 100 GHz to 3 THz have led to the recent increase in research efforts. IEEE 802.15.3 [1] group has investigated 7 GHz band spectrum around 60 GHz as an alternate, therefore opening of 60GHz license [2] free spectrum for millimeter waves applications such as ground based radio astronomy, radiometry operation and broadband radio communication requires fast data transfer. Wireless Personal Area Network (WPAN) requires a large to support high speed and point-to-point communication [3]. A worldwide allocation of 60GHz with almost same bandwidth was released. In 2000 Japan [4] first released 7GHz band in 60GHz spectrum. The Federal Communications Commission (FCC) in United States [5], has aimed for 7 GHz bandwidth (57-64 GHz) around 60 GHz for unlicensed use. At the same time other governments have allowed 60 GHz band to be used without any license. The allocation of the frequency kept different in each country and all the bands commonly share a continuous bandwidth of 7 GHz centred at 60 GHz. Few years later Canada [6], Australia, North America and Europe [7-9] also issued the band. A maximum power limits to 10 dbm and maximum allowed antenna gain of 47dbi was proposed to regulate the link budget. Table.1 shows the worldwide allocation of 60GHz band.

Table 1: Gain and Transmission power allocation for 60 GHz band

Countries	Frequency Band (GHz)	Maximum Tx power (mW)	Maximum Antenna Gain (dBi)
Japan	59-66	10	47
USA	57-64	500	-
Canada	57-64	500	-
Australia	59.4-62.9	10	-
Europe	57-66	20	37
China	59-64	10	34
Korea	57-64	10	-

In [10] propagation measurement realized the justification of 60 GHz radio technology for non-licensing applications.

Conventional integration of Antenna module, RF module over high frequency is a little bit challenge for design engineer. A large amount of area is consumed whether horizontal or vertical integration [11] of modules is done, as being the largest component of the design antenna remains outside of the chip. GaAs based transceiver are

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Aromatic Plants: A Reservoir Of Bioactive Compounds

Akanksha Singh[1], Pushpa Yadav[2], Juhi Chandra[3], Jagriti Upadhyay[4] Joram Yari[5]

[1,2]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh

[3]Assistant Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh

[5]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:

Aromatic plants, also referred to as herbs and spices, have a rich history of utilization in traditional medicine and as natural food preservatives dating back to ancient times. Prominent aromatic plants like oregano, rosemary, sage, anise, basil, among others, originally hail from the Mediterranean region. These botanical treasures are abundant in a plethora of biologically active compounds, primarily polyphenolics, renowned for their impressive array of health benefits, including antimicrobial, antioxidant, antiparasitic, antiprotozoal, antifungal, and anti-inflammatory properties.

In the contemporary context, there is a burgeoning demand for aromatic plants and their derivatives, driven by their natural origins, environmentally friendly characteristics, and widely recognized safety. Consequently, aromatic plants and their extracts hold the promise of evolving into novel, next-generation substances for enhancing human and animal nutrition and well-being. The central aim of this comprehensive review is to present a comprehensive summary of the existing literature on both in vivo and in vitro applications of aromatic plants.

Keywords: Aromatic plants, bioactive compounds, polyphenolics.

Introduction

The rising consumer interest in natural substances, coupled with growing apprehensions over potentially harmful synthetic additives, has spurred the adoption of aromatic plants, their extracts, and essential oils as functional ingredients in the pharmaceutical, food, and feed industries. These sectors are currently in search of effective, safe, and cost-efficient substances with well-defined modes of action and demonstrated advantages. Plant-derived elements hold significant promise in meeting these requirements.

While there remains a need for further knowledge, particularly regarding the consistency of in vivo trial outcomes and the mechanisms of action for the various components found within aromatic plants, they possess the potential to serve as cutting-edge compounds for human and animal health and nutrition. It is also crucial to recognize that enhanced animal health can translate into improved food safety and quality, ultimately benefiting consumers.

Aromatic Plants

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Ethical Considerations In Biofuel Agriculture: The Ongoing Discourse Between Food And Fuel

Sharda Dubey[1], Pavan Kumar Singh[2], Jayita Dandapat[3], Priyanka Dubey[4], Techi Yatchi[5]

[1,2]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh

[3]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh

[5]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:

Plant-based transportation fuels faced substantial criticism in the media, particularly in 2008 when the surge in global food prices was partly attributed to the expansion of the United States' corn ethanol industry. This critique, however, offers a simplistic perspective on the ethical dilemmas associated with the food security implications of biofuels. Three ethical criticisms can be directed at the food versus fuel debate.

First, while it is true that market forces linked to biofuels can influence the consumption of agricultural grains, this issue is not exclusive to biofuels and extends to other sectors.

Second, this critique does not fully appreciate the complex ways in which rising food prices and advancements in agricultural technology impact the food security of the most vulnerable populations.

Third, although increasing food prices might have potential advantages for impoverished farmers worldwide, realizing these benefits necessitates a deliberate commitment to biofuel development strategies that are designed to bolster food security for the impoverished and small-scale producers.

Establishing a comprehensive agricultural ethics framework for biofuels will require a joint commitment from both private and public sector biofuel developers to ensure that the positive aspects of biofuel development are effectively realized.

Keywords: Hunger; food security; food prices; moral responsibility; transportation fuels.

Introduction

The agricultural ethics of biofuels: the food vs. Fuel debate

Hunger presents a compelling moral concern. If there is a belief that plant-based feed stocks for liquid transportation fuels might deprive hungry people of food, a strong ethical argument arises against the entire array of technologies aimed at enhancing the efficiency of converting plant materials into combustible fuels. This argument extends to research on agricultural and energy policies designed to promote the use of biofuels. While there are counterarguments against the notion that food and fuel uses of agricultural crops are in a zero-sum competition, this paper contends that the food versus fuel dilemma is, in essence, a misleading perspective when it comes to the ethical dimensions of biofuel development. Nevertheless, this doesn't absolve the developers and advocates of strategies to expand

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Technical and Vocational Education in Context of G20 Declaration

Ram Kumar Pathak1, Deepshikha Saxena2, Rajesh Kumar Upadhyay3, Vinay Singh4

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP, India

[2]Associate Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP, India

[3]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, India

[4]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand, India

Abstract

Technical and vocational education (TVE) holds significant promise in addressing the global skills gap and unemployment issues. This research article provides an analysis of the G20 Declaration aimed at expanding access to quality TVE. The G20, a prominent international forum, plays a pivotal role in shaping global policies. This analysis delves into the crucial role of TVE in the context of global education and investigates the specific G20 Declaration's objectives, strategies, and impact on addressing the challenges in this field.

This research article discusses the historical background of the G20 and its mission in addressing global challenges. It further highlights the overarching education challenges, emphasizing the need for TVE in modern education systems. The G20's specific dedication to expanding access to quality TVE is contextualized within these broader educational concerns.

This research article underscores the significance of TVE in addressing global education challenges and highlights the importance of the G20 Declaration in this context. Recommendations are provided for G20 member countries and other stakeholders to effectively implement the declaration's goals. Furthermore, future prospects for TVE and education policy development are suggested, paving the way for continued progress in expanding access to quality technical and vocational education on a global scale

Key Words: Technical and Vocational Education, Quality. G-20, Assess, Declaration, Global Education

Introduction

Technical and vocational education (TVE) plays a pivotal role in global education, with the potential to address pressing challenges related to skills development, employability, and economic growth. This introduction sets the stage for our analysis of the G20 Declaration, which is a critical commitment to expanding access to quality TVE at the international level.

Importance of Technical and Vocational Education (TVE) in Global Education:

Technical and vocational education is a cornerstone of modern education systems. It equips individuals with practical, job-specific skills, enhancing their employability and overall contribution to the workforce. TVE is versatile, offering a wide range of programs that cater to diverse industries and occupations, from healthcare and information technology to manufacturing and hospitality. This diversity allows TVE to address both the current skills gap and emerging labor market needs.

TVE empowers individuals to enter the job market with competencies that are immediately applicable, making it an efficient pathway for those seeking employment or career advancement. Furthermore, TVE programs are often designed in close collaboration with industry stakeholders, ensuring that graduates possess the skills and knowledge required by employers. In this way, TVE bridges the gap between education and the labor market, directly responding to the demands of the workforce.

The advantages of TVE extend beyond individual employability. When adequately integrated into education systems, it can contribute significantly to economic growth. A skilled workforce is essential for innovation, productivity, and competitiveness, and TVE is a key driver in producing this skilled labor force. As such, TVE is fundamental in achieving sustainable development and enhancing the overall quality of life for individuals and communities.

Introduction of the G20 Declaration on Expanding Access to Quality TVE:

The G20, a prominent international forum consisting of the world's leading economies, recognizes the profound impact of TVE on global education and workforce development. As part of its commitment to fostering

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Impact Of Pitch On The Thermal Performance Of Serpentine Heat Exchanger

Mohan Maheshwari[2], Ashutosh Kumar[2], Mohit Bajpai[3], Rahul Solanki[4]

[1]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India

[2A]ssistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Physics, Sikkim Professional University, Gangtok, Sikkim

ABSTRACT:

Efficiency is a critical factor in the stability of any system, making the management of various energy systems of paramount importance for optimizing energy resources. Energy sources fall into two categories: conventional and renewable. Both play a vital role in securing the energy required to meet the demands of diverse engineering systems, and they also contribute significantly to various support systems that complement the utilization of different energy types.

Heat exchangers are pivotal in the process of transferring heat between two streams. They serve a variety of purposes, including cooling, heating, condensation, boiling, or evaporation. Efficiency and effectiveness are key metrics, gauged by the amount of heat transferred while minimizing the heat transfer area and pressure drop.

The primary objective of this study was to fabricate two coil-in-tube heat exchangers with 1" and 2" pitches and to conduct a comprehensive analysis of their thermal efficiency.

Keywords: Serpentine Heat Exchanger, Pitch, Renewable Energy, Parallel Flow, Counter Flow.

Introduction

Heat exchangers are instrumental in facilitating the transfer of heat between two process streams. They serve various purposes, including cooling, heating, condensation, boiling, and evaporation. A heat exchanger is a device designed for the exchange of heat between two fluids without mixing them. The efficiency and effectiveness of heat exchangers are pivotal considerations, aiming to maximize heat transfer while minimizing the heat transfer area and pressure drop.

In this context, enhancing heat exchanger effectiveness has been a significant focus. Different techniques and methodologies have been explored to increase the rate of heat transfer. Various studies have contributed to the understanding and improvement of heat exchanger systems. Some key research areas and findings include Investigation of heat transfer in conical coil heat exchangers with a 90-degree cone angle by Pramod S. Purandare et al. The study of the effect of wedge-shaped tetrahedral VGs (vortex generators) on a gas-liquid finned tube heat exchanger using irreversibility analysis by M. Ghazikhani et al. Statistical analysis as a valuable tool for examining the performance of shell and tube heat exchangers under fouling conditions by Dillip Kumar Mohanty et al. The significance of considering non-uniform liquid flow distribution among the tubes of a shell and tube apparatus when determining heat transfer efficiency, as studied by A. I. Zinkevich et al. Research

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National Education Policy 2020 for Open and Distance Learning Using ICT Technical and Vocational Education in Context of G20 Declaration

Sanjay Pal[1], Ashok Kumar Upadhyay[2], Arvind Hans[3], Prakash D. Achari[4]
[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP, India
[2]Librarian and Associate Professor, Department of Library and Information Science, Mangalayatan University, Aligarh, UP, India
[3]Associate Professor, Faculty of Business Management & Commerce, Usha Marti University, Ranchi, Jharkhand
[4]Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

Abstract

Education has experienced a paradigm shift as a result of the advent of Information and Communication Technology (ICT) and the spread of COVID-19. The New National Education Policy-2020 (NEP-2020) focuses on the significant use of technology in teaching and learning, reducing linguistic barriers, improving access, and education planning and management. ODL and ICT are viewed as tools of achieving fairness, access, and educational quality. The primary advantage of ICT in education is synchronicity, or "anytime, anywhere learning." This has brought in a new age of fresh hopes and new prospects for students' future benefits. This study examines several NEP-2020 provisions in ODL and their impact on establishing an enabling environment towards the ultimate goal of an Aatmanirbhar Bharat through huge push on ICT in the form of e-learning

Key Words: Aatmanirbhar Bharat, National Education Policy-2020, ICT, Open and Distance Learning

Introduction

Open and Distance Learning (ODL) programmes have risen in popularity and recognition as a flexible and accessible mode of education in recent years. ODL has become an integral component of the educational environment as a result of technology advancements and a rising need for lifelong learning. However, educators and institutions continue to face substantial challenges in sustaining the quality of ODL programming. Among the several areas of quality assurance, assessing and evaluating learning outcomes in ODL programmes stands out as a difficult and thorough task. Assessing and assessing learning outcomes is an essential component of any educational system since it allows students' knowledge, talents, and competencies to be measured. It provides valuable insights on the effectiveness of teaching and learning processes, enabling educators in identifying areas for improvement and making informed decisions about instructional strategies. Exams, projects, and presentations are common methods of evaluation in traditional face-to-face education. However, the unique characteristics of ODL provide substantial challenges in monitoring and evaluating learning outcomes. One of the most major issues in measuring and evaluating learning outcomes in ODL training is a lack of direct physical supervision. Unlike traditional classrooms, where instructors may monitor students' participation and performance in real time, ODL courses primarily rely on self-paced learning and remote communication. Because of the lack of physical presence, it is impossible to properly monitor and examine the growth of students. Educators must create alternative approaches and tools for accurately assessing learning outcomes while maintaining academic integrity.

The National Education Policy (NEP) 2020 is an educational policy in India that aims to transform the country's education system to meet the needs of the 21st century. It places significant emphasis on the use of technology, including Information and Communication Technology (ICT), in open and distance learning. Here are some key points related to open and distance learning using ICT in the NEP 2020.

National Education Policy-2020

The National Education Policy, 2020, was issued by the Ministry of Human Resource Development. The Policy covers a broad variety of topics, including the significance of providing for young children, ensuring that all students have access to quality education, and updating the current curriculum, but the relationship between education and technology is a consistent theme throughout. The Union Cabinet of India adopted a new education policy on July 29, 2020, making it one of the most significant education initiatives of the twenty-first century. The 2020 NEP emphasised the use of technology in education. E-courses in regional languages will be developed, virtual laboratories will be constructed, and a National Educational Technology Forum (NETF) will be established. The policy focuses on a variety of areas, including the use of ICT in classrooms, and represents a radical departure from past approaches. The policy comprehensively encompassed all levels and types of education, from early childhood to higher education to professional and technical training, with input from

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A Survey Of Numerical Techniques For Analyzing Wingtip Devices To Improve Aircraft Performance

Puneet Bindal[1], Asim Ahamad[2], Mohit Bajpai[3], Sanjiv Dewide[4]

[1]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India

[2]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh

[4]Professor, Department of Physics, Sikkim Professional University, Gangtok, Sikkim

ABSTRACT:

Addressing one of the aviation industry's paramount challenges in the present landscape involves the imperative of minimizing jet fuel consumption to sustain profitability and meet stringent carbon emission standards. This necessity underscores the crucial need for a paradigm shift in aircraft design. With the advent of advanced computational techniques, researchers in this field are increasingly inclined toward exploring dependable numerical methods to analyze the requisite design modifications for attaining these goals.

Wingtip devices, commonly known as winglets, have emerged as effective tools, reducing a substantial portion of an aircraft's total drag—approximately 40%—by mitigating wingtip vortices. This article primarily focuses on the numerical investigation techniques employed and explored by various researchers. These techniques aim to validate their methods by juxtaposing them against experimental findings derived from wind tunnel testing. Nonetheless, the pursuit of error-free, reliable results within minimal computation time remains a formidable challenge.

Fortunately, there exists a plethora of open-source and prepackaged software solutions that can be harnessed for simulations, facilitating swift and optimized outcomes. Numerically validated methods have the dual advantage of reducing the dependency on experimental testing, thereby curbing setup costs and saving precious time.

Keywords: Winglets, Wingtip vortices, Induced Drag, Aircraft Performance, Numerical Analysis.

Introduction

The aviation industry faces a pressing challenge due to the escalating cost of aviation fuel and the increasing carbon emissions associated with large airliners. Aircraft design engineers and manufacturers are compelled to seek solutions to mitigate these concerns, with a primary focus on reducing aviation fuel consumption for both transportation and passenger aircraft.

While advancements in aviation engines can contribute to reduced fuel consumption, a historical track record highlights that diminishing the overall drag on an aircraft has been instrumental in enhancing

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Perception of Karma Theory in Sankhya Philosophy

Sanjay Pal, Ranjana Singh, Shimpi Kumari Chaturvedi, Vinay Tripathi, Vipul Jain, Ashutosh Saxena
Author

Keywords: Darshan, Sankhya philosophy, Karma theory

Abstract

Indian philosophy is a philosophy which accepts the importance of both theory and practice. That is why equal place has been given to both knowledge and action in our philosophy. While knowledge talks about principles, action gives the opportunity to put that principle into practice. In all Indian philosophies, the principle of karma has been described mainly to strengthen the personality of the living being. Sankhya philosophy also has more faith in the principle of karma. According to Sankhya philosophy, the kind of karma is done, the results are received accordingly. The result of good deeds is good and the result of inauspicious deeds is inauspicious. Just as cloth cannot be made from clay, fiber or thread is necessary for it, similarly different types of deeds have different results. God is not the giver of the results of deeds, because Sankhya does not believe in God. Through good deeds the conscience Purification takes place and the person attains the knowledge of wisdom. Through selfless action, a person can become free from the consequences of his actions. Then his actions become like a roasted seed from which a new plant cannot be formed. When there is no result, the person will be reborn. One can attain salvation or Apavarga by freeing himself from the cycle of evil

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Section

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A Bluetooth Module-Controlled Self-Balancing Robot

Dheeresh Upadhyay[1], Rajesh Kumar Upadhyay[2], Devesh Kumar Upadhay[3], Sheetal Choudhary[4]

[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India

[2]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India

[3]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:

The objective is to create a robot capable of balancing on two wheels, where both wheels are connected by a single axle. A platform is mounted on this axle, and there's an additional platform above it. The inherent stability of the platform is reliant on distance sensors, such as the Gyro MPU6050, which act as the gyroscope sensor. The core functionality of this device is to maintain the platform's horizontal position.

Initially, the primary task is to achieve basic balancing of the robot on two wheels. If the platform tilts, an Arduino Nano microcontroller comes into play, sending signals to the motors. These motors then adjust by moving either forward or backward, depending on the direction and degree of inclination. The robot's balance is maintained through the use of a Proportional-Integral Derivative (PID) controller, utilizing inputs from both the gyroscope and accelerometer. Stepper motors are employed to navigate the robot.

This two-wheeled self-balancing robot operates on the principle of an inverted pendulum. In this context, when there's a deviation from equilibrium (represented by the angle φ), the motors generate torque, propelling the wheels in the direction of the tilt. The wheels move an equivalent distance to the center of gravity, thus preserving balance. To achieve forward movement, the angle set point is adjusted to shift the equilibrium point.

The concept of a self-balancing robot seeks to replicate the human body's balance. In contrast to traditional robots, which commonly have four wheels and are more substantial in size, self-balancing robots like this one utilize only two wheels and motors for mobility. A prominent real-world example of a self-balancing robot is the Segway, often referred to as a "human transporter." These devices are typically used for covering shorter distances.

Notably, self-balancing robots have garnered significant attention in the realm of research due to their inherent instability. These two-wheeled self-balancing robots operate on the fundamental principle of an inverted pendulum, a concept with diverse practical applications, including human walking robots, missile launchers, earthquake-resistant building design, and more. Developing a control system for such robots has been a substantial area of research, mainly due to the nonlinear dynamics of the system. These robots have become pivotal test platforms for the design and development of various applications, including missiles, automobiles, spacecraft, and robots.

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Investigating Adults' Experiences with Slow Learner Reading as a Pedagogical Methods

Sanjay Pal[1], Swati Agarwal[2], Anupama Verma[3], Jagriti Upadhyay[4], Prakash D. Achari[5]
[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Institute of Applied Sciences, Mangalayatan University, Aligarh, UP, India
[3]Associate Professor, Faculty of Business Management & Commerce, Usha Marti University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, MP
[5]Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

Abstract

This essay looks at slow reading as a pedagogical tool for enhancing higher education learning, with a particular emphasis on encouraging significant engagement with academic texts| This research challenges the conventional belief that effective learning only means speed and efficiency, based on findings from a qualitative case study conducted within a vocational teacher training program in Norway| This study examines slow reading as an in-depth learning strategy's multiple facets by using a qualitative approach inspired by critical pedagogy| Included in the inquiry are various data sources from a research and development project, along with the views and thoughts of both students and teachers| The study reveals how people see and engage with slow reading as a teaching method and how it affects their learning experiences| Notably, the study shows that slow reading encourages reflection, interaction, and exchange of experiences and new ideas. In the end, this helps create an inclusive and dynamic learning environment| Finally, this study emphasizes slow reading as a method of study in higher educational

Introduction

Fostering a dialogue between the sciences and humanities requires time for miscommunication. Not all science can be explained. Science takes time. (The Slow Science Manifesto, 2023) Techniques include memorizing, reading aloud, and focusing (Newkirk, 2010).

Time-effectiveness has a tremendous influence on academics, altering perceptions on learning and education. Success has made "good teacher" synonymous with "effective teacher. "Increased focus on reading efficiency and understanding teaching dynamics has led to pupils becoming overwhelmed by the amount of information available (Wallace, 2004). Frustrated students struggle to acquire viewpoints, examine books, and enjoy studying owing to the extensive information needed for proficiency.

A reading skills training may greatly enhance pupils' academic progress, according to research. However, slow reading is often overlooked as a teaching technique (Cox et al., 2003). Slow reading may be a purposeful educational strategy to slow down individual or group reading. This attempt fosters ownership of one's time and learning path, enabling reflection, questioning, review, and conversation. This initiative introduced slow reading to small groups of four or five individuals as an academic activity. Participants stopped to reflect on passages, connecting new knowledge to past experiences. 2005 (Martin & Salj'o)

The research focuses on time-efficiency as the key answer in academics, drawing on current views about efficient reading approaches. This initiative aims to enhance students' learning experiences via an innovative strategy that challenges the current culture of quick absorption and information overload. How might collaborative slow reading boost higher education learning?

The research analyses many data sources to analyse the pros and cons of slow reading as a teaching method. The study's setting, theoretical principles, and research summary are presented in the following parts. Next, we discuss the methodological approach and its limits. Next, two instructors and students discuss their experiences. The debate concludes with factors based on the findings and their implications for higher education. Long-term development Globalization has altered time and space limits (Giddens, 1990). Many scientists want a respite from academic and social unpredictability. Berg & Seeber (2016), Konel (2019), and Stengers (2018) have highlighted the issues of excessive speed and strong competitiveness. According to Honore (2004), recent times have been referred to as "The Age of Rage" owing to their sluggish pace. It symbolizes our fast-paced, anxious

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Optimizing Energy Efficiency In Mechanical Systems

Shweta[1], Ashutosh Kumar[2], Praveen Bhatt[3], Nirdesh Kumar[4]

[1]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India

[2]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand

[3]Associate Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Physics, Sikkim Professional University, Gangtok, Sikkim

ABSTRACT:

Adapting to pressing challenges such as escalating energy costs, global resource depletion, and climate change necessitates a focus on enhancing energy efficiency within the realm of manufacturing. This shift is crucial for conserving energy, reducing emissions, and promoting sustainability. Machine tools, being fundamental energy consumers in manufacturing systems, require accurate energy consumption modeling and efficiency assessment to facilitate energy-saving measures.

A comprehensive review of existing literature is imperative due to ambiguous concepts and the need for enhanced model precision within this domain. Firstly, this study delves into the essence of energy efficiency concerning machine tools. Specifically, it explores specific energy consumption, elucidating its representation of the correlation between energy consumption and processing parameters. This correlation mirrors the energy efficiency of machine tools by gauging effective input and output.

Subsequently, the paper introduces design, scheduling management, optimization, and environmental assessment of machine tools, all viewed through the lens of energy efficiency. Further, the existing energy consumption models are categorized into three distinct types: 1) linear cutting energy consumption models predicated on material removal rates, 2) detailed parameter-based cutting energy consumption correlation models, and 3) process-oriented machining energy consumption models.

In conclusion, the study emphasizes two critical directions for future research. Firstly, enhancing the accuracy of prevailing energy consumption models can be achieved by incorporating correlation analyses encompassing machine tools, components, tools, and processing conditions. Secondly, a more scientifically sound evaluation index system is imperative for assessing and testing the energy efficiency of machining tools.

Keywords: Energy Consumption Models, Energy Efficiency, Specific Energy Consumption, Machine Tools.

Introduction

The Energy Yearbook published by the U.S. Energy Information Administration in 2012 revealed notable statistics regarding electricity consumption. Industrial electricity usage constituted 31% of the overall electricity consumption, with manufacturing accounting for a significant 90% of this industrial consumption. Interestingly, within the domain of manufacturing electricity consumption, machine tools were responsible for a substantial 75%, as depicted in Fig. 1 (EIA, 2011). Manufacturing, being

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Virtual Learning: The Parents Perspective

Yatendra Pal[1], Kavita Sharma[2], Shasanka Dev Bhuyan[3], Prakash Divakaran[4], Swati Saxena[5]
[1]Associate Professor, Institute of Education and Research, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Assistant Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

Abstract

The shift to virtual learning in response to the COVID-19 pandemic has brought forth a multitude of challenges for parents and guardians worldwide. Parents have been facing with virtual learning. Many parents, especially those from underprivileged backgrounds, encountered challenges accessing necessary technology and internet connectivity for their children's virtual education. The digital divide has exacerbated educational inequalities. Parents have had to juggle their own work responsibilities with the need to supervise and support their children's online learning. Balancing work and homeschooling have strained many families.

Ensuring students remain motivated and engaged during virtual classes has been a consistent struggle. The lack of face-to-face interaction with teachers and peers has hindered some students' ability to stay focused. Mental Health and Well-being: Prolonged screen time and isolation have taken a toll on the mental health and well-being of both children and parents. Increased stress, anxiety, and a sense of social disconnection have been reported. Virtual learning has limited children's opportunities for social interaction and extracurricular activities, impacting their social development and emotional growth. Concerns over educational quality and the potential for learning gaps have arisen. Parents worry that virtual learning may not provide the same level of education as traditional in-person schooling. Establishing effective communication between teachers, students, and parents in a virtual environment has been challenging, potentially leading to misunderstandings and difficulties in tracking progress

Key Words: The Issues, Parents, Virtual Learning.

Introduction

School districts have done their best to plan learning contingencies due to the COVID situation. Some schools have opted for virtual learning to keep children and staff safe, and this is an entirely new paradigm for everyone involved–the teachers, the students, and last but not the least: the parents.

Everyone is going through an abrupt change, and this is bound to produce anxiety in everyone. The idea of virtual learning is new and possibly intimidating for many parents. Many families may additionally be undergoing financial stress, employment flux, or pressures of home-working as a result of the pandemic.
The fact of the matter is that every parent wants their child to do well in school, even in the face of mitigating circumstances.

In a survey, *Distance Learning Challenges*, taken in April 2020, the following were found as the top five difficulties faced by parents (of kids in K-12) with virtual learning:
Keeping their children focused on schoolwork (instead of other online activities) – 50.31%
Establishing a daily routine – 49.26%
Balancing household responsibilities and teaching – 41.83%
Establishing a wake-up and bedtime schedule – 33.40%
Balancing working from home and teaching – 33.31%

There are *n* number of technologies available for online education but sometimes they create a lot of difficulties. These difficulties and problems associated with modern technology range from downloading errors, issues with installation, login problems, problems with audio and video, and so on. Sometimes student finds online teaching to be boring and unengaging. Online learning has so much of time and flexibility that students never find time to do it. Personal attention is also a huge issue facing online learning. Students want two-way interaction which sometimes gets difficult to implement. The learning process cannot reach its full potential until students practice what they learn. Sometimes, online content is all theoretical and does not let students practice and learn

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Analysis Of The Structural And Fatigue Characteristics Of The Engine Bracket

Puneet Bindal[1], Asim Ahmad[2], Praveen Bhatt[3], Vipin Kumar[4]

[1]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India

[2]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand

[3]Associate Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh

[4]Professor, Department of Physics, Sikkim Professional University, Gangtok, Sikkim

ABSTRACT:

The engine mounting plays a pivotal role in enhancing vehicle ride comfort by mitigating noise, vibrations, and harshness. The foremost function of an engine mounting bracket is to effectively balance the engine on an airplane wing, ensuring precise motion control and isolation. This project involves a comprehensive structural and fatigue analysis of the engine bracket, conducted under three distinct temperature conditions while subjecting it to normal operating and thermal loads at room temperature, -40°C, and +52°C.

The fatigue life at critical points is assessed, employing the Goodman criteria for mean stress correction and utilizing S-N curves to determine the number of cycles. Cumulative fatigue damage is calculated using Miner's rule, providing an estimate of overall damage. Critical locations are scrutinized for fatigue life and damage estimation. The results are thoroughly assessed, verifying the strength and durability of the engine bracket in various temperature environments. Additionally, a validation of fastener selection is carried out in the current analysis.

Keywords: Noise reduction, Structural and fatigue analysis, Miner's rule

Introduction

When designing crucial components for aircraft engines, modern designers face a constant challenge in striking a balance between meeting performance requirements for strength and stiffness on one hand and minimizing size and weight on the other. Loading brackets on jet engines hold a pivotal role as they must bear the engine's weight during handling without succumbing to breakage or deformation. Nevertheless, jet engines traverse various temperature zones during their flights, ranging from -40°C to +52°C, which can potentially lead to bracket fatigue and, subsequently, failure.

Structural strength analysis evaluates a component's ability to withstand loads until it reaches a point of failure. This failure can manifest as either plastic deformation or fracture. In this study, plastic deformation is considered a potential failure mode of the bracket concerning applied loads, where bracket stresses exceeding the yield strength are deemed as bracket failure.

In contrast, fatigue analysis typically falls into one of two methodologies: the Stress-Life (S-N) method, often referred to as Total Life, which doesn't distinguish between the initiation or propagation

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Technological Advancements and Innovations in Education

Yatendra Pal, Kavita Sharma, Bechan Singh, Nyarik Geyi, Ankit Khare
Author

Keywords: Technological, Advancements, Innovations and Education.

Abstract

Technology is a divine gift. It is possibly God's greatest gift after the gift of life. It is the source of all cultures, the arts, and the sciences. Certainly, technology has altered the way we live. It has changed how people live and altered living in many ways. Without a question, technology is significant in all aspects of life. Thanks to technology, many manual chores can be automated. Additionally, with the aid of contemporary technology, many difficult and crucial activities may be completed more easily and effectively. The way we live has changed, and for the better, thanks to the application of technology. Technology has revolutionized the field of education. The importance of technology in schools cannot be ignored. In fact, with the onset of computers in education, it has become easier for teachers to impart knowledge and for students to acquire it. The use of technology has made the process of teaching and learning more enjoyable.

A substantial amount of money is spent on technology by schools, families and policymakers with the hope of improving educational outcomes. This paper explores the theoretical and empirical literature on the impacts of technology on educational outcomes. Theoretically, ICT investment and CAI use by schools and the use of computers at home have ambiguous implications for educational achievement: expenditures devoted to technology necessarily offset inputs that may be efficient, and time allocated to using technology may displace traditional classroom instruction and educational activities at home. However, much of the evidence in the schooling literature is based on interventions that provide supplemental funding for technology or additional class time, and thus favour finding positive effects. Nonetheless, studies of ICT and CAI in schools produce mixed evidence with a pattern of null results. Notable exceptions to this pattern occur in studies of developing countries and CAI interventions that target math rather than language. In the context of home use, early studies based on multivariate and

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Improving Engineering Specifications For Ordinary Portland Cement Mortar Through The Incorporation Of Pumice Stone

B. N. Dubey[1], Rahul Kumar Gupta[2], Nitin Bindal[3], Nasim[4]

[1,2]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India

[4]Assistant Professor, Department of Civil Engineering, Mangalayatan University, Aligarh, UP, India

ABSTRACT:

"In recent times, there has been a notable surge in research endeavors aimed at enhancing the quality of concrete mixtures while simultaneously reducing costs. This particular investigation focused on the incorporation of pumice rock powder in varying proportions (ranging from 10% to 50%) in the production of concrete mortar samples. The study scrutinized the influence of pumice powder additions with respect to the initial and final settling times, as well as the compressive strength of the resultant samples. Additionally, the impact of water additions on the characteristics of pumice mortar was systematically analyzed. It was observed that as the proportion of pumice rock powder increased, a greater amount of water had to be added compared to what is typically required for conventional cement paste in order to create a high-strength concrete mixture.

Through the synergistic combination of pumice powder and Portland cement, this research succeeded in augmenting the engineering properties of the concrete mortar samples, resulting in a notable reduction in the porosity of the prepared samples. This achievement, in turn, reduced the concrete's capacity to absorb water, moisture, and gases, rendering these composite materials more resilient in challenging environmental conditions. The enhancements in compressive strength, coupled with the decreased density of concrete samples due to pumice additions, have the potential to yield substantial cost savings in construction projects.

Keywords: Pumice rock; Concrete; Mortar; Engineering properties

Introduction

The utilization of silicate minerals in combination with calcium carbonate has been proposed as a means to create cement possessing practical and acceptable attributes. This particular cement variety harkens back to the early Roman era, where it found widespread use in diverse construction applications. Among the key components of this cement is pumice stone, also known as pumicite in its powdered form. Pumice is a silicate volcanic rock characterized by its light gray hue and glassy texture. This distinctive rock's unique vascular structure arises from the rapid cooling of semi-molten lava, which causes gases and water vapor to expand during fragmentation. Consequently, pumice rock with a vascular composition exhibits an apparent weight of less than 2, despite its individual components possessing an actual specific density of 2.5. The sealed-off nature of pumice, marked by a vitreous barrier separating its cells, imparts poor permeability to liquids.

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Identification of various factors associated with in-vitro fertilization treatment in infertility cases

Rakesh Kumar Sharma[1], Soni Singh[2], Rojalini Samanta[3], J. Rukumani[4], Hishey Lamu Bhutia[5]
[1]Professor, Department of Biotechnology & Life Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Biotechnology & Life Sciences, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Associate Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[5]Principal-in-Charge, College of Nursing, Sikkim Professional University, Gangtok, Sikkim

Abstract

Infertility is a worldwide problem affecting people of all communities. It is estimated that globally 60-80 million couples suffer from infertility every year of which between 15-20 million are in India alone. Infertility affects every eighth couple during reproductive life by reducing fertility rates due to various factors and excessive stress of fast moving work life, resulting in imbalanced hormone stimulation and diseases related to reproductive organs. These factor works as a barrier to the couples for a successful conception. In-vitro fertilization and Intracytoplasmic sperm injection are the most accepted treatment and frequent choice to overcome the infertility problem. The present study focuses on various factors affecting fertility in couples and possibilities of live birth through in-vitro fertilization and intracytoplasmic sperm injection treatment. In this study, 200 couples facing infertility problems were included. In-vitro fertilization and Intracytoplasmic sperm injection treatment were received by these couples to increase their chances of pregnancy and live birth. Clinical examination, diagnosis, analysis and procedure of In-vitro fertilization including embryo transfer technique and calculation of live births were carried out by following clinical guidelines of National Institute for Health Care and Excellence (NICE). To evaluate cumulative possibilities of ongoing pregnancy, Kaplan-Meier analysis was done. The highest pregnancy chances were given by oligospermia, however the immunological/cervical pathology gives the lowest chances. The upshots exposed that the chance of a live birth diminishes as the number of unsuccessful cycles raises. The age of women negatively influences the live birth rates and the cleavage transfer were found less successful than blastocyst transfers. The single embryo transfer resulted only 2% to 3% of live birth and double embryo transfer resulting around 32% more multiple live births. In conclusion the study supports the singleton live birth as a primary output. Clinical Pregnancy and singleton live birth are significant results of this study allow gynaecologists to inform the couples for possibilities of conception.

Key Words: Factors, Infertility, IVF treatment, Live birth rate, Clinical Pregnancy.

Introduction

Infertility is the inability of couples to achieve pregnancy within twelve months of unprotected intercourse (1, 2). In vitro fertilization is the most common infertility treatment used when the fallopian tubes are severely damaged, absent and endometriosis. Due to its high success rates in-vitro fertilization treatment is being used more frequently in recent years as a first line of therapy for all causes of infertility (3, 1). Couples seeking treatment for infertility are increasing regularly. World Health Organization proposed that the couples must be treated together as much as possible to overcome the problem of infertility (4, 5, 6, 7). There is a complex relation between fertility and psychological stress (8, 9). The work stress and low conception possibilities in women were reported by various studies (10-12, 13), however the relation with men is still under study. The United Nations depicts reproductive fitness as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity in all matters relating to the reproductive system and to its functions and processes" (14, 6). Failure to conceive following regular or frequent unprotected intercourse for a year or more has been defined as infertility (15, 16, and 17). The infertility diagnosis is based on the failure of conceiving in 1 year has been disputed to embroider the infertility risk, seeing as about 50% of women who failed to conceive in the first year are possible to accomplish in the second year (18, 19, 7, 20, 21). The preliminary consultation should comprise an evaluation of history for fertility problems. Information concerning normal conception patterns will specific reassurance about good chance of conception conversely, there should also be a detailed enquiry on the medical, surgical, sexual, contraceptive and pregnancy history and a general physical examination to detect abnormalities, as well as measurement of height and weight to evaluate Body Mass Index that helps to identify couples who are probably experiencing delays in conception (22, 23, 24).The information about lifestyle, environmental and physical factors such as smoking, alcohol consumption every day, work load and diet of couples should be accessible to improve the fertility rate.

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Rock Mechanics In Deep Mining: Challenges And Solution

Dilip Kumar[1], Harit Priyadarshi[2], B.N. Dubey[3], Rahul Kumar Gupta[4], Rahul Solanki[5]

[1,3,4]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand

[2]Associate Professor, Department of Civil Engineering, Mangalayatan University, Aligarh, UP, India

[5]Associate Professor, Department of Physics, Sikkim Professional University, Gangtok, Sikkim

ABSTRACT:

The increasing global demand for metals, driven by economic growth and the exploitation of shallow mineral deposits, has compelled mineral extraction to reach greater depths. This shift has directly led to an upsurge in mining challenges associated with rock pressure. This article delves into the pivotal role of rock engineering in the intricate design and operation of deep mines. The key focal points encompass the fracturing of rock surrounding mining excavations, the strategies for supporting and managing fractured rock, and the rock mechanics intricacies entailed in designing mine infrastructure and extraction systems (stoping).

The evolution of rock mechanics science pertaining to these matters is highlighted and critically evaluated. This includes advancements in predicting and evaluating the mechanical properties of rock masses, strategies for controlling fractured rock around deep mining excavations, and the consequent demands imposed on support systems. The article also scrutinizes the rock engineering considerations associated with stoping systems and the regional stress alterations resulting from the extraction of substantial mineral deposits.

In-depth discussions are provided on the progress in design concepts for open stopes and stopes involving the caving of roof strata. It becomes evident that the prevailing stress conditions in deep mines do not favor highly productive caving stoping systems. Additionally, the article underscores the value of energy-based design principles for very deep mines exploiting tabular mineral deposits.

Despite significant advancements in the field of rock mechanics since the 1950s, the application of this knowledge to mitigate rock pressure challenges in deep mines has been somewhat sluggish. The necessary tools and insights are at our disposal. What's urgently required is the development of robust design criteria for mine infrastructure, excavations, and support systems that can adapt to dynamic and evolving stress conditions. Another critical issue is the scarcity of highly qualified rock engineering professionals within mining operations. Recognizing this deficiency, the European mining industry has taken steps to support ongoing education programs focused on rock engineering for deep mines.

Keywords: Rock mechanics principles, Rock engineering methods, Mine design, Design criteria, Support principles, Support methods

Introduction

The commendable effort by the editors of the Rock Mechanics & Rock Engineering journal to curate a special issue on rock mechanics and rock engineering within the mining sector prompts us to

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Pre and post test clinical trial to assess the efficacy of tila (sesamum indicum linn.) Rasāyana in osteoporosis

Deepa J. G.[1], Anandaraman P. V.[2], Prathibha C. K.[3], Senthil T.[4], D. Regina Rebello[5]

[1]Assistant Professor, Department of Panchakarma, Mangalayatan Ayurveda Medical College and Research Centre, Mangalayatan University, Aligarh, Uttar Pradesh, India

[2]Professor and Head, Department of Panchakarma, All India Institute of Ayurveda, Delhi, India

[3]Professor and Head, Department of Panchakarma, G. S. Ayurveda Medical College and Hospital, Uttar Pradesh, India

[4]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, Uttar Pradesh, India

[5]Associate Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand

Abstract

BACKGROUND: Osteoporosis is a condition that deteriorates the micro architecture of bone often resulting in fracture. It makes the density of bone low. It affects quality of life of the patients. According to recent research data the prevalence rate of osteoporosis in Indian women is 29% and worldwide, 1:3 women and 1:5 men over age 50 will experience osteoporotic fractures. The treatment options available in contemporary medicine also are not that available or affordable to majority of Indian population. Hence an easily available, affordable treatment which can be taken rather as a food than as a medicine is very much needed in current scenario. Hence "pre and post" efficacy study of Tila Rasāyana in osteoporosis was done.

MATERIALS AND METHODS: Pre and post-test clinical trial of tila Rasāyana was done on osteoporotic patients whose bone density was more than -2.5 in peripheral DEXA and who were aged between 35-65 years. The intervention includes a Virechana (therapeutic purgation) followed by intake of sesame for one month. Both before and after the trial assessment were done on t score, Serum ALP, Serum Calcium and Quality of life (QOL).

RESULTS: The study showed statistically significant improvement in QOL and Serum ALP and insignificant result in Serum Calcium and t scores within this one month of Tila rasayana

DISCUSSION AND CONCLUSION: Tila helps in reducing Vata (a biological humour). The tila Rasāyana brings nourishment to body and improve bone health. An in-vitro study result states that sesamin a major lignan in sesame stimulate osteoblast differentiation through p38 and ERK ½ MAPK signalling pathways. Hence this trial can be concluded as an effective management in the treatment of osteoporosis.

Key Words: Tila Rasāyana, Osteoporosis, Asthikshaya, Ayurveda, DEXA scan, Sesamum indicum.

Introduction

Osteoporosis is defined by the World Health Organization (WHO) as a bone mineral density of 2.5 standard deviations or more below the average value for young healthy women[i] as measured by dual-energy X-ray absorptiometry. It is the micro architectural deterioration of bone results in loss of its strength. This easily results in a fracture[ii]. Its prevalence is so high, and currently 200 million population worldwide is estimated as osteoporotic[iii]. To be more precise, one out of 3 females and one out of every 5 males world-wide is the victim of an osteoporotic fracture; and 29% of women in India are having osteoporosis[iv] . The mortality and morbidity associated with this disease is a big concern. Besides marked decline in bone density, it affects the quality of life of the patients as well[v]. The bone mineral density was best assessed using Dual Energy X-ray Absorptiometry. Hence it is considered as the gold standard for the diagnosis and assessment in osteoporosis[vi]. Even though there exists many treatment for Osteoporosis, their long term effect, economical compatibility to common public etc. are questionable[vii]. Though osteoporosis is ultimately an anatomical change, it's underlying physiological deficit need to get corrected to bring change on osteoporosis. So a study to make changes at dhatu (structural elements) level is very much needed. Ayurveda considers this disease under the term diminution to bone (asthikshaya). Its symptoms and pathological process can be best compared with Asthikshaya[viii]. The symptoms of asthi kṣaya are asthi tōda (pricking pain over bones), śatana of danta (falling of teeth), śatana of keśa (hair fall), and śatana of nakha (falling of nails)[ix]. Teeth are considered as the upadhatu (subtype of bone)[x]. Tila Rasāyana (rejuvenation treatment with sesame seeds) is beneficial for teeth and do nourish the body[xi]. Since teeth and bone having this mutual relation of dhatu and upadhatu, both are in asreya asreyi bandha (co-dependency) with vata[xii]. Hence both will get complemented by Tila Rasāyana. Rasāyana (Rejuvenation) benefits man by imparting superior quality in dhātus. It is meant to reduce the pace of ageing[xiii]. Further sesamin an active ingredient of Sesamum

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Review Of Environmental Management Strategies In The Chilean Copper Mining Industry To Tackle Water And Energy Challenges

Harit Priyadarshi[1], B.N. Dubey[2], Rahul Kumar Gupta[3], Amit Kumar[4]

[1]Associate Professor, Department of Civil Engineering, Mangalayatan University, Aligarh, UP, India

[2,3]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Chemistry, Sikkim Professional University, Gangtok, Sikkim

ABSTRACT:

The mining industry grapples with a multitude of challenges to sustain production, with a particular focus on securing essential resources such as water and energy. Chile, a major player in the copper mining sector, serves as a global benchmark. This research delves into the unique challenges that confront the Chilean copper mining industry concerning water and energy resources. Our study identifies ten critical challenges that the Chilean copper mining industry must confront to maintain its competitiveness and significance.

Multiple mining companies were closely examined to gain insights into the variety of Environmental Management Initiatives (EMIs) they have adopted. A common and prominent strategy involves the implementation of Environmental Management Systems (EMS), which provide organizations with the means to define, execute, and monitor specific goals and standards. In the realm of water-related initiatives, our review highlights four key approaches, which encompass seawater usage, community strategic plans, comprehensive environmental monitoring programs, and systems for water recycling and recirculation.

On the energy front, the primary initiatives center around enhancing energy efficiency, embracing Non-Conventional Renewable Energy (NCRE) sources, and optimizing mining processes. The advantages of instituting EMIs are multifaceted, with the most noteworthy benefits encompassing uninterrupted operations, cost savings, and the enhancement of Social License to Operate (SLO) outcomes.

Keywords: Mining industry; mining challenges; social license to operate; environmental strategies; sustainable mining; environmental management; copper mining; sustainable development goals

Introduction

Sustainable development within the mining industry represents a paramount concern for companies, as it encompasses a spectrum of environmental, social, and economic considerations. The primary objective of sustainable development is to strike a delicate balance among environmental, social, and economic facets, thereby ensuring the stability of the entire system [1]. In this context, defining the sustainability of mining is a complex endeavor, given the multifaceted nature of sustainability itself. Yet, the foremost environmental concern within the mining sector is to preempt and mitigate potential adverse impacts throughout the various phases of the mining life cycle.

Mining enterprises must establish a robust framework and effective leadership to execute a diverse array of sustainable strategies aimed at curbing environmental impacts and fostering eco-friendly operations. Hence, they should incorporate an environmental improvement action plan as an integral

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Modeling Methane Flow In Coal Mines To Estimate Primary Roof Break Spacing

Jagesh Kumar Ranjan[1], B. N. Dubey[2], Sakshi Saxena[3], Aamarpali Roy[4]

[1,2]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Institute of Applied Sciences , Mangalayatan University, Aligarh, UP, India

[4]Associate Professor, Department of Chemistry, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:

The pressing global challenge within the mining sector is the imperative of "decarbonizing" coal mining. The modeling of coalmine methane emissions is necessitated by the requirement to demonstrate the environmental impact of technological advancements. In the context of longwall geotechnology, the variation in methane concentration within the gas-air mixture extracted by the degassing system encapsulates the intricate interplay between emissions and geomechanical processes in the rock mass. With this backdrop, the objective of this study was to enhance the methodologies for assessing the stages involved in the caving of the primary roof during the extraction of gas-coal seams.

The methodology involved the processing of experimental data, which included smoothing through Loess, three-dimensional interpolation, and regression employing the method of least squares, all performed using the Python language, and the Vi Improved text editor. The visualization of the results was accomplished using "Gnuplot."

The modeling outcomes revealed that expanding the span of the primary roof from 83 to 220 meters (S = 1340–1120 m) within the distance range of 120 meters in front of the stope face line and up to 50 meters behind it (L = -120–50 m) leads to an alternating cyclic pattern of local extrema in the dynamics of methane release, following a polynomial relationship. This phenomenon arises from the activation of deformation-wave processes in geo-environments, introducing cyclical nonlinearities into the aero-gas regime of methane emissions in mine environments that have been anthropogenically perturbed. Furthermore, the study clarified the impact of specific geomechanical conditions in the goaf area, allowing for a dependable identification of the stages involved in the caving of the primary roof.

Keywords: Coalbed methane; longwall; emission zone; roof stability

Introduction

According to multiple researchers, in 2016, the Russian Federation's contribution to global greenhouse gas emissions stood at 7%. Nearly 50% of this share could be attributed to the extractive sector of the economy. On a global scale, anthropogenic methane emissions constitute a significant portion, accounting for up to 19% of all greenhouse gas emissions. Within this methane emission bracket, the share of mine methane ranges from 11% to 13%. In light of these facts, it becomes evident that the imperative of ushering in environmental transformation within the extractive sector, with a focus on "decarbonization" of anthropogenic georesource extraction, isn't just a pressing scientific challenge but, indeed, a pivotal aspect for the overall sustainable development of the industry.

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Some Instructional Techniques for Effective L2 (Second Language) Learning

Farhana Farooqi[1], Sujit Kumar Singh[2], Shimpi Kumari Chaturvedi[3], Vineeta Kaur Saluja[4], Shaifali R. Puri[5]

[1,2]Assistant Professor, Department of Arts, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Professor, Department of English, Mangalayatan University, Jabalpur, MP
[5]Associate Professor, Department of English, Himalayan University, Itanagar, Arunachal Pradesh

Abstract

Lapses and mistakes are the pillars to success in acquiring second language acquisition (SLA). But if these lapses and mistakes are ignored or not eradicated, they may fossilize which lead the learners towards errors. It is observed that L2 learners make most of the errors in grammar as they make mistakes in the construction of grammatically correct sentences. L2 learners face problems in forming correct structure of a sentence for instance they may mistakes in making subject - verb agreement, marking plural nouns, correct use of verb (regular and irregular) forms and a large number of mistakes are committed in the use of English articles (especially definite article) and prepositions . Because of these errors in grammar, learners learning English as a second language find it difficult to communicate fluently and accurately. In order to improve these mistakes, the teacher should adopt certain techniques for correcting grammatical errors to help the learners improve their oral as well as written communication. Keeping in view the present scenario in L2 learning acquisition, this paper intends to investigate Some Important Instructional Techniques for Effective L2 learning. They are as follows:

1. Recasting (self - correction)
2. Adaptation of Processing Instruction (PI)
3. Designing and Teaching ESP Courses
4. Eclectic Approach including- collaborative language instruction; enhancing input; out practice; correction of feedback of the learners, evaluating textbooks exercises by the teachers.

This paper will hopefully be helpful for the L2 learners in improving their proficiency in oral and written communication as well as the language teachers to adopt appropriate techniques of instruction.

Key Words: L1, L2, SLA, ESL / EFL, ESP.

Introduction

The teaching method refers to the general principles, pedagogy and managing strategies used for classroom instruction. Teaching methods are the broader techniques used to help students achieve learning outcomes while activities are the different ways of implementing these methods. Teaching methods help students: master the content of the course; learn how to apply the content in particular contexts. A teaching method comprises the principles and methods used by teachers to enable student learning. These strategies are determined partly on subject matter to be taught and partly by the nature of the learner. For a particular teaching method to be appropriate and efficient, the nature of the learner and subject matter and the type of learning is supposed to be taken into account.

In the ESL (English as a second language) context, there are two main processes: 'Teaching and Learning' which are based on the learner's normal behaviour leaning a second language. In spite of being teaching approach sufficient and the student being efficient, there is always scope for errors because in learning environment, occurring of error is an inevitable phenomenon. Learners need grammar instruction so that it could help the learners overcome the difficulties that they are facing in using English in different phases and to develop their oral and written L2 learning proficiency. In order to fulfil this need, language teacher should adopt effective teaching strategies to deal with learners ' error correction. It is thought that effective teaching techniques might be beneficial for ESL learners leaning English. Therefore, the researcher decided to design some important mentioned teaching techniques that will be discussed in details a in the following ways.

Instructional Techniques

In this study important instructional techniques that are designed for Effective L2 learning, are as follows:
Recasting (self - correction)
Adaptation of Processing Instruction (PI)
Designing and Teaching ESP Courses

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An Overview Of Slope Failures In Mining Operations

Harit Priyadarshi[1], Nasim[2], B. N. Dubey[3], Meenali Modi[4]

[1]Associate Professor, Department of Civil Engineering, Mangalayatan University, Aligarh, UP, India

[2]Assistant Professor, Department of Civil Engineering, Mangalayatan University, Aligarh, UP, India

[3]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Civil Engineering, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:

In the twenty-first century, the primary objective of mining operations is to maximize ore extraction in a safe and cost-effective manner. Failure in mine excavation occurs when the shear stress acting on the rock surpasses the shear strength of the rock mass. The stability of rock slopes in open-pit mines and quarry operations holds immense significance from both economic and safety perspectives, as unstable slopes can lead to loss of human lives and property damage. This paper offers an overview of several case studies involving slope failures in mining operations, shedding light on different modes of rock slope failures and the factors influencing slope wall stability. To emphasize the importance of monitoring and assessing slope stability in mining, this paper delves into the significance of both linear equilibrium and numerical modeling techniques in designing stable slopes. Furthermore, it explores the process of slope failure and highlights key indicators of potential failure. In a proactive effort to mitigate the hazards associated with slope failures in mines, this study presents previous research on slope failure determination and current state-of-the-art models, which involve the integration of analytical methods with artificial intelligence techniques. This innovation aims to address the limitations of conventional prediction techniques, which can be cumbersome and ambiguous.

Keywords: Slope failure; in situ; shear stress; rock mass; mining; factor of safety

Introduction

Ensuring the stability of slopes in open-pit mining operations and quarries holds paramount importance, both in terms of economics and safety. Achieving stability in rock slopes involves the design of excavated slopes that are safe, cost-effective, and functional, while maintaining equilibrium with natural slopes. It is widely acknowledged that a comprehensive understanding of geological processes, including stratigraphy, weathering, geomorphology, petrography, and seismic activity, is essential in the design of stable slopes. The primary structural factors that significantly impact slope stability are joints, bedding planes, and the intersections of joints, faults, and shear zones.

The consequences of instability in rock slopes can be severe, potentially resulting in the loss of human lives and damage to essential properties. Slope failure occurs when materials move downward under the influence of gravity. It is generally assumed that rock slopes are more prone to sliding at the intersections of joint sets. The failure of a rock mass becomes inevitable when the shear stress exceeds the shear strength of the rock. However, the stability of slope walls can be influenced by various

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The Absence of History in Samrat Upadhyay's Arresting God in Kathmandu

Sujit Kumar Singh[2], Farhana Farooqi[1], Preeti Pankaj Gupta[3], Shimpi Kumari Chaturvedi[4], Shaifali R. Puri5, Vineeta Kaur Saluja[6]

[1,2]Assistant Professor, Department of Arts, Mangalayatan University, Aligarh, UP
[3]Associate Professor, Department of Arts, Mangalayatan University, Aligarh, UP
[4]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[5]Associate Professor, Department of English, Himalayan University, Itanagar, Arunachal Pradesh
[6]Professor, Department of English, Mangalayatan University, Jabalpur, MP
Email: sujit.singh@mangalayatan.edu.in

Abstract

The present study focuses on the absence of history in Samrat Upadhyay's Arresting God in Kathmandu (2001) and compares it with other Nepali writings. In this regard, I would apply the theoretical framework of New Historicism which is a critical movement insisting on the prime importance of historical context to the interpretation of the literary texts. It shows how Upadhyay has disregarded social and historical turmoil such as the Maoist Insurgency (the Nepalese Civil War (1996-2006) from his literary peace. Upadhyay's Arresting God in Kathmandu, a collection of short stories, was published in 2001 when Nepal was going through a series of political and historical upheavals, but while reading the text, I found no trace of history as Upadhyay has overlooked these historical events and upheavals. Nepal has experienced more than a decade of war, bloodshed, and violence which caused considerable human loss which remained irrecoverable for a long time. The conflict engendered more than Lakhs of Nepali people who left their birthplace and settled in some other part of the country to spend life peacefully, but some of them crossed the border forever in fear, and many were injured and disappeared from the country, many of them remained disabled in counter-insurgency between Royal Nepalese Government and the Communist Party of Nepal (Maoist).

Introduction

Samrat Upadhyay, a contemporary Nepali-born fiction writer, is writing in English. He was born and brought up in Kathmandu. His literary writings basically deal with the issues of adulterous relations, polygamy, incest relationships, early marriage and alcoholism etc. These are the recurrent themes of his works which seem like Upadhyay is fond of painting the pictures of the conjugal issues, adulterous relationships and domestic chores. Regardless of historical and political upheavals, he is solely concerned with the personal and domestic aspects of his characters' lives as the book portrays unlike the other contemporary Nepali writers such as Manjushree Thapa, Narayan Wagle and Yug Pathak, who have portrayed the real and recent face of Nepal, dealing with socio-political and historical events. He authored *The Guru of Love* (2003), *The City Son* (2015), *The Buddha's Orphan* (2010), *The Royal Ghost* (2006), *Mad Country* (2017). Although he is a diasporic writer but his themes are based on Nepal.

New Historicism

As New Historicists believe that history itself is 'subjective' according to which history is not telling about the facts rather interpreting the events. Presently, historicism is inclined to portray itself as the most recent literary theory development and thus "new." A book devoted to historicism ought to discern an essential pattern of historical analysis that manifests itself in various forms throughout various times periods. Scholars including Hayden White and Linda Hutcheon have placed significant emphasis on the self-referential aspect of historiography, demonstrating how the formation of history mirrors the narrative conventions found in literary works. They argue that history is a literary phenomenon in which the rhetorical devices underlying its construction are revealed. They then pose the question of whether these mechanisms are capable of transforming any facet of actuality into textual substance and whether history as a piece of writing can portray any event by incorporating it within a logical narrative. In *New Historicism and Renaissance Drama*, Richard Wilson and Richard Dutton assert that the emerging historicist and cultural materialist theories signify a "return to history" in the criticism of literature and that their greatest contribution to current scholarship in literary analysis was likely their emphasis on the position of history in literary texts. Anton Kaes asserts that the term "New Historicism" has been applied to practically every scholarly work that emphasises the historicity of the text and the textuality of history throughout the past the last ten years. In a nutshell "New Historicism" examines the intricate pathways through which political life, society, and culture intersect and converge. When viewed from this perspective, literature appears to function less as a reflection of conventional social conventions and more as

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Advancements In Enhancing Energy-Efficient Multipath Routing Node Management For Manets

Sharma Sonu Kumar[1], Javed Wasim[2], Gunadhar Dey[3], Syed Umer[4], Sumit Singh Sonkar[5], Nasiruddin Molla[6]

[1]Assistant Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, UP, India

[2]Associate Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, UP, India

[3]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, Madhya Pradesh

[6]Assistant Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim

ABSTRACT:

A mobile adhoc network (MANET) constitutes a self-configuring, infrastructure-free network of mobile devices interconnected wirelessly. In a MANET, each device possesses the freedom to move independently in various directions, resulting in frequent changes in connectivity with other devices. In such networks, mobile nodes can dynamically enter or exit the network. Owing to the limited transmission range of wireless devices, multiple hops are often required for effective data exchange between nodes within the network. This paper introduces a comprehensive approach that combines routing and energy allocation strategies, ensuring system stability and delivering consistent average delay guarantees under conditions where input rates fall within the network's capacity segment. The study also addresses the joint optimization of cross-layer congestion control, routing overhead, and throughput in mobile adhoc networks.

Keywords: Congestion Control, Multipath Routing, Mobile Adhoc Networks, Bandwidth Availability."

Introduction

The core concept of the cross-layer method involves preserving the unique functionalities of individual layers while facilitating communication and synchronization among diverse layers. This approach simplifies interactions between layers, leading to reduced complexity and a consolidation of control signals [1].

The motivation for designing network protocols for Mobile Ad Hoc Networks (MANETs) stems from link failures, which can severely degrade network performance. Rebuilding routes after a link failure poses a significant challenge to routing protocols and can impact the Quality of Service (QoS) for connections, depending on network conditions. Several MANET routing protocols have been

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Role Of Teachers In Creating Participative Learning Environment

Deepshikha Saxena[1], Rajesh Kumar Upadhyay[2], Arvind Hans[3], Prakash D. Achari[4]
[1]Associate Professor, Institute of Education and Research, Mangalayatan University, Aligarh, U.P., India
[2]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, U.P., India
[3]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand, India
[4]Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

Abstract

Teachers are leaders in the classroom. They are instructors, managers, role models inside the classroom. The onus of achieving learning outcomes lies with the teachers. It is acclaimed that teachers are responsible for results achieved by students. In the current times, when classroom climate has changed inadvertently due to the entry of technology in teaching learning, the task of teachers has also undergone a paradigm shift, where now teachers are to act as facilitators of learning not as a medium of transmitting knowledge. Accessibility to learning resources have increased. In the changing times when it is being asserted that teaching should be learner centric, teacher has a major role to play in the modern context. Curriculum, pedagogy, assessment and student support are focal points of quality education and in all these aspects teacher can play an important and central role. When planning curriculum teachers can work according to the needs at grassroot level. Pedagogical interventions can be made learner centric by utilizing specific local anecdotes in teaching learning. ICT interventions in classroom can help improve teaching learning outcome. Subject specific pedagogical techniques should be employed. Teachers should use technology to share resources and use classroom time for more meaningful discussion. Use technology to enhance communication, collaboration, creativity and critical thinking in classroom. This becomes more important in which we have to train the learners to become life -long learners as envisaged in NEP 2020. Similarly adopting innovative practices to assess learning is the call of the day. In the same context, when we say that formative assessment should be employed so the teachers' role becomes all together more important. In nut shell teachers' role is holistic in nature, playing important role in the classroom and beyond.

Key Words: Teachers, Inclusive classroom, Pedagogical practices, Curriculum Transaction, NEP 2020.

Introduction

From early days, teachers have been worshipped and adorned for their contribution in developing learned society. Teachers are the torch bearers and have a great role in bringing about positive changes in the society. Recently National Education Policy has been adopted which also places teachers in a fundamental role in effectively implementing the cardinal principles of NEP 2020. This policy is built on five pillars of Accessibility, Equity, Quality, Affordability and Accountability. This also puts forward a vision of Education focusing on recognizing, identifying and fostering the unique capabilities of each student. This requires sensitization of teachers, parents and other stakeholders in order to pursue holistic development of children. In the context of Higher Education also the new policy acclaims that 21st century learners must be thoughtful, creative individuals who have a blend of character, ethical and constitutional values, intellectual curiosity, scientific temper, creativity, spirit of service. As per NEP Section 9.1.3, Higher education must enable the development of an enlightened, socially conscious, knowledgeable and skilled nation that can find and implement robust solutions to its own problems. Higher Education must form the basis for knowledge creation and innovation thereby contributing to a growing national economy. It represents the key to foster more vibrant, socially engaged, cooperative communities and a happier, cohesive, productive, innovative, progressive and prosperous nation deeply rooted in its values and culture.

The policy also highlights several shortcomings of the existing higher education system. The most important of these is there is a less emphasis on the development of cognitive skills and learning outcomes. This observation is also supported by the fact that at present India has a huge population of unemployed educated youth as well as underemployed graduates. This points out the fact that at present the education system is lacking behind in meeting the requirements of job market as it has failed to produce market friendly individuals with the desired skill set.

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Enhancing Control Systems For Cloud And Sensor Networks Through The Integration Of Authenticated Trust And Reputation Calculation

Divya Maheshwari[1], Nasiruddin Molla[2], Gunadhar Dey[3], Syed Umer[4], Sumit Singh Sonkar[5]

[1]Assistant Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, UP, India

[2]Assistant Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim

[3]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, Madhya Pradesh

ABSTRACT:

The convergence of Cloud Computing and Wireless Sensor Networks (CC-WSN) has garnered substantial interest from both academic and industry researchers. This integration opens up numerous opportunities for organizations by providing a spectrum of computing services and simplifying data collection within Wireless Sensor Networks (WSNs). However, for widespread adoption of cloud computing by enterprises and individuals, several critical challenges must be addressed. Among these, the issues of authentication, trust, and reputation calculation and management for Cloud Service Providers (CSPs) and Sensor Network Suppliers (SNPs) are particularly vital, yet they remain largely unexplored in this emerging paradigm.

To bridge this gap, our research paper introduces an innovative framework called Authenticated Trust and Reputation Calculation and Management (ATRCM) tailored for the integration of CC and WSN. The ATRCM framework takes into account the authenticity of CSPs and SNPs, the attribute requirements of Cloud Service Users (CSUs) and CSPs, as well as cost considerations, trust, and the reputation of CSP and SNP services.

Keywords: Cloud Computing, Wireless Sensor Network, Cloud Service Providers, Sensor Network Suppliers, Authenticated Trust and Reputation Calculation and Management (ATRCM), Cloud Service User (CSU)

Introduction

The landscape of computing is undergoing a profound transformation, adopting a service-based model that mirrors traditional utilities such as water, electricity, gas, and telephony. In this new paradigm, users access services based on their specific needs, without concern for the services' hosting location or delivery mechanisms.

Cloud Computing (CC) represents a pivotal model facilitating convenient, on-demand network access to a shared, flexible pool of computing resources. These resources encompass servers, networks,

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Cloud Computing And Education- A Technical Review

Ashok Kumar Upadhyay[1], Deepmala[2], Anil Kumar[3], Ranjan Ganguli[4], Sandip Kulkarni[5]

[1]Librarian and Associate Professor, Department of Library and Information Science, Mangalayatan University, Aligarh, UP, India

[2]Dy. Librarian and Assistant Professor, Department of Library and Information Science, Mangalayatan University, Aligarh, UP, India

[3]Assistant Professor, Department of Electrical and Electronics Engineering , Mangalayatan University, Aligarh, UP, India

[4]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand

[5]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:

The aim of this paper is to examine the technical aspects of Cloud Computing in the field of Education. Classroom teaching is evolving, with students showing an increasing orientation toward technology. In this evolving environment, it is crucial to consider the incorporation of the latest technologies into the teaching and learning processes. One of the most prominent technologies in recent times is Cloud Computing. By utilizing cloud-based IT services, educational institutions can delegate non-core services, allowing them to focus more effectively on providing students, teachers, faculty, and staff with the essential tools they need for success. In summary, Cloud Computing has the potential to enhance the efficiency, reduce costs, and increase convenience for universities and the education sector.

Keywords: Cloud Computing, Education, SaaS, PaaS, IaaS

Introduction

The Indian government has taken significant initiatives to uplift education with the integration of advanced technology. In the realm of primary and secondary education policies, the "Rashtriya Madhyamik Shiksha Abhiyan" has been in effect since April 1, 2010. Efforts are underway to establish a robust and extensive system for higher and technical education, particularly through the "Rashtriya Ucchatar Shiksha Abhiyan (RUSA)" introduced in 2013. The primary goal of the Indian government is to provide students with quality education by leveraging advanced technological infrastructure.

While these various schemes aim to increase school and college enrollment, the lack of facilities such as smart classrooms, Wi-Fi, and other ICT resources significantly impacts students' results and can discourage them from continuing their education. One of the most significant challenges the government faces in delivering education is the insufficient infrastructure and, when available, maintaining it, along with managing a wide range of hardware and software equipment.

Cloud computing presents a promising solution to address these challenges. It constitutes a network of computing resources that can be located virtually anywhere and shared among multiple users. By implementing cloud computing technology, we can overcome these limitations and establish a

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Wireless Sensor Network Localization System

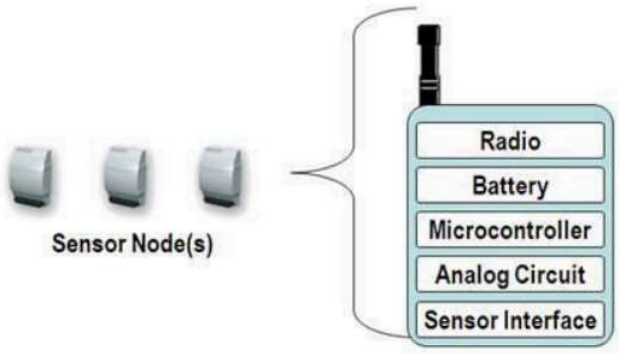
Rajesh Kumar Upadhyay[1], Md. Amir Khusru Akhtar[2], Manish Saxena[3]
[1]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
[2]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:
Sensors find extensive application in monitoring various environmental, military, healthcare, industrial, automotive, and other scenarios. The data derived from these sensors play a crucial role in making decisions that often directly impact human lives. To harness the full potential of this sensed data, knowing the precise location of sensor nodes is imperative. This task is not always straightforward, particularly in real-life situations where deployments are random and conditions can be hostile. Furthermore, replacing a malfunctioning or damaged node is often not a viable option in many cases. The research community has proposed various approaches for localizing nodes deployed within a target area.
In this study, we endeavor to provide a comprehensive review of the most promising localization methods proposed thus far, drawing comparisons among them.

Keywords: Localization, Mobility, Sensor Networks, Beacon Node, Trilateration, Multilateration

Introduction

A wireless network comprises autonomously deployed devices equipped with sensors to monitor physical or environmental conditions. This Wireless Sensor Network (WSN) system includes a gateway facilitating wireless connectivity to the wired infrastructure, alongside distributed nodes, as illustrated in Figure 1.



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Innovative Structural Health Monitoring: A 3d Computer Vision Approach For Nondestructive Damage Detection

Shivam Upadhyay[1], Love Kumar[2], Vinay Singh[3], Manish Saxena[4]

[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India

[2]Assistant Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, UP, India

[3]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand

[4]Associate Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

ABSTRACT:

Structures situated underground or in challenging environments often lack a definitive map or a clear state of health. For instance, nuclear facilities feature subterranean tunnels releasing hazardous gases, and industries have extensive sewage lines emitting flammable and toxic fumes. Regular inspection and maintenance are crucial for failure prevention. Unfortunately, due to the hostile nature of these environments, thorough inspection of such critical infrastructure is often unfeasible. Hence, the advancement of computer vision holds significant importance for ensuring high-quality inspection.

The future of quality inspection heavily relies on computer vision. A thoughtfully designed robotic system can be trained to conduct visual inspections of various structures. This includes detecting damages and assessing their criticality. Similar to a skilled human inspector, the robot needs to be trained to scrutinize the nature of the damage and promptly alert users about potential failures. This article explores the training of robots to detect damage in concrete structures and make informed decisions regarding the significance and impact of identified defects.

Keywords: Nondestructive Testing, Computer Vision, Visual Inspection, 3D Camera, Concrete Structure

Introduction

Visual examination stands as the initial phase in evaluating a structure's condition. Trained human eyes adeptly identify cracks, corrosion, and potential structural issues without causing any disruption. However, these environments may not always be safe for human observation and the data perceived cannot be systematically stored for future analysis. In contrast, an automated robot can effortlessly gather visual inspection data from a structure's surface and analyze it, even in toxic conditions. The integration of computer vision systems into robotics provides an effective mechanism for performing visual inspections in hazardous settings. This article showcases the application of Intel's RealSense SR300 depth camera, MATLAB, and RecFusion software for nondestructive testing on structures. The depth camera accurately measures the surface topology of concrete structures, enabling the subsequent analysis of depth measurement anomalies. The outcomes underscore the depth camera's proficiency in identifying specific structural damages and quantifying them to facilitate decision-making.

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Quantum Computing: Unleashing the Power of Superposition and Entanglement

[1] Love Kumar, [2]Md. Amir Khusru Akhtar, [3]Manish Saxena, [4]Dinesh Mishra, [5]Vishal Khatri

[1]Assistant Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, U.P., India
[2]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand, India
[3]Associate Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP
[5]Associate Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim
Email: love.mittal@mangalayatan.edu.in

Abstract: Quantum computing, fuelled by the extraordinary properties of quantum bits (qubits) – superposition and entanglement, is on the cusp of a technological revolution. Superposition allows qubits to exist in multiple states simultaneously, accelerating problem-solving in cryptography, drug discovery, optimization, material science, and artificial intelligence. Quantum algorithms like Shor's and Grover's are poised to disrupt classical encryption and transform data analysis. Entanglement, a mysterious quantum connection, enhances quantum communication and error correction, while offering secure quantum teleportation. However, quantum computing faces critical challenges such as qubit stability, scaling, error correction, and quantum software development. As quantum technology advances, it promises to reshape industries and society, addressing challenges in fields like climate modelling, energy, finance, and logistics. The path forward requires collaboration, ethical considerations, and a commitment to responsible development. In this quantum era, the future is quantum, promising innovation, security, and transformative computational power.
Keywords: Quantum Computing, Qubits, Superposition, Entanglement, Quantum Algorithms

1. Introduction:

The world of computing has long been dominated by classical computers, which rely on bits as the fundamental units of information, each representing either a 0 or a 1. These digital workhorses have fuelled technological advancements for decades, but their capabilities are becoming increasingly constrained when faced with the growing demands of today's complex problems [1]. In the quest for innovation, scientists and researchers have delved into the realms of quantum physics to create a revolutionary paradigm shift in computing: quantum computing [2].

Quantum computing is a realm of computational science that embraces the bizarre and fascinating behaviour of the quantum world, offering an entirely new approach to processing information [3]. Unlike classical bits, quantum computers employ quantum bits, or qubits, which possess a unique property known as superposition. Superposition enables a qubit to exist in multiple states simultaneously, akin to a spinning coin that is neither strictly heads nor tails until observed [4]. This capability allows quantum computers to explore numerous possibilities concurrently, unlocking a level of computational power that defies classical limitations.

At the heart of quantum computing lies the interplay of two remarkable phenomena: superposition and entanglement. Superposition empowers quantum algorithms to solve problems exponentially faster than classical counterparts, while entanglement, a phenomenon that Einstein famously described as "spooky action at a distance," forms the foundation for secure quantum communication and quantum error correction [5]. These quantum properties are not mere theoretical constructs; they are actively shaping the landscape of technology, offering solutions to problems that were previously considered insurmountable.

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Blockchain Beyond Bitcoin: Transformative Applications in Computer Science

[1]Ashok Kumar Upadhyay, [2]Umesh Chandra Sharma, [3]Sharmistha Roy, [4]Dinesh Mishra, [5]Sheetal Choudhary

[1]Librarian and Associate Professor, Department of Library and Information Science, Mangalayatan. University, Aligarh, UP, India
[2]Assistant Professor, Department of Computer Engineering and Application, Mangalayatan. University, Aligarh, UP, India
[3]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand, India
[4]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP
[5]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: ashoka143@gmail.com

Abstract: Blockchain technology, initially designed to support cryptocurrencies, has evolved into a versatile and transformative force in computer science and beyond. This article explores the applications, challenges, and considerations associated with blockchain technology, emphasizing its potential to reshape industries and disrupt traditional paradigms. Blockchain's foundational principles of decentralization, security, transparency, and immutability have given rise to a myriad of applications, from decentralized applications (DApps) and smart contracts to secure data management and identity verification. Its impact extends into supply chain management, voting systems, and decentralized storage, offering solutions to persistent challenges in these domains. However, blockchain adoption faces substantial hurdles, including scalability issues, energy consumption, regulatory frameworks, interoperability, and user experience. Resolving these challenges is pivotal for the technology to fulfill its transformative potential. Moreover, blockchain technology must navigate ethical and legal considerations, particularly in fields like decentralized finance (DeFi), where smart contracts may execute actions that raise concerns regarding compliance and ethics. In conclusion, the journey of blockchain technology is one of continuous innovation and adaptation. Its evolution has extended beyond the realm of cryptocurrencies, impacting numerous sectors and pushing the boundaries of what is possible. As blockchain technology matures, it promises to offer more secure, transparent, and efficient solutions, reshaping our digital landscape and redefining the way we engage with data, security, and transactions.
Keywords: Blockchain Technology, Decentralization, Smart Contracts, Data Security, Regulatory Frameworks

1. Introduction

The world is currently experiencing an era of unprecedented transformation, driven by the rapid advancement of technology, which is reshaping the way we live, work, and interact with our surroundings [1]. As we stand on the cusp of the third decade of the 21st century, the digital age has truly come of age, with innovations in various fields of science and technology converging to create a dynamic landscape that is both exhilarating and daunting.

The digital revolution that has unfolded over the last few decades is akin to a seismic shift, redefining our lives, economies, and societies. It's as if we've embarked on an uncharted journey into a future filled with the promise of remarkable discoveries and the challenges of navigating uncharted territory. The advent of technologies like artificial intelligence, blockchain, and the Internet of Things, coupled with significant advancements in fields such as biotechnology, space exploration, and quantum computing, has opened up new frontiers that were once the stuff of science fiction [2].

One of the most remarkable facets of this technological revolution is the fusion and synergy among various fields, particularly in computer science. Computer science has emerged as a linchpin that binds together

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Artificial Intelligence Ethics: Navigating the Moral Challenges of AI

[1]Rajesh Kumar Upadhyay, [2]Amit Upadhyay, [3]Devesh Kumar Upadhay, [4]Manish Saxena, [5]Sumit Singh Sonkar

[1]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, U.P., India
[2]Assistant Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, U.P., India
[3]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand, India
[4]Associate Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP

E-mail: rajeshupadhyay1@gmail.com

Abstract: Artificial Intelligence (AI) is revolutionizing various sectors, offering transformative potential, yet it brings forth complex ethical challenges. This article explores the multifaceted landscape of AI ethics, delving into key ethical concerns, including bias, privacy, accountability, job displacement, autonomy, healthcare integration, and transparency. Addressing bias and fairness in AI, safeguarding privacy, and defining accountability are crucial to building ethical AI. Furthermore, managing job displacement and the transition to a more automated workforce requires reevaluation and ethical oversight. Striking the right balance between AI autonomy and human control, especially in critical domains like healthcare, is imperative. Ethical guidelines and the pursuit of transparent, explainable AI systems are integral to ensuring responsible AI development and deployment. This article underscores the moral imperative to navigate the ethical dimensions of AI to harness its potential while upholding human values and societal well-being.
Keywords: Artificial Intelligence Ethics, Bias and Fairness, Privacy and Data Security, Accountability and Responsibility, Transparency and Explain ability

1. Introduction

The rapid advancement of Artificial Intelligence (AI) has ushered in a new era of technological innovation and transformation. From self-driving cars and virtual assistants to predictive algorithms in healthcare, AI is reshaping our world in ways previously unimaginable [1]. While these advancements promise to improve efficiency, enhance decision-making, and revolutionize industries, they also introduce a host of ethical concerns and moral dilemmas. As AI becomes increasingly integrated into our daily lives, the need to navigate the intricate landscape of AI ethics has never been more pressing [2].

AI ethics, a burgeoning field at the intersection of technology and philosophy, explores the moral dimensions of artificial intelligence [3]. It delves into the ethical considerations that arise when machines are granted the ability to learn, make decisions, and interact with humans in various contexts. These considerations encompass a wide range of complex issues, from bias and fairness to privacy, accountability, and the societal impact of automation [4].

At the heart of the AI ethics debate is the question of how we can ensure that these advanced systems align with human values and respect fundamental principles of fairness, autonomy, and transparency [5]. This article aims to dissect these multifaceted ethical challenges, providing insight into the complex terrain of AI ethics and offering potential solutions and guiding principles for stakeholders, developers, policymakers, and society as a whole.

Bias and fairness in AI are some of the most prominent ethical concerns. AI algorithms, when trained on biased data, can perpetuate and even exacerbate societal prejudices. The consequences of biased AI are evident in fields such as criminal justice, where predictive policing algorithms can disproportionately target certain

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Robotic Vision: Advancements in Computer Vision for Autonomous Systems

[1] Dheeresh Upadhyay, [2]Devesh Kumar Upadhay, [3]Roma Singh, [4]Dinesh Mishra, [5]Vishal Khatri

[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, U.P., India
[2]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand, India
[3]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP
[5]Associate Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim

E-mail: dheeresh.upadhyay@mangalayatan.edu.in

Abstract: Human-robot interaction (HRI) is at the forefront of technology's transformative wave. This multidisciplinary field is reshaping industries and daily life, but it also presents challenges, including privacy and ethical concerns. The future holds exciting prospects with emotionally intelligent robots, enhanced sensing, immersive technologies, and the synergy between humans and AI. Developing ethical and legal frameworks, ensuring reliability, and promoting adaptability are essential. As HRI advances, it has the potential to revolutionize the way we live and work, where robots transition from mere tools to collaborative partners, enriching human experiences and contributing to a more interconnected world.
Keywords: Human-Robot Interaction, Robotics, Artificial Intelligence, Machine Learning, Ethical Frameworks

1. Introduction

In the ever-evolving landscape of artificial intelligence and robotics, a technological revolution is unfolding before our eyes. It is a revolution that has the potential to redefine our world and the way we interact with it. At the heart of this transformation lies the fascinating realm of robotic vision, a dynamic fusion of computer vision and robotics that is propelling autonomous systems to new heights of intelligence and functionality [1].

Robotic vision is the cornerstone of our modern AI-powered world. It equips machines with the ability to not only perceive but also comprehend their surroundings in a manner that approximates human vision [2]. This fusion of disciplines, driven by relentless innovation and research, has paved the way for remarkable breakthroughs in various industries and applications, from self-driving cars navigating complex urban environments to warehouse robots optimizing logistical operations [3].

The rise of robotic vision is not merely a scientific curiosity or a technological trend; it's a monumental leap forward in the capabilities of machines and the profound impact they can have on our daily lives. This article embarks on a journey to explore the latest developments in this ever-evolving field, shedding light on the monumental advancements and their far-reaching implications [4].

At its core, computer vision seeks to endow machines with the extraordinary ability to understand and interpret the visual world as humans do. It is the technological alchemy that allows machines to analyze, process, and make informed decisions based on images and videos [5]. Robotic vision, the offspring of computer vision, aims to channel these remarkable capabilities into the realm of robotics, where machines are tasked with navigating, interacting, and performing a wide array of complex tasks in diverse environments.

The key driver behind this rapid progression in robotic vision is the convergence of sophisticated sensors, machine learning algorithms, and neural networks. High-definition cameras, LiDAR (Light Detection and

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The Internet of Things: Connecting the Digital and Physical Worlds

[1]Rajesh Kumar Upadhyay, [2]Md. Amir Khusru Akhtar, [3]Roma Singh, [4]Dinesh Mishra, [5]Vishal Khatri

[1]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, U.P., India
[2]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand, India
[3]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP
[5]Associate Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim

E-mail: rajeshupadhyay1@gmail.com

Abstract: The Internet of Things (IoT) is revolutionizing the digital and physical worlds by connecting everyday objects and systems to the internet. This article delves into the fundamental workings of IoT, its profound impact on various sectors, and the challenges and opportunities it presents. IoT operates through an intricate interplay of sensors, data transmission, processing, and cloud computing. Sensors collect data from the physical world, enabling real-time analysis and automation, thus enhancing efficiency, decision-making, and sustainability. In healthcare, IoT is transforming patient care through remote monitoring, while manufacturing benefits from predictive maintenance and cost reductions. Nonetheless, IoT is not without its challenges. Security and privacy concerns demand attention, while interoperability, data management, and power consumption issues require innovative solutions. As IoT continues to evolve, it is clear that striking a balance between the potential benefits and the associated challenges is crucial for unlocking its vast potential in shaping our interconnected and data-driven future.
Keywords: Internet of Things (IoT), Connectivity, Automation, Sensors, Data Analysis

1. Introduction

In the rapidly evolving landscape of modern technology, the Internet of Things (IoT) stands out as a remarkable and transformative concept. This paradigm shift has revolutionized the way we interact with our surroundings, opening doors to unparalleled connectivity and automation [1]. At its core, IoT represents the convergence of the digital and physical worlds, forging a powerful alliance that promises to reshape industries, improve our lives, and spark new possibilities.

The fundamental idea of IoT is deceptively simple yet profoundly impactful: it is the interconnection of everyday objects, devices, and systems to the internet, enabling them to collect, exchange, and utilize data [2]. These "things" can encompass an astonishingly diverse range, from the familiar household appliances, vehicles, and wearable devices, to the complex and specialized machinery in industries, smart cities infrastructure, and even the tiny sensors dotting our environment. Each of these entities is equipped with sensors, software, and communication capabilities that empower them to gather and share information [3].

The significance of this interconnected web of devices cannot be overstated. It blurs the lines between the tangible, physical world and the ethereal digital realm, weaving a tapestry of data and intelligence that we can tap into for a multitude of purposes [4]. The data collected by these devices can be harnessed for analysis, yielding real-time insights that inform decision-making processes in ways never before imagined. The result is greater efficiency, improved resource management, and heightened responsiveness to changing circumstances [5].

The essence of how IoT operates lies in the seamless orchestration of sensors, connectivity, and data processing. Sensors, the lifeblood of IoT devices, serve as the eyes and ears of the digital world. They monitor

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Human-Computer Interaction: Designing Intuitive User Experiences

[1]Abhishek Kumar Gupta, [2]Vinay Singh, [3]Sandip Kulkarni, [4]Vishal Khatri, [5]Sumit Singh Sonkar

[1]Assistant Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, U.P.
[2]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP

E-mail: abhishek.gupta@mangalayatan.edu.in

Abstract: In the ever-expanding digital landscape, the concept of intuitive design stands as a fundamental pillar of Human-Computer Interaction (HCI). This article explores the crucial principles of intuitive user experiences and showcases real-world examples of their application. User-centricity, consistency, simplicity, feedback, and accessibility form the foundational principles of intuitive design. Apple's iOS, Google Search, Airbnb, and Tesla's touchscreen are celebrated for their adherence to these principles, setting new standards for usability and transforming the way users engage with technology. The discussed examples underline the power of empathy and user-centered design in creating digital interfaces that feel tailor-made for users. As technology continues to evolve, these principles remain essential in shaping experiences that reduce cognitive load, increase user satisfaction, and accommodate a diverse range of users. Intuitive design is not just a principle; it's a promise of empowering, user-friendly digital interactions.

Keywords: Intuitive Design, Human-Computer Interaction (HCI), User-Centered, User Experience, Usability

1. Introduction

In the early 21st century, our world has undergone a profound transformation, reshaped by technology, globalization, and evolving social dynamics. This transformation, often referred to as the "Information Age" or the "Digital Revolution," has propelled society into an era of unprecedented connectivity, knowledge access, and innovation [1]. Within this rapidly changing landscape, the ways in which we interact with technology, each other, and the world at large have become increasingly significant. The heart of this interaction, known as Human-Computer Interaction (HCI), holds the key to shaping our experiences, productivity, and even our understanding of the world around us [2].

In this digital era, HCI has emerged as a pivotal discipline that bridges the gap between human behavior and technology. It encompasses a wide array of human-computer relationships, from the way we navigate our smartphones to the intricate design of complex software applications and interactive websites [3]. HCI is a multifaceted domain that intertwines the fields of computer science, psychology, design, and usability engineering to create harmonious, efficient, and intuitive user experiences.

HCI is at the core of the devices and interfaces that have become integral to our daily lives. Consider the smartphone, a pocket-sized supercomputer that connects us with people worldwide, provides us with instant access to information, and empowers us to perform a myriad of tasks [4]. The ease with which we use these devices, tap their screens, and interact with the applications is a testament to the significance of HCI. It's the marriage of hardware and software design, coupled with our natural behaviors and expectations, that has turned these gadgets into indispensable extensions of ourselves [5].

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Edge Computing: Bringing Intelligence Closer to the Data Source

[1]Shivam Upadhyay, [2]Amit Upadhyay, [3]Vinay Singh, [4]Vishal Khatri, [5]Sumit Singh Sonkar, [6]Syed Umer

[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, U.P.
[2]Assistant Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, U.P.
[3]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[4]Associate Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP
[6]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: shivam.upadhyay@mangalayatan.edu.in

Abstract: Edge computing represents a paradigm shift in data processing, redefining the way we interact with technology and harness the power of data. This article explores the transformative impact of edge computing by examining its core benefits and real-world applications. Reduced latency, enhanced real-time capabilities, improved privacy and data security, scalability, and cost-efficiency are driving forces behind this shift. Edge computing is not merely a technological advancement; it is a fundamental change from centralized to distributed computing. Its challenges, including management complexity, data security, standardization, resource constraints, and data governance, require thoughtful consideration. Looking to the future, the integration of artificial intelligence, the synergy with 5G networks, and the development of decentralized applications, edge-to-edge communication, and quantum computing integration promise to further revolutionize the field. Edge computing is poised to shape our data-driven future, unlocking opportunities in various industries and redefining the way we process and analyze data.
Keywords: Edge Computing, Real-time Capabilities, Data Privacy, Scalability, Future Developments

1. Introduction:

In the ever-evolving landscape of technology, data has assumed a central role, driving innovation, and transforming industries. As our world becomes increasingly connected through the Internet of Things (IoT), smart devices, and sensors, the volume of data generated is soaring to unprecedented levels. To harness the full potential of this data revolution, a paradigm shift is underway - one that brings intelligence closer to the data source [1]. This paradigm is known as Edge Computing, and it is ushering in a new era of data processing and analysis.

Traditionally, the cloud has been the cornerstone of data processing and storage. Data generated at the edge – in devices like smartphones, IoT sensors, or autonomous vehicles – was transmitted to centralized data centers for analysis. While this model has served us well for many years, it has inherent limitations, particularly in scenarios where speed and real-time decision-making are paramount [2].

Edge computing reimagines this traditional model by advocating for data processing at the edge, in close proximity to where data originates. Instead of relying solely on remote data centers or the cloud, devices now have the capacity to perform local data processing, drastically reducing the need to transmit every piece of data over long distances [3]. This approach comes with a host of benefits that have the potential to revolutionize the way we interact with technology.

First and foremost, edge computing significantly reduces latency, allowing for near-instantaneous decision-making. In applications where real-time data analysis is critical – such as autonomous vehicles, industrial

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Bioinformatics: Bridging Biology and Computer Science for Healthcare Advancements

[1]Soni Singh, [2]Umesh Chandra Sharma, [3]Rojalini Samanta, [4]Priyanka Ojha, [5]Sabina Gurung

[1]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, U.P., India
[2]Assistant Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, U.P., India
[3]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Collage of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

E-mail: singh.sonia0001@gmail.com

Abstract: Bioinformatics, at the intersection of biology and computer science, stands as a transformative force reshaping healthcare and the life sciences. This dynamic discipline has harnessed the computational power of modern technology to decipher complex biological data, fueling breakthroughs in personalized medicine, drug discovery, and disease diagnostics. The completion of the Human Genome Project marked a turning point, and bioinformatics played a crucial role in decoding the human genetic blueprint, paving the way for tailored treatments based on individual genetics. Moreover, bioinformatics has streamlined drug discovery, reduced disease diagnosis time, and accelerated vaccine development, most notably during the COVID-19 pandemic. Yet, this field grapples with challenges, including data management, integration, security, and the need for interdisciplinary collaboration. Its future promises further innovations, leveraging artificial intelligence, single-cell analysis, personalized medicine, and advances in metagenomics. As bioinformatics continues to evolve, it will illuminate the path to deeper biological insights and improved healthcare outcomes.
Keywords: Bioinformatics, Healthcare, Genomic Medicine, Drug Discovery, Personalized Medicine

1. Introduction

In the intricate tapestry of scientific disciplines, there exists a remarkable fusion where biology and computer science harmonize to unlock the secrets of life. This compelling convergence gives rise to a field known as bioinformatics, a discipline that stands as a testament to the power of interdisciplinary collaboration [1]. Bioinformatics serves as a catalyst for the analysis and comprehension of vast biological datasets, from the smallest genes to entire genomes, propelling transformative advancements in healthcare [2]. Through its intricate marriage of biology and computer science, bioinformatics facilitates personalized medicine, accelerates drug discovery, refines disease diagnostics, and elevates the prospects of healthcare for all.

Our journey through this dynamic realm commences at the juncture where two traditionally disparate worlds meet. The synthesis of biology and computer science within bioinformatics was born of necessity [3]. The explosion of high-throughput biological technologies has inundated the scientific community with an unprecedented deluge of data, stretching the limits of traditional research methods. In response, computer science emerged as a crucial ally in decoding the complexities of life [4]. Bioinformatics, the offspring of this union, is a discipline that, at its core, revolves around the development and application of computational tools, algorithms, and databases to address the multifaceted challenges posed by biological data. The essence of bioinformatics lies in harnessing the computational power and analytical finesse of computer science to decipher genetic sequences, model intricate protein structures, analyze gene expression patterns, and predict the functional roles of diverse biological molecules. It is this harmonious blend of computational techniques and biological insights that has spearheaded significant revolutions in healthcare and biomedical research [5].

The realm of bioinformatics extends its influence across a spectrum of healthcare applications. At the forefront is genomic medicine, which has been fundamentally reshaped by the computational prowess of

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Ethical Hacking: Enhancing Cybersecurity Through Offensive Security Practices

[1]Manoj Varshney, [2]Anil Kumar, [3]Ranjan Ganguli, [4]Syed Umer, [5]Sumit Singh Sonkar, [6]Nasiruddin Molla

[1]Associate Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP
[6]Assistant Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim

E-mail: manoj.varshney_dcea@mangalayatan.edu.in

Abstract: Ethical hacking, often referred to as white-hat hacking or penetration testing, is a practice where authorized cybersecurity experts simulate cyberattacks to identify vulnerabilities in computer systems, networks, and applications. This article explores the multifaceted role of ethical hackers and the benefits they bring to cybersecurity. Ethical hackers play a crucial role in proactive defense, identifying vulnerabilities before malicious actors can exploit them. This approach not only saves resources but also enhances an organization's overall security posture. Furthermore, ethical hacking assists in ensuring regulatory compliance, provides invaluable insights for incident response, fosters security awareness, and helps mitigate insider threats. However, ethical hacking is not without its challenges, including the need to navigate legal and ethical boundaries, maintain expertise, and effectively address complex digital environments. Despite these challenges, ethical hacking remains a vital tool in safeguarding digital assets, mitigating cyber threats, and fortifying defenses in an ever-evolving cyber landscape.
Keywords: Ethical Hacking, Penetration Testing, Cybersecurity, Vulnerability Assessment, Data Protection

1. Introduction

In a world increasingly dominated by digital technologies and interconnected systems, the need for robust cybersecurity measures has never been more critical. The cyber landscape is fraught with malicious actors seeking to exploit vulnerabilities for their gain, jeopardizing the integrity, confidentiality, and availability of data. In response to these looming threats, ethical hacking, often referred to as penetration testing or white-hat hacking, has emerged as a powerful and indispensable practice for fortifying the defenses of organizations and individuals alike [1].

Ethical hacking may, at first glance, appear paradoxical—a practice where individuals deliberately probe and test computer systems, networks, and applications for vulnerabilities [2]. However, the core distinction that sets ethical hackers apart from their malicious counterparts is their noble intent. Ethical hackers harness their technical expertise to discover and expose vulnerabilities with the primary aim of protecting digital assets and enhancing cybersecurity [3].

The practice of ethical hacking is grounded in the concept that to understand and defend against the tactics of adversaries, one must think like them. Ethical hackers simulate real-world cyberattacks, using the same tools and techniques employed by malicious hackers, to assess the security posture of a target system [4]. By adopting this offensive security approach, ethical hackers can pinpoint weaknesses before cybercriminals do, thus allowing organizations and individuals to bolster their defenses proactively.

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Seeding Sustainability: Innovative Practices in Modern Agriculture

[1]Akanksha Singh, [2]Pramod Kumar, [3]Jagriti Upadhyay, [4]Lopamudra Satapathy, [5]Joram Yari

[1]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh
[4]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: akanksha.singh@mangalayatan.edu.in

Abstract:
Modern agriculture stands at the intersection of burgeoning global population, climate change, and resource scarcity. Innovative practices are reshaping the way we cultivate food, emphasizing sustainability and efficiency. Precision agriculture leverages data and technology to optimize resource allocation, reducing waste and environmental impact. Regenerative agriculture seeks to heal the land by enhancing soil health, promoting biodiversity, and sequestering carbon. Vertical farming introduces space-efficient, climate-controlled environments, addressing urbanization and reducing the ecological footprint of food production. Organic farming, driven by consumer demand, fosters natural systems, focusing on soil health, biodiversity, and ethical livestock treatment. The integration of agricultural technology offers data-driven decision-making, genetic engineering, and smart resource management, furthering sustainability. These innovations represent a collective effort to ensure a resilient and eco-conscious future for agriculture, addressing the pressing challenges of the 21st century.
Keywords: Sustainability, Precision agriculture, Regenerative farming, Vertical farming, Agricultural technology

1. Introduction

Agriculture has been at the heart of human civilization for millennia, providing sustenance, livelihoods, and a deep connection to the land [1]. However, as the world's population continues to grow and environmental challenges loom larger than ever, modern agriculture faces a critical crossroads. The need for innovative and sustainable farming practices has never been more pressing, and the future of our planet hinges on the choices we make in this vital sector [2].

Traditional agricultural methods, while serving us well for generations, have come under scrutiny due to their substantial environmental impact. Practices such as excessive water use, chemical fertilizers, and monoculture farming have led to soil degradation, deforestation, and increased greenhouse gas emissions. In the face of these challenges, a new wave of innovation is sweeping through the agricultural landscape, offering solutions that prioritize sustainability, efficiency, and ecological responsibility [3].

At the forefront of this agricultural revolution is precision agriculture, where data and technology are harnessed to optimize resource utilization [4]. Through the use of GPS systems, drones, sensors, and artificial intelligence, modern farmers can now make real-time, data-driven decisions about planting, irrigation, and fertilization. This enables a highly efficient use of resources, significantly reducing waste while simultaneously enhancing yields. Precision agriculture isn't just about boosting productivity; it's also about minimizing the environmental impact of farming.

Regenerative agriculture, another pioneering approach, focuses on healing the land, rather than merely sustaining it [5]. Through practices such as cover cropping, reduced tillage, and crop rotation, regenerative farming aims to improve soil health, water retention, and carbon sequestration. This approach goes beyond the idea of

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Blossoming Profits: The Business of Flower Farming

[1]Pramod Kumar, [2]Sharda Dubey, [3]Priyanka Dubey, [4]Jayita Dandapat, [5]Techi Yatchi

[1]Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh
[4]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: pramod.kumar@mangalayatan.edu.in

Abstract: The world of flower farming transcends mere horticulture; it is a thriving business of enduring beauty and economic opportunity. This article delves into the diverse facets of flower farming, unveiling a landscape of market segments, each driven by its unique set of consumer demands. The flower market extends its fragrant reach to weddings, holidays, and everyday decor, underpinned by an emotional connection that remains steadfast, even during economic fluctuations.

To prosper in the business of flower farming, one must carefully choose flower varieties, select the ideal location, invest in essential equipment, and embrace sustainable practices. Marketing strategies, emphasizing local presence, sustainability, and quality control, play an integral role in transforming blossoms into profits. Continuous learning and adaptation ensure competitiveness in an evolving industry.

Prospects for profit in flower farming are multifaceted, from recurring income streams and high profit margins to the opportunities presented by niche markets and the growing trends towards sustainability. At its heart, the emotional resonance of flowers ensures that the industry remains not only resilient but also an enduring source of beauty and solace for people across the globe.

Keywords: Flower Farming, Profitability, Sustainability, Market Segments, Emotional Appeal

1. Introduction

Flowers have long captivated the human imagination with their exquisite beauty, delicate fragrance, and diverse symbolism [1]. These colorful marvels of nature have found a place in our hearts and lives, adorning weddings, funerals, celebrations, and everyday moments. Yet, beyond the enchantment they offer, the world of flower farming is a thriving industry that, for many, has turned passion into profit [2].

As we embark on this journey into the realm of flower farming, we discover a business that is not merely about nurturing the soil and coaxing blossoms from the earth, but a vibrant and lucrative trade that has its roots in ancient traditions and continues to flourish in the modern world. In this article, we delve deep into the petals of this blossoming industry, exploring its enduring allure and the opportunities it presents for both seasoned horticulturists and budding entrepreneurs.

The enchantment of flowers lies not only in their aesthetic appeal but also in the emotions they convey. Roses signify love, lilies represent purity, sunflowers exude warmth, and tulips carry diverse meanings depending on their color [3]. This multi-faceted nature makes flowers a universal language, transcending barriers of culture and language. For millennia, they have been integral to human expression, enriching the most significant moments of our lives [4].

From elaborate wedding bouquets that symbolize the promise of eternal love to the somber yet comforting wreaths of funerals, flowers have a unique power to communicate and connect. Even in everyday life, a vase of fresh blooms can transform a room and uplift the spirit. This emotional resonance is at the core of the flower industry's enduring prosperit.

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Cultivating Change: Women in Agriculture Breaking Barriers

[1]Vikas Yadav, [2]Mayank Pratap, [3]Ratnesh Kumar, [4]Sunil Kumar, [5]Lipi Rina

[1] [2]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh
[4]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh
E-mail: vikas.yadav@mangalayatan.edu.in

Abstract: The agricultural sector is undergoing a profound transformation as women break barriers, technology and innovation redefine farming practices, and agribusiness ventures flourish. This article explores the historical perspective of women's roles in agriculture, highlighting their indispensable contributions and their journey towards equal representation in the field. Education plays a crucial role in empowering women to excel in agriculture, equipping them with knowledge and skills to challenge stereotypes and lead in various agricultural roles. The new generation of farmers is ushering in a more diverse and sustainable future by embracing technology and sustainable practices. Meanwhile, technology and innovation are shaping a dynamic and efficient agriculture sector, from precision farming to biotechnology and sustainable practices. Agribusiness, led by both women and men, is diversifying products, creating jobs, and stimulating economic growth. While challenges persist, the collaboration between men and women, the fusion of tradition and innovation, and the pursuit of sustainability are shaping a brighter and more equitable future for the agricultural industry. Agriculture is not just a sector; it's a reflection of our capacity to adapt, innovate, and cultivate change in the face of a rapidly changing world.
Keywords: Women in Agriculture, Technology and Innovation, Agribusiness, Gender Equality, Sustainable Farming

1. Introduction

Agriculture is the lifeblood of our planet, providing sustenance, fuel, and economic stability to nations across the globe. Traditionally seen as a male-dominated domain, the agricultural sector has long operated under the shadow of gender stereotypes and biases, with women's pivotal roles often overlooked and undervalued [1]. However, a transformation is underway, and it is reshaping the very foundation of this crucial industry. Women in agriculture are not only emerging as equals but as leaders, innovators, and visionaries, breaking the barriers that have constrained their participation for centuries[2].

Historically, women's contributions to agriculture have been deeply intertwined with the growth and prosperity of societies. They have planted and harvested crops, tended to livestock, and preserved the very essence of rural life. Yet, these essential functions were frequently relegated to the background, overshadowed by the predominant male presence in the field. As societies progressed and the fight for gender equality advanced, a monumental shift in perceptions began to emerge [3].

Breaking free from the pervasive stereotypes that have hindered their progress, women in agriculture are challenging the status quo. They are proving that farming, often misconstrued as a predominantly male occupation, is not bound by gender but by dedication, knowledge, and hard work [4]. These women, whether as farmers, researchers, educators, or agribusiness leaders, are pioneers of a new era in agriculture, inspiring a future generation and driving change in an industry that feeds the world.

Education has been instrumental in empowering women in agriculture. It has served as a vehicle for gaining essential skills, knowledge, and confidence to excel in diverse facets of the sector [5]. Through formal education and specialized training, women have learned the intricacies of crop management, animal husbandry,

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Feeding the Future: Vertical Farming and Urban Agriculture

[1] Sharda Dubey, [2] Vikas Yadav, [3]Techi Yatchi, [4]Priyanka Dubey, [5]Jayita Dandapat

[1] [2]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh
[3] Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh
[5]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand

E-mail: sharda.dubey@mangalayatan.edu.in

Abstract: Vertical farming and urban agriculture represent innovative solutions to the pressing challenges of modern food production. The rise of global urbanization, resource scarcity, and climate change has driven the need for localized, sustainable, and efficient methods of growing fresh produce. Vertical farming, with its year-round production, reduced resource consumption, and space efficiency, has emerged as a technological revolution. However, it also faces challenges, including energy consumption, market integration, and initial investment costs. Urban agriculture complements this revolution by utilizing underutilized urban spaces for food production, fostering community engagement, and addressing local food needs. Despite its many advantages, urban agriculture faces regulatory and zoning issues, consumer acceptance, and the need for workforce development. These innovative practices offer not only a path to food security but also a more resilient, sustainable, and accessible future for our growing global population.
Keywords: Vertical farming**,** Urban agriculture**,** Sustainable food production**,** Controlled environment agriculture**,** Food security

1. Introduction

The 21st century has witnessed a seismic shift in our global landscape, with urbanization emerging as one of its defining trends. As millions of people flock to cities seeking better opportunities and improved living standards, our world is becoming increasingly urban. While this urban expansion has unlocked remarkable possibilities for innovation, culture, and economic development, it has also brought forth a complex challenge that demands urgent attention: feeding our ever-expanding global population [1].

Feeding the world is not a new challenge, but the context in which we must address it has evolved significantly. Our current population of over 7.8 billion people is projected to reach 9.7 billion by 2050, with the majority residing in urban centers. This poses an array of interconnected issues, from dwindling arable land and the threats of climate change to resource scarcity and inefficient food distribution systems. These challenges necessitate a fundamental reevaluation of how we produce, distribute, and consume food [2].

Historically, agriculture has been rooted in rural areas, where vast expanses of land have been tilled and sown to meet the nutritional needs of local and global populations. Yet, as urbanization accelerates, the traditional agricultural model faces increasing pressure [3]. The conversion of fertile lands into urban spaces, the transportation of food over vast distances, and the depletion of resources like water and soil quality all raise red flags about the sustainability of our current approach to food production [4]. This scenario begs the question: How do we feed billions of people while protecting the planet, adapting to climate change, and ensuring equitable access to fresh and nutritious food?

The answer to this question is taking shape through innovative and transformative approaches that go beyond tradition. The nexus of vertical farming and urban agriculture has emerged as a beacon of hope, a beacon that could illuminate the path towards a more sustainable, resilient, and accessible food system [5]. These two intertwined concepts harness technology, community engagement, and forward-thinking strategies to address the complexities of modern urban food security.

Harvesting Health: The Role of Nutrient-Rich Crops

Keywords:
Nutrient-rich crops, Dietary diversity, Health promotion, Food security, Cultural preferences

Akanksha Singh, Pramod Kumar, Lopamudra Satapathy, Jagriti Upadhyay, Joram Yari

Abstract

Nutrient-rich crops, with their remarkable concentration of essential vitamins, minerals, and beneficial compounds, are pivotal in addressing the challenges of modern diets. In a world where both diet-related diseases and nutritional deficiencies are on the rise, these foods offer a solution that can transform public health. However, promoting their adoption presents a unique set of challenges, including affordability, accessibility, cultural preferences, and taste perceptions. This article explores the vital role of nutrient-rich crops in enhancing health and nutritional security, as well as the importance of crop diversity in bolstering food systems. It also delves into the obstacles that must be overcome to ensure these crops are readily embraced by individuals and communities. By addressing these challenges through collaborative efforts in policy, education, and the food industry, we can harvest the full potential of nutrient-rich crops for a healthier, nourished world.

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Section

Articles

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Innovations in Sustainable Energy Conversion Technologies: A Mechanical Engineering Perspective

[1] Mohan Maheshwari, [2]Dheeresh Upadhyay, [3]Ashutosh Kumar, [4]Mohit Bajpai

[1]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
[3]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: mohan.maheshwari@mangalayatan.edu.in

Abstract: Sustainable energy conversion technologies, as explored through a mechanical engineering lens, offer promising solutions to the global challenges of climate change and resource depletion. This article delves into various innovative approaches, including advanced blade designs for wind turbines, concentrated solar thermal systems, biogas and algae-based biofuels, small-scale hydropower, and advanced battery technologies. These technologies aim to optimize energy capture, reduce environmental impact, and enhance energy efficiency. Notably, advanced blade designs in wind turbines improve their performance and environmental soundness. Concentrated solar thermal systems harness the Sun's energy in novel ways, providing clean and continuous power. Biogas and algae-based biofuels turn organic waste into renewable energy sources. Small-scale hydropower offers a reliable and eco-friendly energy option. Advanced battery technologies are redefining energy storage and distribution. As these innovations continue to evolve, they play a pivotal role in shaping a sustainable and greener energy landscape, ensuring a cleaner and more resilient future.
Keywords: Sustainable Energy Conversion, Advanced Blade Design, Concentrated Solar Thermal Systems, Biogas and Algae-Based Biofuels, Advanced Battery Technologies

1. Introduction

In an era marked by the relentless march of technology, the ever-present specter of climate change, and the unceasing quest for sustainable solutions to our planet's most pressing problems, the field of mechanical engineering stands as a beacon of hope and innovation [1]. This realm of engineering, which delves deep into the science of motion, energy, and materials, plays an indispensable role in shaping the world we live in, and more importantly, the world we aspire to create.

Mechanical engineering is not just about nuts and bolts, gears and gadgets; it is the art and science of harnessing the forces of nature to improve our lives and preserve our planet [2]. It is the driving force behind the machines and systems that propel us into the future, from the high-efficiency engines that power our vehicles to the advanced manufacturing processes that shape the products we rely on. The discipline's enduring relevance and dynamism are evident in its ever-evolving role in addressing the global challenges that define our age [3].

One of the most profound issues we face today is the urgent need for sustainable energy conversion. As our dependence on fossil fuels has pushed our planet to the brink of environmental catastrophe, the mechanical engineering community is at the forefront of developing cleaner, more efficient, and environmentally friendly methods to harness, store, and distribute energy [4]. In this article, we will delve into the fascinating world of sustainable energy conversion technologies from the unique perspective of mechanical engineering, where innovation intersects with sustainability, and science merges with creativity [5].

As we embark on this journey through the landscape of mechanical engineering's contributions to sustainable energy conversion, we will uncover a realm of groundbreaking innovations. From wind turbines with cutting-edge blade designs that capture the power of the wind more efficiently, to concentrated solar thermal systems that utilize the Sun's energy in novel ways, the mechanical engineering community is leaving no stone unturned in the quest for cleaner, more sustainable sources of power [6].

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Bio-Inspired Design in Mechanical Engineering: From Nature to Innovation

[1]Shweta, [2]Mohan Maheshwari, [3] Ashutosh Kumar, [4]Mohit Bajpai

[1] [2]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India
[3]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: shweta@mangalayatan.edu.in

Abstract: Bio-inspired design in mechanical engineering represents a transformative approach that draws inspiration from nature's ingenious solutions to address complex engineering challenges. This article explores the essence, applications, and future prospects of bio-inspired design. The essence of this discipline involves a meticulous process that includes observation, analysis, and the application of principles inspired by the natural world. Bio-inspired design has yielded remarkable innovations in various fields, from aerospace to healthcare, with applications encompassing energy-efficient transportation, bionic prosthetics, and bio-inspired materials. As the world grapples with pressing environmental issues, the future of bio-inspired design holds great promise in delivering sustainable solutions, advancing materials science, and revolutionizing energy technologies. It will continue to shape the world of mechanical engineering, offering a harmonious synergy between human creativity and the timeless wisdom of nature, guiding us toward a more sustainable and innovative future.
Keywords: Biomimicry, Bio-inspired design, Mechanical engineering, Sustainability, Innovation

1. Introduction

Nature has been a source of awe and inspiration for humanity since time immemorial. From the majestic landscapes that have inspired countless artists to the intricate patterns of a butterfly's wing that have fascinated scientists, the natural world has consistently stirred our curiosity and creativity [1]. In recent years, this age-old fascination with nature has evolved into a powerful force driving innovation in various fields, particularly in the realm of mechanical engineering. Bio-inspired design, often referred to as biomimicry, has emerged as a dynamic and interdisciplinary approach that seeks to replicate and adapt the ingenious solutions found in nature to solve complex engineering challenges [2]. In this article, we embark on a captivating journey into the world of bio-inspired design in mechanical engineering, exploring the seamless transition from the natural world to technological innovation.

At its core, bio-inspired design in mechanical engineering is an endeavor that seeks to understand and replicate the principles and systems that govern the natural world [3]. This approach acknowledges that, over millions of years, nature has undergone a rigorous process of optimization to create solutions that are often highly efficient, sustainable, and environmentally friendly. By drawing insights from the biological world, engineers and designers aim to develop innovative technologies that can address a multitude of challenges [4].

The process of bio-inspired design follows a well-defined path. It commences with keen observation of natural organisms, ecosystems, and processes, closely studying how they operate in their specific environments [5]. This might involve examining the intricate structure of a leaf, analyzing the aerodynamics of a bird in flight, or deciphering the fluid dynamics of a swimming fish. From these observations, engineers delve into the realm of analysis, attempting to discern the underlying science and principles governing the phenomena they've observed in nature [6].

The next step in this journey is perhaps the most captivating and intellectually stimulating: applying the knowledge gleaned from nature to the realm of mechanical engineering. This involves mimicking the structural design, materials, and mechanisms employed by living organisms to craft innovative solutions [7]. Whether it's replicating the adhesive properties of gecko feet to create a new generation of non-residue adhesives or imitating

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Exploring the Dynamics of Autonomous Mechanical Systems: Challenges and Solutions

[1]Mohan Maheshwari, [2]Shivam Upadhyay, [3]Divya Maheshwari, [4]Ashutosh Kumar, [5]Mohit Bajpai

[1]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
[3]Assistant Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, UP, India
[4]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: mohan.maheshwari@mangalayatan.edu.in

Abstract: Autonomous mechanical systems represent a frontier of technological advancement with the potential to revolutionize various industries. These systems, from self-driving cars to industrial robots and drones, are designed to operate with minimal human intervention. However, they face multifaceted challenges, including adapting to dynamic and unpredictable real-world environments, managing system complexity, ensuring adaptability across scenarios, and addressing ethical and regulatory concerns. Innovations and solutions in this field are transforming these challenges into opportunities. Machine learning and artificial intelligence are enhancing adaptability and decision-making, while sensor fusion techniques are improving environmental perception. Extensive simulations and controlled testing environments validate system functionality, and human-machine collaboration is being explored to strike the right balance between autonomy and human oversight. Interdisciplinary collaboration, ethical frameworks, and robust cybersecurity measures are shaping the responsible development and deployment of autonomous systems. As the boundaries of technology are pushed, we stand at the threshold of a future where autonomous mechanical systems will play a pivotal role in improving efficiency, safety, and our quality of life.
Keywords: Autonomous Mechanical Systems, Challenges, Solutions, Innovations, Robotics

1. Introduction

Autonomous mechanical systems, once confined to the realm of science fiction, are now a burgeoning reality in the modern world. These remarkable systems, equipped with cutting-edge technology and sophisticated algorithms, hold the promise of transforming industries, improving efficiency, and enhancing safety across a wide array of applications [1]. From self-driving cars navigating bustling city streets to robotic arms orchestrating intricate manufacturing processes, the rise of autonomous mechanical systems is a testament to human innovation and engineering prowess [2].

The foundation of autonomous mechanical systems lies in their ability to perceive, interpret, and respond to the dynamic and often unpredictable environment in which they operate. Through a symphony of sensors, control algorithms, and mechanical components, these systems exhibit the intelligence to make real-time decisions, autonomously adjust their behavior, and execute tasks without constant human intervention [3].

At the core of this transformative technology is a profound understanding of system dynamics—a multidisciplinary field that explores the intricate interplay between mechanical systems, sensors, software, and the surrounding environment [4]. Autonomous systems grapple with a wide array of variables, such as environmental conditions, sensor data fusion, control algorithms, and the paramount need for safety and reliability. As we journey deeper into the realm of autonomous systems, it is crucial to explore the challenges and innovative solutions that shape their development [5].

Fracture Mechanics and Fatigue Analysis in Structural Engineering

Keywords:
Fatigue Analysis, Structural Engineering, Cyclic Loading, Fracture Mechanics, Material Selection

Mahesh Kumar, Rahul Kumar Gupta, Vipin Kumar, Praveen Bhatt

Abstract

Fatigue analysis is a critical component of structural engineering, focusing on the response of materials and structures to cyclic loading. This abstract provides a concise overview of its significance. Fatigue analysis is applied in the design and selection of materials to prevent unexpected failures, extend the life of structures, and reduce maintenance costs. It predicts fatigue life, ensuring the safe operation of structures enduring thousands of load cycles. Real-time structural health monitoring enhances safety by detecting fatigue-related damage, while insights from fatigue analysis inform the development of stronger materials. From bridge maintenance to automotive engineering, fatigue analysis underpins the reliability and safety of structures in diverse industries.

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Section

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The Role of Computational Fluid Dynamics in Modern Mechanical Engineering

[1]Avatar Singh Kuntal, [2]Puneet Bindal, [3]Ashutosh Kumar, [4]Mohit Bajpai

[1] [2]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India
[3]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: avtar.kuntal@mangalayatan.edu.in

Abstract: Computational Fluid Dynamics (CFD) is a transformative tool in modern mechanical engineering, revolutionizing our approach to fluid flow analysis and system design. This paper provides an in-depth exploration of CFD, elucidating its core principles, applications, challenges, and future developments. CFD, by harnessing numerical methods and high-performance computing, enables engineers to simulate and analyze fluid behavior with remarkable precision, reducing the need for costly physical testing. Its applications span diverse industries, including aerospace, automotive, biomedical, environmental engineering, and more, impacting the design and efficiency of a wide range of systems. However, CFD faces challenges such as computational resource demands and turbulence modeling. Future developments in high-performance computing, machine learning, reduced-order modeling, and open-source software promise to further enhance CFD's capabilities, making it a cornerstone in addressing contemporary global challenges and reshaping the landscape of mechanical engineering.
Keywords: Computational Fluid Dynamics (CFD), Mechanical Engineering, Fluid Dynamics, Simulation, Future Developments

1. Introduction

Fluid dynamics, the scientific study of how liquids and gases behave in motion, is one of the most fundamental and pervasive disciplines in engineering and science. It underpins the design and functionality of countless systems and devices, from aircraft and automobiles to industrial machinery and even the human cardiovascular system [1]. Fluid dynamics is a domain where the laws of physics and engineering intricately intertwine, dictating the performance and efficiency of numerous technologies. In recent decades, the field of mechanical engineering has been dramatically reshaped by a powerful and transformative tool: Computational Fluid Dynamics (CFD) [2].

Computational Fluid Dynamics, or CFD, represents the culmination of advancements in numerical analysis, computational power, and engineering insight [3]. This innovative approach enables engineers to predict and visualize fluid flow with remarkable precision, significantly altering the way mechanical systems are designed, analyzed, and optimized.

At its core, CFD leverages the computational capabilities of modern technology to solve complex fluid flow problems that were once unmanageable with traditional methods [4]. The numerical simulations and algorithms employed in CFD allow engineers to explore the intricacies of fluid behavior within intricate geometries, all without the need for costly physical prototypes or extensive experimental testing [5].

The adoption of CFD is driven by several key advantages it offers to modern mechanical engineering:

1. **Cost-Effective Design and Analysis:** Traditional engineering processes often necessitate the creation of physical prototypes and rigorous testing. CFD minimizes the need for these resource-intensive methods by enabling engineers to explore multiple design variations within a virtual environment [6].
2. **In-Depth Understanding:** CFD provides engineers with comprehensive insights into fluid behavior, revealing details that are difficult or impossible to discern in experiments. Parameters such as pressure

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Aerospace Propulsion Systems: Advancements and Future Trends in Mechanical Engineering

[1]Puneet Bindal, [2]Avatar Singh Kuntal, [3]Asim Ahamad, [4]Mohit Bajpai

[1] [2]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India
[3]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: puneet.bindal@mangalayatan.edu.in

Abstract: Aerospace propulsion systems are undergoing a profound transformation, driven by innovations in mechanical engineering. This article explores recent advancements and future trends in this field, offering a glimpse into the remarkable possibilities for the aerospace industry. Jet engines and turbofans have become more efficient, powerful, and environmentally friendly, reshaping commercial aviation. Supersonic and hypersonic travel hold the promise of revolutionizing air travel, offering the prospect of dramatically reduced journey times. Electric and hybrid propulsion systems are at the forefront of sustainable aviation, mitigating environmental concerns and reducing emissions. Materials innovation, additive manufacturing, and artificial intelligence are shaping the development of these systems. The aerospace industry is focusing on sustainability, exploring alternative fuels, materials, and automation. The future trends in aerospace propulsion will redefine the boundaries of air and space travel, promising an era of environmental responsibility, efficiency, and bold exploration beyond Earth's boundaries.
Keywords: Aerospace Propulsion, Mechanical Engineering, Sustainable Aviation, Supersonic Travel, Electric Propulsion

1. Introduction

In the annals of human technological achievement, aerospace propulsion systems stand as a testament to our relentless pursuit of the skies and beyond [1]. From the inception of flight with the Wright brothers' historic journey in 1903 to the awe-inspiring moon landings of the Apollo missions and the advent of supersonic air travel, these systems have been the lifeblood of aviation and space exploration. They represent the zenith of mechanical engineering, showcasing the intersection of cutting-edge science and engineering excellence [2].

The field of mechanical engineering, with its rich history and tradition, has been integral to the development of aerospace propulsion systems. Mechanical engineers have been the architects of our ability to soar through the skies, venture into the cosmos, and redefine the limits of what is technologically possible [3]. With their unwavering dedication to innovation and problem-solving, they have consistently transformed the concept of flight, rendering it safer, more efficient, and more environmentally responsible [4].

In this article, we embark on a journey through the realm of aerospace propulsion systems. Our mission is to delve into the recent advancements that have reshaped the aerospace industry and explore the tantalizing future trends that promise to revolutionize how we traverse the skies and venture into outer space. These advancements and trends have far-reaching implications, from revolutionizing commercial aviation to expanding the frontiers of space exploration, and they are emblematic of the evolving landscape of mechanical engineering [5].

The crux of any discussion on aerospace propulsion lies in understanding the cutting-edge developments that have marked recent years. Jet engines, for instance, have been a cornerstone of aviation for decades, but recent innovations have endowed them with more power, efficiency, and environmental sensitivity [6]. The emergence of high-bypass turbofan engines in commercial aviation, offering improved fuel efficiency and reduced noise pollution, exemplifies the progress made in this arena.

Moreover, the dream of faster air travel, which has tantalized humanity for generations, is coming closer to fruition with supersonic and hypersonic propulsion systems [7]. Aircraft like the Boom Overture and military

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Exploring Earth's Treasures: Innovations in Mining Engineering

[1]B. N. Dubey, [2]Nitin Bindal, [3]Rahul Kumar Gupta, [4]Waseem Ahmad Khan

[1] [3]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India
[4]Assistant Professor, Department of Civil Engineering, Mangalayatan University, Aligarh, UP, India
Email: bndubey57@gmail.com

Abstract: In the contemporary world, the convergence of cutting-edge technologies, such as automation, robotics, data analytics, remote sensing, virtual reality, and simulation, is reshaping the way we live, work, and interact with our environment. These innovations are revolutionizing industries, enhancing efficiency, and redefining how we approach education, training, and entertainment. Automation and robotics have transcended traditional manufacturing, infiltrating diverse sectors, prompting the need for workforce reskilling and ethical considerations. Data analytics and remote sensing empower us to unlock insights from vast datasets, yet they also require careful handling of privacy and ethical concerns. Virtual reality and simulation are taking experiential learning and problem-solving to new heights, but their integration poses challenges and opportunities that must be navigated thoughtfully. The future lies in embracing these technologies while ensuring responsible development, equitable access, and robust ethical frameworks to maximize their transformative potential while upholding our core values.
Keywords: Automation, Data Analytics, Virtual Reality, Robotics, Sustainable Mining Practices

1. Introduction

In the annals of human progress, few technological innovations have sparked as much fascination and debate as artificial intelligence (AI) [1]. The inexorable march of AI has taken us into uncharted territory, reshaping industries, revolutionizing the way we live and work, and prompting profound ethical and philosophical questions. As we stand on the precipice of a new era, it's essential to delve into the captivating world of AI to understand its impact and potential [2].

The roots of AI can be traced back to ancient mythology, where tales of automatons and artificial beings captured the human imagination [3]. However, it was only in the mid-20th century that AI truly began to take form as a field of scientific inquiry and engineering. Pioneering figures like Alan Turing and John McCarthy laid the intellectual foundations for what would become AI, seeking to imbue machines with human-like reasoning and problem-solving abilities [4].

Today, AI is no longer confined to the realm of science fiction or academic curiosity. It has become an integral part of our daily lives, permeating nearly every facet of society. From voice-activated virtual assistants like Siri and Alexa to self-driving cars, AI is omnipresent. Its influence extends from healthcare and finance to entertainment and transportation. The algorithms that power AI sift through mountains of data, offering recommendations, driving efficiency, and even predicting future events [5].

One of the most captivating aspects of AI is its capacity for learning. Machine learning, a subset of AI, empowers systems to improve their performance without being explicitly programmed [6]. This is the cornerstone of developments like recommendation systems on streaming platforms, fraud detection algorithms in banking, and diagnostic tools in healthcare. These systems continually refine their understanding and decision-making, often outperforming human experts in specific tasks.

Nevertheless, as AI takes center stage, it raises a host of complex and pressing questions. Ethical considerations surrounding AI range from questions about bias in algorithms to the potential for job displacement due to automation. Privacy concerns loom large, as the ability of AI to analyze and interpret vast amounts of personal data sparks debates over data security and individual liberties [7]. Additionally, as we develop more

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From Pickaxes to Pixels: Modernizing Mining Engineering

[1]B. N. Dubey, [2]Rahul Kumar Gupta, [3]Nitin Bindal, [4]Waseem Ahmad Khan

[1] [2]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Civil Engineering, Mangalayatan University, Aligarh, UP, India
[4]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India
Email: bndubey57@gmail.com

Abstract: The abstract of this article encapsulates the transformation of mining engineering from labor-intensive, dangerous practices of the past to a technologically advanced, sustainable, and responsible industry of the present and future. It highlights the pivotal role of the digital revolution, emphasizing geospatial technology, automation, data analytics, and renewable energy integration. These advancements have enabled more efficient and environmentally conscious resource extraction, as well as responsible social and ethical practices. The abstract underlines the human-machine partnership that characterizes the future of mining engineering and the importance of workforce development and education. Ultimately, it conveys that the journey from pickaxes to pixels symbolizes not just an industry's transformation but also our collective commitment to sustainable, responsible, and forward-thinking practices, ensuring a brighter and more responsible future for mining.
Keywords: Mining Engineering, Digital Revolution, Sustainability, Automation, Geospatial Technology

1. Introduction

In the annals of human history, few industries have witnessed such a dramatic and transformative evolution as mining engineering. From its humble beginnings, characterized by sweat-soaked laborers wielding pickaxes in dimly lit tunnels, to its present-day incarnation where cutting-edge technology, data analytics, and environmental consciousness have taken center stage, the mining sector has undergone a remarkable journey [1]. The transition from pickaxes to pixels has not only revolutionized the way we extract Earth's treasures but has also redefined the core principles of this industry [2].

Throughout the ages, mining has been a cornerstone of human civilization, providing the raw materials that drive progress, from the Iron Age to the Information Age. This sector has left an indelible mark on our collective history, shaping the landscapes we inhabit and fueling our technological advancements [3]. However, it is essential to acknowledge that this illustrious history is rife with tales of hardship and danger, where miners toiled in perilous conditions, often far from the reach of medical assistance or safety regulations. The tools of the trade were rudimentary, consisting mainly of hand-held instruments like the pickaxe and shovel, while safety concerns and environmental impact were secondary considerations [4].

As the 21st century dawned, a digital revolution swept through the mining industry, catalyzing a profound shift in its practices, ethos, and impact [5]. This transformation was not merely a cosmetic change but an entire reimagining of the way mining engineers approached their craft. The digital age brought forth a new era where data became the lifeblood of mining operations, automation promised increased efficiency and safety, and sustainability emerged as a paramount concern [6].

Geospatial technology empowered miners to explore, map, and monitor their sites with unprecedented precision, making resource extraction more efficient and environmentally friendly. The rise of autonomous vehicles, driven by advanced robotics and artificial intelligence, turned the notion of manual labor on its head, while big data and analytics paved the way for predictive maintenance and safer work environments [7].

The modern mining engineer's toolkit extends far beyond the physical confines of a mine, incorporating the digital realm with technologies like digital twins, which create digital replicas of mining sites for real-time

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Sustainable Solutions in Mining Engineering: Shaping the Future

[1]Dilip Kumar, [2]Harit Priyadarshi, [3]B. N. Dubey, [4]Rahul Kumar Gupta, [5]Amit Kumar

[1][3][4]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand
[2]Associate Professor, Department of Civil Engineering, Mangalayatan University, Aligarh, UP, India
[5]Assistant Professor, Department of Chemistry, Sikkim Professional University, Gangtok, Sikkim

E-mail: dilip@umu.ac.in

Abstract: The mining industry is undergoing a profound transformation with a growing emphasis on sustainability. This shift is driven by the urgent need to address the environmental, social, and ethical concerns associated with traditional mining practices. Sustainable mining principles have become the guiding force, shaping an industry that balances resource extraction with environmental responsibility. Technological advancements, including automation, data analytics, renewable energy, and blockchain technology, are at the forefront of this transformation. However, sustainable mining faces challenges, such as high initial costs and regulatory hurdles. Overcoming these obstacles and embracing innovation is essential for an industry that seeks to secure its future while contributing to a healthier planet and more prosperous communities.
Keywords: Sustainable Mining, Environmental Responsibility, Technological Advancements, Ethical Sourcing, Community Engagement

1. Introduction

The history of mining is a narrative of human progress, innovation, and transformation. From the discovery of ancient copper mines in the Tigris-Euphrates Valley around 5,000 BC to the gold rushes of the 19th century, mining has been instrumental in fueling technological advancements and economic growth. It has provided the raw materials that have shaped civilizations, from bronze and iron to modern-day electronics [1]. However, this rich history has also left a trail of environmental degradation, social injustice, and ethical concerns. In response to these challenges, mining engineering is undergoing a profound evolution, embracing sustainability as its guiding principle to shape the future of this crucial industry [2].

The traditional narrative of mining, marked by tales of gold rushes, mineral exploration, and resource exploitation, is now overshadowed by a growing awareness of the environmental and social impacts of these practices. This shift in perspective compels the industry to confront its past while striving for a more responsible and sustainable future [3].

The need for sustainability in mining has never been more pressing. Traditional mining practices, driven solely by the pursuit of profit and the extraction of valuable resources, have often come at an unacceptable cost to the environment. Ecosystem destruction, water pollution, air contamination, and the displacement of local communities have painted a grim picture of the industry's legacy [4].

Enter sustainable mining engineering, a paradigm shift that integrates environmental and social considerations into the very fabric of the industry. Its core objective is to strike a balance between resource extraction and environmental responsibility [5]. This new approach recognizes the finite nature of Earth's resources and acknowledges that our actions today will reverberate far into the future [6].

Sustainable mining is about more than just mitigating the negative impacts of extraction; it's about optimizing operations for the long term, ensuring that the mining industry becomes a catalyst for positive change [7]. By rethinking practices, embracing innovative technologies, and fostering cooperation with local communities, the mining sector is on the cusp of reshaping itself into an environmentally responsible and socially conscious endeavor.

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Rock Solid Solutions: Geotechnical Aspects of Mining Engineering

[1]Harit Priyadarshi, [2]Waseem Ahmad Khan, [3]Dilip Kumar, [4]Meenali Modi

[1]Associate Professor, Department of Civil Engineering, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Department of Civil Engineering, Mangalayatan University, Aligarh, UP, India
[3]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Civil Engineering, Himalayan University, Itanagar, Arunachal Pradesh
E-mail: harit.priyadarshi@mangalayatan.edu.in

Abstract: Geotechnical engineering, a cornerstone of mining operations, plays a critical role in ensuring safe, efficient, and sustainable resource extraction. This article explores the key geotechnical aspects in mining, including geological site characterization, rock mechanics, slope stability analysis, ground control and support systems, and tailings management. These aspects are pivotal in addressing the challenges posed by the Earth's geological diversity, safety concerns, and environmental sustainability. Geotechnical engineers work tirelessly to adapt to the unpredictable geological conditions of mining sites, mitigate safety risks, and minimize the environmental impact of mining activities.

Keywords: Geotechnical Engineering, Mining, Geological Site Characterization, Slope Stability Analysis, Environmental Sustainability

1. Introduction:

In the ever-evolving landscape of information technology, quantum computing stands as a shimmering beacon of promise and innovation. It represents a paradigm shift in computational capabilities, raising the prospect of solving problems that have long been considered intractable by classical computers [1]. Quantum computing harnesses the enigmatic properties of quantum mechanics to revolutionize the way we process and analyze data, opening doors to possibilities previously deemed unattainable. This introduction embarks on a journey to explore the enigma of quantum computing, tracing its origin, delving into its core principles, and highlighting its transformative potential[2].

The genesis of quantum computing can be traced back to the groundbreaking work of physicist Richard Feynman, who, in 1981, proposed that quantum systems could simulate and analyze quantum phenomena more effectively than classical computers [3]. His visionary ideas laid the foundation for the burgeoning field. However, it was not until 1985 that David Deutsch formalized the concept of a quantum computer, suggesting it could solve problems at speeds unattainable by classical machines [4].

At its core, quantum computing leverages the principles of quantum mechanics, a branch of physics that governs the behavior of particles at the subatomic scale. These principles include superposition and entanglement, two phenomena that set quantum computing apart from classical computing. Superposition allows quantum bits, or qubits, to exist in multiple states simultaneously, vastly increasing computational power. Entanglement links qubits in such a way that the state of one qubit instantly affects the state of another, regardless of the distance between them, providing unparalleled connectivity in computing [5].

Quantum computing, in its essence, is an enigma, a technology that defies classical intuition. It operates in a realm where particles can be both here and there, where bits can be ones, zeros, and everything in between,

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Green Mining: Environmental Ethics in Mining Engineering

[1]Harit Priyadarshi, [2]Nasim, [3]B. N. Dubey, [4]Meenali Modi

[1]Associate Professor, Department of Civil Engineering, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Department of Civil Engineering, Mangalayatan University, Aligarh, UP, India
[3]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Civil Engineering, Himalayan University, Itanagar, Arunachal Pradesh
E-mail: harit.priyadarshi@mangalayatan.edu.in

Abstract: Green mining, an evolving paradigm within mining engineering, is driven by a commitment to environmental ethics and sustainability. This article explores the principles, benefits, and challenges associated with green mining, presenting a comprehensive view of its potential transformation of the mining industry. Traditional mining practices have historically resulted in habitat destruction, air and water pollution, and other environmental challenges. However, green mining principles emphasize resource efficiency, minimal environmental disturbance, responsible waste management, and social responsibility. The adoption of these principles promises numerous advantages, including environmental conservation, reduced carbon footprint, economic efficiency, and long-term sustainability. Despite various challenges, such as economic pressures and regulatory hurdles, the transition to green mining is gaining momentum. This shift embodies an ethical imperative and a practical approach to ensuring responsible resource extraction while preserving the planet's delicate ecosystems and the well-being of local communities.
Keywords: Green Mining, Environmental Ethics, Sustainable Practices, Resource Efficiency, Ethical Stewardship

1. Introduction:

The Earth, our pale blue dot in the vast cosmos, cradles the intricate web of life, an ecosystem of unparalleled complexity and beauty. For centuries, humankind has thrived on this planet, harnessing its resources for sustenance, shelter, and technological advancement [1]. Among the most fundamental of these resources are the minerals and metals that have been unearthed through the art and science of mining. However, this age-old practice has left an indelible mark on our planet, revealing a stark paradox: while mining has fueled human progress, it has also exacted a toll on the environment, pushing us to confront a critical ethical dilemma [2].

The traditional narrative of mining is replete with stories of great discoveries, economic booms, and technological leaps [3]. From the gold rushes of the 19th century to the modern extraction of rare earth elements essential for our electronic devices, mining has shaped our world. Yet, as the sun sets on the era of unbridled resource exploitation, we are confronted with the harsh reality of its environmental consequences.

Mining, in its conventional form, has often been synonymous with environmental degradation. The iconic images of massive open-pit mines gouging the Earth's surface, chemical-laden tailings ponds looming ominously, and ravaged landscapes left in the wake of resource extraction have, over time, etched themselves into the global consciousness [4]. This striking contrast between the benefits of mining and the costs it exacts has propelled us into an era where ethical considerations can no longer be brushed aside.

In response to this dilemma, mining engineering is undergoing a profound transformation—a renaissance rooted in ethics and sustainability. This transformation is encapsulated in the concept of "green mining." Green mining represents a conscientious shift, a pivot towards a more ethical and sustainable approach to resource extraction [5]. It recognizes that our insatiable demand for minerals and metals can no longer be met through practices that disregard the long-term consequences for ecosystems and communities near mining operations [6].

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Prescription Chronicles: A Journey Through Pharmacy

[1]Abdul Wadood Siddiqui, [2]Dashrath Singh, [3]Rojalini Samanta, [4]Ananga Mohan Das, [5]Pranal Chhetri

[1]Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

E-mail: abdul.siddiqui@mangalayatan.edu.in

Abstract: The evolution of pharmacy, from its ancient origins in civilizations like the Sumerians and Egyptians to its modern role in the healthcare landscape, highlights its enduring importance. This journey reflects humanity's pursuit of understanding and utilizing the therapeutic potential of natural substances. In the modern world, pharmacists play a multifaceted role, dispensing medications with precision, offering patient-centered care, engaging in public health initiatives, and contributing to pharmaceutical research. Pharmacy's ability to adapt and innovate underscores its pivotal role in ensuring patient well-being and the advancement of medical science. This abstract encapsulates the rich history and ever-evolving significance of the pharmacy profession.

Keywords: Pharmacy Evolution, Pharmaceutical Profession, Medication Management, Healthcare Innovation, Patient-Centered Care

1. Introduction:

In an era where every aspect of our lives is touched by science, technology, and innovation, the field of pharmacy stands as a cornerstone of healthcare and a testament to human progress. This journey through the annals of pharmacy is not merely a glimpse into a profession; it is an exploration of a discipline that has, for millennia, been at the heart of human well-being. It's a journey that takes us from ancient apothecaries brewing elixirs to the modern pharmaceutical landscape, which is characterized by cutting-edge research, personalized medicine, and a commitment to patient care [1].

Pharmacy is a field deeply intertwined with the history of civilization. Its origins can be traced back to the dawn of human consciousness when early healers and herbalists discovered the medicinal properties of plants, minerals, and compounds [2]. The ancient Sumerians, Egyptians, and Greeks were pioneers in documenting their knowledge of medicinal plants, and these ancient manuscripts offer a glimpse into the earliest records of pharmaceutical practice [3]. The Sumerian clay tablets and the Ebers Papyrus of ancient Egypt are veritable treasure troves of medicinal recipes and remedies that demonstrate the age-old pursuit of healing.

The Middle Ages witnessed the preservation and expansion of pharmaceutical knowledge within monastic institutions [4]. Monks cultivated medicinal herbs in their gardens, chronicled their observations in manuscripts, and experimented with various extraction and distillation techniques. This era marked the beginning of the compounding tradition, which continues to this day, albeit with modernized techniques and technology [5].

The Renaissance period brought a revival of scientific inquiry, with luminaries like Paracelsus challenging traditional medical doctrines and advocating for evidence-based pharmacology. The concept of isolating active ingredients within substances was introduced, laying the groundwork for the modern pharmaceutical industry [6].

As the world moved into the 19th century, pharmacy evolved into a distinct profession. With the advent of industrialization, mass production of medicines became a reality. The Philadelphia College of Pharmacy, founded in 1821, was a pioneering institution in the United States, establishing pharmacy as a profession in its

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Medicine Makers: Behind the Scenes of Pharmacy

[1]Dashrath Singh, [2]Shubham Sharma, [3] Aditya Dev Rajora, [4]Barun Ranjan Sarkar, [5]Tashi Choden Lepcha

[1]Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

E-mail: dashrathsingh.pharmacy@mangalayatan.edu.in

Abstract: The future of pharmacy is marked by transformative shifts in healthcare, underpinned by technology, expanded roles, and a patient-centered approach. Pharmacy automation and telepharmacy are enhancing efficiency and expanding access to pharmaceutical services. Collaborative healthcare teams are emerging, where pharmacists work closely with other professionals to manage chronic conditions and optimize patient care. Pharmacogenomics is personalizing treatments, while advanced practice pharmacists and medication management services are offering more comprehensive patient care. Health information technology, such as electronic health records, is indispensable for safe and effective care. The concept of personalized medicine is becoming a reality, with pharmacists leading the way. They are also contributing to drug discovery and innovation. The evolving role of pharmacists and the pharmacy profession promises to improve healthcare outcomes, ensuring patients receive safer, more effective, and highly tailored medication management. The pharmacy of the future holds the potential to transform healthcare and enhance patient well-being.
Keywords: Pharmacy, Future, Technology, Medication, Patient-centered

1. Introduction:

Pharmacy, often referred to as the "heart" of the healthcare system, is a dynamic and indispensable facet of the medical world that impacts our lives in profound ways. While many of us are familiar with the experience of visiting a pharmacy to fill a prescription or purchase over-the-counter medications, the intricate and vital processes that occur behind the scenes are often overlooked [1]. In this article, we will embark on a journey behind the pharmacy counter, shedding light on the dedicated professionals known as medicine makers, who work tirelessly to ensure that patients receive the right medications in the right form and at the right time [2].

Pharmacists, the knowledgeable gatekeepers of the pharmacy realm, are at the forefront of this noble mission. These highly trained professionals wear many hats, from providing invaluable medical advice to dispensing prescriptions and ensuring that patients understand their medications and how to take them. They stand as the last line of defense against medication errors and play a pivotal role in safeguarding patients' health [3].

Beyond the dispensary, pharmacists engage in complex collaborations with physicians to provide medication therapy management, meticulously scrutinizing patients' medication regimens for potential drug interactions, contraindications, and adverse effects [4]. They also venture into the art of compounding, a skillful practice that involves customizing medications to meet the unique needs of individual patients, particularly for those with allergies or specific dosing requirements.

Pharmacy technicians, the unsung heroes of the pharmacy landscape, work in tandem with pharmacists to ensure the seamless operation of the pharmacy [5]. They diligently handle various tasks, from measuring, mixing, counting, labeling, and packaging medications to assisting with administrative responsibilities. These skilled professionals manage inventory and are adept at maintaining patient records and handling insurance claims, all of which are vital cogs in the wheel of patient care [6].

The compounding process, often a lesser-known aspect of pharmacy, plays a critical role in individualized patient care. Compounding pharmacists, experts in the field, are tasked with customizing medications to cater to patients' specific needs, crafting formulations not readily available commercially [7]. This

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From Pill to Patient: Navigating the Pharmacy Landscape

[1]Rajkumar, [2]Sujata Kumari, [3]Sakshi Verma, [4]Franco Gohain, [5]Bhupen Subba

[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

E-mail: rajkumar.sop@mangalayatan.edu.in

Abstract: The pharmaceutical journey, from the inception of a drug to its delivery into the hands of a patient, is a testament to the confluence of science, technology, and patient care. Drug discovery and development set the stage, where innovation and rigorous testing lead to life-changing medications. Manufacturing and distribution ensure these innovations reach patients worldwide, upholding quality and safety. Prescription and dispensing, facilitated by pharmacists, form the link between diagnosis and patient care, emphasizing proper medication use. Technology and automation are revolutionizing the industry, while a patient-centric focus transforms pharmacists into comprehensive healthcare providers. This journey underscores the dedication to better health and well-being.

Keywords: Pharmaceutical Journey, Drug Discovery, Manufacturing and Distribution, Prescription and Dispensing, Technology and Automation

1. Introduction:

The world of pharmacy is an intricate web of science, technology, and patient care. It's a place where a pharmaceutical product, once conceived as a tiny pill, embarks on a remarkable journey before it reaches the hands of the patient. The pharmacy landscape is a vital component of the healthcare system, serving as a conduit for healthcare professionals to translate medical science into tangible, patient-centric solutions [1].

The journey from pill to patient is a multifaceted process that encompasses a series of interconnected stages, each playing a crucial role in ensuring the safety, efficacy, and accessibility of medications [2]. From the initial discovery of a drug to its rigorous development, manufacturing, and distribution, this voyage involves numerous stakeholders, intricate processes, and continuous advancements in technology [3].

At its core, the pharmacy landscape embodies the convergence of science and compassion. The journey begins with drug discovery and development, where scientists, equipped with a profound understanding of biochemistry and medical needs, tirelessly search for innovative solutions to combat diseases and alleviate suffering [4]. Countless hours are dedicated to testing, refining, and scrutinizing potential medications, with only a select few ever making it to the pharmacy shelf. These medications are subjected to stringent regulatory evaluations, ensuring that they meet the highest standards of safety and efficacy [5].

The subsequent stage, manufacturing and distribution, transforms these scientific breakthroughs into tangible pharmaceutical products. Pharmaceutical companies leverage cutting-edge technology to mass-produce medications while maintaining unwavering quality [6]. An expansive distribution network ensures that these medications reach local pharmacies, healthcare facilities, and ultimately, the patients who need them. The integrity and proper storage of these medications are paramount, as any lapse in this regard could compromise their effectiveness [7].

Prescription and dispensing, another critical phase in this journey, occur when a healthcare provider assesses a patient's condition and prescribes the appropriate medication. Patients then bring this prescription to their local pharmacy, where skilled pharmacists play a pivotal role in ensuring that they receive the right medication and comprehensive information about its use, potential side effects, and interactions with other drugs [8].

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Pharmacy Innovations: Shaping the Future of Healthcare

[1]Sushant Kumar Sharma, [2]Gunjan Rani, [3]Sakshi Verma, [4]Franco Gohain, [5]Bhupen Subba

[1]Assistant Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Associate Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

E-mail: sushant.sharma@mangalayatan.edu.in

Abstract: This article explores transformative innovations in healthcare, from telepharmacy to personalized medicine, automation, and point-of-care testing. Telepharmacy leverages technology to provide remote pharmacy services, enhancing accessibility and patient care. Automation and robotics streamline pharmacy operations, improving efficiency and accuracy. Medication Therapy Management (MTM) optimizes medication regimens, ensuring safety and effectiveness. Electronic prescriptions expedite the prescription process while combating opioid misuse. Personalized medicine tailors treatments to individual genetic and lifestyle factors, improving efficacy and early detection. Point-of-care testing enables rapid diagnostics and real-time clinical decisions. These innovations are reshaping healthcare, making it more accessible, efficient, and patient-centric.

Keywords: Telepharmacy, Personalized medicine, Automation and robotics, Medication Therapy Management (MTM), Point-of-care testing

1. Introduction

In the ever-evolving landscape of healthcare, pharmacies have played a crucial role as the custodians of medications, bridging the gap between healthcare professionals and patients. However, the pharmacy industry has been anything but stagnant, with recent years witnessing a transformative surge in innovations that are reshaping the future of healthcare. These innovations are not only changing the way medicines are dispensed but are also revolutionizing patient care, medication management, and the overall healthcare experience [1].

The traditional image of a pharmacist behind a counter, filling prescriptions with a mortar and pestle, has given way to a dynamic, tech-savvy profession at the forefront of healthcare [2]. In this article, we will delve into the key pharmacy innovations that are propelling this transformation, providing a glimpse of the future of healthcare.

Telepharmacy, a concept that might have seemed far-fetched a few decades ago, has emerged as a game-changer in healthcare delivery [3]. It leverages cutting-edge technology to provide pharmacy services remotely, ensuring that even the most remote and underserved communities have access to vital healthcare services. Telepharmacy allows pharmacists to conduct medication reviews, consult with patients, and offer counseling through video conferencing and other digital platforms, thereby increasing accessibility and improving patient outcomes. The integration of electronic health records (EHRs) has further enhanced patient safety, medication adherence, and the overall quality of care [4].

Automation and robotics have become the backbone of modern pharmacy operations. These innovations have streamlined the medication dispensing process, reducing the risk of human error and significantly improving operational efficiency [5]. Robotic dispensing systems ensure precise dosages and maintain medication accuracy, while autonomous robots handle inventory management, ensuring seamless restocking of medications. As a result, patients experience reduced wait times, and pharmacists can focus more on direct patient care [6].

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Pharmacology Unveiled: A Closer Look at Medication Science

[1]Mansi Sharma, [2]Rahul Singh, [3]Aditya Dev Rajora, [4]Barun Ranjan Sarkar, [5]Tashi Choden Lepcha

[1]Assistant Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

E-mail: mansi.sharma@mangalayatan.edu.in

Abstract: This article explores the world of pharmacology, unveiling the intricate science behind medications. It delves into the discovery and development of drugs, highlighting the rigorous process from inception to regulatory approval. The essential concepts of pharmacokinetics and pharmacodynamics are explained, providing insights into how drugs are absorbed, metabolized, and interact with the body. The article also introduces the paradigm of personalized medicine and pharmacogenomics, emphasizing how genetic variations influence drug responses. As these disciplines advance, the future of healthcare is poised for more tailored, effective, and safe treatments, where the right medication is administered to the right individual, yielding improved patient outcomes.
Keywords: Pharmacology, Medications, Pharmacokinetics, Pharmacodynamics, Personalized medicine

1. Introduction

In a world where the boundaries between physical and digital realities are increasingly blurred, the concept of augmented reality (AR) has emerged as a transformative force, reshaping the way we perceive and interact with the world around us [1]. AR technology has transcended its roots in science fiction to become a tangible and revolutionary aspect of our daily lives. It represents a convergence of the physical and digital realms, offering a new dimension to human experiences that has the potential to revolutionize numerous industries, from entertainment and education to healthcare and commerce. As we embark on this exploration of augmented reality, we will delve into its origins, applications, challenges, and the profound impact it is having on our world [2].

Augmented reality is not a novel concept; its origins can be traced back to the 1960s and 1970s when computer scientists and researchers began to experiment with the idea of overlaying digital information onto the physical world [3]. Early systems were rudimentary, but they laid the foundation for the groundbreaking advancements we witness today. It was not until the late 20th century that AR truly began to take shape as a powerful technology with wide-ranging applications [4].

Augmented reality can be best understood as the integration of digital information or virtual elements into the real world. Unlike virtual reality (VR), which immerses users in entirely computer-generated environments, AR enhances the physical world by superimposing computer-generated images, sounds, or data onto our perception of reality. This fusion of the physical and digital realms opens up a world of possibilities, offering a seamless blend of the familiar and the futuristic [5].

The practical applications of augmented reality are vast and continue to expand. In the realm of entertainment, AR has breathed new life into gaming with phenomena like Pokémon GO, which captivated millions by merging the virtual creatures of the Pokémon universe with real-world locations [6]. Additionally, the world of sports and live events has seen AR innovations, enhancing the viewer experience through interactive graphics and real-time statistics.

Education is another sector where AR is revolutionizing the way we learn. Interactive educational apps and AR-enhanced textbooks are providing students with engaging and immersive learning experiences. Whether it's dissecting a virtual frog or exploring ancient civilizations in 3D, AR is redefining education [7].

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Dosing Deciphered: Unravelling the Secrets of Pharmacy

[1]Abdul Wadood Siddiqui, [2]Dashrath Singh, [3]Ananga Mohan Das, [4]Pranal Chhetri, [5]Rojalini Samanta

[1]Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Professor, Department of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand

E-mail: abdul.siddiqui@mangalayatan.edu.in

Abstract: Patient education is a pivotal component of healthcare, enabling individuals to become informed, empowered participants in their health journeys. This article explores the essential aspects of patient education, encompassing understanding health conditions, treatment options, preventive measures, and rights and responsibilities. Patient education promotes informed decision-making, adherence to treatment plans, and proactive health management. Additionally, it emphasizes cultural sensitivity and health literacy, ensuring that patients of diverse backgrounds receive tailored information. Ultimately, well-informed patients are better equipped to manage their health effectively, leading to improved health outcomes and enhanced patient-provider relationships.

Keywords: Patient education, Healthcare, Informed decision-making, Preventive measures, Cultural sensitivity

1. Introduction:

The concept of pharmacy, with its roots deeply embedded in ancient civilizations, represents the timeless quest for the optimal balance between science and well-being. Pharmacy has played a profound and enduring role in humanity's journey towards improved health, and at its core lies the art and science of dosing – the careful and precise administration of medications and remedies [1]. In this article, we embark on a captivating journey into the heart of pharmacy, unveiling the secrets and evolution of dosing that have shaped the course of human health and medicine [2].

Throughout history, the practice of pharmacy has been intertwined with the very fabric of society. In ancient times, long before the advent of modern science, healers, shamans, and apothecaries relied on their inherited wisdom and empirical knowledge to concoct and administer remedies derived from nature's bounty [3]. These early "pharmacists" wove their craft with a blend of tradition, ritual, and instinct, endeavoring to ease human suffering and cure ailments. The dosing of these early remedies, however, was more art than science, driven by tradition and often hindered by a lack of precision [4].

As civilizations advanced and embraced the scientific method, the practice of pharmacy underwent a remarkable transformation. The 19th and 20th centuries marked a pivotal shift, as the art of dosing evolved into a disciplined and systematic science [5]. The burgeoning field of chemistry, coupled with the emergence of pharmaceutical companies, enabled pharmacists to make significant strides in the quantification and standardization of dosing. This period saw the transition from traditional herbal remedies to the development of synthetic drugs, ushering in an era of more predictable and controlled dosing.

Today, pharmacists have emerged as the custodians of dosing, serving as the guardians of patient well-being. They are highly trained healthcare professionals who bear the responsibility of ensuring that patients receive the right medications in the right amounts [6]. Their expertise extends into the intricate realms of pharmacokinetics and pharmacodynamics, which encompass understanding how drugs are metabolized within the body and how they exert their therapeutic effects.

One of the primary tasks of a pharmacist is to calculate and dispense precise dosages of medications, all while considering various factors such as a patient's age, weight, comorbid conditions, and potential drug

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Compassionate Caregivers: Stories from the Nursing Frontline

[1]Senthil T, [2]Shailza Nimmi Guria, [3]Millo Antu, [4]Muna Subba

[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim

E-mail: senthil.t@mangalayatan.edu.in

Abstract: This article sheds light on the invaluable contributions of compassionate caregivers in the field of nursing. Through the compelling stories of dedicated nurses such as Mary Stevens, Emily Johnson, and Jane Anderson, we explore the profound impact of their empathetic care on the lives of their patients. In "The Miracle of Comfort," Mary Stevens' gesture of bringing the ocean to a terminally ill patient in the ICU exemplifies the transformative power of compassion, offering solace and healing beyond medical procedures. In "A Ray of Hope in the NICU," Emily Johnson's extraordinary dedication to premature infants and their families demonstrates the vital role nurses play in instilling hope during the most trying times. Finally, in "A Lifeline for the Elderly," Jane Anderson's companionship for the elderly goes beyond clinical care, providing solace and friendship to those grappling with isolation. These stories underscore the indomitable spirit of nursing, highlighting that beyond the clinical realm, nurses offer the human touch that soothes, comforts, and uplifts, making a difference in the lives they touch.

Keywords: Compassionate caregivers, Nursing frontline, Empathy in healthcare, Patient support, Human touch in nursing

1. Introduction:

In the world of healthcare, nurses are the unsung heroes, often working tirelessly to provide care, comfort, and support to those in need. Nursing is a demanding profession that requires a unique blend of expertise, dedication, and above all, compassion. In the face of illness, suffering, and uncertainty, nurses stand as pillars of strength, advocating for their patients and providing a healing touch that transcends the clinical setting [1].

This article shines a spotlight on the compassionate caregivers who tirelessly serve on the nursing frontline. Through their extraordinary stories, we delve into the profound impact these healthcare professionals make in the lives of individuals and their families [2]. From moments of healing and hope in the Intensive Care Unit (ICU) to the nurturing care in the Neonatal Intensive Care Unit (NICU), and the companionship extended to the elderly in their homes, we uncover the unwavering dedication and empathy that define the essence of nursing [3].

Nursing is a profession that encompasses much more than medical procedures and charting vital signs. It embodies the art of caring and connecting, of lending a comforting hand, and offering solace when it's needed the most. It is about going the extra mile to bring relief and hope, even in the face of adversity [4]. These stories from the nursing frontline remind us that, beyond the clinical, there exists a deep reservoir of compassion that sustains the heart and soul of healthcare.

For Mary Stevens, an ICU nurse with over two decades of experience, the memory of a young cancer patient lingers as a testament to the transformative power of compassion [5]. The patient, a woman in her 30s, was on the brink of losing her battle with cancer. Her suffering was not merely physical but emotional, as her illness had confined her to the hospital, depriving her of the simple pleasures of life.

In a touching display of empathy, Mary and her colleagues orchestrated a surprise that would forever change the patient's perspective. They brought a large fish tank filled with saltwater to her bedside, mimicking the serenity of the ocean she had always longed to see. As the woman gazed at the tank, tears welled up in her eyes. The tranquil fish and the rhythmic sound of the water provided her with a sense of peace she had longed for [6].

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The Heart of Healthcare: Exploring the Nursing Profession

[1]Meenakshi Bisht, [2]Srijana Mishra, [3]Sasmita Donald Kinny, [4]Amandeep Kaur

[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[3]Assistant Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: meenakshi.bisht@mangalayatan.edu.in

Abstract: The nursing profession, often regarded as the heart of healthcare, is marked by its unwavering commitment to compassion, a multifaceted skillset, advocacy for patients, and remarkable versatility. This article explores how compassion serves as the bedrock of nursing, the competence that defines its practice, the advocacy that empowers patients, and the diverse career opportunities that make it a dynamic field. Despite the challenges nurses face, the rewards of making a profound difference in the lives of patients and the opportunities for personal and professional growth make nursing a noble calling, firmly establishing it as an essential component of the healthcare system.
Keywords: Nursing profession, Compassion, Competence, Advocacy, Versatility

1. Introduction

In the intricate mosaic of healthcare, there exists a group of professionals whose significance transcends their mere job titles. These individuals are the backbone of the medical world, the compassionate caretakers, the relentless advocates for patients, and the embodiment of what it means to put the human touch into healthcare. They are nurses, and they form the very heart of the healthcare system [1].

The nursing profession, often considered the cornerstone of healthcare, has a storied history dating back centuries. From its humble beginnings as a vocation practiced by nuns and individuals with an innate calling to care for the sick, nursing has evolved into a highly specialized and indispensable field [2]. Yet, at its core, nursing has always been about more than just administering medication and monitoring vitals; it's about tending to the holistic well-being of patients [3].

Nurses, with their profound commitment to compassion, competence, and advocacy, play an irreplaceable role in the lives of patients and their families [5]. They are the ones who stand by the bedside, often in the darkest and most vulnerable moments of a person's life, offering not just medical expertise but a reassuring touch, a comforting word, and a compassionate presence. In this way, they provide solace and emotional support to individuals facing health challenges [6].

This article will explore the multifaceted nature of the nursing profession, shedding light on the compassion that serves as its bedrock, the competence that defines its practice, the advocacy that empowers patients, the versatility that allows for diverse career paths, and the challenges and rewards that come with this noble calling [7]. Through these lenses, we will gain a deeper appreciation for the nursing profession's vital role in the healthcare ecosystem.

While nursing is undeniably a demanding profession, often requiring long hours, quick decision-making, and emotional resilience, it is also one of the most fulfilling and impactful careers one can pursue. Nurses find purpose and satisfaction in their ability to make a profound difference in the lives of patients, helping them not only recover from illness but also regain their sense of well-being and hope [8].

This exploration of the nursing profession will not only honor the contributions of nurses but also provide valuable insights into the pivotal role they play in the healthcare system [9]. It is a tribute to the dedication,

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Nursing Beyond Borders: Global Perspectives on Healthcare

[1]Praveen Kumar Tailor, [2]Jaya Nutan Surin, [3]J. Rukumani, [4]Hishey Lamu Bhutia

[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[4]Principal-Inchare, College of Nursing, Sikkim Professional University, Gangtok, Sikkim

E-mail: praveen.tailor@mangalayatan.edu.in

Abstract:
Nursing Beyond Borders: Global Perspectives on Healthcare underscores the profound role of nurses in an evolving healthcare landscape that knows no geographical, cultural, or technological boundaries. The global nursing workforce, characterized by diversity and dedication, serves as the backbone of healthcare, offering compassionate and skilled care to individuals and communities around the world. Cultural competence in nursing emerges as an imperative, facilitating the understanding and respect of diverse cultural backgrounds. Nurses are ambassadors of cultural sensitivity, fostering trust and effective communication while ensuring healthcare is inclusive and respectful of individual beliefs. In addressing global health challenges, nurses play a pivotal role in combating infectious diseases, responding to climate change-related health impacts, and managing non-communicable diseases. Their adaptability, resilience, and commitment to health equity stand as a testament to their crucial contributions in these critical areas. The integration of technology and telemedicine revolutionizes healthcare delivery, with nurses at the forefront. This digital transformation enhances access to care, reduces costs, and engages patients more actively in their well-being. Nursing's core values of compassion, cultural competence, and adaptability are central to delivering patient-centered care across borders, reaffirming that healthcare is a fundamental human right, transcending boundaries and fostering inclusivity.
Keywords: Nursing, Cultural competence, Global health, Telemedicine, Technology in healthcare

1. Introduction:

Nursing, often hailed as the heart and soul of healthcare, stands as a timeless and universal profession. Its practitioners, nurses, are the unsung heroes of the medical world, whose dedication and compassion extend far beyond the confines of borders and cultures [1]. In a world marked by rapidly evolving healthcare systems, growing populations, and emerging global health challenges, the role of nurses has become increasingly complex and multifaceted. In this article, we delve into the remarkable world of nursing, exploring the dynamic global perspectives that define this vocation and highlighting how nurses are at the forefront of shaping healthcare on a global scale [2].

Nurses are the backbone of healthcare, found in every corner of the globe, from bustling urban hospitals to remote rural clinics [3]. They are the first point of contact for patients, the caregivers who provide solace in moments of pain, and the skilled professionals who help guide individuals and communities toward better health [4]. The global nursing workforce represents an incredibly diverse tapestry, woven from different cultures, traditions, and backgrounds, united by a common purpose: delivering quality healthcare.

Nursing, however, is more than just a profession. It is a calling, a vocation that transcends geographical boundaries. It is a commitment to the alleviation of human suffering and the promotion of health and wellness [5]. Nurses navigate the intricacies of modern healthcare with grace and unwavering dedication, standing as a testament to the universal values of compassion and empathy.

One of the defining characteristics of the global nursing workforce is the mobility of its members. Nurses have become a highly mobile profession, with many seeking opportunities to work in different countries, either temporarily or permanently [6]. Their motivation can be varied, from the desire for professional growth and

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Nursing Resilience: Thriving in a Challenging Profession

[1]Nidhi Garg, [2]Regina Rabello, [3]Mihin Rinu, [4]Muna Subba

[1]Nursing Tutor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim

E-mail: nidhi.garg@mangalayatan.edu.in

Abstract: Nursing resilience is an indispensable quality for healthcare professionals in a demanding profession marked by long hours, emotional stress, high-pressure decision-making, exposure to illness, and organizational complexities. This article explores the critical importance of resilience in nursing, highlighting its role in maintaining emotional well-being, enhancing patient care, fostering job satisfaction, promoting teamwork, and ensuring patient safety. Resilience is not merely a characteristic; it is a skill that can be developed and sustained over time. We discuss practical strategies for nurses to cultivate resilience, including self-care, mentorship, professional development, emotional intelligence, and positive thinking. These strategies empower nurses to navigate the unique challenges of their profession while preserving their well-being and delivering the highest quality of care to patients. As we conclude, it is clear that nursing resilience is not just about survival but thriving in a demanding profession, ensuring nurses continue to be the pillars of healthcare, providing compassionate care and positively impacting lives.
Keywords: Nursing resilience, Healthcare challenges, Emotional well-being, Patient care, Strategies for resilience

1. Introduction:

The nursing profession is a dynamic and noble calling that demands unwavering dedication, compassion, and an indomitable spirit. Nurses are often hailed as the unsung heroes of healthcare, as they work tirelessly on the front lines, caring for patients, and providing support during times of vulnerability and distress [1]. However, beneath this noble veneer lies a profession beset with challenges that can test the mettle of even the most dedicated and caring individuals. To meet these challenges head-on, nurses must develop a powerful trait: resilience [2].

Nursing is undoubtedly one of the most demanding vocations. Nurses are frequently called upon to work long, grueling shifts, attend to patients in critical conditions, and make split-second decisions that can impact lives. They bear witness to suffering, pain, and sometimes, even loss [3]. Furthermore, they must grapple with administrative intricacies, staffing shortages, and ever-evolving healthcare policies. In a world where healthcare systems are constantly under strain, nurses must be adaptable, compassionate, and above all, resilient.

Resilience, in the context of nursing, goes beyond mere survival. It is the capacity to thrive despite the formidable challenges that nursing presents. It is the ability to weather the emotional storms, navigate the physical demands, and maintain a sense of purpose in the face of adversity [4]. Resilient nurses can not only continue to provide high-quality care but can also find satisfaction and fulfilment in their demanding profession.

The importance of resilience in nursing extends to several crucial dimensions. First and foremost, it significantly impacts the emotional well-being of nurses [5]. Caring for patients who are suffering and, at times, facing life-threatening conditions can be emotionally taxing. Resilience enables nurses to provide compassionate care while preserving their mental and emotional health. Without this resilience, burnout becomes a real and persistent threat [6].

In addition to bolstering emotional well-being, resilience also enhances patient care. Resilient nurses are better equipped to remain focused, empathetic, and responsive to the evolving needs of their patients. They can adapt to shifting clinical situations and make informed decisions that serve the best interests of those under their care [7].

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Innovations in Nursing: Shaping the Future of Healthcare

[1]Neha Kushwaha, [2]Manohar Kumar, [3]Muna Subba, [4]Mihin Rinu

[1]Nursing Tutor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Nursing Tutor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: neha.kushwaha@mangalayatan.edu.in

Abstract: The field of nursing is at the forefront of a healthcare revolution, driven by remarkable innovations that are reshaping the industry. Innovations such as telehealth and telemedicine have improved access to care, while artificial intelligence and big data are enhancing diagnostics and treatment personalization. Wearable health tech empowers individuals to monitor and manage their health, and robotic assistance is revolutionizing patient care and surgical precision. Genomic nursing, meanwhile, is providing personalized care based on an individual's genetic makeup. These advancements offer benefits like increased patient convenience, early disease detection, and improved treatment outcomes. However, challenges including data privacy and regulatory compliance must be addressed for responsible integration. As nursing continues to lead the way, the future of healthcare looks promising, offering more patient-centered, efficient, and accessible healthcare systems.
Keywords: Nursing Innovations, Healthcare Technology, Telehealth, Genomic Nursing, Robotic Assistance

1. Introduction:

The field of nursing is undergoing a remarkable transformation that is reshaping the landscape of healthcare. Nursing, long considered the heart and soul of the healthcare industry, is not just evolving; it is innovating. In the twenty-first century, nurses are at the forefront of a healthcare revolution, actively driving the development and implementation of ground-breaking technologies, practices, and methods. These innovations are not only enhancing the quality of patient care but also fundamentally altering the way healthcare is delivered and experienced [1].

Nurses, often described as the unsung heroes of healthcare, have always been the primary caregivers, working tirelessly to ensure the well-being of patients [2]. Traditionally, their role has encompassed tasks such as administering medications, taking vital signs, and providing emotional support. However, today's nurses are engaged in a much broader and dynamic spectrum of responsibilities, embracing the challenges and opportunities of the digital age [3].

One of the most notable innovations that have propelled nursing into the future is telehealth and telemedicine. The COVID-19 pandemic acted as a catalyst for the widespread adoption of telehealth, and nurses played a pivotal role in making this transition seamless [4]. These healthcare professionals quickly adapted to the use of telecommunication tools to provide remote patient care, conduct virtual assessments, and offer guidance, thereby minimizing the risk of disease transmission and significantly enhancing the accessibility of healthcare services. In doing so, they have exemplified their adaptability and resilience while embracing the potential of technology to bridge gaps in healthcare access [5].

Artificial intelligence (AI) and big data analytics are also revolutionizing the nursing profession. Nurses are harnessing the power of AI to analyze vast sets of patient data, identify critical patterns, and even predict potential health issues [6]. This technological prowess enables more precise diagnoses and tailored treatment plans, ultimately improving patient outcomes. With AI-driven tools, nurses can now monitor patient vital signs in real-time, detecting anomalies and providing early warnings of deteriorating health [7]. In the era of data-driven

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Nursing in the Digital Age: Technology's Impact on Healthcare

[1]Praveen Kumar Tailor, [2]J. Rukumani, [3]Hishey Lamu Bhutia, [4]Jaya Nutan Surin

[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[3]Principal-Inchare, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand

E-mail: praveen.tailor@mangalayatan.edu.in

Abstract: Technology's impact on nursing is undeniable. Electronic Health Records (EHRs) enhance data management and patient engagement. Telehealth bridges geographical divides, extending care accessibility. Wearable technology enables continuous monitoring, empowering patients, and promoting early intervention for chronic conditions. Medication administration technologies reduce errors and improve patient safety. Artificial Intelligence (AI) and decision support systems provide data-driven insights, supporting clinical decision-making. As the nursing profession adapts to these innovations, it's crucial to maintain a balance between technology and the human touch, ensuring the heart of nursing—compassionate, patient-centered care—remains intact. This digital transformation promises to revolutionize healthcare, offering more personalized, efficient, and accessible patient care.
Keywords: Nursing, Technology, Healthcare, Digital Age, Patient Care

1. Introduction

The healthcare landscape is undergoing a remarkable transformation, and at the heart of this revolution stands the indomitable force of technology. In the digital age, healthcare has evolved beyond recognition, and its impact on the nursing profession is profound [1]. As nurses, the dedicated front-line healthcare providers, navigate this dynamic landscape, they are harnessing the power of technology to enhance their practice and, most importantly, improve the overall quality of patient care.

The role of technology in healthcare has never been more pivotal than it is today. Gone are the days of paper charts and handwritten notes [2]. The advent of electronic health records (EHRs) has not only replaced these antiquated methods but has ushered in a new era of healthcare, where information flows seamlessly between the fingertips of healthcare professionals [3]. This shift towards EHRs not only mitigates the risk of errors but also empowers nurses to have instant access to a patient's comprehensive medical history. The result is more efficient, accurate, and patient-centric care [4].

Telehealth, another technological marvel, has become increasingly significant, particularly in the wake of the COVID-19 pandemic [5]. It has bridged geographical gaps and eliminated logistical barriers, making healthcare more accessible than ever before. Nurses can now remotely connect with patients through secure videoconferencing, telephone calls, and messaging platforms. This innovation not only ensures that healthcare reaches those in remote or underserved areas but also empowers patients to take a more active role in their health management [6].

Wearable technology has seeped into the fabric of healthcare, with devices like smartwatches and fitness trackers becoming commonplace. These gadgets are not mere fashion statements; they represent a revolution in remote patient monitoring [7]. They allow nurses to track patients' vital signs, activity levels, and even provide immediate feedback. For patients with chronic conditions, this technology offers early detection and intervention, ultimately improving their overall quality of life.

Medication administration has seen a technological makeover as well, with automated medication dispensing systems and barcode scanning systems reducing the risk of medication errors. These innovations not

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Mental Health Nursing: Bridging the Mind-Body Connection

[1]Meenakshi Bisht, [2]Sasmita Donald Kinny, [3]Amandeep Kaur, [4]Srijana Mishra

[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim

E-mail: meenakshi.bisht@mangalayatan.edu.in

Abstract: The holistic approach to healthcare, focusing on the intricate connections between the mind, body, and spirit, has reshaped patient care. Mental health nursing, at the forefront of this transformation, bridges the gap between physical and mental health, recognizing their profound interdependence. This article explores the multifaceted role of mental health nursing in providing holistic care by identifying underlying physical health issues, managing medications, promoting lifestyle changes, and fostering collaboration among healthcare professionals. This comprehensive approach empowers individuals to actively participate in their well-being, promoting a harmonious balance between the mind and body for a more fulfilling and healthier life.
Keywords: Holistic care, Mental health nursing, Mind-body connection, Medication management, Collaboration in healthcare.

1. Introduction:

In the ever-evolving landscape of healthcare, the traditional boundaries that separated the realms of physical and mental health have blurred significantly. The understanding of health as a complex interplay between the mind and body has transformed how we perceive, approach, and treat the multifaceted challenges individuals face in their quest for well-being [1]. Central to this paradigm shift is the specialized field of mental health nursing, a discipline that serves as a crucial bridge, linking the intricate connections between mental and physical health. This article explores the profound role of mental health nursing in unraveling the mysteries of the mind-body connection, fostering a holistic approach to patient care, and contributing to the betterment of individuals and society as a whole [2].

Mental health nursing is a unique and indispensable branch of healthcare that dedicates itself to the comprehensive care and support of individuals grappling with diverse mental health issues [3]. At its core, mental health nursing seeks to restore balance and harmony to the lives of those affected by mental health conditions, recognizing that this process must encompass the entirety of an individual's well-being. It is a field that stands in stark contrast to the outdated perception of mental health in isolation, as it embraces a holistic approach, acknowledging that physical health and mental health are inexorably intertwined [4].

This holistic approach starts with recognizing that every individual is a complex amalgamation of physical, emotional, and psychological aspects, and that nurturing their well-being requires addressing all of these elements [5]. Physical health issues can often serve as both the cause and consequence of mental health problems, establishing a tangible connection between the two domains. For instance, a person experiencing chronic pain may develop depression, or conversely, someone grappling with depression may manifest physical ailments as a result [6].

Mental health nursing professionals are trained to identify the subtle and not-so-subtle signs of these connections [7]. They act as the eyes and ears of the healthcare system, diligently assessing and identifying any physical health issues that might be exacerbating or even causing a person's mental health challenges. Their expertise is instrumental in ensuring that patients receive integrated care that takes into account their physical health alongside their mental health [8].

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Nursing Leadership: Guiding the Way to Quality Patient Care

[1] Senthil T, [2]Millo Antu, [3]Shailza Nimmi Guria, [4]Muna Subba

[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[3]Assistant Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim

E-mail: senthil.t@mangalayatan.edu.in

Abstract: Nursing leadership is a critical component of healthcare systems, with a profound impact on patient care. This article explores the multifaceted role of nursing leaders, their influence on patient care, and the challenges they face in the complex healthcare landscape. Nursing leaders are pivotal in creating a culture of quality and safety, reducing medical errors, enhancing patient satisfaction, and lowering readmission rates. They foster staff morale, facilitate professional development, and guide their teams through change and innovation. Despite these positive impacts, nursing leaders must grapple with staffing shortages, high patient acuity, resource constraints, and regulatory compliance. This abstract highlights the crucial role of nursing leaders in shaping healthcare quality and patient outcomes, emphasizing the need for resilience and adaptability in the face of ongoing challenges. As healthcare systems continue to evolve, nursing leadership remains central to the delivery of high-quality patient care, ensuring that patients receive the best care possible.
Keywords: Nursing leadership, Patient care, Healthcare challenges, Quality healthcare, Resilience in healthcare

1. Introduction:

Artificial Intelligence (AI) is a revolutionary technology that has rapidly evolved over the last few decades, transforming the way we live, work, and interact with the world around us. As we step into the third decade of the 21st century, AI stands at the forefront of innovation, and its impact on various aspects of our lives is more profound than ever before [1].

AI is not a recent invention but has a long and fascinating history. The seeds of AI were sown in the 1950s when computer scientists and researchers first began to explore the concept of machines that could mimic human intelligence [2]. These early pioneers dared to dream of creating machines capable of reasoning, learning, and problem-solving, much like the human mind. However, it wasn't until the latter part of the 20th century that AI started to make significant strides, thanks to advances in computing power and the accumulation of vast amounts of data [3].

Today, AI has become a ubiquitous presence in our lives, from the voice-activated virtual assistants on our smartphones to the algorithms that power our social media feeds, recommend products, and even guide self-driving cars [4]. AI is not confined to a single industry or sector; it transcends boundaries, impacting healthcare, finance, education, transportation, entertainment, and more. The promise of AI is immense, offering the potential to enhance efficiency, boost productivity, and address complex global challenges.

In healthcare, AI has emerged as a lifesaver, aiding in early disease detection, drug discovery, and personalized treatment plans. In finance, AI-driven algorithms analyze market trends, reduce fraud, and manage vast investment portfolios. Educational institutions use AI to customize learning experiences for students, adapting to their individual needs and abilities. Transportation is on the brink of a revolution, with AI paving the way for autonomous vehicles that promise safer and more efficient travel [5].

While the potential of AI is undeniable,it also raises important questions and challenges. Ethical considerations, privacy concerns, and the impact on employment are issues that society must grapple with as AI continues to advance. The fear of job displacement, the consequences of biased algorithms, and the need for regulatory frameworks are just a few of the complex issues that require thoughtful exploration [6].

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Exploring the Role of Paramedical Professionals in Emergency Healthcare

[1]Chandan Kumar Singh, [2]Prottay Dutta, [3]Shailza Nimmi Guria, [4]Millo Antu, [5]Muna Subba

[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim

E-mail: chandan.singh@mangalayatan.edu.in

Abstract: Paramedical professionals, including paramedics and emergency medical technicians (EMTs), play a vital role in emergency healthcare. This article explores their multifaceted approach to saving lives. Rapid response is the foundation of their work, enabling them to provide immediate care during critical moments. They specialize in stabilization and support, preventing further harm and ensuring patients' well-being before hospitalization. Their versatility shines in their ability to respond to a range of emergencies, from trauma to medical crises, pediatric to geriatric care, and even behavioral health incidents. Continuous training keeps them at the forefront of the evolving field. Moreover, they extend their impact beyond immediate care by engaging with communities, educating individuals, and empowering them to take action in emergency situations. Paramedical professionals are unsung heroes whose dedication and adaptability are pivotal in shaping a future where lives are safeguarded, healthcare excellence is paramount, and communities are more resilient.
Keywords: Paramedical Professionals, Emergency Healthcare, Rapid Response, Stabilization and Support, Versatility

1. Introduction:

The world stands at a crossroads, facing an unprecedented challenge and an extraordinary opportunity. Climate change, driven by the relentless consumption of fossil fuels, has ushered in a new era of environmental turmoil, from extreme weather events to rising sea levels and diminishing biodiversity. Simultaneously, the rapid depletion of finite energy resources has raised questions about our energy security and the long-term viability of our current energy systems [1].

However, in the face of these daunting challenges, a beacon of hope emerges in the form of renewable energy [2]. The title, "Harnessing the Power of Renewable Energy: A Sustainable Future Beckons," encapsulates the transformative potential of renewable energy sources in charting a path towards sustainability, reducing our environmental impact, and ensuring the well-being of present and future generations [3].

Renewable energy is derived from sources that are inherently replenished by nature, such as sunlight, wind, water, and geothermal heat [4]. The concept is not new, but its significance has grown exponentially as it has become the linchpin in the global strategy to address the climate crisis. It offers a radical departure from our traditional reliance on fossil fuels, which have been the cornerstone of our energy production for over a century.

The term "harnessing" is key in this context. It signifies our ability to actively engage with and utilize the tremendous potential of renewable energy sources [5]. The term suggests a dynamic approach that includes technological innovation, infrastructure development, and shifts in our consumption patterns. It implies that transitioning to renewable energy requires concerted efforts, investment, and the integration of these resources into our energy mix [6].

"A Sustainable Future Beckons" emphasizes the promise that renewable energy holds. It signals the possibility of a world where carbon emissions are drastically reduced, where ecosystems are preserved, and where energy is produced in harmony with the environment [8]. Moreover, it speaks to a future that ensures equitable access to energy, economic prosperity, and social well-being, while also acknowledging the moral imperative of stewardship towards our planet.

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Innovations in Paramedical Science: Enhancing Patient Care

[1]Saloni Singh, [2]Bikram Mazumdar, [3]Pranal Chhetri, [4]Licha Rin
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: saloni.singh@mangalayatan.edu.in

Abstract: This article explores the transformative innovations in paramedical science that are revolutionizing patient care. It delves into the impact of telemedicine and telehealth, point-of-care testing, 3D printing in prosthetics, advanced radiological techniques, and mobile healthcare units. These advancements are enhancing healthcare accessibility, improving diagnostics, personalizing treatment, and bringing critical medical services to underserved populations. By focusing on these innovations, healthcare is becoming more patient-centric, efficient, and inclusive, offering a glimpse of a future where advanced technology and compassionate care work together to ensure the well-being of individuals worldwide.
Keywords: Paramedical Science, Telemedicine, Point-of-Care Testing, 3D Printing in Prosthetics, Mobile Healthcare Units

1. Introduction:

The world of paramedical science has witnessed a remarkable evolution, ushering in a new era of patient care that is defined by cutting-edge innovations and unprecedented advancements. In recent years, paramedical professionals have emerged as integral members of the healthcare team, working tirelessly to enhance the quality and accessibility of medical services [1]. Their role in patient care has transcended traditional boundaries, and through a fusion of technology, research, and unwavering dedication, they are at the forefront of transforming healthcare for the better [2].

Paramedical science encompasses a diverse array of fields, including emergency medical services, radiology, laboratory technology, physical therapy, and more. These professionals play a pivotal role in the healthcare ecosystem, serving as the bridge between patients and physicians [3]. In essence, they are the backbone of the healthcare system, working diligently to provide immediate care, diagnostic insights, and critical support to patients, particularly during emergencies [4].

In this ever-evolving landscape, the pace of innovation is breathtaking. One of the most revolutionary developments in paramedical science is the rise of telemedicine and telehealth. The advent of these technologies has redefined the delivery of healthcare, making it more accessible and convenient than ever before [5]. Paramedical professionals are now equipped with the tools and knowledge to assess patients remotely, provide guidance, and monitor chronic conditions, transcending geographical barriers and reducing the strain on healthcare facilities. The COVID-19 pandemic, which underscored the importance of telehealth, further accelerated its adoption [6].

Point-of-care testing (POCT) has become another transformative aspect of paramedical science. This innovation empowers paramedical professionals to conduct critical diagnostic tests at the patient's bedside or in the field, offering rapid and accurate results that facilitate prompt decision-making. Whether it's measuring blood glucose levels, conducting cholesterol profiling, or screening for infectious diseases, POCT ensures that diagnoses are made swiftly, leading to more effective treatment plans [7].

Wearable health technology is yet another groundbreaking innovation that is significantly enhancing patient care. Wearable devices have become an integral part of modern healthcare, enabling continuous monitoring of vital signs like heart rate, blood pressure, and oxygen levels [8]. These real-time data streams are invaluable in detecting early warning signs, enabling timely interventions, and potentially preventing serious

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Paramedical Training and Education: Bridging Gaps in Healthcare

[1] Shalini Singh, [2] Regina Kujur, [3] Pema Wangden Bhutia, [4] Franco Gohain
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
E-mail: shalini.singh@mangalayatan.edu.in

Abstract: Paramedical training and education are integral components of the healthcare system, preparing professionals to bridge critical gaps in diagnostics, patient care, and therapeutic support. This article highlights the significance of paramedical professionals in the healthcare ecosystem, emphasizing their role in enhancing the quality of patient care. The challenges in paramedical education, including limited access, financial barriers, and rapid technological advancements, are also addressed. Recognizing the importance of these professionals and promoting diversity within their ranks are essential for attracting and retaining talent. By overcoming these challenges and enhancing paramedical education, healthcare systems can ensure better patient outcomes and equitable access to healthcare services.
Keywords: Paramedical training, Healthcare disparities, Quality patient care, Educational challenges, Bridging gaps

1. Introduction:

In an ever-evolving world, the healthcare industry stands as a cornerstone of human well-being, constantly striving to meet the diverse and dynamic needs of patients. Healthcare isn't merely about the brilliant minds of doctors or the compassionate care of nurses; it's a complex, multifaceted system that depends on a vast network of professionals working together [1]. Among these unsung heroes are paramedical professionals, individuals whose indispensable roles often go unnoticed by the general public but are pivotal in bridging critical gaps within healthcare systems. Paramedical training and education serve as the lifeblood of this largely uncelebrated workforce, empowering these individuals with the expertise and knowledge needed to contribute significantly to patient care [2].

The field of healthcare is an ever-changing landscape, driven by advancements in medical science, the advent of cutting-edge technologies, and the growing demands of an expanding global population [3]. Within this intricate tapestry, the role of paramedical professionals is pivotal in addressing the varied challenges that healthcare faces today. Their contributions extend beyond the boundaries of traditional medical and nursing professions, encompassing an array of specialized roles that complement and support the entire healthcare system. Radiologic technologists, laboratory technicians, respiratory therapists, medical sonographers, and emergency medical technicians (EMTs) are just a few examples of these professionals who work diligently behind the scenes, often at the front lines of patient care [4].

The gaps within healthcare systems are multifaceted, stemming from diagnostic, therapeutic, and patient care needs, among others. Paramedical professionals are uniquely positioned to bridge these gaps and improve the quality of care, contributing significantly to the holistic well-being of patients [5]. They play a pivotal role in diagnosis, often conducting vital diagnostic tests and imaging procedures that form the foundation of medical decisions. In emergency situations, paramedics are the first responders who initiate life-saving treatments and ensure that patients reach medical facilities promptly [6]. Furthermore, they also fill vital roles in therapeutic areas, providing essential care for patients with respiratory issues and assisting in the management and treatment of various conditions.

Despite the indispensable role they play, the path to becoming a qualified paramedical professional is not without its challenges [7]. Access to quality education and training programs may be limited in certain regions, leading to a shortage of trained professionals in high-demand areas. Additionally, the cost of education and

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The Evolution of Paramedicine: A Historical Perspective

[1]Poonam Bhardwaj, [2]Devendra Singh, [3]Prottay Dutta, [4]Giogi Nania, [5]Pratikcha Rai

[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Associate Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

E-mail: poonam.bhardwaj@mangalayatan.edu.in

Abstract: This historical perspective on the evolution of paramedicine traces the journey from its early beginnings in ancient civilizations to its modern role as a critical component of healthcare. The article delves into pivotal moments, including the birth of ambulance services in the 18th and 19th centuries, the development of EMS systems in the late 1960s, and the introduction of Advanced Life Support (ALS). It also highlights the emergence of Community Paramedicine as a groundbreaking model for extending paramedic roles into preventive and primary care services. Throughout this evolution, paramedicine has adapted to meet the changing needs of society, demonstrating the remarkable adaptability of the field and its ongoing commitment to saving lives and improving healthcare access. The future of paramedicine promises to continue its dynamic evolution, responding to the evolving healthcare landscape and ensuring that patients receive the best care in times of crisis.

Keywords: Paramedicine Evolution, Ambulance Services, EMS Systems, Advanced Life Support (ALS), Community Paramedicine

1. Introduction

Paramedicine, a dynamic and indispensable component of modern healthcare, has undergone a remarkable transformation throughout its history. The development of paramedicine is a testament to human ingenuity, adaptability, and the relentless pursuit of excellence in emergency medical care. As we embark on a historical journey, we will explore the origins, pivotal moments, and visionary individuals who have shaped the evolution of paramedicine [1].

In the annals of medical history, the concept of providing care during emergencies finds its roots in ancient civilizations. In antiquity, wounded soldiers in Roman armies were attended to by medics known as "capsarii," foreshadowing the need for organized medical assistance in times of crisis [2]. However, the paramedicine we recognize today finds its true origins in the 20th century, where a confluence of historical events, medical advancements, and societal demands began to shape a dedicated profession designed to provide critical medical care during emergencies [3].

The inception of organized ambulance services marked a significant early step in the evolution of paramedicine. During the 18th and 19th centuries, rudimentary ambulance services emerged as a response to the growing necessity for medical transportation during wartime [4]. These early ambulances were horse-drawn carts, equipped with the most basic medical supplies. While rudimentary, they laid the foundation for the sophisticated paramedic systems we have today [5].

World War II played a pivotal role in transforming paramedicine, illustrating the need for highly trained medical personnel capable of providing immediate care to wounded soldiers. The U.S. Army Medical Department's Medical Field Service School was established during this time, pioneering the concept of paramedics and formalized training programs for medics, a significant leap forward in paramedicine's evolution [5].

In 1966, the release of the influential "White Paper," titled "Accidental Death and Disability: The Neglected Disease of Modern Society," marked a turning point. This report highlighted the inadequacies in

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Healing Hands: The Art and Science of Physiotherapy

[1] Alka Singh, [2]Anupriya Hansdak, [3]Pema Wangden Bhutia, [4]Taba Ampu

[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Nursing Tutor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: alka.singh1895@mangalayatan.edu.in

Abstract: Physiotherapy, often referred to as the "healing hands" of healthcare, occupies a unique and essential role in modern healthcare. This multidisciplinary field blends the art of compassionate care with the rigor of scientific inquiry, providing a holistic approach to healing. The art of physiotherapy is exemplified by the skillful touch of practitioners, guided by a profound understanding of individual patient needs and a therapeutic alliance built on empathy and trust. In contrast, the science of physiotherapy underpins evidence-based practices, with practitioners possessing a deep knowledge of human anatomy, physiology, and biomechanics. Physiotherapy's critical role in modern healthcare spans rehabilitation, chronic disease management, preventive care, sports performance enhancement, pain management, and geriatric support. It embodies a holistic approach to well-being, addressing not only physical symptoms but also the emotional and psychological aspects of health. This article explores the art and science of physiotherapy and its diverse roles in enhancing the quality of life for individuals across the globe.
Keywords: Physiotherapy, Healing hands, Rehabilitation, Chronic disease management, Holistic healthcare

1. Introduction

Physiotherapy, often celebrated as the "healing hands" of healthcare, occupies a unique and revered space within the realm of medical practice. In the intricate tapestry of modern healthcare, it stands out as a discipline that beautifully blends the art of compassionate care with the rigor of scientific inquiry [1]. The world of physiotherapy is a place where skilled professionals, armed with a profound understanding of human anatomy and physiology, utilize their gentle yet purposeful touch to alleviate pain, restore function, and empower patients to lead healthier lives [2]. This article embarks on an exploration of the multifaceted world of physiotherapy, unearthing its intricate interplay of art and science and highlighting its indispensable role in contemporary healthcare.

At its core, physiotherapy is a holistic discipline that seeks to mend not only the body but the human spirit as well [3]. While the artistry of physiotherapy lies in the hands of its practitioners, it extends far beyond mere touch. It encapsulates a deep and empathetic understanding of the patients they serve. This compassionate approach creates a therapeutic alliance, a bond of trust that is essential for the healing process. In essence, physiotherapy is about more than just treating symptoms; it's about understanding the patient's story and their unique journey toward recovery.

The art of physiotherapy is not confined to manual techniques alone. Effective communication, empathy, and active listening are all crucial elements of this artistic practice [4]. These qualities enable physiotherapists to decode not just the physical pain but also the emotional and psychological challenges that patients grapple with. Their ability to motivate, encourage, and empower individuals as they embark on the path to recovery is a testament to the profound artistry within this discipline [4].

Yet, physiotherapy is far from a mere art form. It is firmly anchored in the scientific principles of human biology, anatomy, and biomechanics. The hands-on approach of physiotherapists is guided by a profound understanding of the human body's structure and function, making their interventions not only comforting but

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Movement Medicine: A Comprehensive Guide to Physiotherapy

[1]Arfa Alam, [2]Manohar Kumar, [3]Reena Thapa, [4]Tailang Dumi

[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Nursing Tutor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: arfa.alam@mangalayatan.edu.in

Abstract: The field of physiotherapy is poised for transformative changes driven by technology integration, personalized treatment plans, and a shift towards prevention. Physiotherapists are increasingly utilizing wearable devices and tele-rehabilitation for patient monitoring and support. Personalized treatment plans, informed by wearable data and biomechanics, are replacing generic protocols. A proactive focus on injury prevention and multidisciplinary collaboration with healthcare professionals is emerging. As the global population ages, geriatric care will become central to physiotherapy. Evidence-based practice, holistic healthcare, and patient empowerment are shaping the future of this discipline. The future of physiotherapy promises innovative and comprehensive care for improved patient outcomes and overall well-being.
Keywords: Physiotherapy, Personalized treatment, Preventative healthcare, Technology integration, Holistic wellness

1. Introduction:

Physiotherapy, a discipline deeply rooted in the art and science of healing, has long served as a cornerstone of rehabilitative medicine. Its purpose is to reinvigorate the body and restore movement, offering solace and recovery to countless individuals grappling with injuries, chronic pain, or impaired mobility [1]. Yet, the field of physiotherapy is not static, and it continuously evolves to adapt to the diverse needs and expectations of modern healthcare. Among the many branches of this dynamic discipline, one approach stands out for its holistic vision and patient-centered philosophy - Movement Medicine [2].

The roots of Movement Medicine extend deeply into the rich soil of physiotherapy. It was conceived not as a departure from traditional practices but as a natural evolution, a response to the changing landscape of healthcare and a realization that mere symptom treatment often falls short in addressing the complex interplay of factors contributing to physical discomfort [3]. Movement Medicine does more than mend the body; it seeks to understand and address the underlying causes of physical suffering, recognizing that the mind and body are inextricably linked [4].

At its core, Movement Medicine embodies a holistic approach to health and well-being. It emphasizes the interconnectedness of the body, mind, and spirit, acknowledging that disruptions in one realm can manifest as physical pain or dysfunction. This belief in the unity of these elements is not a new concept, but it represents a refreshing departure from traditional compartmentalized approaches in healthcare [5].

While traditional physiotherapy often relies heavily on passive treatments administered by the therapist, Movement Medicine champions active patient participation [6]. It encourages individuals to be proactive in their healing process and equips them with the tools and knowledge necessary to take control of their health. The Movement Medicine physiotherapist is not a mere provider of treatment but rather a guide, working collaboratively with the patient to educate them about their body, their condition, and the steps they can take to foster their own recovery.

Crucially, Movement Medicine's strength lies in its individualized treatment plans. Recognizing that no two individuals are alike, this approach tailors therapy to the unique needs and goals of each patient. By

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The Body's Resilience: Exploring the Power of Physiotherapy

[1]Alka Singh, [2]Supriya Kumari, [3]Reena Thapa, [4]Balwinder Kaur

[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Nursing Tutor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
[4]Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: alka.singh1895@mangalayatan.edu.in

Abstract:
This article explores the profound impact of human connection on healing and resilience in healthcare and life. Human connection fosters emotional support, trust, and empowerment in healthcare settings, enhancing patients' well-being and motivation. Beyond healthcare, these connections provide social support, validation, and coping mechanisms that strengthen individuals' resilience in the face of adversity. In a world increasingly driven by technology and efficiency, this article underscores the enduring significance of the human touch and the role it plays in fostering emotional well-being and collective strength. Human connection serves as a timeless reminder of our shared humanity and our capacity to heal, endure, and thrive.
Keywords: Human Connection, Healing, Resilience, Healthcare, Emotional Support

1. Introduction:

The remarkable ability to adapt, heal, and withstand an array of physical challenges. This innate resilience allows us to bounce back from injuries, illnesses, and physical limitations, forging a path toward recovery and enhanced well-being. While the body's inherent resilience is awe-inspiring, it is often nurtured and unleashed through the art and science of physiotherapy [1].

Physiotherapy, a dynamic and multidisciplinary healthcare profession, plays a pivotal role in harnessing the body's potential for resilience [2]. It revolves around optimizing physical function, preventing injuries, and rehabilitating those who have encountered obstacles on their journey to health and wellness. In this article, we embark on a journey to explore the extraordinary power of physiotherapy in fostering the body's resilience, understanding its essence, and appreciating its impact on individuals' lives.

At its core, physiotherapy is about assisting individuals in regaining control of their bodies, enhancing their physical abilities, and improving their overall quality of life. It stands as a beacon of hope for those who may have felt the crushing weight of injuries, chronic conditions, or the debilitating effects of surgeries. With the guidance and expertise of physiotherapists, patients are empowered to confront and overcome these challenges, embodying the essence of resilience in the process [3].

The multifaceted world of physiotherapy encompasses a wide range of practices and principles. It involves the assessment, diagnosis, treatment, and prevention of physical impairments, disabilities, and injuries [3]. Physiotherapists, highly trained professionals, are skilled in employing a diverse set of tools and techniques, which encompass exercises, manual therapy, modalities, and education. These are meticulously tailored to meet the unique needs of each patient, recognizing that resilience takes on different forms for every individual [4].

One of the primary roles of physiotherapy is rehabilitation and recovery. It is in these moments of vulnerability and need that the true power of the human body's resilience shines through. Following injuries, surgeries, or chronic illnesses, the body's innate ability to bounce back is harnessed by physiotherapists [5]. Through carefully designed treatment plans and therapeutic interventions, these professionals facilitate the process of regaining strength, mobility, and function. It's a testament to the human body's resilience as patients, often in the face of immense adversity, relearn how to walk, lift, or even perform daily tasks. In these moments, the body's ability to adapt and its remarkable capacity to endure is undeniably evident.

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Revolutionizing Diagnostics: Innovations in Medical Lab Technology

[1] Jitendra Saraswat, [2]Pankaj Kumar, [3]Giogi Nania, [4]Chamta Gurung

[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

E-mail: jitendra.saraswat@mangalayatan.edu.in

Abstract: Medical laboratory technology is undergoing a transformative evolution, marked by innovations such as automation, point-of-care testing, next-generation sequencing, artificial intelligence, digital pathology, liquid biopsies, and 3D printing. These advancements are reshaping diagnostics, enhancing accuracy, speed, and personalization. Automation and robotics optimize efficiency and reduce errors. Point-of-care testing brings rapid diagnostics closer to patients, improving emergency care and access. Next-generation sequencing enables personalized medicine. Artificial intelligence augments diagnostics across various fields. Digital pathology enhances accuracy and remote consultations. Liquid biopsies provide real-time insights. 3D printing offers tailored medical solutions. As these technologies mature, they promise to revolutionize healthcare, ultimately improving patient outcomes and healthcare system efficiency.
Keywords: Diagnostics, Automation, Point-of-Care Testing, Personalized Medicine, 3D Printing

1. Introduction:

The world of medical diagnostics is in the midst of a profound transformation, driven by a wave of groundbreaking innovations in medical laboratory technology [1]. These innovations are not only changing the way diseases are diagnosed but are also redefining the very essence of modern healthcare. In an era where medical science is advancing at an unprecedented pace, the laboratory has emerged as a dynamic hub of discovery and precision [2]. This article delves into the remarkable strides being made in medical lab technology and their potential to revolutionize diagnostics, significantly impacting patient care and healthcare systems worldwide [3].

In the past, diagnostics were often time-consuming, labor-intensive, and occasionally prone to human error. However, recent advances are reshaping the landscape, propelling diagnostics into an era of speed, accuracy, and accessibility previously thought unattainable. These transformative changes are taking place in several key domains, ushering in a new era of medical diagnostics [4].

First and foremost, automation and robotics have become pivotal in streamlining the diagnostic process. Sophisticated robotic systems now manage a range of laboratory tasks, from sample preparation to complex result analysis. This automation not only enhances efficiency but also reduces the risk of human errors, ensuring greater accuracy and speed in diagnosis. Laboratories equipped with automated systems can process larger volumes of tests more swiftly, thus significantly improving patient care [5].

Additionally, the advent of point-of-care testing (POCT) has been a game-changer. Portable, compact diagnostic devices, resembling smartphones in size, are enabling healthcare professionals to obtain rapid, reliable results directly at the patient's bedside [6]. The convenience of POCT is invaluable in emergency situations, remote or rural healthcare settings, and resource-constrained environments where conventional laboratory infrastructure is limited.

Next-generation sequencing (NGS) is another pioneering development. It has revolutionized the fields of genomics and molecular diagnostics, allowing for the rapid, cost-effective sequencing of entire genomes. NGS has unlocked the potential for personalized medicine and targeted therapies by identifying specific genetic variations and mutations associated with various diseases, such as cancer, genetic disorders, and infectious diseases [7].

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Lab Lights: Illuminating Breakthroughs in Medical Technology

[1]Jitendra Saraswat, [2]Shalini Singh, [3]Pankaj Kumar, [4]Giogi Nania, [5]Chamta Gurung

[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

E-mail: jitendra.saraswat@mangalayatan.edu.in

Abstract: Lab lights are unsung heroes in the world of medical technology. They illuminate the path to ground-breaking discoveries and innovative treatments, revolutionizing patient care. Genomics, diagnostics, radiology, surgical precision, and optogenetics all benefit from the precision and quality of lab lights. Genomic research advances with DNA sequencing, personalized medicine, and genetic predisposition insights. Diagnostics, especially PCR and fluorescence tests, rely on lab lighting for accurate and swift disease detection. Radiant imaging techniques, like MRI and PET scans, provide non-invasive, high-precision diagnoses. Minimally invasive surgery, robotic assistance, and advanced imaging have redefined surgical precision. Optogenetics promises to revolutionize neurology. Lab lights shape the future of healthcare.
Keywords: Genomics, Diagnostics, Radiant Imaging, Surgical Precision, Optogenetics

1. Introduction:

In the vast realm of medical technology, innovation is a continuous journey, leading to remarkable advancements in patient care, diagnostic precision, and therapeutic possibilities. These groundbreaking developments are the fruits of relentless dedication and the relentless pursuit of knowledge by medical researchers and practitioners [1]. However, beneath the surface of these remarkable achievements lies a fundamental element that deserves recognition – lab lights. These seemingly unassuming tools play a pivotal role in shedding light on critical discoveries and innovations, ultimately saving lives and improving healthcare on an unprecedented scale [2].

Lab lights, often overlooked in the grand narrative of medical progress, are the unsung heroes of the healthcare industry. They are the beacons guiding scientists and healthcare professionals on their quest to unlock the mysteries of the human body, disease, and treatments. Without these remarkable sources of illumination, the path to medical breakthroughs would be shrouded in darkness [3].

In the following pages, we will embark on a journey through the dazzling world of medical technology, where lab lights are the guiding stars. From their role in unraveling the intricacies of genomics to facilitating diagnostics that are more precise and swift than ever before, lab lights are instrumental in shaping the future of healthcare. They play a pivotal role in delivering exceptional patient care, expanding our understanding of the human body, and pushing the boundaries of what is medically possible [4].

The field of genomics, for example, has undergone a metamorphosis in recent years, thanks to cutting-edge DNA sequencing technology. These machines rely on precisely calibrated and intense lab lighting to decipher the genetic code of individuals [5]. The Human Genome Project, completed in 2003, marked a significant milestone in genomics, but the journey did not end there. Faster and more cost-effective sequencing techniques have emerged, promising to make personalized medicine a reality, with lab lights guiding the way [6].

Diagnostics, another cornerstone of medical technology, have also witnessed a revolution. PCR machines, integral for various diagnostic tests, rely on the precision of fluorescence detection, significantly enhanced by advanced illumination techniques. The recent COVID-19 pandemic served as a stark reminder of the

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Precision Medicine in the Lab: A Journey Through Medical Technology

[1]Ravi Shekher, [2]Yadvendra Singh Thenuan, [3]Harish Kumar Singh, [4]Deepshikha Pradhan, [5]Sandeep Kumar

[1]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: ravi.shekher@mangalayatan.edu.in

Abstract: Precision medicine is revolutionizing healthcare by tailoring medical decisions and treatments to individual genetic variations, environmental factors, and lifestyle. At its core, this approach hinges on the integration of genomics, omics technologies, and artificial intelligence (AI). Genomics provides the foundational understanding of an individual's genetic code, enabling the identification of genetic mutations and variations that influence disease risk and treatment responses. Omics technologies, including transcriptomics, proteomics, and metabolomics, dive deeper into the body's molecular intricacies, offering a holistic view of health and disease. AI and machine learning, meanwhile, analyze vast datasets, predict disease risks, suggest treatments, and guide clinical decisions. The fusion of these components empowers healthcare providers to deliver patient-centric, data-driven care, minimizing trial-and-error and offering the promise of more effective, personalized healthcare. The journey through precision medicine is a dynamic one, offering a brighter future with better health outcomes and improved patient well-being.
Keywords: Precision Medicine, Genomics, Omics Technologies, Artificial Intelligence, Personalized Healthcare

1. Introduction:

In an era defined by technological innovation and scientific progress, the field of medicine is undergoing a remarkable transformation. Traditional healthcare, characterized by one-size-fits-all approaches, is giving way to a new paradigm known as precision medicine [1]. This revolutionary approach leverages cutting-edge medical technology to provide personalized healthcare tailored to each individual's unique genetic makeup, environment, and lifestyle [2]. It marks a significant departure from the historical model, where diseases were treated based on general guidelines and assumptions. Precision medicine is the culmination of a journey through medical technology that has unveiled a deeper understanding of human biology, enabling more accurate diagnoses, targeted treatments, and the promise of improved patient outcomes [3].

Precision medicine's cornerstone is genomics, a field dedicated to decoding the intricate genetic instructions that shape who we are. The advent of next-generation sequencing (NGS) technologies has ushered in a new era of genomic medicine. This groundbreaking technology allows us to rapidly and affordably sequence an individual's entire DNA, uncovering genetic mutations and variations that influence disease susceptibility and treatment response. It is in the labs, where geneticists and researchers delve into the mysteries of our DNA, that the journey of precision medicine truly begins [4].

While genomics provides the fundamental blueprint, it's not the whole story. The precision medicine journey continues through "omics" technologies, including transcriptomics, proteomics, and metabolomics. These disciplines offer a comprehensive understanding of how genes, proteins, and metabolites interact within our bodies, shedding light on the molecular intricacies of diseases and the mechanisms of treatment response [5]. Transcriptomics reveals which genes are activated or silenced in response to different conditions, guiding treatment decisions. Proteomics uncovers the world of proteins, the workhorses of our cells, and their roles in health and disease. Metabolomics explores the intricate network of metabolic processes, unveiling how our bodies process nutrients and interact with medications [6].

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In A Village By A River – Exploring The Struggles Of The Marginalized In Mistry's "A Fine Balance"

Prakash Chandra Panda[1], Supriya Deogharia[1], Anuradha Yadav[2], Vineeta Kaur Saluja[3]
[1]Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand, India
[2]Instituite of Education and Research, Mangalayatan University, Aligarh
[3]Department of English, Mangalayatan University, Jabalpur, MP
Email: prakashcpanda@gmail.com, anuradha.yadav@mangalayatan.edu.in

Abstract

The paper critically analyses one single chapter – *In A Village by a River* from Rohinton Mistry's full-length novel 'A Fine Balance'. The full novel is centered mainly on the lives of four characters Dina Dalal, a Parsi widow, Maneck, a young Parsi boy, and two chamar characters Ishvar, the uncle, and his nephew Omprakash. The novel shows the life struggle of the four in Bombay in a very critical time for the country. The present chapter taken for critical analysis presents us with short and simple annals of the poor and the marginalized, where the family of the Chamaars is in a village by the river. But this single chapter itself has become epical regarding the portraiture of the poor lower caste people of Independent India. Quite naturally caste prejudice, oppression, poverty, corruption, and above all the fatal effects of the partition and its aftereffects in the name of the Hindu-Muslim riot come to the forefront of the discussion in the paper. The paper also shows the futile attempt of the oppressed to uproot the system.

Keywords: oppression, poverty, caste-prejudice, dominance, helplessness

Rohinton Mistry moves from his self-segregated way of expressing the Parsi community in the novel *A Fine Balance*. Like the previous two works *Tales from Firozsha Baag* and *Such a Long Journey* which solely depict the customs and cultures of the author's community, the novel *A Fine Balance* is somewhat different. This work may also be termed a semi-political novel. Some critics have also termed him as a historical novelist like Scott finding his association with historical incidents of India after independence. In *A Fine Balance* Mistry has selected the time frame between two major historical incidents of India, namely the Emergency declared by the Prime Minister Indira Gandhi followed by her assassination. But these historical details and political turmoil are surpassed by the presentation of the abject poverty, oppression, and casteism in the presentation of the lower-caste people in the countryside. Reading the graphic details of the lives of the *Chamaar* caste one may astonish and would certainly consider it melodramatic but this is the essential realism of Mistry and the true picture of India before and after almost three decades of independence.

Regarding the change in the subject matter in the novel *A Fine Balance* Rohinton Mistry said in an interview –

…after writings my first two books I became aware that they were stories about a very particular and special kind of city and even then, I had focuses only on a very small part – the Parsi community – and I made a conscious decision in this book to include more than this, mainly because in India seventy percent of Indians live in villages and I wanted to embrace more of the social reality of India. (mclay1996)

The presentation of the *Chamaar* family in the countryside, in an unknown village in India gives us a realistic picture of India shortly before and after the independence. The curse of casteism, particularly the evil system set by the Brahmanical tradition makes the mockery of the fact that it is the land of Gandhi whose life struggle was itself meant for the abolishment of untouchability. Mistry's presentation of casteism reminds us of the social concerns in the novels of Mulk Raj Anand, like *Coolie (1936)* or *Untouchable (1935)* or the Bengali novels of Sarat Chandra Chattopadhyay and the short stories of Munshi Premchand.

Impact of Globalization

Globalization has a greater impact worldwide and in every sphere of lifestyle whether it is economy or it is society or politics or literature. It is the strongest medium to upset the prevailing standards of society both at social and economic levels. From city to country, it draws humanity itself into a new setup. The world is seen to be a village and each one has opportunities to make his or her dream big. Globalization is a meaning to those who dare to

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Metagenomic Study for the Diversity Analysis of Extremophiles

Soni Singh[1], Ravi Shekher[2], Rojalini Samanta[3], Br bhytishnendra Mishra[4], Swarnim Rai[5]

[1,2]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Collage of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

E-mail: singh.sonia0001@gmail.com, ravi.rajshekhar.singh@gmail.com, rojalinsamanta91@gmail.com

ABSTRACT
Microbial communities are the most abundant entities found in the Earth's biosphere. Due the limitations in culture techniques it is difficult to identify the microorganisms in the biosphere. Many organisms cannot survive in normal environment, extremophilic microorganisms surviving and thriving in extreme temperature like heat, cold, salinity, pH, pressure and radiation. These extreme environments are too harsh for normal life to exist. To analyze the microbial communities in these environments, a non-culture-based approach, called "metagenomics", was developed to provide the extensive information. The characterization of an organism in terms of molecular phylogenetic techniques based on 16S rRNA gene sequence comparisons have been employed, more recently high throughput pyrosequencing technology has been used to identify the uncultured microbes in the extreme environment. Therefore, the development of next generation sequencing technology allows metagenomic library to be rapidly constructed and sequenced, these provides a more comprehensive view of microbial diversity.
Keywords: Extremophiles, metagenomics, 16S rRNA, Microbial diversity, Hot spring.

INTRODUCTION:
The earth is rich in biological material that has not yet been explored. The world's every part is surrounded by the huge diversity of enormous and differential microbes. Microbes are living things that are too small to see with the naked eye generally smaller than about 0.2 mm. Microbiologists have specific names for the various types of microbes, which include bacteria, archaea, viruses, and small eukaryotes and fungi. It is widely accepted that the genomes of microorganisms represent the major reservoir of genetic diversity on earth (Ferrer *et al.*, 2009; Whitman *et al.*, 1998). Due to their long existence microorganism metabolism is much more diverse and also they involve in various biogeochemical cycles of the biosphere that are essential for life on earth. Microorganisms are mostly found in every habitat on Earth, such as water, soil, air, acidic hot springs, glacial ice, highly polluted environments, and deep in the Earth's crust.
Extremophiles are microorganisms able to grow optimally in extreme environments of temperature, pH, pressure, and salinity (Mukhtar *et al.,* 2022). This feature requires the stabilization of all cellular components, so that the functionality is maintained under conditions that would be harmful for most non- extremophile molecules. Now the Microbiologist using the comparative ribosomal RNA sequencing technology to identify the microbial population of the extreme environments. Extremophiles often require specific growth conditions that are difficult to achieve in a laboratory. Furthermore, it is estimated that less than 1% of all microorganisms are able to grow in culture, by using the metagenomic technology, it provide the way to obtain gene sequences and explore these organisms. In fact, the recent advent and application of high throughput next generation sequencing methods and computational analysis have enabled the discovery of novel molecules with biotechnological interest in these otherwise hidden organisms. As metagenomic tools become more accessible to the research community, allowing the investigation of microorganisms that cannot be cultured in the laboratory, exciting aspects of extremophilic biology are now being revealed (Cardoso *et al.*, 2010; 2011).

Life in extreme environments has been studied intensively focusing attention on the diversity of organisms and molecular and regulatory mechanisms involved. The proteins, enzymes and other biomolecules these were obtained from extremophiles play an important role in the field of biotechnology. This field of research has also attracted attention because of its impact on the possible existence of life on other planets (Satyanarayana *et al.*, 2005). Microorganisms that

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Library Services and Literacy for Visually Disable Users

Deepmala[1], Ashok Kumar Upadhyay[2], Sweta Sharma[3], Bechan Singh[4]

[1]Assistant Professor and Deputy Librarian, Dept. of Library and Information Science, Mangalayatan University, Aligarh, UP
[2]Librarian and Associate Professor, Dept. of Library and Information Science, Mangalayatan University, Aligarh, UP
[3]Research Scholar, Dept. of Library and Information Science, Mangalayatan University, Aligarh, UP
[4]Assistant Professor, Department of Education, Usha Martin University, Ranchi, Jharkhand
Email: deepmala.mlis@gmail.com, ashoka143@gmail.com, sweta21111981@gmail.com, bechan@umu.ac.in

Abstract:
More and more libraries are now providing special facilities for people who have visually impaired. Libraries and their staff give important information to people who are interested in learning and growing in a culture that values knowledge. Libraries and librarians must make information available to everyone, no matter their gender, age, race, perspective, or disability. However, there are still some people who do not have enough information, and services that are easy to use and treat everyone fairly are still expected. People with physical disabilities are part of this special group, but there are still difficulties in making sure they can access information just like everyone else. The purpose of the research paper is to explore the challenges faced by disabled users in utilizing library services and skilled to identify potential solutions and improvements that can be made to enhance accessibility and inclusivity within libraries. By addressing these challenges, libraries can better serve their disabled patrons and ensure equal access to information and resources for all individuals.
Keywords*:* Library Services, Library Literacy, Visually Disabled Persons, Information Literacy

Introduction:

Information literacy is the ability to find, evaluate, and use information effectively and ethically. It is an essential skill for lifelong learning and participation in the digital society. However, information literacy is not equally accessible to all users, especially those who have disabilities that affect their access to information sources and technologies. Disabled users face various barriers and challenges in acquiring and applying information literacy skills, such as lack of accessibility, usability, and inclusivity in information systems and services. Therefore, it is important to address the information needs and preferences of disabled users and provide them with appropriate support and guidance to enhance their information literacy competencies.

The provision of library facilities for visually and physically disabled individuals has been a growing practice, driven by their creativity and technological advancements. Libraries and personnel provide essential knowledge to those interested in the developing knowledge culture. Libraries & library professionals have a moral duty to make information accessible to everyone, regardless of their gender, age, color, viewpoint, or handicap.

However, some individuals still lack knowledge, and accessible, fair services are still the standard. The physically challenged are part of this privileged community, but challenges remain in ensuring equal access to information.

The term "disability" means having a long-term condition that affects a person's physical, mental, intellectual, or sensory abilities, and prevents them from fully participating in society like everyone else because of barriers. In India, it is now unlawful to subject disabled individuals to unfair treatment, as stipulated by the Rights of Persons with Disabilities Act, 2016.They are provided with a guarantee to access education, secure jobs, and experience inclusion in society.

A plan was implemented by the Indian government in 2006 to cater to the requirements of people with disabilities. The National Policy recognizes the significance of individuals with disabilities and aims to establish an inclusive environment where they enjoy equal opportunities, protected rights, and unrestricted participation in society.

Library Literacy fop Visually Impaired Users:

How to help people who can't see well use the library and assist the library workers in providing services-

- There are innovative AI technologies available, that can enhance the accessibility and utilization of library These technologies possess the capability to comprehend and react to our spoken words, convert written text into audible speech,

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Network Literacy for Library Users

Deepmala[1], Ashok Kumar Upadhyay, Sweta Sharma, Shahnaaz Zabi

[1]Assistant Professor and Deputy Librarian, Dept. of Library and Information Science, Mangalayatan University, Aligarh, UP
[2]Librarian and Associate Professor, Dept. of Library and Information Science, Mangalayatan University, Aligarh, UP
[3]Research Scholar, Dept. of Library and Information Science, Mangalayatan University, Aligarh, UP
[4]Assistant Professor, Faculty of Journalism and Mass Communication, Usha Martin University, Ranchi, Jharkhand, India
Email: deepmala.mlis@gmail.com, ashoka143@gmail.com, sweta21111981@gmail.com, shahnaaz@umu.ac.in

Abstract:

Network literacy play a crucial role in promoting collaboration and cooperation among libraries, fostering a sense of community and collective learning. By joining forces, libraries can pool their resources and expertise to better serve their communities, ensuring that everyone has access to a wealth of information and educational opportunities.

Keywords: Network Literacy, Information literacy, Library Networks.

1- Introduction

The network plays a crucial role in enhancing information literacy, which refers to the ability to identify, locate, evaluate, and effectively use information from various sources. Information literacy is a critical skill in today's information-driven society, and the library network significantly contributes to its development and improvement Library network offer training sessions, workshops, and one-on-one assistance to help users navigate the vast sea of information effectively. Librarians play a crucial role in teaching users how to search for information efficiently, evaluate sources for credibility, and use appropriate research methods.

A network is outlined by the **National Commission on Libraries and data Science (NCLIS), USA** as "two or a lot of libraries and/or alternative organizations engaged in a very common pattern of knowledge exchange, through communications, for a few practical purpose".

In order to satisfy the demands of users and deal with financial concerns, libraries work together on linked portals called library networks. They look against data redundant work, build up original assets, and collaborate on resources based on needs. The idea first surfaced in 1985, when a team of members of the Planning Commission approached the Ministry of HRD, Government of India, with a renovation proposal for the National Policy on Library and Information System. Following on the UGC proposal produced by the Association of Indian Libraries in 1987, the Department of Science and Industrial Research (DSIR) in India recommended a combined strategy for Library Automated and Networks. network may be a collective or cooperative activity of linking members/users to the resources hosted on computers by means that of telecommunication connections. Additionally, being proficient in library network literacy may also include knowing how to use computer software programs and applications available on library computers to create and edit documents or presentations for academic or professional purposes.

2- Network Literacy for Library Patrons

Understanding the network content and being able to identify, make decisions, review, or use digital content are two components of Network Literacy for library users.

Knowing how to analyse connected data includes being allowed to:

a. Consider the spectrum and purpose of all global interconnected databases and offerings.
b. Understand the functions and uses of digital data for resolving problems or carrying out daily life tasks.

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Production and Optimization of Astaxanthin by *Phaffia rhodozyma* under Submerged Fermentation

Soni Singh[1], Rojalini Samanta[2], Bibhu Prasad Panda[3], Brishnendra Mishra[4], Swarnim Rai[5]

[1]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, U.P., India
[2]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Department of Pharmacognosy & Photochemistry, School of Pharmaceutical Education & Research, Jamia Hamdard, Hamdard Nagar, New Delhi
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Collage of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: singh.sonia0001@gmail.com

Objective: One of the main processes for creating astaxanthin, an essential pigment with industrial and pharmacological applications, is *Phaffia rhodozyma* fermentation. The effects of nitrogen supply and carbon source on *Phaffia rhodozyma* culture and astaxanthin production were examined using single factor and mixture design experiments in an effort to increase astaxanthin productivity. The design of the fermentation medium is a crucial step in the creation of any metabolite. Plackett-Burman Using design in the first phase was an effective way to determine how production and medium components will interact. Significantly, the second step's usage of Box-Behnken's Design of Response Surface Methodology was helpful in figuring out the ideal concentration of the elements that significantly affect the formation of astaxanthin and biomass. The optimized final composition of the submerged fermentation medium used by MTCC 7536 to produce biomass and astaxanthin. This indicates that the projected value is 65 and 68% valid. Since the medium is chemically specified, it might not affect further processing. Due to its simpler processing and practical features like experimental design, 3D contours, 3D surface graphs, Point prediction, etc., the Design Expert 7.0 software utilized for the optimization study was determined to be a very effective tool for optimization.

Keywords: Astaxanthin, Nitrogen supply, Carbon source, *Phaffia rhodozyma*, Optimization

Introduction

The world's strongest natural antioxidant, astaxanthin The orange-red carotenoid astaxanthin (C40H52O4, molecular weight: 596.841 g/mol) is a member of the xanthophyll family of pigments [1]. The unusual carotenoid astaxanthin (3,3′-dihydroxy-,-carotene-4,4′-dione) is found in abundance in nature. It is a wonderful Xanthophyll family member. One of the main pigments in the carotenoid family, it is frequently employed to give some birds, crustaceans, and salmons their color [2].

Strong antioxidant astaxanthin works to scavenge singlet oxygen and prevent the production of free radicals, protecting the phospholipid cell membrane and other lipid components. The prevention of cancer, inflammation, and diabetes is one area where astaxanthin has significant promise and promising uses in nutrition and human health [3]. *Phaffia rhodozyma*, commonly known as Xanthophyllomyces dendrorhous, is the hetero basidiomycetous yeast that produces the majority of the primary astaxanthin during yeast fermentation. Future significant development in its industrial market share will be driven by extensive uses in medicines, human nutritional supplements, cosmetics, and feed additives [4]. Compared to lutein, lycopene, and -tocopherols, astaxanthin is a more potent antioxidant [5].

Media and Chemicals

Components for yeast malt (YM) medium were bought from Merck and Central Drug House in Mumbai. Analytical Grade chemicals were employed throughout the investigation, and Hi Media, Qualigens, Merck, and other reputable companies bought them from a number of well-known producers.

Phaffia rhodozyma MTCC 7536 strain, medium, and cultivation were acquired from MTCC, IMTECH, Chandigarh, India. It was subcultured for additional investigation and kept on the slants of yeast-malt agar (YMA) at 4°C. *P. Rhodozyma* MTCC 7536 seed culture spore suspension was made from yeast that was actively growing in YM broth (YMB). A 250 mL Erlenmeyer flask containing 50 mL of sterilized medium (10 g dextrose, 5.0 g peptone, 3.0 g malt extract, and 3.0 g yeast extract in 1000 mL distilled water; adjusted to pH 5.8) was inoculated with 5% *P. rhodozyma* spore suspension and incubated for 6 days at 200 rpm with a modification.

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The Relationship of Human Rights and Public Health: Advancing a Collaborative Research Plan

Sanjay Pal[1], Jitendra Yadav[2], Puja Kumari[3], Geeta Shrivastava[4], Pratishtha Mishra[5]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Institute of Legal Studies and Research, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
Email: sanjay.pal@mangalayatan.edu.in, jitendra.yadav@mangalayatan.edu.in, puja.kumari@umu.ac.in

Abstract
Despite the growing impact of epidemiology on policy discussions related to warfare and human rights, its full potential remains underutilised. Consequently, this essay advocates for more cooperation among academics in the field of public health, analysts specialising in warfare, and human rights monitors, with a particular focus on utilising retrospective, population-based surveys. The present article provides an overview of recent public health research that is pertinent to the subject matter. It elucidates the utility of collaboration in this context and delineates potential avenues for future research. These include investigations into the indirect and enduring ramifications of armed conflict, the interplay between human rights and security in conflict-affected regions, and the intricate relationship between human rights, armed conflict, and International Humanitarian Law.

1. Introduction

The publication of a contentious estimation of Iraqi war casualties in the Lancet during the autumn of 2006 garnered significant global attention, reigniting discussions over the ethical implications and repercussions of the United States-led invasion of Iraq. According to the poll, it was estimated that around 650,000 Iraqi individuals lost their lives due to the insurgency and sectarian conflicts that ensued subsequent to the invasion of Iraq in 2003. The political implications of this statistic were indisputable, considering the steadfast stance of US policymakers who asserted that their military intervention had been partly driven by humanitarian concerns. However, the research also garnered significant criticism, as several individuals raised concerns with the study's fundamental assumptions, sampling techniques, and protocols for reporting data.

Setting aside methodological objections, the media frenzy sparked by the Lancet publication undeniably highlighted the increasing influence of public health research in the fields of conflict and human rights studies. Specifically, it highlighted the ability of "battle epidemiologists" to offer scientifically grounded assessments of the tangible and intangible expenses associated with warfare. One crucial aspect that deserves significant attention is the ongoing revelation by epidemiologists that previous studies tend to significantly underestimate the comprehensive human toll of war due to their failure to adequately account for its indirect and long-term consequences. From a human rights standpoint, it is important to note that the legal accountability of the commanders and politicians who bear responsibility for the unintended harm caused in such situations has yet to be fully explored.

Epidemiological studies have the potential to yield significant evidence that informs policy decisions, as exemplified by the case of the Democratic Republic of Congo (DRC). In this context, surveys conducted by the International Rescue Committee (IRC) have played a crucial role in drawing attention to the persistent humanitarian crisis in the country. These surveys have revealed a substantial number of indirect deaths resulting from the conflict, thereby highlighting the gravity of the situation. Based on the findings of these surveys, it is seen that out of the total of 3.9 million extra fatalities that occurred between 1998 and 2004, a very little fraction may be directly linked to acts of political violence. The majority of these deaths, however, are attributable to various war-related afflictions, mostly diseases. The aforementioned findings have had a significant impact in the realm of policy, elevating the global recognition of the conflict and augmenting the available resources for both peacekeepers and humanitarian workers. This was highlighted by the remarks made by representatives from the International Rescue Committee, Human Rights Watch, and Catholic Relief Services during a workshop titled "Integrating Public Health

Advanced Teaching Strategies: Nine Success Techniques

Sanjay Pal[1], Bechan Singh[2], Neeta Deepaware, Roma Singh[4], Amit Kumar[5]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Education, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
[5]Department of Chemistry, Sikkim Professional University, Gangtok, Sikkim
Email: sanjay.pal@mangalayatan.edu.in, bechan@umu.ac.in

Abstract
The implementation of innovative teaching practises within the classroom setting has the potential to enhance the ease and efficacy of the learning process. The use of various strategies within the classroom setting is a cyclical endeavour that facilitates the facilitation of knowledge acquisition and the cultivation of student progress. The foundation is consistently regarded as the most critical element, as the absence thereof renders the structure vulnerable. Given that the realisation of a school's goal is contingent upon the efforts of teachers, it is imperative to prioritise the provision of necessary resources and support to empower and enable teachers. An effective teacher evaluation framework for professional learning, growth, and development encourages teachers to strive for excellence in order to enhance student learning and implement best practises in teaching. This study aims to explore the applicability of Advanced Teaching Strategies' Nine Techniques for Success in fostering self-motivation among educators.

Introduction

In the field of education, the concept of student engagement pertains to the extent of attentiveness, inquisitiveness, interest, positivity, and enthusiasm exhibited by students throughout the process of learning or instruction. This encompasses the level of desire they possess to acquire knowledge and advance in their educational pursuits (edglossary.org). The active engagement of students in the classroom setting has been seen to have a positive impact on their learning outcomes and retention abilities. There is a higher probability that students who engage in employment will demonstrate persistence and derive satisfaction from its completion.

One may inquire about the nature of the tasks involved. Based on our empirical observations and interactions with children, it has been discerned that they exhibit a preference for occupations that afford them the opportunity to engage in tactile experiences and foster collaborative endeavours with their peers. Individuals exhibit decreased levels of engagement when they are subjected to instructor lectures or when they participate in repetitive tasks.

In an educational setting, the implementation of innovative pedagogical strategies can enhance the facilitation of knowledge acquisition, hence promoting a more efficient and fruitful learning experience. Engaging in the exploration of diverse teaching strategies is a cyclical endeavour that may support educators in enhancing the acquisition of knowledge and fostering student advancement.

The following are nine strategies for integrating innovation into the daily curriculum.

1. Personalized Learning

Personalised learning is an educational approach that customises the content, timing, and instructional methods to meet the unique needs and preferences of individual learners. Educators respond to the unique abilities of individual students in order to facilitate their academic achievement, as opposed to employing a uniform instructional approach or curriculum for the entire class.

In the United States, a majority of high schools, namely 65%, employ customised learning plans for their students. These plans are designed based on the teacher's comprehensive comprehension of individual student learning styles and interests. While acknowledging the individuality of each student's learning experience, the overarching objective remains the attainment of topic proficiency or the fulfilment of grade-level standards.

This strategy includes:

1. Blended learning: This teaching style empowers students to take more responsibility for their own learning, with the teacher serving as a general guide and overseer in a more discovery-based learning environment. Students are free to pick how and when they progress through the material.

Adaptive learning: technology gathers data from student replies to specific questions on a computer. The programme then uses that information to provide quick feedback or adaptation for the learner and tells the teacher so that the lesson plan can be adjusted properly.

Study of Impact of Stress and Anxiety on University Students

Kavita Sharma[1], Prakash Mishra2, Neha Kumari[3], Amandeep Kaur[3], Reena Thapa[4]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[2]Department of Management, Mangalayatan University, Jabalpur, MP
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi
[4]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
Email: kavita.sharma@mangalayatan.edu.in

ABSTRACT
The mental health of students has become a significant concern in recent years. Stress and anxiety, two prevalent psychological conditions, have been identified as major contributors to the deteriorating mental well-being of students. This research paper aims to explore the effects of stress and anxiety on the mental health of students and highlight the importance of addressing these issues within educational settings.
Stress and anxiety are commonly experienced by students due to various academic, social, and personal pressures. The demanding nature of modern education, including heavy workloads, competition, and high expectations, often leads to chronic stress. Furthermore, students frequently encounter anxiety-inducing situations such as examinations, presentations, and social interactions, which can exacerbate their overall distress.
The impact of stress and anxiety on students' mental health is multifaceted. Persistent stress and anxiety can lead to psychological symptoms such as depression, irritability, and low self-esteem. Students may also experience physical manifestations of stress, including sleep disturbances, fatigue, and compromised immune functioning. These factors can significantly impede academic performance, social relationships, and overall quality of life.
This research paper aims to investigate the effects of stress and anxiety on university students. College life is often associated with various stressors, such as academic pressures, social demands, financial concerns, and future uncertainties. These stressors can significantly impact students' mental well-being, leading to the development of anxiety symptoms. Understanding the relationship between stress, anxiety, and university life is crucial for promoting student success and implementing effective interventions. This paper provides a comprehensive review of existing literature on the topic, highlighting the causes and consequences of stress and anxiety among university students. Additionally, it explores potential coping mechanisms and support strategies to mitigate these adverse effects. The findings emphasize the need for comprehensive mental health programs and resources within universities to address the growing concerns of stress and anxiety among students.

Keywords: stress, anxiety, university students, mental health, academic pressures, coping mechanisms, intervention

MEANING OF STRESS AND ANXIETY

STRESS - Stress is a physiological response given to the possibility of danger in order to avoid it. During stress, the body activates stress hormones such as adrenaline and cortical, which prepares you to deal with or avoid real or imagined danger. During stress, the heart starts beating faster, the muscles become rigid and the blood pressure level also increases, so that your body is ready to react immediately. Simply put, stress acts like a natural defense mechanism for the body. However, if it is happening repeatedly without any reason and is accompanied by other problems, then it can be harmful to the body. Stress can often lead to problems such as depression, panic attacks, and anxiety disorders. It can lead to many problems including suicidal thoughts, heart disease, cancer, drug addiction, unprotected sex and road accidents that can lead to the death of the patient..

ANXIETY - The word anxiety is derived from the Latin word "chita" meaning to choke, strangle, to trouble and disturb, and it encompasses behavioural, emotional, and cognitive responses to the perception of danger. Worry is a normal human emotion. In moderation, it stimulates an anticipatory and adaptive response to challenging or stressful events. When anxiety becomes excessive, it destabilizes the individual and dysfunctional states result. Anxiety is considered severe when it occurs in the absence of challenge or stress, persists for a long period of time, and exceeds normal proportions, resulting in psychological, social, or occupational impairment. It can be said that when a person starts thinking about something beyond a limit, then gradually it takes the form of anxiety, it also has many levels and it affects the concerned person according to the level.

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Impact of Type of Class on Inheritance Hierarchy

Vinay Singh[1], Love Kumar[2], Sandip Kulkarni[3], Vishal Khatri[4], Sumit Singh Sonkar[5]

[1]Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[2]Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, U.P.
[3]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP
Email: vinaysinghuma@gmail.com, love.mittal@mangalayatan.edu.in

Abstract

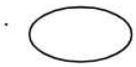
One of the major and key features of Object-Oriented programming paradigm is the inheritance. Inheritance provides reusability, which improves code maintainability, understandability, modifiability. Since hierarchy of inheritance is a collection of various types of classes their spread makes depth and breadth. The level of the depth and breadth of inheritance hierarchies, DAGs are one of the major interest areas of researchers because as the number of classes increases, complexity also increases. Recent styles of programming practices use partially implemented class and pure abstract class as the superclasses in the class design hierarchies. The evaluation of the maintainability and understandability of inheritance hierarchy should be focused on the type of classes in its use.
The prime objective of this research paper is to elaborate the effect of different types of classes for the calculation of inheritance metrics of an inheritance hierarchy.
AMS Subject Classification: 68N01, 68N19, 68N30

Keywords: Inheritance, DAG's, Maintainability, Understandability, Modifiability

1. INTRODUCTION

A class can be depicted as a programming abstraction which was introduced by Object – Oriented programming language structure (OOPLS). A Class definition has structure and behavior, which is used by its instances. One of the main concepts in OOPLS for creating a class is that implementation and interface must be separated. As far as design abstraction is concerned classes are of three kinds.

Concrete Classes: They have well-defined methods, which can be used directly by the instantiation of class. These classes can be inherited and it is possible to override them in a subclass. These classes can be super class or subclass. Concrete class directly comes from problem domain. The symbol for concrete class in this paper is denoted as –



Partially Implemented Class: These classes can only be used as superclass in which, some of the class methods may or may not have implementations. These classes are very useful in designing the framework which is required in terms of partial implementation so that the actual implementers of an application take this framework and only provide the subclasses and lot of logic is embedded in the framework itself. These classes are named as abstract class. The symbol for partially implemented class in this paper denoted as –

Pure Abstract Class: This category of classes, can only be used as a superclass due to no implementations of member functions which is inside these classes. These classes can be used when there is need to organize the classes into class hierarchies which show common behavior.

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Digital Collections Development in Libraries in ICT ERA

Ashok Kumar Upadhyay[1], Deepmala[2], Momina[3], Vinay Singh[4]

[1]Librarian and Associate Professor, Department of Library and Information Science Mangalayatan University, Aligarh, Uttar Pradesh
[2]Assistant Professor and Deputy Librarian, Department of Library and Information Science Mangalayatan University, Aligarh, Uttar Pradesh
[3]Research Scholar, Department of Library and Information Science Mangalayatan University, Aligarh, Uttar Pradesh
[4]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
Email: ashoka143@gmail.com, deepmala.mlis@gmail.com, momina.rsdlis@gmail.com, vinaysinghuma@gmail.com

Abstract
The propensity of traditional libraries also evolved in the context of the quickly evolving information and communication technology. Information and communication technology (ICT) is now playing a significant role in the library collections. The conventional library system is rapidly evolving into a digital library. In today's scenario, digital library technology for archiving is essential. The paper explores the introduction of improved ICT-based user services, where the library can start providing those services to its users. Due to the variety of digital resources that are easily accessible via the internet in the digital age, collection development policy is constantly transforming. The present study makes an effort to emphasize collection development, internet-based collection, and difficulties in collection creation in the digital age. The study at hand also discusses trends and the necessity of collection development in the digital environment. A few decades ago, it was impossible to forecast how much ICT would affect library collections, organizations, and services. This concludes with the remark that LIS professionals need to find the best solutions for library services and information management after thoroughly analysing the current situations and future trends, continuously implementing necessary reform with all of their courage and intelligence, and doing so in a way that will lead to a better future. The robustness of the availability, accessibility, and use of library and information resources is a prerequisite for teaching, learning, and research quality. The use of ICT for collection development in academic libraries is covered in this paper. Finally, it was discovered that the use of ICTs facilitates timely delivery of information resources, increases time savings in collection development, and improves connection with book vendors and publishers. The study also revealed that inadequate infrastructure and a lack of power supply make it difficult to employ ICTs effectively for collection development. It was advised that university libraries should allocate sufficient funds for ICTs and the appropriate facilities, as well as recommend training to librarians and the use of online stocks as sources of acquisition.

Keywords: Information Communication Technology, Collection Development, Digital collections, Digital resources.

Introduction

The rapid growth and development of information and communication technologies have significantly altered the environment of libraries. ICT has significantly altered library collections, organizations, and services in ways that were virtually unthinkable just a few decades ago. The library environment has transformed from a manual library to a computerized library as a result of this evolution. As a result, experts in library and information science now play very different responsibilities. The qualifications, information, and abilities needed for library and information science professionals have also altered as a result of these changes. The use of contemporary ICT devices and technologies is the responsibility of LIS professionals in this evolving library environment. the factors that have changed how academic libraries develop their collections E - Environment Because of the social and technological advancements that have occurred over the past few decades, the environment for libraries and information science has undergone significant change. Because their key objective is to address every need of those they aim at, libraries work diligently to develop collections, resources, and services that satisfy their users' cultural, informational, educational, and recreational interests. Traditional research methods relied on having access to tangible items kept in a

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An Inclusive Hybrid Approach for Predicting Defects in Microservices Architecture Across Languages

Yashwant Kumar [1], Vinay Singh[2], Love Kumar[3]

[1,2]Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[3]Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, U.P.
Email: vinaysinghuma@gmail.com, love.mittal@mangalayatan.edu.in

Abstract
In the evolving landscape of software development, where monolithic frameworks are giving way to microservices-based architectures, a significant challenge lies in crafting a unified defect prediction model that transcends the boundaries of diverse programming languages, all within the context of continuous integration and continuous delivery (CI/CD) pipelines. This paper introduces a novel hybrid machine learning approach aimed at elevating the accuracy of defect prediction by seamlessly amalgamating disparate data sources and employing a diverse set of algorithms. The ultimate objective is the creation of a defect prediction model that is both language-agnostic and project-independent.

This hybrid model amalgamates Bidirectional Long Short-Term Memory (BiLSTM) networks with Attention mechanisms, static code metrics, and BERT-based language models. BiLSTM-Attention adeptly captures temporal dependencies residing within Abstract Syntax Trees (ASTs), while static code metrics furnish crucial insights into software complexity. Simultaneously, BERT lends its prowess in comprehending the textual context, thus facilitating a holistic comprehension of code snippets.

The research methodology encompasses a rigorous quantitative approach, commencing with an exhaustive literature review to establish a solid theoretical foundation. Subsequently, an empirical study unfolds, encompassing the entire gamut of activities ranging from data collection, preprocessing, and feature engineering, to model development, training, evaluation, analysis, validation, and the eventual derivation of conclusions. The insights derived from this research endeavour aspire to advance defect prediction techniques, thereby contributing significantly to the overarching goals of software engineering—namely, the pursuit of enhanced software quality and reliability.

Keywords: Software development, microservices, defect prediction, unified model, hybrid machine learning, LSTM, Attention, static metrics, BERT, quality, reliability.

1. Introduction

Software defect prediction model is an artefact of application of statistical and machine learning techniques. Defect prediction is an essential task during software development life cycle. Early detection of faults saves money and time for the companies. It is aimed at identifying the code which has a potential bug that helps to correct it during the development process itself. The defect prediction model helps the developer and project managers to find the likelihood of defects in specific modules, codes, classes, components, processes or files. By early detection of defects; resource allocation can be efficiently managed. It also helps in prioritising test cases and ensures the software's quality. The implementation of best AI model in CI/CD pipeline is must for identifying the early bugs before successful deployment of any modules.

1.1 Background and motivation

The background and motivation for creating a good model of software defect prediction using Machine Learning techniques is to improve software development processes, reduce costs, enhance software quality, and deliver more reliable and robust software products.(Li & Leung, 2011) Let's explore the key reasons behind this initiative:

1.1.1 Quality Improvement

Defect prediction models anticipate software issues early, enabling proactive resolution for improved code quality and reduced production defects.(*ISO/IEC 9126-1:2001 - Software Engineering — Product Quality — Part 1: Quality Model*, n.d.)

1.1.2 Cost Reduction

Defect prediction models save time and resources by detecting software issues early, minimizing costly late-stage or post-production fixes.

1.1.3 Enhancing Developer Productivity

When developers have insights into potential problem areas in the code, they can focus their efforts on critical sections, optimize their work, and prioritize bug-fixing tasks more efficiently.

1.1.4 Risk Mitigation

Predicting defects can help project managers and stakeholders assess and manage project risks. It allows for better planning and resource allocation to address potential quality issues.

Probiotics in the Safeguard and Care of CRC

Ramgopal Singh[1], Rupsa Seth[2], Abhishek Pandey[3], Pratikcha Rai[4]

[1]Assistant Professor, Department of Pharmacy, Institute of Biomedical Education and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: ram.singh@mangalayatan.edu.in

Introduction

In the human 100 trillion m.o. are present that are very important of G.I homeostatis. In this one thing is to Improve the immune system of the intestine, changes the absorption of food by intestinal microbiota, and infection resistance by host and host metabolism regulation. (Nicholson et al., 2012)

According to FAOUN and WHO appropriate dose of probiotics very useful for humans. Microorganism depend on factor such as age, diet, stress, drug, life style, intestinal lumen. (Saavedra, 2007).

Colorectal epithelium have own structure and function with the immune system keep a good interaction between host and microbiota. Probiotics have very high antioxidants and immunomodulatory.

If any changes in M.O they are affected by IBD, asthma, mental disorder, CRC, obesity e.t.c. protein fermentation is completed one of the part that is distal region with the presence of toxic metabolites that obtain from protein metabolites such as indole, phenol, ammonia, sulfur compounds.

It is a live M.O which are very helpful for our healthy gut are well known functional food and it is used as to improve and restore dysbiosis and GIT disease.

Probiotics regulate the structure of gut micro flora and after gut barrier function. Probiotics used as a food additives with benficial effects on the healthy body with the help by setting microbial balance in GIT.

Lactic acid bacteria is used as a protective culture and LAB is a normal probiotics organism. Mainly genera of LAB are leuconostoc, enterococcus, lactobacillus, bifidobacterium, pediococcus, and streptococcus.

Probiotics also prevent the some disorder such as lactose malabsorption, irritable bowel syndrome, acute diarrhea and inflammatory bowel disease. (Belkaid & Hand, 2014)

Probiotics comes from the greek word

Pro=for

Bios= life

The relation of both intestinal microflora and the host are so specific if any changes in organism that changes can be occur a disease.

The major manifestation of enteric infection is diarrhea. Then discovery the some M.O that are capable to protecting the GIT from dangerous bacteria.

A male person parker do one thing that is specially design probiotics to improve animal feed supplements. Probiotics mechanism which prevent GIT disturbances.

They both are present live in human digestive system.it is help to separation of sugar and lactic acid production.

Antioxidants produced from Lactobacillus and some antioxidants are following super oxide dismutase, glutathione or catalase decrease the tumor size and inflammation.

Probiotic have many different varities in the market such capsules, powder, tablets, sprays, liquid suspension.(Fuller et al 1989)(Fuller et al,1991)(Fuller 1992)

Important characteristics for probiotics are:-

- Probiotics is act like to adhere on the human cells
- Probiotics improve the gastric acid and bile stability
- Probiotics also produced or we can say production of antimicrobial substances
- Probiotics have important role it works against the bacteria like pathogenic

Comparative Study of Different Biodiesel and its Operating Characteristics: Review Study

Shweta[1], Kishan Pal Singh[2], Asim Ahamad[3]
[1,2]Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India
[3]Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand
Email: shweta@mangalayatan.edu.in, kishan.singh@mangalayatan.edu.in, asim.ahmad@umu.ac.in

Abstract
The uncertain availability and rising price of conventional fuels have caused research to shift away from producing conventional fuels and towards producing renewable fuels. A typical method makes it possible to obtain biodiesel, a renewable fuel. Waste cooking oil (WCO) was trans esterified using heterogeneous catalysts to make biodiesel. The paper deals with the comparative study of the different biofuels available in the market and the optimum utilization of the resources for production with higher engine performance. This research paper studies the employability of biofuels in diesel engines in different operating conditions using different types of catalysts. The investigations show the three different types of fuels Ultra Low sulfur diesel, 30% by volume blend of Rapeseed Methyl Ester (RME), and 30% by volume blend of Hydrogenated Vegetable oil; test depicts the comparative properties of the fuel using three blends.

Introduction

Global demand for renewable fuels has increased as a result of the need to ensure sustainability and maintain a pollution-free environment. Global demand for renewable fuels has increased as a result of the need to ensure sustainability and maintain a pollution-free environment [1]. There is a need for additional fossil fuel substitutes due to the depletion of crude oil reserves, the issue of environmental degradation, the rise in demand for petroleum, supply instability, and the price of crude oil. [1-5]. Finding new alternative fuels that lessen our dependency on imported crude oil and promote sustainable environmental protection is urgently needed. Several fuels recently investigated are promising substitutes for the highly polluting ones currently in use. The alternative fuel with the greatest promise for use in traditional diesel engines is biodiesel. Long-chain fatty acid mono-alkyl esters are created from vegetable or animal oils and alcohol, either with or without the use of a catalyst. [5-9]

"Monoalkyl esters of long-chain fatty acids resulting from edible oils, non-edible oils, and waste oils," is how the American Society for Testing and Materials (ASTM) defines biodiesel (Yusuf). Technically speaking, it is the transesterification of vegetable or animal oils with alcohols, aided by an acid or base catalyst, at a particular reaction temperature. The end product is an alkyl ester of fatty acids.[11]. Biodiesels are divided into four generations based on the origins of their feedstock. The first generation is produced synthetically using food oils. The first generation of biodiesels was made from the vegetative oils of soybean, canola, rapeseed, and palm plants (Binweel). Second-generation non-edible oils are made from plants like pongamia pinnata, jatropha curcas, and madhuca indica in India [12]. Waste oil from the third generation is utilised for frying and other things. The third generation of biodiesel, according to some academics, is made from microalgae. According to performed research, the fourth generation contains synthetic biology technology, which is still in its infancy, [12].

The procedure used for producing biodiesel is transesterification. With catalysis present, the chemical reaction between the oil and alcohol is reversible. A different alkyl group from alcohol replaces the oil ester's alkyl group during transesterification [14]. Methanol, ethanol, propanol, and butanol are suitable short-chain alcohols for this procedure. However, due to their accessibility and favourable physical and chemical properties, methanol and ethanol are frequently used [15]. Acid, base, or enzymatic catalysts can all be used to catalyse transesterification [16]. Triglycerides are transesterified with methanol to produce biodiesel. It is preferable to use an acidic or an alkaline catalyst to speed up the reaction. As a byproduct of this process, methyl esters and glycerol can be employed in the detergent business. [12]. Fatty Acid Methyl Esters (FAME), or biodiesels as they are chemically known, has a variety of physicochemical qualities depending on the feedstock and synthesis process. When choosing a fuel for diesel engines, consider factors

Performance Analysis of Optical Transmitter with the Single Mode Laser

Karishma Singh[1], Rajesh Kumar Upadhyay[2], Ved Nath Jha[3], Nanda Shakti[4]

[1,2]Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
[3]Department of Physics, MLS College, Sarisabpahi, Madubani, Bihar, India
[4]Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand, India
Email: karishma.singh@mangalayatan.edu.in, rajeshupadhyay1@gmail.com, nanda@umu.ac.in

Abstract

During these days, optical fiber networks are widely used in telecommunication for transmitting the signal or information from one corner to another corner in the world. The efficiency of optical fiber networks deteriorates due to several limitations like attenuation, dispersion, non-linearities, fragility of fiber and other losses. So for the effective and successful communication it is important to reconsider about how optical signal is transmitted; what amount of this signal is transmitted and what distance is covered by the signal through the fiber. The non-return to zero technique based optical communication system with single channel over single mode fibre is investigated in this simulation process. On the basis of modulated outputs of NRZ technique, a comprehensive comparison is developed in terms of Quality factor and bit error rate (BER) , histogram and peak current of single mode laser to establish the merits and demerits of the network system in short as well as long haul optical transmission system. Finally, it is to be investigated the performance analysis of optical transmitter for the given fiber length with the effect of peak current of single mode laser improved by OptiSystem 19.0.

Keywords- Peak current, Single mode laser, Non return to zero, Quality factor, Bit error rate

1. Introduction

The optical transmission system on the basis of three basic components which are input devices (convert electrical signal into optical signal), transmission channel and the output devices (convert optical signal into electrical signal) we analysed its efficiency. loop control is major component used as a multiple optical fibre communication system. Another key component is single mode laser. These provide high bit rate data transmission over long distance with appropriate optical amplification. With two different options for the modulation format of the signal known as the RZ pulse generator and NRZ techniques we prefer NRZ techniques in optical fibre communication has been discussed by analysing the different peak current value of the single mode laser with using other parameters setting. The value of different parameters has been analysed such as quality factor, bit error rate, eye height for given input powers and the satisfactory outputs. Opti System Simulator Software is an advanced, innovative, rapidly developing and powerful software simulator tool for the design, testing and optimization of virtually any type of optical link in the physical layer of a broad spectrum of optical networks from ultra-long-haul system. It is an innovative optical communication system simulation package which was explored by opti Wave Company in order to meet the academic requirement of the system designers, optical communications engineers, researches.

In present year, our honourable Prime Minister Narendra Modi started **"PM Ghar Tak Fiber Yojna 2022"** in which Bharat Net Projects implemented in a phased manner to provide broadband Connectivity to all the Gram Panchayats (GPs) in the country through an optimal mix of media i.e. OFC/Radio/Satellite. As on 28.02.2022 total 5, 67, 941 km optical fiber cable (OFC) has been laid by Bharat Net Projects.

2. Simulation for the optical transmitter

Now the basic design of optical transmitter NRZ (Non Return to Zero) format with single mode LASER as shown in the figure 1.

Investigations on the Effects of Advertising on Consumer Behaviour

Mayank Kumar Jain[1], Rupa Kumari[2], Chiging Yamang[3], Neeta Deepaware[4], Somya Bansal[5]

[1]Assistant Professor, Department of Journalism and Mass Communication, Mangalayatan University, Aligarh, UP, India
[2]Faculty of Journalism and Mass Communication, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: mayank.jain@mangalayatan.edu.in

ABSTRACT
Marketers employ a range of media outlets to sway consumer decisions and keep customers loyal to their brands. In this regard, it is crucial to note that different adverts on media platforms include a variety of Information pertaining to the goods. This encourages the consumer to get interested in the goods that businesses are offering. In the modern market, changes in consumer behaviour have been strongly linked to digitization. To establish a good rapport with customers in the market, it is necessary to investigate how advertising affect consumer behaviour. This essay's primary concern is how advertising affects customer behaviour. Online surveys were employed as the main technique of data collection for this study. The 600 online participants whose information was gathered for this study provided the data. Ages and educational levels of all kinds; gender parity was also taken into account. Additionally, to examine the data gathered, the research used statistical methods such Kreskas-Wallis (K-W), Exploratory Factor Analysis (EFA), and Cranach Alpha. According to the findings of the study, advertisements like newspaper ads are linked to modifications in consumer behaviour. Additionally, it was shown that commercials on the internet and television have an impact on customer behaviour by offering users a chance to fully comprehend the characteristics of the goods on the market. The data gathered shows that advertisers have spent money on magazine and newspaper adverts to change customer behaviour and win their allegiance to the goods on the market. Marketing managers need to know the results of this study so they can decide which media to use for their commercials and how to make them more objective.

Keywords: Digitalization, Media platforms, Consumer, Behaviour, Advertisement, Objectivity

1. OVERVIEW

The researches on how advertisements affect customer behavior has been crucial in helping businesses connects with a wide range of consumer demographics and win their loyalty via the delivery of high-quality goods and services. Current advertising platforms that are accepted in the corporate world of today utilize digital technologies. As a result, a company's ability to comprehend the preferences of its target customers has greatly benefited from a concentration on social media and the internet market. Since a sizeable portion of the target market views the online marketplace as the most convenient platform to acquire things, the perception of starting a business in a free-market economy necessitates the initiative to spend in digital marketing. Through sales promotions and commercials, the company's marketing and advertising managers must grab customers' attention.

Reaching consumers and influencing their opinions, purchasing patterns, and knowledge of certain services or commodities is the major goal of advertisements. The main goal of advertisers is to affect consumers' decisions and the way they make decisions based on marketing and advertisement objectives [2]. Advertisers employ a number of ways to connect with customers. The influence of each channel on customer behaviour varies. The purpose of advertisements is to contact people and get their opinions on certain goods and services. This input is used by marketers and advertisers to raise the calibre of their goods and services and enhance the aesthetics of their advertising. Previous studies have not successfully provided solid evidence regarding the most effective methods of including the intended customers in the via adverts on a website. Hence, this Particular research is intended to fill such research gaps by addressing essential digital marketing concepts to maintain customers' loyalties and reach out to broad categories of consumers in the market [7]. For instance, the research acknowledges the consideration of agents in social media platforms to actively engage customers and

Social Justice and Status of Minorities in India with Special Reference to Muslim

Md Tarique Anwer[1], Sandip Paul[2], Pratishtha Mishra[3], Pankaj Choudhury[4]

[1]Department of Arts, Faculty of Humanities, Mangalayatan University, Aligarh, U.P.
[2]Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
Email: tarique.anwer@mangalayatan.edu.in

Abstract

The title of research paper "Social Justice and Status of Minorities in India with Special Reference to Muslim" in which we have to explore about the meaning and concept of social justice, and the status of various minorities in accordance with the Constitution of India. What are the privileges given to all minorities and especially for Muslim minority who are taking various advantages provided through the government of India after the report of Sacher committee? A detailed study has been highlighted in paper. The idea of social justice is based on the conviction that every person and every group within a society has a right to civil liberties, equality of opportunity, fairness, and participation in the social, moral, institutional, economic, and educational freedoms and obligations cherished by the community. It is the procedure by which society achieves a more equitable division of labor in the political, economic, and social spheres.

Keywords: Social Justice, Status, Constitution, Minorities, Muslim, Privileges.

Introduction:

The term "social justice" is extremely broad and inclusive, encompassing everything related to the rule of general interest, from safeguarding the interests of all marginalized groups in society, including minorities, from poverty to the eradication of poverty and illiteracy. It also has to do with eliminating enormous social ills like poverty, disease, unemployment, and malnutrition. All of this also has to do with getting rid of vested interests that get in the way of achieving the common good. The concept of social justice requires governments in underdeveloped nations to make significant efforts to ameliorate the situation of the underprivileged and weaker members of society. Because it asks that the working class not be exploited, it expands to include the economic sphere of a people's lives. According to one definition, social justice "is a concept that calls for the abolition of all forms of privileges and discriminations based on birth, race, caste, religion, creed, or sex."

Conceptions of justice that are applied to an entire society are referred to as social justice. It alludes to the notion of a just society, in which everyone is treated equally and receives a fair portion of the society's rewards. In a broad sense, social justice represents how human rights are embodied in people's daily lives at all societal levels. It can also be described as "working to bring about a world where all members of a society, regardless of background, have fundamental human rights and equal access to their community's wealth and resources." Thus, the idea of social justice is a revolutionary idea that gives life purpose and value while dynamiting the rule of law. With the help of the rule of law and legislation, Indian society aims to address the issue of socioeconomic inequality and attain economic justice without engaging in violent conflict. The concept of a welfare state assumes constant pursuit of the social justice ideology. The "significance and importance of the concept of social justice in the Indian context today" might best be summed up as follows. The phrase "social justice" is a catch-all phrase that refers to both social and economic fairness.

Concept of Social Justice:

According to the idea of social justice, there should be no social environment-based discrimination among citizens and everyone should have access to equal opportunities for personal growth and development. As a result, the fundamental idea of social justice is that no one should ever be

Women Empowerment in India: A Case Study of Delhi

Md Tarique Anwer[1], Sandip Paul[2], Pankaj Choudhury[3], Pratishtha Mishra[4]

[1]Department of Arts, Faculty of Humanities, Mangalayatan University, Aligarh, U.P.
[2]Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
Email: tarique.anwer@mangalayatan.edu.in

Abstract
Here a research paper having entitled as "Women Empowerment in India: A Case Study of Delhi" in which we have to explore the meaning and concept, challenges about the empowerment of women in India. What are the privileges provided by the Government of Delhi for the upliftment of women of Delhi? We will discuss about the all privileges provided by the Delhi Government to women in details. The topic of women's empowerment is urgent and receiving attention on a global scale. Without giving women, who make up more than 50% of the population, an equal opportunity to develop their personalities through the provision of equal authority, same rights, and equal freedom, no society or democracy can be referred to as developed. One of the most frequently used development words is "empowerment." Women's organizations, non-governmental development organizations, activists, politicians, governments, and international organizations all say that one of their objectives is empowerment, yet this concept is still not well understood. In the simplest terms possible, it essentially involves creating an atmosphere in which women may independently decide on their own personal development and excel as equals in society.

Keyword: Empowerment, Women, Delhi, Democracy, Challenges.

Introduction:
The concept of empowerment is as old as human civilization itself. Because individuals have been involved in conflict to gain power since the dawn of human civilization. Together, men and women have contributed to the advancement of human civilization. Without the assistance of both genders, it is impossible to continue the production of new generations. We can therefore conclude that both men and women are equally crucial to the advancement of human civilization worldwide. Men and women must therefore be treated equally. It has been observed that women's situation in terms of economic empowerment in our society is relatively poor. With reference to Delhi, the current study looked for the cause and a fix for the improvement of women's empowerment.

The idea of empowerment guarantees a person's freedom and ability to make decisions regarding anything that affects their day-to-day lives. In layman's terms, we may state that empowerment is a problem that gives people the chance to make wise decisions that have an impact on their daily lives. Different aspects of empowerment exist in our culture or state. Comparable to social, political, and economic empowerment. Economic empowerment refers to the ability to manage economic elements that have an impact on our daily lives in accordance with our demands.

Behind us, a discussion about women's empowerment with a focus on Delhi was going on. One of the most important issues for humans has long been considered to be empowerment. There are both live things and non-living things in the world. The human person has been considered one of the most significant living things in the planet out of these two categories. Both male and female individuals have contributed to the development of human civilization. They must be treated equally as a result. Therefore, there is no reason to discriminate between them because both men and women must work together to create the next generation of human beings. Women, however, have not been treated equally with males from the dawn of human civilization. In those days, women's primary responsibilities were to take care of the home and the children while also participating in domestic work. They had been treated like slaves, and today's women are still subject to social and familial bonds. In the twenty-first century, women's empowerment primarily focuses on their overall development. As we all know, progress of any type is feasible if we have the ability to manage our finances and property. Money problems and women's economic empowerment in India are related.

Study of the Compaction Dies Used in Powder Metallurgy and its Fatigue Analysis through Software

Mohsin Rafi[1], Mohan Maheshwari[1], Kishan Pal Singh[1], Ashutosh Kumar[2]

[1]Department of Mechanical Engineering, Mangalayatan University, Aligarh, UP, India
[2]Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand
E-mail: mohsinrafi866@gmail.com,mohan.maheshwari@mangalayatan.edu.in

Abstract: One of the major tasks in the powder metallurgy process is tool development. In this study, we described some key parameters of the die LIFE and fabricated them using fabrication techniques. EDM machining, which includes variations such as CNC thread reduction EDM machines, is the most common manufacturing method. Roughing and trimming reduction techniques were used to manufacture the punch. Examining FATIGUE LIFE shows the durability of the die in terms of cyclic vanes. This post-graduation thesis investigates the fatigue behavior of press tools made with specific materials and tool designs. The design of the tool is specifically based on cross-sections, and mild steel and aluminum are also possible materials. This piece does a great job of mentioning all the consequences.

Keywords: Powder metallurgy, Compaction Die, Fatigue Life, Design, hardness

1. INTRODUCTION

Powder metallurgy is a manufacturing process that produces precise and highly precise products by pressing powdered metals and alloys under high pressure into rigid moulds. Powder metallurgy has emerged as the primary method of manufacturing bushings, bearings, gears, and various structural additives as a result of the development and exploitation of technological advances[2].

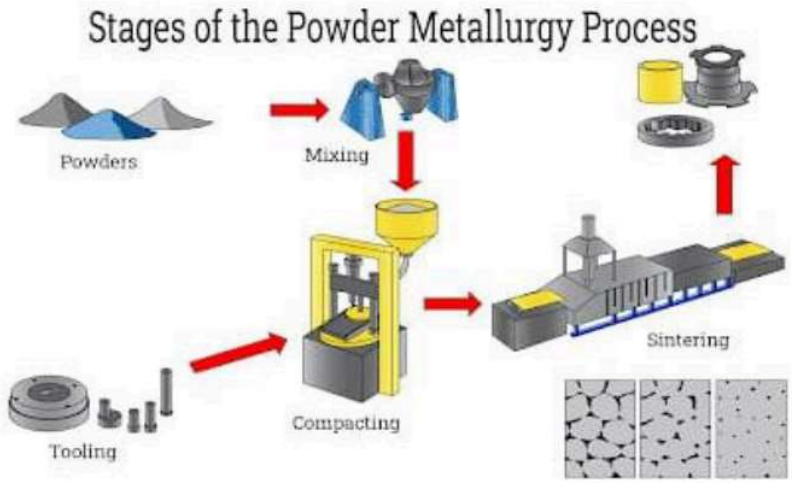

Fig-1 Powder metallurgy process

The sintering mechanism that heats and curing the component to bond the powder fragments is critical to powder metallurgy precision and performance[22]. Sintering takes place at temperatures just below the melting point of steel, creating a strong bond that holds the powdery pieces together. The Powder Metallurgy Process The ancient and unique method of forming and creating patterns from ferrous and non-ferrous metals is known as powder metallurgy[18]. For many years, powder metallurgy has been used to manufacture household goods and electrical appliances. It started as a way to mass produce

NEP 2020: A Roadmap for India's New Education Policy

Yatendra Pal[1], Roshni Kumari[2], Debaprasad Dev[3], Vinesh Kumar[4], Jai Anand Shukul[5]

[1]Associate Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP, India

[2]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

[3]Department of Chemistry, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Chemistry, Sikkim Professional University, Gangtok, Sikkim

[5]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

Email: yatendra.pal@mangalayatan.edu.in

Abstract

The National Education Policy 2020 (NEP 2020) is a blueprint for a new India that aims to reform the educational system. On July 29, 2020, the Indian cabinet gave their approval. This essay is a first attempt to highlight NEP 20020 and examine India's vision for a comprehensive education system change to meet 21st-century learning difficulties. This study is exploratory in nature and is based on secondary data. Results are based on a thorough evaluation of the body of literature. It was discovered that one of NEP 2020's key goals is to boost student enrollment by 2030 throughout all educational institutions, including elementary, secondary, and higher education. It has proposed gradual reforms to the current educational and governmental structures in order to accomplish that. This research is a preliminary analysis of a policy document and can be used as a starting point for future studies using empirical data to examine the effects of the NEP once it has been put into place. India's higher education is anticipated to make significant strides under NEP 2020. The goal is to build India for the twenty-first century, which will undoubtedly assume a leadership position on the world stage. The majority of NEP 2020 is a fairly forward-thinking text, with a clear understanding of the existing socioeconomic landscape and the potential to tackle future difficulties. If successfully executed, it has all the makings of making India a global hub for education by 2030.

Introduction

In light of the negative news and recent developments encircling the world due to the Covid-19 pandemic, the New Education Policy (NEP 2020) published by the Government of India is heartening. India established the first NEP in 1968, the second one in 1986 after a long hiatus, and the most current one in 2020 under the leadership of Prime Minister Narendra Modi. On July 29, 2020, India's National Education Policy 2020 (NEP 2020) was approved. It was created with the intention of reforming the educational system and outlining a course for a nation with an advanced educational system. The previous ISRO director K Kasturirangan served as the chair of the committee that created the NEP 2020 strategy document. The Bhartiya Janta Party (BJP), which is now in power, has pledged to completely overhaul the Indian educational system (Saha Mushkan, 2020). With NEP 2020, they kept their commitment to the country.

Background of NEP 2020

Indian higher education is already being impacted by international trends and circumstances. Since a few years ago, India has drawn a sizable number of international students, many of whom are NRIs. These students enrol in a variety of academic, tutoring, and professional programmes. Additionally, a lot of foreign colleges provide students the chance to earn their degrees without ever leaving India. The gap between public and private institutions has been reduced thanks to tendencies toward liberalising educational systems. Massive changes have been made to the kind of programmes that HEIs provide, and they have acquired mastery-level skills and capabilities that are in more demand. Future college students are more likely to choose degrees that will open up career chances.

Objective

The objective of present paper is to study the NEP 2020 recently announced by Government of India. The study reviewed the policy document NEP 2020 discusses its guidelines and proposals. It also highlights the policy maker's vision for India.

Methods & Limitation

This paper is a maiden attempt to study NEP 2020 and subject to certain limitations as the research is based on the secondary data. The results are highlighted through literature review and recommendations have been made. This study can act as a base for future research based on empirical investigations and the impacts of NEP 2020 after its implementation can be found. However, this research can be taken as base for further study on different aspect of NEP 2020.

Review of Literature

The future of the country and the fate of its citizens are determined by education, which is a key factor in the construction of a nation. In terms of the

The Effect of COVID-19 on Education

Yatendra Pal[1], Mukul SK[2], Vinesh Kumar[3], Jai Anand Shukul[4], Debaprasad Dev[5]

[1]Associate Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, Department of Chemistry, Sikkim Professional University, Gangtok, Sikkim
[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[5]Department of Chemistry, Himalayan University, Itanagar, Arunachal Pradesh
Email: yatendra.pal@mangalayatan.edu.in

Introduction

All ages of students' education have changed as a result of COVID-19. Preliminary data confirm the increased anxiety and sadness brought on by the modifications and estimate educational losses at various levels, but there are no data yet on long-term results. Quickly developed guidelines from oversight groups addressing the security and effectiveness of new educational delivery modes have been developed. The widening of socioeconomic and educational gaps for exceptional learners is not surprising. Other professions that train through progressively graduated internships, like medicine, are also negatively impacted and have had to make significant changes.

Background

Children and young adults who are students in elementary, middle, high, college, and professional schools may experience negative educational changes as a result of the switch to an online education during the coronavirus illness 2019 (COVID-19) pandemic. Age, level of maturity, and socioeconomic class can all affect the outcomes. We don't currently have a lot of information on the results, but several oversight organisations have sought to set standards, voiced their worries, and extrapolated from past events.

General educational losses and disparities

To help make up for any losses caused by this epidemic and to better prepare for future pandemics, many studies are looking at how the changing environment impacts learners' mental, physical, and social health. There is currently a lack of information, although some researchers have extrapolated from prior school closures caused by hurricanes and other natural catastrophes.

Inclement weather closures are estimated in some studies to lower middle school math grades by 0.013 to 0.039 standard deviations and natural disaster closures by up to 0.10 standard deviation decreases in overall achievement scores. The data from inclement weather closures did show a more significant decrease for children dependent on school meals, but generally the data were not stratified by socioeconomic differences. Math scores are impacted overall more negatively by school absences than English language scores for all school closures.

The Northwest Evaluation Association is a global nonprofit organization that provides research-based assessments and professional development for educators. A team of researchers at Stanford University evaluated Northwest Evaluation Association test scores for students in 17 states and the District of Columbia in the Fall of 2020 and estimated that the average student had lost one-third of a year to a full year's worth of learning in reading, and about three-quarters of a year to more than 1 year in math since schools closed in March 2020.

Families are also dealing with new strains as school attendance has transitioned from traditional attendance at a school building to attendance online. It is becoming more and more obvious that families relied on schools for much more than just reading and math. Children and adolescents, as well as their parents or guardians, depend on schools to provide for their housing, food, health care, and social well-being.

Many families have been impacted negatively by the loss of wages, leading to food insecurity and housing insecurity; some of loss this is a consequence of the need for parents to be at home with young children who cannot attend in-person school. There is evidence that this economic instability is leading to an increase in depression and anxiety. In 1 survey, 34.71% of parents reported behavioral problems in their children that they attributed to the pandemic and virtual schooling.

Children have been infected with and affected by coronavirus. In the United States, 93,605 students tested positive for COVID-19, and it was reported that 42% were Hispanic/Latino, 32% were non-Hispanic White, and 17% were non-Hispanic Black, emphasizing a disproportionate effect for children of color[1]. COVID infection itself is not the only issue that affects children's health during the pandemic. School-based health care and school-based meals are lost when school goes virtual and children of lower socioeconomic class are more severely affected by these losses. Although some districts were able to deliver school meals, school-based health care is a primary source of health care for

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Correlation between Education Qualification, Annual Income, Awareness of Artificial Intelligence and their Impact on Online Shopping

Rajeev Sharma[1], Dilip Dutt Varshney[2], Arvind Hans[3], Chiging Yamang[4], Neeta Deepaware[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Deputy Director, Centre for Teaching, Learning & Development, Teerthanker Mahaveer University, Moradabad, UP
[3]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
Email: rajeev.sharma@mangalayatan.edu.in

Abstract:

The digital age has witnessed a profound transformation in consumer behaviour, with online shopping becoming increasingly prevalent. This research explores the intricate relationships between education qualification, annual income, awareness about artificial intelligence (AI), and their collective influence on online shopping behaviour. Statistical analysis reveals noteworthy correlations, shedding light on the nuanced dynamics within the digital commerce landscape.

1. Introduction:

The digitalization of commerce has ushered in a paradigm shift in the way consumers engage with businesses and make purchase decisions. As the convenience and accessibility of online shopping continue to redefine retail, it becomes paramount to decipher the multifaceted factors that shape consumers' preferences and behaviours in the digital marketplace. This study delves into the intricate interplay between education qualification, annual income, awareness about artificial intelligence (AI), and their collective impact on online shopping behaviour.

The rapid evolution of e-commerce, characterized by technological innovations and changing consumer expectations, necessitates a deeper understanding of the determinants of online shopping behaviour. This research investigates how socioeconomic factors, such as education qualification and annual income, intersect with the emerging influence of AI awareness in shaping digital consumerism. As the digital marketplace expands, these variables come to the forefront of academic inquiry and practical business strategies.

1.1 Background and Rationale:

Online shopping has experienced remarkable growth, with a myriad of factors influencing this evolution. The confluence of technological advancements, internet ubiquity, and changing consumer expectations has propelled the digital commerce landscape into a dynamic and competitive arena. In this milieu, understanding the determinants of online shopping behaviour is indispensable for businesses aiming to thrive in this digital age.

Education qualification and annual income have long been recognized as pivotal socio-economic variables that shape consumer behaviour. Higher education often correlates with increased digital literacy and technological adoption, potentially impacting the frequency and nature of online shopping interactions. Similarly, annual income serves as a barometer of consumers' purchasing power, affecting their ability to engage in online shopping activities and the extent to which they explore the digital marketplace.

Examining Changes In Consumer Buying Behaviour Due To Covid-19 In Kanpur Division

Anurag Shakya[1], Kuldeep Kumar Arya[2], Nyarik Geyi[3], Anupama Verma[4], Shivangi Dwivedi[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P., India.
[2]Assistantt. Professor, Vidya Mandir Mahavidyalaya, Kaimganj, Farrukhabad, U.P., India.
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
Email: anurag.shakya@mangalayatan.edu.in
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ABSTRACT:

The COVID-19 pandemic, which originated in India during the early months of 2020, has had a profound impact on consumer buying behaviour in the Kanpur Division. As the virus rapidly spread across the nation and the world, it led to significant changes in how consumers approach their purchasing decisions. This research paper aims to examine the shifts in consumer buying behaviour in the Indian environment, specifically focusing on the Kanpur Division, before, during, and after the waves of COVID-19 in the years 2020, 2021, and 2022.

The research analyzes the effect of personal and psychological factors on consumer behaviour, taking into account the various waves of the pandemic that occurred during this period. The research paper delves into how consumers have modified their habits and preferences during the pandemic. As the fear of subsequent waves persisted, consumers displayed a decline in physical store visits, leading businesses to adopt home delivery services. The evolution of technology further shaped consumer habits during this time. It is essential to recognize that the ongoing pandemic has brought unforeseen circumstances, demanding adaptability and resilience from businesses and consumers alike.

By examining consumer buying behaviour in the Kanpur Division across three phases of the pandemic, this research paper sheds light on the long-term implications for businesses and provides insights for crafting effective strategies. Understanding these behavioural changes will enable businesses to navigate future uncertainties and cater to the evolving needs of consumers in the post-pandemic landscape.

KEYWORDS:
COVID-19 pandemic, Consumer buying behaviour, Waves of COVID-19, Personal factors, Psychological factors, Pre-pandemic, During pandemic, Post-pandemic, Kanpur Division.

INTRODUCTION:

The COVID-19 pandemic, which originated in India during the early months of 2020, has proven to be one of the most significant global challenges of our time. This unprecedented health crisis has not only caused immense loss of life but has also profoundly impacted various aspects of society, including consumer behaviour. The Kanpur Division, situated in India, has been no exception to the transformative effects of the pandemic on consumer buying habits.

In the wake of the COVID-19 outbreak, the Kanpur Division witnessed drastic shifts in consumer preferences and purchasing patterns. The fear of the virus's spread, coupled with stringent lockdown measures and social distancing protocols, compelled consumers to reassess their buying behaviours and make significant adjustments to their daily lives. Understanding these changes in consumer buying behaviour during and after the pandemic has become crucial for businesses and policymakers seeking to adapt and respond effectively to the evolving market landscape.

This research paper aims to delve into the various waves of the COVID-19 pandemic and their impact on consumer behaviour in the Kanpur Division. By studying the changes in consumer preferences, habits, and decision-making processes, we seek to identify the underlying personal and psychological factors

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Application of Internet of Things (IOT) in Libraries

Deepmala[1], Rajesh Kumar Upadhyay[2], Ashok Kumar Upadhyay[3], Md. Amir Khusru Akhtar[4]

[1]Assistant Professor and Deputy Librarian, Dept. of Library and Information Science, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP
[3]Librarian and Associate Professor, Dept. of Library and Information Science, Mangalayatan University, Aligarh, UP
[4]Associate Professor, Faculty of Computing & Information Technology Usha Martin University, Ranchi, Jharkhand
Email: deepmala.mlis@gmail.com, rajeshupadhyay1@gmail.com, ashoka143@gmail.com, amir@umu.ac.in

Abstract:

The concept of libraries and information centres has changed as a result of information and communication technology. Libraries today serve as more than just repositories for books and records; they have evolved into information Access Centres where, with the aid of the Internet, a variety of ideas, trends, and activities involving human connection and information are being developed. The current study highlights the applicability and impact of 10T on a variety of library tasks, including circulation, document preservation, theft management, RFID, tracking resource movement, and inventory control. The study examined how diverse human-based performances were replaced by machine-based activities, particularly in libraries and information centres, by information and communication technology.

Keywords: Internet of Things, Library and Information Centres, Information Communication Technology, Smart Libraries

Introduction:

The history of information technology is outlined by Will Brady and Jeffery Elkner in four stages, starting with the pre-mechanical era and moving through the mechanical era and electromechanical era. They classify the time period between 3000 B.C. and 1450 A.D. as the pre-mechanical age, during which time people began to establish languages, signs, and other forms of communication for the purpose of exchanging ideas and information. During this time, alphabets containing the straightforward images and patterns known as Phoenician alphabets were invented. They claim that Indians discovered the number system (1–9) in the year 1000 A.D. The development of calculating machines was based on the number system. They estimate the mechanical era to be between 1450 and 1840 A.D. During this time, numerous novel technologies were created, such as the slide rules used in analogue computers for calculation, the Pascaline device by Pascal, and the difference engine concept by Charles Babbage. In this era, fundamental laws, ideas, and theories were introduced, laying the groundwork for modern information and computer technology. Between 1840 and 1940, the third stage—known as electromechanical—was developed. Several significant inventions, including the telegraph, Morse Code, and the telephone by Graham Bell in 1876, were made during this time.

The radio was developed by Marconi in 1894, marking the beginning of the electromechanical era. The second phase saw the creation of Marc 1, the first automatic computer device, in a Harvard University lab in 1940. In the fourth stage, Brady and Elkner describe how the US Army created the first high-speed digital computer, known as ENIVAC, at the dawn of the modern computer era. Vacuum tubes were employed in the first generation of computers, which were developed across five generations. In second-generation computers, transistors took the place of vacuum tubes. Integrated circuits took the place of transistors in third-generation computers. A very large scale integrated chip including memory, logic, and controlled circuits was introduced in the fourth generation of computers. The central processor units that form the basis of fourth-generation computers enable their small size. Because of this, fourth-generation computers, sometimes known as personal computers, quickly found a position in homes and workplaces. A new era, known as the age of artificial intelligence, has now replaced the information and computer age. Artificial

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Modelling the determinants of supply chain management to improve organisation performance: Study of Indian Cement Industry

Rajeev Sharma[1], Shashi Kant Dikshit[2], Shabana Bano[3], Yibom Bagra[4], Dilip Singh Hazari[5], Salima Bhattarai[6]

[1]Professor, Mangalayatan University, Beswan-Aligarh, [2]Assistant Professor, CVS Department, [2]G.D Goenka University, Gurugram
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
[6]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: rajeev.sharma@mangalayatan.edu.in

Abstract

In cement industry, companies are selling product that is high density and low value to weight ratio and focusing on economies of scale to earn more profit. In cement industry the competition is not among companies but between the supply chains and because of this supply chain management has become the effective way to achieve competitive advantage and improve organisation performance. This study is conducted to analyse the factors that are responsible for strong relation between SC management practices, Supply chain performance, competitive advantage and organisation performance. In this study, to understand the relationship 6 dimensions of supply chain management practices, 5 dimensions of supply chain performance, 5 dimensions of competitive advantage and 4 dimensions of organisation performance was identified and empirically tested. Data for the study was collect from SC professionals and employees from cement industry with this assumption that they are aware about the supply chain concept. Collected data was digitized and analysed using SmartPLS.

Key Words: Cement industry, Supply chain management, Supply chain performance, Competitive advantage, Organizational performance, Structural equation modelling

1. Introduction

Supply Chain Management (SCM) is a critical aspect of the Indian cement industry, which plays a pivotal role in the country's infrastructure development and construction sector. SCM involves the planning, coordination, and optimization of various activities, from raw material procurement to product delivery, in order to ensure the efficient flow of goods and services within the industry. In the case of the Indian cement industry, SCM is particularly important due to its complex network of operations and the need to manage resources effectively to meet the growing demand for cement.

Historical Perspective: The Indian cement industry has come a long way since its inception in the early 20th century. It has evolved from a handful of manufacturers to a highly competitive sector with numerous players. This transformation has necessitated the development of sophisticated supply chain strategies to ensure the timely availability of raw materials, efficient production processes, and reliable distribution networks.

Key Components of Supply Chain Management in the Indian Cement Industry:

Raw Material Procurement: One of the critical components of SCM in the cement industry is the procurement of raw materials, primarily limestone, clay, and gypsum. Cement companies need to secure a consistent supply of high-quality raw materials to maintain production efficiency.

Production Process: The manufacturing process in the cement industry involves the precise blending of raw materials, clinker production, and grinding to produce the final cement product.

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Forensic Entomological Importance of "Hairy Maggot Blowfly": A Study in Reference to Kerala, India

Madona Mathew [a++*] and Jaseel Abdul Kader V. [b#]

[a] Department of Forensic Science, Usha Martin University, Jharkhand, India.
[b] Department of Forensic Science, Jharkhand Raksha Shakti University, Jharkhand, India.

Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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Original Research Article

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ABSTRACT

In order to highlight the scopes in entomology, this study aims to determine the usefulness and applicability of forensic entomology from an Indian perspective, to develop an understanding of insect lifecycle, awareness of beneficial insects, understanding of forensic entomology, and increase critical thinking application. In situations where the body has been dead for a while, forensic entomology is quite helpful. After a few days, bug evidence is frequently the most reliable and, in some cases, the only way to determine how long has passed after death. The life cycle of Chrysomya rufifacies was examined in the afore mentioned study at Kerala, India, under a room temperature (dry) 24-280C.

[++] Assistant Professor;
[#] PG Student;
**Corresponding author: Email: madona2908mj@gmail.com;*

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Unearthing Nature's Cleanup Crew: A Comprehensive Review of Beetle Succession on Vertebrate Corpses

Madona Mathew [a*]

[a] Department of Forensic Science, Usha Martin University, Jharkhand, India.

Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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Review Article

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ABSTRACT

The study of beetles to criminal or legal cases also comes under Forensic entomology. Entomologists have understood for many years that the beetles found on dead bodies as well as the insects convey a story. Decomposition is a complex ecological process in which various organisms, including insects, play critical roles. Among these insects, beetles (Order Coleoptera) are primary decomposers and are integral to the successional process on vertebrate corpses. Beetles frequently occur in the later phases of the decomposition process, which is crucial for the body's dry bones. They are typically discovered on more decomposed corpses, and scientists have been able to calculate the PMI (Post Mortem Interval) by investigating them. Because the variety of beetles on a body changes through time, it can provide as proof of ecological succession. This paper deals with the biology of beetle succession on the corpse.

This paper explores the ecological significance of beetle succession on vertebrate corpses, focusing on their taxonomic diversity, life histories, and forensic applications. The paper also discusses the potential for beetles to serve as indicators of post-mortem interval (PMI) in forensic investigations.

**Corresponding author: Email: madona2908mj@gmail.com;*

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Navigating the Leadership Labyrinth: A Guide to Effective Management

Ankur Kumar Agrawal[1], Md Saifullah Khalid[2], Nyarik Geyi[3], Jai Anand Shukul[4], Vipul Jain[5]
[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Associate Professor, Faculty of Business Management & Commerce Usha Martin University, Jharkhand
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[5]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email ID: ankur.agarwal@mangalayatan.edu.in

Abstract: This article explores the intricate journey of leadership, likened to a labyrinth, where effective management skills serve as the guiding thread. We delve into key principles including self-awareness, vision, communication, adaptability, delegation, conflict resolution, and decision-making. These skills, interconnected and vital, empower leaders to navigate challenges and inspire their teams. The cornerstone of leadership lies in building authentic relationships, while embracing change and sharing the load through delegation are essential. Conflict resolution is pivotal, transforming disputes into opportunities for growth. In the end, leadership is an ongoing journey, demanding continuous growth and commitment to empower and guide teams to success.

Keywords: Leadership, Management, Labyrinth, Skills, Effective

Introduction:

In the dynamic and ever-evolving landscape of the modern workplace, the role of a leader is akin to that of a seasoned explorer, venturing through a labyrinth of challenges, decisions, and opportunities [1]. Effective management, the compass guiding this expedition, is the linchpin to organizational success. Like Theseus with his thread, a skilled manager must navigate the intricacies of this labyrinth, making crucial choices, building relationships, and inspiring teams to reach the coveted goal of excellence [2].

This article is a roadmap for aspiring and current leaders who seek to conquer the leadership labyrinth and emerge as effective managers [3]. We will delve into the fundamental principles, strategies, and attributes that set the course for effective leadership. Each twist and turn of the labyrinth will reveal key insights, empowering leaders to make informed decisions, foster team cohesion, and drive their organizations toward success.

At the heart of this journey is the foundational principle of self-awareness. Before venturing into the labyrinth, a leader must first understand themselves - their strengths, weaknesses, values, and motivations [4]. Self-awareness is the compass that prevents one from becoming lost within the maze of leadership, enabling them to manage their emotions, make sound decisions, and build authentic relationships with their team members.

A clear vision and purpose provide the North Star that illuminates the path ahead. Effective managers are visionaries who articulate a compelling narrative that inspires and unites their team [5]. This vision becomes the guiding light, allowing leaders to make strategic decisions that align with their overarching goals.

Communication, the guiding thread in the labyrinth, is the lifeline that connects leaders to their teams. Effective managers are adept at both conveying their vision clearly and actively listening to the perspectives and concerns of their team members. In this way, communication fosters a sense of belonging and shared purpose within the organization [6].

Building strong relationships with team members is the cornerstone of effective management. In the labyrinth, trust and mutual respect are the bridges that lead to success. Leaders invest time in getting to know their team members on a personal level, understanding their unique strengths, aspirations, and challenges.

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Strategic Symphony: Orchestrating Success Through Management

Saurabh Kumar[1], Arvind Hans[2], Chiging Yamang[3], Swati Saxena[4], Vipul Jain[5]
[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P.
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[5]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: saurabh.kumar@mangalayatan.edu.in

Abstract: This article explores the analogy between effective management and orchestrating a symphony, highlighting the essential elements that contribute to organizational success. It emphasizes the significance of visionary leadership, teamwork, strategic planning, skill development, adaptability, customer-centricity, and celebrating achievements in creating a harmonious business performance. Drawing parallels between the world of music and the corporate environment, the article underscores the importance of these principles for navigating the dynamic and competitive landscape of today's business world.

Keywords: Management, Orchestration, Strategic Planning, Team Collaboration, Customer-Centric

Introduction:

In the world of business, where complexity and dynamism reign supreme, effective management stands as the central orchestrator of success. Like a symphony's conductor guiding a diverse ensemble of musicians to produce harmonious melodies, skilled managers bring together the various elements within an organization to achieve remarkable results [1]. This analogy encapsulates the essence of strategic management – the art of coordinating and aligning resources, teams, and strategies to create a unified and impactful organizational performance [2]. In this article, we embark on a journey to explore the profound synergy between orchestration and strategic management, shedding light on how these principles are interwoven to craft a symphony of success in the ever-evolving world of business.

Much like a maestro who commands the orchestra with unwavering leadership and vision, successful managers provide the guiding light that steers their teams towards a common objective [3]. Visionary leadership serves as the compass, illuminating the path ahead and inspiring teams to invest their skills, time, and dedication in pursuit of shared goals. The conductor of a symphony communicates the nuances of a composition to the musicians; likewise, an effective manager conveys the company's mission, values, and long-term vision to ensure that every team member understands their role in the grand performance [4].

The heart of any symphony lies in the harmonious collaboration among its sections: strings, woodwinds, brass, and percussion. In an organization, different departments and teams represent these sections, and their effective collaboration is paramount to achieving success [5]. Managers, in their role as facilitators, must ensure that each section of the organization not only understands but also actively contributes to the overarching strategy. Just as a conductor ensures that every instrument plays its part in synchrony, managers play a pivotal role in fostering a culture of cooperation and effective communication, ensuring that the entire organization works in harmony.

Strategic planning serves as the compositional score in the world of business, akin to the meticulous work of a symphony's composer. Through strategic planning, organizations chart their course, set long-term objectives, and analyze market trends to create a roadmap for success. This plan becomes the guiding score, leading the organization towards its goals, much like the sheet music guiding musicians through a symphony [6]. Managers are responsible for not only developing this strategic plan but also continuously reviewing and adapting it, just as a conductor might adjust the tempo or dynamics during a performance to ensure that the desired outcome is achieved.

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The Agile Manager's Playbook: Thriving in a Rapidly Changing World

Rajeev Sharma[1], Anupama Verma[2], Somya Bansal[3], Chiging Yamang[4], Neeta Deepaware[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
Email: rajeev.sharma@mangalayatan.edu.in

Abstract: In today's ever-evolving business landscape, the Agile Manager's Playbook emerges as a comprehensive guide for navigating a world characterized by rapid change and uncertainty. Rooted in the Agile mindset, this playbook offers a transformative approach to leadership, emphasizing adaptability, customer-centricity, collaboration, continuous learning, and resilience. The Key Principles of Agile Management form the core of this playbook, providing a foundation for managers to thrive by embracing change as an opportunity for growth. Moreover, the Tools and Practices for Agile Managers equip leaders with practical means to implement these principles effectively, from frameworks like Scrum and Kanban to Lean thinking, design thinking, and Agile metrics. As organizations and managers embrace this dynamic playbook, they will not only survive but excel in an environment where change is the only constant. By fostering a culture of agility, they will unlock their potential for innovation, customer satisfaction, and adaptability, propelling them toward a more prosperous and resilient future.

Keywords: Agile Management, Rapid Change, Adaptability, Customer-Centricity, Continuous Learning

Introduction:

In the tumultuous landscape of the 21st century, characterized by disruptive technologies, evolving customer demands, and unforeseen global events, the role of a manager has undergone a profound transformation [1]. The traditional manager, who thrived in a stable, predictable environment, has given way to a new breed – the Agile Manager. This manager operates at the intersection of leadership, adaptability, and innovation, armed with a playbook designed to not only survive but thrive in a rapidly changing world [2].

The pace of change in today's business ecosystem is unparalleled. Technological advancements, such as artificial intelligence, blockchain, and the Internet of Things, have accelerated the speed at which industries evolve. Simultaneously, customer preferences are shifting at an unprecedented rate, and businesses must respond swiftly to stay relevant. The global landscape has proven to be equally unpredictable, with unforeseen events like the COVID-19 pandemic reshaping entire industries overnight. To succeed in this volatile environment, managers must adopt a fundamentally different approach – one grounded in agility [3].

The Agile Manager's Playbook is a compass for navigating the complexities of a rapidly changing world. It's a dynamic framework that equips managers with the tools and principles necessary to not just survive, but to thrive in this new reality. While the term "agile" has its roots in software development, it has transcended its origins to become a universally applicable philosophy for managing change [4]. Agile management is not a one-size-fits-all solution; it's a mindset, a set of principles, and a toolkit that can be tailored to diverse industries, functions, and organizations of all sizes.

At its heart, the Agile Manager's Playbook is built upon the agile mindset. This mindset emphasizes adaptability, continuous learning, and resilience in the face of uncertainty. Agile managers do not fear change; they embrace it as an opportunity for growth and innovation. They view their teams as dynamic organisms capable of rapid evolution, and they cultivate a culture of experimentation and learning [5].

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Managing for Innovation: Unleashing Creativity in the Workplace

Niyati Sharma[1], Nyarik Geyi[2], Nitesh Kumar[3], Shivangi Dwivedi[4], Amit Srivastav[5]

[1]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P., India.
[2]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: niyati.sharma@mangalayatan.edu.in

Abstract: This article explores the critical components of managing for innovation and fostering creativity in the workplace. It highlights the significance of trust, diversity, resources, collaboration, growth mindset, and the celebration of failure as catalysts for innovation. By nurturing a culture that embraces these elements, organizations can empower their employees to unleash their creative potential, adapt to change, and thrive in today's dynamic business environment. The strategies and best practices discussed provide a roadmap for organizations to harness innovation as a driving force for long-term success.

Keywords: Innovation, Creativity, Workplace, Culture, Growth Mindset

Introduction:

In today's fast-paced and competitive business world, innovation has evolved from being merely a buzzword to a fundamental requirement for success. Organizations that can consistently innovate and adapt to the dynamic landscape are the ones that not only survive but also thrive [1]. However, innovation isn't a spontaneous occurrence; it's a strategic outcome of effective management and a workplace culture that nurtures creativity.

The capacity for innovation exists within every individual, but it requires the right environment, leadership, and support to flourish. This article explores the critical aspects of managing for innovation and unlocking the creative potential within your workforce. It is a journey into the art and science of fostering a workplace culture where innovation isn't a rare occurrence but a daily practice [2].

Innovation is no longer the exclusive domain of R&D departments or a select group of visionaries within an organization. Instead, it's a collective endeavor that involves employees at all levels and across all functions [3]. The most successful organizations recognize that innovation isn't limited to developing groundbreaking products or services; it extends to improving processes, enhancing customer experiences, and finding inventive solutions to everyday challenges.

At the heart of this transformation is the concept of creativity. Creativity is the wellspring from which innovation flows [4]. It's about thinking differently, questioning the status quo, and challenging conventional wisdom. And it's not limited to the arts or design; creativity can be harnessed in finance, engineering, marketing, and any other field you can imagine [5].

This article delves into the strategies and best practices that enable organizations to cultivate a culture of trust, psychological safety, and inclusion. It discusses the importance of providing the right resources, encouraging cross-functional collaboration, and fostering a growth mindset. It also explores the value of setting clear goals, allowing time for exploration, and celebrating failure as a stepping stone to success [6].

By the end of this article, you will have a comprehensive understanding of how to manage for innovation and create an environment where creativity thrives. You will be equipped with the knowledge and tools to transform

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The Empathetic Leader: Harnessing Emotional Intelligence for Management

Unnati Jadaun[1], Shabana Bano[2], Yibom Bagra[3], Dilip Singh Hazari[4], Salima Bhattarai[5]

[1]Assistant Professor, Institute of Business Management & Commerce Mangalayatan University, Beswan, Aligarh, UP
[2]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: unnati.jadaun@mangalayatan.edu.in

Abstract: Empathetic leadership, characterized by emotional intelligence and a profound understanding of team members' emotions, is redefining the modern workplace. This leadership style prioritizes active listening, personalized support, and conflict resolution, resulting in increased employee engagement, improved mental health, and enhanced team dynamics. Empathetic leaders attract top talent, foster innovation, and create a positive organizational culture. In an era of remote work and evolving workplace dynamics, empathetic leadership is a crucial skill that can be cultivated to navigate complex emotional landscapes and drive success. This abstract summarizes the key principles and benefits of empathetic leadership in today's ever-changing business world.

Keywords: Empathetic leadership, Emotional intelligence, Team dynamics, Employee engagement, Organizational culture

Introduction:

In today's ever-evolving and interconnected world, the role of leadership has undergone a profound transformation. Gone are the days when leadership was primarily defined by a leader's ability to make strategic decisions and achieve business objectives [1]. While these skills are undeniably important, they no longer suffice in isolation. Instead, a new paradigm of leadership has emerged, one that places a premium on emotional intelligence and empathy—qualities embodied by the empathetic leader [2].

The empathetic leader represents a pivotal shift in how we conceive and practice leadership. This transformation is driven by a recognition that the most successful leaders are those who can truly understand and connect with the people they lead [3]. The capacity to empathize, comprehend, and respond to the emotions and needs of others is now considered a critical component of effective leadership, often referred to as emotional intelligence or EQ (Emotional Quotient).

Emotional intelligence encompasses a wide range of skills and competencies, including self-awareness, self-regulation, social awareness, and relationship management. These skills, collectively, allow leaders to navigate the complex and nuanced landscape of human emotions, both within themselves and among their teams [4].

Self-awareness is the foundation upon which emotional intelligence is built. It involves a deep understanding of one's own emotions, strengths, weaknesses, and how these internal dynamics influence behavior and decision-making. An empathetic leader is keenly aware of their emotional state and its impact on those around them, allowing them to manage themselves effectively and authentically.

Self-regulation is the ability to control impulsive behaviors and manage emotions even in challenging situations. Empathetic leaders exhibit composure, resilience, and the capacity to adapt to changing circumstances. They lead by example, demonstrating that emotional reactions need not dictate one's actions.

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Beyond the Balance Sheet: Financial Management for Non-Financial Managers

Ankur Kumar Agrawal[1], Vipul Jain[2], Manoj Kumar Sahoo[3], Nyarik Geyi[4], Jai Anand Shukul[5]
[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[3]Assistant Professor, Faculty of Business Management & Commerce Usha Martin University, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
Email ID: ankur.agarwal@mangalayatan.edu.in

Abstract: Financial management is no longer the sole purview of the finance department. Non-financial managers, responsible for various aspects of organizational success, must possess a fundamental understanding of financial principles to excel in their roles. This article explores the critical importance of financial management for non-financial managers, highlighting its role in strategic decision-making, resource allocation, performance evaluation, and effective communication. To bridge the gap between financial jargon and practical application, strategies such as customized training programs, interactive workshops, mentoring, and clear reporting are discussed. Non-financial managers should focus on key areas like financial statements, budgeting, cost control, financial ratios, and cash flow management. By doing so, they can make informed decisions, contribute to cost-effective resource allocation, and align their activities with organizational goals. The result is an organization better equipped to navigate financial complexities, maximize profitability, and sustain long-term success in today's dynamic business landscape.

Keywords: Financial Management, Non-Financial Managers, Financial Literacy, Strategic Decision-Making, Resource Allocation, Bridge Financial Jargon

Introduction:

In the dynamic landscape of modern business, the role of financial management has evolved far beyond the confines of the finance department [1]. In an era where every decision holds financial implications, the ability to understand and apply financial principles is no longer an exclusive domain of financial professionals. Non-financial managers, individuals who oversee various aspects of an organization without a specialized financial background, play a pivotal role in shaping an enterprise's financial health and sustainability [2]. This article embarks on a journey beyond the balance sheet, exploring the critical importance of financial management for non-financial managers, delving into the areas of focus that can empower them, and unveiling strategies to bridge the divide between complex financial jargon and practical, actionable insights [3].

The notion that financial management is an exclusive province of accountants and finance specialists is rapidly becoming antiquated. In the modern corporate ecosystem, managers from diverse departments - marketing, operations, human resources, and more - are entrusted with making crucial decisions that have far-reaching financial consequences [4]. From determining project budgets and allocating resources to assessing the feasibility of expansion strategies, non-financial managers find themselves at the intersection of operational excellence and fiscal responsibility.

The significance of financial acumen in this context cannot be overstated. Imagine a marketing manager planning a new product launch. To make informed decisions regarding advertising budgets, pricing strategies, and market expansion, a fundamental understanding of financial principles is indispensable [5]. Similarly, a production manager tasked with optimizing manufacturing processes must consider the cost implications of their decisions, from raw materials procurement to production efficiency. Non-financial managers often find themselves in situations where their choices directly impact a company's profitability, and the lack of financial literacy can lead to suboptimal decisions with adverse consequences [6].

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Managing Across Generations: Bridging the Leadership Gap

Shalu Agrawal[1], Ankit Khare[2], Shabana Bano[3], Yibom Bagra[4], Salima Bhattarai[5]

[1]Assistant Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP
[2]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: shalu.agrawal@mangalayatan.edu.in

Abstract: Managing a multi-generational workforce is a critical challenge for today's leaders. With Baby Boomers, Generation X, Millennials, and Generation Z coexisting in the workplace, understanding the generational divide and bridging the leadership gap is essential for organizational success. This article explores the distinct characteristics of each generation, from work preferences to communication styles, and provides practical strategies for effective leadership. Effective communication, tailored to generational preferences, is at the core of bridging the divide. Flexibility and adaptability in work arrangements accommodate diverse needs, while mentorship programs foster knowledge transfer. Recognition and rewards should align with generational values, and a culture of inclusivity and diversity promotes innovation. Continuous learning ensures all generations remain competitive, and leading by example sets the tone for collaboration and respect. By embracing the unique strengths of each generation and fostering an inclusive environment, leaders can navigate the complexities of a multi-generational workforce and drive their organizations toward innovation and success in the ever-changing business landscape.

Keywords: Generational Divide, Multi-generational Workforce, Leadership Gap, Effective Communication, Inclusivity and Diversity

Introduction:

he modern workplace is a fascinating mosaic, woven together with threads of diverse backgrounds, experiences, and perspectives [1]. As we step into the 21st century, organizations find themselves in the midst of a generational shift unlike any other in history. From Baby Boomers who came of age in a post-war world of economic prosperity to Generation Z, the digital natives who grew up with smartphones in hand, the workforce now spans five distinct generations [2]. This multi-generational workforce is a testament to the enduring power of human innovation and adaptation.

While this generational diversity enriches the fabric of organizations, it also presents a unique challenge: how to effectively manage and lead across generations. Each generation brings its own set of values, work habits, communication preferences, and expectations to the workplace [3]. This generational divide, if not bridged effectively, can lead to miscommunication, frustration, and missed opportunities. Therefore, understanding and navigating this complex terrain is crucial for leaders and managers aiming to create harmonious, productive, and innovative teams.

In this article, we embark on a journey to explore the intricacies of managing across generations and to provide actionable strategies for bridging the leadership gap. We'll delve into the distinct characteristics of each generation and unveil the keys to unlocking the potential of this diverse workforce.

Before we can begin bridging the leadership gap, we must first understand the unique colors and patterns that each generation adds to the generational kaleidoscope of the modern workplace.

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Crisis Management Unleashed: Strategies for Turbulent Times

Saurabh Kumar[1], Arvind Hans[2], Chiging Yamang[3], Swati Saxena[4], Vipul Jain[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[5]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: saurabh.kumar@mangalayatan.edu.in

Abstract: Effective crisis management is paramount in today's unpredictable world. This article explores the key strategies that underpin successful crisis management, including proactive planning, strong leadership, cross-functional teams, training and drills, resilience, adaptability, and post-crisis evaluation. Proactive planning involves identifying threats and vulnerabilities, while strong leadership and communication are crucial during crises. Cross-functional teams enable comprehensive responses, and training enhances preparedness. Resilience and adaptability foster organizational strength, while post-crisis evaluation drives continuous improvement. These strategies, when integrated into an organization's culture, enable it to navigate turbulent times with confidence and emerge stronger from adversity.

Keywords: Crisis Management, Resilience, Adaptability, Leadership, Preparedness

Introduction:

In an era characterized by rapid change, unprecedented challenges, and an increasingly interconnected global landscape, the art of crisis management has assumed a paramount role in the survival and sustainability of organizations, governments, and institutions alike [1]. Whether confronting natural disasters, global pandemics, financial upheavals, cybersecurity breaches, or a myriad of other unforeseen disruptions, the ability to manage crises effectively has become a defining factor in the resilience and longevity of entities in today's turbulent times [2].

The concept of crisis management has evolved from being a reactive necessity to becoming a proactive imperative. It is no longer sufficient to merely respond to crises as they unfold; organizations must proactively anticipate potential threats, vulnerabilities, and vulnerabilities [3]. As the saying goes, "Hope for the best, but prepare for the worst." This sentiment underlines the foundational principle of contemporary crisis management: being prepared to face the unexpected [4].

In the following pages, we will embark on a journey through the dynamic world of crisis management, exploring the strategies, principles, and best practices that organizations must embrace to weather the storm when crisis strikes. From the vital importance of proactive planning to the indispensable role of resilient leadership, we will delve into the multifaceted aspects of crisis management that are essential for thriving in an unpredictable environment [5].

One of the cornerstones of effective crisis management is proactive planning. Organizations must embark on a rigorous process of risk assessment, scenario planning, and the development of comprehensive crisis management plans [6]. By identifying potential threats and weaknesses in advance, entities can create strategies and responses that are not only effective but also agile, capable of adapting to evolving circumstances.

Leadership and communication are pivotal in times of crisis. Strong, level-headed leaders are indispensable, capable of making decisive decisions under pressure and guiding their teams with confidence [7]. Equally critical is transparent and open communication. In an age where information travels at lightning speed, organizations

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Inclusive Leadership: Fostering Diversity and Equity in Management

Rajeev Sharma[1], Anupama Verma[2], Somya Bansal[3], Chiging Yamang[4], Neeta Deepaware[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
Email: rajeev.sharma@mangalayatan.edu.in

Abstract: Inclusive leadership has emerged as a transformative approach essential for organizations navigating the complexities of the 21st-century business landscape. This article explores the principles and benefits of inclusive leadership in fostering diversity and equity within management structures. Inclusive leadership hinges on self-awareness, empathy, open-mindedness, accountability, and collaboration. Leaders who prioritize these principles create environments where all employees, regardless of their backgrounds, feel valued, heard, and empowered. By dismantling biases and systemic barriers, inclusive leaders promote innovation, employee engagement, and informed decision-making. The benefits of inclusive leadership extend beyond the workplace, contributing to broader social justice and equality conversations. Organizations that champion diversity and equity inspire positive change, setting the standards for others to follow. In conclusion, inclusive leadership is a dynamic journey towards a brighter, more equitable future. By embracing this paradigm, organizations can navigate the complexities of our interconnected world, harnessing the full potential of diverse perspectives, and contributing to a more inclusive and equitable society.

Keywords: Inclusive Leadership, Diversity, Equity, Management, Workplace

Introduction:

In the ever-evolving landscape of modern business and management, the concept of inclusive leadership has emerged as a powerful force, reshaping the way organizations operate and succeed [1]. Gone are the days when leadership was defined solely by authority and hierarchy; today, the most effective leaders are those who understand the profound importance of diversity and equity in the workplace [2]. In this article, we delve into the pivotal role of inclusive leadership and how it serves as the catalyst for fostering diversity and equity within management structures [3].

The urgency of embracing inclusive leadership is undeniable, given the complex challenges facing organizations in the 21st century. As societies become more diverse and interconnected, businesses are navigating a dynamic global marketplace where innovation, adaptability, and cultural sensitivity are paramount [4]. In this context, inclusive leadership stands as a beacon, guiding organizations towards a future where every employee, regardless of their background, feels not only welcomed but valued, heard, and empowered.

At its core, inclusive leadership represents a seismic shift in the paradigms of leadership. It is a leadership style that transcends traditional notions, emphasizing empathy, collaboration, self-awareness, and accountability. Inclusive leaders understand that diversity is not just a demographic fact, but an invaluable resource that fuels creativity, problem-solving, and resilience [4]. They create an environment where diversity of thought and experience is celebrated, rather than stifled, recognizing that this diversity is the lifeblood of innovation and progress [5].

Central to the concept of inclusive leadership are several key principles. First and foremost is self-awareness, wherein leaders engage in a continuous introspective journey, acknowledging their own biases and privileges. This self-awareness forms the foundation for fair and equitable decision-making. Coupled with self-awareness is

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The Art of Persuasive Management: Influencing Without Authority

Niyati Sharma[1], Nyarik Geyi[2], Nitesh Kumar[3], Shivangi Dwivedi[4], Amit Srivastav[5]
[1]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P., India.
[2]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: niyati.sharma@mangalayatan.edu.in

Abstract: The art of persuasive management is a pivotal skill in today's dynamic organizational landscape. It empowers leaders to influence and inspire others, fostering collaboration, driving change, and strengthening relationships. This article explores the significance of persuasive management, key strategies for mastering it, and the ethical considerations it entails. Challenges such as avoiding coercion and respecting autonomy are addressed. Ultimately, persuasive management is about contributing to a thriving organizational culture, promoting collaboration, and fostering innovation. By upholding ethical principles, building trust, and embracing the art of persuasion, leaders can become influential drivers of positive change within their organizations.

Keywords: Persuasive Management, Influence, Leadership, Collaboration, Ethical Considerations

Introduction:

The world of management has evolved significantly over the years. In the past, authority and command-and-control leadership styles were the predominant means of driving organizational success [1]. However, in today's rapidly changing and interconnected business environment, traditional hierarchies are giving way to a more collaborative and adaptable approach. This shift has given rise to the art of persuasive management, a skill that allows individuals to influence and inspire others without relying solely on positional authority [2].

The concept of persuasive management is rooted in the idea that leadership is not merely about giving orders and expecting compliance. Instead, it's about building relationships, fostering trust, and effectively communicating ideas and visions [3]. In this article, we will delve into the multifaceted world of persuasive management, exploring its significance, principles, strategies, and ethical consideration.

Effective management is no longer solely determined by the number of people one has authority over; it's about how effectively one can bring together diverse teams, align their interests, and motivate them to achieve a common objective. Persuasive management is instrumental in enhancing collaboration, driving change, strengthening relationships, and fostering innovation within an organization [4].

1. **Enhancing Collaboration:** In today's interconnected world, collaboration is not just a buzzword; it's a necessity. Persuasive managers have the ability to bring together individuals from diverse backgrounds, departments, and skillsets, aligning their interests and motivating them to work cohesively towards shared goals.

2. **Driving Change:** Change is the only constant in the business world. Persuasion plays a pivotal role in driving change initiatives within an organization. It's about convincing employees, from top to bottom, to embrace new processes, technologies, or mindsets willingly rather than merely complying due to hierarchy.

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Managing Disruption: Strategies for Navigating Technological Change

Unnati Jadaun[1], Salima Bhattarai[2], Shabana Bano[3], Yibom Bagra[4], Dilip Singh Hazari[5]

[1]Assistant Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP
[2]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
Email: unnati.jadaun@mangalayatan.edu.in

Abstract: This article explores essential strategies for managing technological disruption effectively in an ever-changing world. It delves into fostering a culture of innovation, continuous learning and skill development, anticipating disruption, cultivating agility and flexibility, and implementing robust risk management practices. These interconnected strategies empower individuals and organizations to not only survive but thrive amidst technological change. By embracing innovation, staying adaptable, and proactively addressing risks, they can navigate disruption with confidence, seize opportunities, and position themselves for long-term success in an increasingly dynamic landscape.

Keywords: Technological Disruption, Innovation Culture, Continuous Learning, Agility, Risk Management

Introduction:

In an era characterized by the relentless march of technology, the business world is in a state of perpetual transformation [1]. The pace of technological change today is unparalleled, reshaping industries, redefining business models, and challenging the very essence of how we live and work. As we navigate this exhilarating yet tumultuous landscape, the ability to manage disruption effectively has become a paramount concern for organizations across the globe [1].

The digital revolution, driven by breakthroughs in artificial intelligence, automation, blockchain, and a myriad of other cutting-edge technologies, has ushered in an age where the only constant is change [3]. Companies that once enjoyed stability and market dominance now find themselves on shifting ground, as nimble startups and agile competitors disrupt long-established norms. The concept of "creative destruction," popularized by economist Joseph Schumpeter, has never been more apt, as innovation replaces tradition with startling regularity [4].

Managing technological disruption is not merely a survival strategy—it is a competitive imperative. The organizations that thrive amidst this ceaseless disruption are those that can anticipate change, adapt swiftly, and harness the opportunities presented by emerging technologies [5]. To this end, a dynamic and forward-thinking approach is essential, encompassing a range of strategies and principles that empower businesses to not only weather the storm but to ride the waves of change to new heights of success.

In this article, we will delve into the multifaceted landscape of managing disruption in the age of technological transformation [6]. We will explore strategies and best practices that organizations can adopt to not only navigate the challenges but to leverage them for growth and innovation. From fostering a culture of innovation to embracing data-driven decision-making, from collaborating with external partners to embracing agility and flexibility, we will provide insights and actionable advice to help businesses chart a course through these turbulent waters [7].

Join us on this journey as we uncover the keys to managing disruption in an age of technological change, and discover how organizations can not only survive but thrive in the face of unprecedented challenges and opportunities.

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Managing Up: Mastering the Art of Influence and Collaboration

Shalu Agrawal[1], Yibom Bagra[2], Ankit Khare[3], Shabana Bano[4], Salima Bhattarai[5]

[1]Assistant Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP
[2]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[3]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: shalu.agrawal@mangalayatan.edu.in

Abstract: Managing up, the art of building productive relationships with superiors, is a vital skill in today's dynamic work environment. This article explores the key principles and benefits of managing up, emphasizing its role in career advancement and workplace harmony. Effective communication, trust-building, adaptability, proactivity, and time management are fundamental to mastering this art. By implementing these principles, individuals can not only enhance their working relationships but also become influential leaders within their organizations. The benefits of managing up extend beyond professional growth, encompassing improved problem-solving, job satisfaction, and personal development. Ultimately, managing up is a holistic approach to achieving success while fostering a culture of collaboration and excellence. This article encourages readers to embrace managing up as a guiding strategy in their quest for professional achievement and fulfilment.

Keywords: Managing Up, Career Advancement, Workplace Relationships, Communication Skills, Professional Growth

Introduction:

In an era defined by dynamic shifts in the workplace landscape, the ability to master the art of managing up has emerged as a pivotal skill for individuals seeking success in their careers. The concept of "managing up" goes far beyond mere acquiescence to authority; instead, it embodies a strategic approach to building effective communication, fostering collaboration, and exerting positive influence within an organization [1]. In a world marked by multifaceted challenges and intricate interpersonal dynamics, this skill has become indispensable for navigating the intricacies of modern workplaces, and for propelling personal and professional growth to new heights [2].

In this article, we will embark on a journey into the realms of managing up, delving deep into its core principles, techniques, and the profound impact it can have on one's professional trajectory [3]. Whether you are a seasoned professional looking to enhance your leadership abilities or an aspiring newcomer to the corporate world, the principles of managing up are universally applicable, guiding you toward a more productive, fulfilling, and harmonious career.

Managing up, at its essence, is an art of finesse and tact, and it does not entail manipulative tactics or sycophantic behaviour [4]. Instead, it involves a strategic approach to working collaboratively with superiors to achieve shared objectives while simultaneously advancing one's own career aspirations. It's a finely-tuned balancing act that creates a symbiotic relationship where both you and your managers thrive.

The fundamental principles of managing up revolve around communication, trust-building, adaptability, proactivity, and time management. These principles serve as the cornerstone upon which successful managing up is built [5].

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Change Management Revolution: Leading Transformational Shifts

Anurag Shakya[1], Prakash Mishra[2], Neha Kumari[3], Somya Bansal[4], Chiya Mihu[5]

[1]Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP
[2]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: anurag.shakya@mangalayatan.edu.in

Abstract: The Change Management Revolution is redefining how organizations navigate constant change in today's dynamic business landscape. Embracing change as a perpetual presence, this paradigm shift calls for adaptable leadership, fosters a culture of innovation, and champions flexibility and iteration. Leaders at all levels become change agents, inspiring teams to embrace transformation as an opportunity for growth. Innovation is no longer an option but a competitive advantage, with technology as its enabler. Flexibility allows organizations to pivot, while iteration ensures continuous improvement. In this ever-evolving environment, the Change Management Revolution empowers organizations to thrive amidst uncertainty and disruption.

Keywords: Change Management Revolution, Adaptability, Innovation, Flexibility, Technology Enabler

Introduction:

In the tumultuous landscape of modern business, where technological advancements, shifting market dynamics, and evolving customer expectations have become the norm, organizations find themselves in a perpetual state of transformation [1]. The age-old adage, "change is the only constant," has never rung truer, and the traditional approach to change management has become inadequate in the face of these relentless shifts. In response to this pressing need for a more adaptive and effective strategy, the Change Management Revolution has emerged as a beacon of innovation, offering a transformative path forward [2].

The Change Management Revolution represents a seismic shift in how businesses approach and navigate transformational shifts [3]. It challenges the conventional wisdom that change is a finite process with a clear beginning and end. Instead, it champions the notion that change is an ever-present force that organizations must learn to harness as a source of opportunity and growth.

At its core, the Change Management Revolution is about embracing change as a constant, integral aspect of modern business. This paradigm shift necessitates a cultural transformation within organizations [4]. Leaders must instill a mindset that welcomes change, not as a disruption but as a catalyst for progress. Employees, too, must be encouraged to view change as an avenue for personal and professional development. The culture must pivot from one of resistance to one of resilience and adaptability [5].

Crucially, leadership plays a pivotal role in this new era of change management. In the Change Management Revolution, leadership is not a solitary endeavor reserved for a select few at the top of the organizational hierarchy. Instead, it is distributed throughout the organization. Leaders, at all levels, are called upon to exemplify adaptability, inspire their teams, and guide them through the complex landscape of change [6].

Innovation, another cornerstone of this revolution, is not merely a buzzword but a competitive necessity. Organizations must foster a culture where innovation is encouraged, and employees are empowered to ideate and experiment without fear of failure. This innovation extends beyond product development to encompass process enhancements, customer experience improvements, and the exploration of new business models [7].

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The Human-Centric Manager: Prioritizing People in Business

Ashok Kumar Purohit[1], Ashutosh Saxena[2], Sephalika Sagar[3], Amit Srivastav[4], Nyarik Geyi[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Beswan, Aligarh, UP
[2]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: ashok.purohit@mangalayatan.edu.in

Abstract: The shift towards a human-centric approach in modern business is transformative, placing employees at the forefront of organizational priorities. Human-centric managers, characterized by empathy, inclusivity, and a commitment to employee development, foster a culture of engagement and well-being. The benefits are profound, including enhanced productivity, improved employee retention, heightened innovation, and a positive organizational culture. This approach strengthens an organization's reputation, attracting top talent and loyal customers. It is an investment in long-term success, positioning businesses to thrive in an evolving landscape. In conclusion, the human-centric approach is not just a moral imperative; it is a strategic advantage for businesses in the contemporary world.

Keywords: Human-Centric Approach, Employee Engagement, Managerial Empathy, Workplace Well-Being, Organizational Culture

Introduction:

In an era defined by rapid technological advancements, globalization, and ever-changing market dynamics, the concept of business leadership is undergoing a profound transformation [1]. Gone are the days when corporate success was solely measured by profit margins, market share, and bottom-line results. Today, a new paradigm is taking shape—one that places people at the very heart of the corporate world [2]. The human-centric manager, a pivotal figure in this evolving landscape, is emerging as the linchpin in fostering a workplace culture that not only values profits but, more importantly, prioritizes the well-being, growth, and development of employees.

The traditional view of business often portrayed companies as cold, profit-driven entities, with the bottom line as the ultimate goal. However, this perspective is swiftly giving way to a broader, more encompassing understanding of what it means to succeed in the modern business world [3]. Increasingly, organizations are being held accountable for not just their economic impact, but also their social and environmental footprint. As a result, the role of managers is shifting from a mere focus on managing tasks and resources to leading and nurturing the most valuable asset of any business—its people.

The rise of the human-centric manager signifies a crucial departure from the rigid, top-down, task-oriented leadership styles of the past [4]. Instead, this leader is characterized by qualities that transcend the conventional bounds of management. They possess a profound sense of empathy, an unwavering commitment to employee development, and an acute awareness of the importance of work-life balance. They champion diversity and inclusion, cultivate open lines of communication, and forge an organizational culture that celebrates the unique contributions of every individual [5].

In this article, we will delve deep into the realm of the human-centric manager, exploring their defining characteristics, the benefits of their approach, and the far-reaching impact they have on the world of business [6]. We will examine how this shift towards a people-first philosophy is not just a noble aspiration but a strategic imperative—one that can drive productivity, foster innovation, enhance employee retention, and fortify an

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Conflict Resolution for Managers: Navigating Workplace Tensions

Ashok Kumar Purohit[1], Nyarik Geyi[2], Ashutosh Saxena[3], Sephalika Sagar[4], Amit Srivastav[5]

[1]Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP
[2]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[3]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: ashok.purohit@mangalayatan.edu.in

Abstract: This article explores the multifaceted landscape of conflict resolution in the workplace, shedding light on the common sources of workplace tensions and offering a comprehensive array of strategies to navigate and resolve these conflicts effectively. Workplace tensions, stemming from communication breakdowns, differences in work styles, personalities, values, and resource allocation, are inevitable. However, understanding these sources allows us to approach conflicts with empathy and clarity. The article delves into a range of conflict resolution strategies, emphasizing open communication, mediation, collaboration, and conflict resolution training. These strategies empower individuals and organizations to transform conflicts into opportunities for growth, innovation, and improved relationships. The importance of documenting resolutions and fostering a culture of empathy and collaboration is underscored. Ultimately, effective conflict resolution is more than just resolving disputes; it's about cultivating a workplace culture that values diversity, embraces open dialogue, and prioritizes empathy. When managed adeptly, conflicts become catalysts for stronger teams and a more resilient, adaptable organization. Embracing conflict resolution is an investment in the long-term success of individuals, teams, and organizations in the dynamic world of work.

Keywords: Conflict Resolution, Workplace Tensions, Communication, Mediation, Collaboration

Introduction:

In the ever-evolving landscape of modern workplaces, managers face an ongoing challenge: the art of conflict resolution. Workplace tensions and disputes can arise from a multitude of sources, including differences in personality, work styles, values, and objectives [1]. These conflicts, if left unaddressed, can not only disrupt team dynamics but also impede productivity and overall organizational success. Consequently, the ability to effectively navigate and resolve workplace tensions is a fundamental skill that distinguishes successful managers from their peers [2].

The significance of conflict resolution in a managerial role cannot be overstated. Managers are not merely responsible for overseeing tasks and achieving targets; they are also tasked with fostering a conducive work environment where employees can thrive, collaborate, and innovate. A manager's ability to handle conflicts with tact and grace is a reflection of their leadership prowess [3].

In this article, we will delve deep into the intricacies of conflict resolution for managers, offering valuable insights and practical strategies to help them address and mitigate workplace tensions effectively [4]. We will explore the various sources of workplace conflicts and the psychology behind them, providing a holistic understanding of the dynamics at play. Moreover, we will equip managers with a diverse toolkit of conflict resolution strategies, from open communication and mediation to fostering collaboration and nurturing empathy [5].

Our exploration of conflict resolution for managers will not only enhance your leadership skills but also help create a more harmonious and productive work environment for your team. By embracing conflict resolution as an integral part of your managerial repertoire, you can empower your team to overcome challenges, strengthen relationships, and ultimately achieve greater success [6]. Conflict, when managed adeptly, can become a catalyst

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E-Commerce Evolution: Trends and Challenges

Sidharth Jain[1], Shivangi Dwivedi[2], Anupama Verma[3], Chiging Yamang[4], Neeta Deepaware[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
[3]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: sidharth.jain@mangalayatan.edu.in

Abstract: E-commerce has evolved from a nascent concept in the early days of the internet to a global industry worth trillions of dollars. This evolution has been marked by significant trends and challenges. The proliferation of mobile commerce (M-commerce) has made shopping more accessible than ever, while personalization and artificial intelligence (AI) have enhanced user experiences. E-commerce has embraced omnichannel strategies, integrating online and offline channels, and adopted immersive technologies like Augmented Reality (AR) and Virtual Reality (VR). Furthermore, sustainability and ethical considerations have gained prominence, and fast delivery options are now the norm. However, e-commerce also faces cybersecurity threats, intense competition, supply chain disruptions, and regulatory compliance issues. Providing an exceptional customer experience, managing inventory effectively, and addressing environmental concerns are additional challenges. Navigating these complexities while adapting to emerging trends will be crucial for the future success of e-commerce businesses as they continue to shape the way we shop and connect in the digital age.

Keywords: E-commerce, Evolution, Trends, Challenges, Online shopping

Introduction:

The world we live in today is a digital one, where technology permeates every facet of our lives. One of the most profound and transformative developments in the technological landscape over the past few decades has been the rise of e-commerce [1]. The concept of buying and selling goods and services through digital channels has not only revolutionized the way businesses operate but has also fundamentally altered how consumers shop, ushering in a new era of convenience, choice, and connectivity.

The inception of e-commerce can be traced back to the early 1990s when the internet was still in its infancy. At that time, the idea of purchasing products online seemed novel and experimental. However, over the years, e-commerce has evolved into a multi-trillion-dollar industry, reshaping the global economy and becoming an integral part of our daily lives [2].

As we embark on a journey through the evolution of e-commerce, it is important to acknowledge the key factors that have propelled this digital revolution. Among the most significant catalysts has been the widespread adoption of smartphones. These handheld devices have become ubiquitous, granting individuals unprecedented access to the internet, and enabling them to shop anytime, anywhere. The advent of mobile commerce, often referred to as M-commerce, has been a game-changer, making e-commerce more accessible and convenient than ever before [3].

Another pivotal factor in the evolution of e-commerce has been the emergence of artificial intelligence (AI) and machine learning [4]. These technologies have empowered e-commerce platforms to offer highly personalized shopping experiences. Algorithms analyze user behavior and preferences, providing tailored product recommendations and content, thereby enhancing user engagement and boosting conversion rates.

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Digital Marketing in the Age of Commerce

Anurag Shakya[1], Neha Kumari[2], Somya Bansal[3], Chiya Mihu[4], Prakash Mishra[5]

[1]Professor, Institute of Business Management and Commerce Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
Email: anurag.shakya@mangalayatan.edu.in

Abstract:

In today's digital age, businesses are navigating a transformative landscape shaped by the Digital Commerce Revolution. This revolution encompasses the rise of e-commerce platforms, mobile commerce, social commerce, and data-driven decision-making. E-commerce platforms have democratized retail, enabling businesses of all sizes to reach global audiences. Mobile commerce has empowered consumers to shop conveniently from their smartphones. Social commerce merges shopping with social media, creating interactive and engaging experiences. Data-driven decision-making has become a fundamental strategy, allowing organizations to analyze vast datasets and make informed choices. In this dynamic environment, personalization and customer experience take center stage, allowing businesses to create tailored interactions and build lasting customer relationships. Influencer marketing leverages the trust of influential individuals, while social commerce enables seamless shopping within social media platforms. Amidst these changes, omnichannel marketing emerges as a crucial strategy to provide consistent and personalized experiences across all touchpoints. By embracing these transformative concepts, businesses can adapt and thrive, engaging customers, and remaining competitive in the ever-evolving landscape of digital commerce.

Keywords: Digital Commerce Revolution, Omnichannel Marketing, Social Commerce, Data-Driven Decision-Making, Personalization

Introduction:

In the 21st century, we find ourselves at the intersection of two powerful forces: the relentless advance of digital technology and the ever-evolving landscape of commerce [1]. This confluence has given birth to a new era, one where the way we buy, sell, and interact with products and services is undergoing a profound transformation. Welcome to the Age of Commerce, a dynamic and exhilarating epoch where the rules of business are being rewritten, and digital marketing takes center stage [2].

The digital revolution has fundamentally altered the way commerce operates, redefining the relationship between businesses and consumers [3]. Gone are the days when shopping meant navigating crowded malls or perusing store shelves for hours on end. Today, consumers wield the power of the internet to explore, compare, and purchase products with unprecedented ease and convenience. E-commerce platforms, mobile apps, and online marketplaces have become the new marketplace, offering a seemingly endless array of choices at our fingertips [4].

As this digital commerce ecosystem continues to expand, businesses must adapt or risk becoming obsolete. It's no longer sufficient to rely solely on traditional marketing strategies [5]. In this age, businesses must harness the full potential of digital marketing to not only survive but thrive. Whether it's understanding consumer behavior through data analytics, creating personalized experiences, leveraging the influence of social media, or optimizing advertising campaigns with the help of artificial intelligence, digital marketing is the linchpin holding it all together [6].

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The Future of Brick-and-Mortar Retail

Saurabh Kumar[1], Arvind Hans[2], Chiging Yamang[3], Swati Saxena[4], Vipul Jain[5]
[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P.
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[5]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: saurabh.kumar@mangalayatan.edu.in

Abstract: The future of brick-and-mortar retail is undergoing a remarkable transformation in response to the digital age. This article explores the evolving landscape of traditional retail, highlighting key strategies that are shaping its future. Enhancing the customer experience is at the forefront of retail evolution, with technologies like augmented reality and data analytics creating immersive and personalized shopping journeys. Click-and-Collect and BOPIS models bridge the gap between online and offline shopping, offering convenience and immediacy while increasing foot traffic to physical stores. Sustainability practices have become paramount, driving retailers to adopt eco-friendly sourcing, energy-efficient systems, and waste reduction initiatives. Local and community engagement strategies are redefining the role of physical stores, fostering lasting connections with customers. In this dynamic retail environment, brick-and-mortar stores are not fading but evolving into hubs of innovation and customer-centricity. Adaptation, innovation, and a commitment to the in-person shopping experience are reshaping the future of retail.

Keywords: Brick-and-Mortar Retail, Digital Age, Customer Experience, Sustainability Practices, Local Engagement

Introduction:

Brick-and-mortar retail, once the undisputed king of commerce, is undergoing a transformative renaissance in the face of an increasingly digital world. For decades, traditional physical stores were the primary avenues through which consumers acquired goods, fostering a tangible and sensory shopping experience [1]. However, the rapid evolution of e-commerce and the pervasive influence of the internet have disrupted the retail landscape like never before. The future of brick-and-mortar retail now hinges on its ability to adapt, innovate, and find its place in the digital age.

In the not-so-distant past, stepping into a store was a quintessential part of the shopping process. Shoppers browsed aisles, touched and felt products, and interacted with knowledgeable store associates [2]. The connection between customers and retailers was personal and immediate. However, the advent of online shopping, bolstered by the convenience of making purchases from the comfort of one's home and the vast array of options available, has challenged the traditional retail model. The rise of e-commerce giants like Amazon has further accelerated this transformation, pressuring physical stores to find new ways to remain relevant.

While the digital age has posed significant challenges, it has also opened up exciting possibilities for brick-and-mortar retail to redefine its role in the modern marketplace. In this article, we will explore the multifaceted strategies and innovations that traditional retailers are employing to secure their future amidst the digital disruption [3].

One of the most prominent shifts in brick-and-mortar retail involves enhancing the in-store experience. Retailers are tapping into technology, integrating augmented reality (AR), virtual reality (VR), and interactive displays to engage customers on a deeper level [4]. These innovations create a marriage of the physical and digital worlds, offering consumers immersive experiences that online shopping struggles to replicate. From trying on virtual

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Cryptocurrency and Commerce: A New Frontier

Sidharth Jain[1], Dinesh Pandey[2], Chiging Yamang[3], Shivangi Dwivedi[3], Neeta Deepaware[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: sidharth.jain@mangalayatan.edu.in

Abstract: Cryptocurrency's ascent in commerce signifies a profound shift in financial transactions and global economic interactions. It has revolutionized online retail, streamlined cross-border transactions, and offered financial inclusion to the unbanked. Nevertheless, its volatile nature, regulatory uncertainties, and security concerns present challenges. This article explores cryptocurrency's growth in commerce, emphasizing its transformative potential and the hurdles it faces. Businesses adopting cryptocurrencies should manage risks and compliance. The future holds promise for those navigating these challenges adeptly, as cryptocurrencies redefine the way we conduct commerce, integrate into mainstream finance, and contribute to a more inclusive global economy.

Keywords: Cryptocurrency, Commerce, Blockchain, Financial Inclusion, Regulatory Challenges, Security Concerns

Introduction:

The world is in the midst of a technological revolution that is reshaping every facet of our lives, and at the forefront of this transformation lies the enigmatic and disruptive phenomenon known as cryptocurrency. Born out of a desire to challenge traditional financial systems and empower individuals with a new form of digital currency, cryptocurrencies have rapidly evolved into a force that is redefining commerce, finance, and even the very concept of money itself [1]. This article will delve into the captivating world of cryptocurrency, exploring its origins, its fundamental technologies, and the profound impact it is having on our global economy [2].

Cryptocurrency is more than just a buzzword; it represents a paradigm shift in how we conceive, transact, and store value. At its core, cryptocurrency is a form of digital or virtual currency that employs cryptographic techniques to secure transactions and regulate the creation of new units. Unlike conventional currencies, which are typically issued and regulated by central banks, cryptocurrencies are decentralized and rely on a technology called blockchain to maintain a transparent and immutable ledger of all transactions [3].

The genesis of cryptocurrency can be traced back to the pseudonymous figure known as Satoshi Nakamoto, who, in 2008, released a whitepaper titled "Bitcoin: A Peer-to-Peer Electronic Cash System." Nakamoto's creation, Bitcoin, marked the birth of the first cryptocurrency and laid the foundation for an entire ecosystem of digital currencies that followed [4]. Bitcoin's revolutionary concept was to create a digital currency that was not reliant on intermediaries like banks, allowing individuals to transact directly with one another, pseudonymously, and with enhanced security.

The cornerstone of cryptocurrency technology is the blockchain, a decentralized and distributed ledger that records all transactions across a network of computers. This blockchain ledger is maintained through a process known as mining, in which participants validate and timestamp transactions by solving complex mathematical puzzles. Once validated, these transactions are added to a new block, which is then linked to the previous block, forming a chain of blocks – hence, the term "blockchain." This architecture ensures the integrity and security of the transaction history [5].

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Sustainable Commerce: Green Business Practices

Satendra Kumar Sharma[1], Meenakshi Kumari[2], Salima Bhattarai[3], Dilip Singh Hazari[4], Chiging Yamang[5]

[1]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Business Management & Commerce, Usha Marti University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: satendra.sharma@mangalayatan.edu.in

Abstract: Sustainable commerce, characterized by green business practices, has become an imperative in our modern world marked by environmental challenges, economic complexities, and evolving social norms. This article explores the pivotal role of sustainable commerce and outlines key green business practices. These practices encompass energy efficiency, sustainable supply chain management, waste reduction, eco-friendly packaging, green product development, water conservation, carbon offsetting, employee engagement, and responsible green marketing. Beyond environmental stewardship, these practices offer economic resilience, enhance social responsibility, and promote innovation and adaptability. Incorporating these green practices is crucial not just as an ethical responsibility but also as a strategic advantage. Sustainable businesses can reduce costs, attract eco-conscious consumers, and contribute to global sustainability goals. In an era where environmental consciousness is paramount, adopting green business practices is not an option but an essential path toward a brighter, more equitable, and environmentally responsible future.

Keywords: Sustainable commerce, Green business practices, Environmental stewardship, Economic resilience, Social responsibility, Innovation and adaptability

Introduction:

The world as we know it is in the midst of a profound transformation, driven by technological advancements, shifting societal dynamics, and pressing global challenges [1]. This transformation has ushered in an era marked by unprecedented opportunities and complexities, where the past serves as a foundation, but the future remains unwritten. In this introductory exploration, we embark on a journey to understand the multifaceted landscape of our contemporary world, seeking to unravel the intricacies that define our time and define the path forward [2].

At the heart of this transformative era lies the Digital Revolution, a seismic shift that has redefined the way we live, work, communicate, and interact with the world around us. The rapid proliferation of digital technologies has not only connected the farthest corners of the globe but also blurred the lines between the physical and virtual realms [3]. With the advent of the internet, the ubiquity of smartphones, and the emergence of breakthroughs like artificial intelligence, blockchain, and quantum computing, our lives have been irreversibly intertwined with the digital domain.

This interconnectedness has brought about unparalleled convenience, efficiency, and access to information, fundamentally altering industries ranging from healthcare and finance to education and entertainment. Yet, it has also raised profound questions about privacy, security, and the ethical use of data, challenging our understanding of personal boundaries and societal norms in the digital age.

While the Digital Revolution has ushered in remarkable progress, it unfolds against the backdrop of pressing global challenges that demand our immediate attention [4]. Climate change, biodiversity loss, and resource scarcity threaten the delicate balance of our planet's ecosystems, underscoring the urgency of sustainable practices and environmental stewardship.

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Customer-Centric Commerce: Building Loyalty

Meenakshi Kumari[1], Satendra Kumar Sharma[2], Salima Bhattarai[3], Dilip Singh Hazari[4], Chiging Yamang[5]

[1]Assistant Professor, Faculty of Business Management & Commerce, Usha Marti University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: meenakshi270209@gmail.com

Abstract: In today's competitive business landscape, the importance of building customer loyalty cannot be overstated. Customer loyalty extends beyond repeat purchases; it encompasses the creation of enduring relationships and brand advocacy. This article explores the critical role customer loyalty plays in a company's success and outlines effective strategies for its cultivation. The strategies discussed include personalization, exceptional customer service, loyalty programs, quality products and services, transparency, feedback utilization, community building, surprise and delight tactics, consistency across channels, employee engagement, value-added content, and a long-term perspective. These strategies aim to foster a deep emotional connection between the customer and the brand, driving sustained revenue, reducing customer acquisition costs, and enhancing brand advocacy. Recognizing that loyalty is an ongoing journey, businesses must adapt and evolve to meet customer needs continually. By prioritizing customer-centric practices, companies can build the foundations for long-term success in an environment characterized by ever-evolving consumer preferences and competitive pressures. Customer loyalty is the bedrock upon which businesses can thrive and grow in the modern marketplace.

Keywords: Customer loyalty, Customer-centric commerce, Brand advocacy, Personalization, Exceptional customer service

Introduction:

In the ever-evolving world of commerce, businesses find themselves in a perpetual quest for strategies that will not only help them survive but thrive in an increasingly competitive landscape [1]. One approach that has emerged as a powerful driver of success is customer-centric commerce. In this age, where consumers have more choices and higher expectations than ever before, focusing on the customer isn't just a strategy; it's a fundamental shift in mindset and business philosophy.

The concept of customer-centric commerce may seem straightforward, but its implications are profound [2]. At its core, it revolves around the idea that the customer is the central figure in all business operations, decisions, and strategies. It goes beyond the traditional transactional relationship between buyer and seller and instead places the customer's needs, preferences, and overall experience at the forefront of everything a company does.

While this shift towards customer-centricity is not entirely new, it has gained considerable momentum in recent years. Advances in technology, particularly the rise of e-commerce, social media, and data analytics, have armed businesses with unprecedented insights into consumer behaviour [3]. Armed with this data, companies can tailor their offerings, marketing efforts, and customer service to cater to individual preferences on an unparalleled scale.

But why is customer-centric commerce such a vital consideration for businesses today? The answer lies in the enduring value of customer loyalty and the shifting dynamics of consumer behavior. In an era where product and price differentials can quickly erode, it's the relationships built with customers that endure [5].

Customer loyalty is not merely about repeat purchases; it's about building advocates for your brand. Loyal customers become enthusiastic promoters, spreading the word about their positive experiences and contributing

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The Role of AI in Modern Commerce

Anil Kumar[1], Chiya Mihu[2], Neha Kumari[3], Somya Bansal[4], Prakash Mishra[5]

[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
Email: anil.sharma@mangalayatan.edu.in

Abstract: Artificial Intelligence (AI) has emerged as a transformative force in modern commerce, reshaping how businesses operate and interact with customers. This article explores the multifaceted role of AI in commerce, highlighting its impact on personalized customer experiences, inventory management, supply chain optimization, customer service, data analytics, market insights, fraud detection, and security. AI-driven recommendation systems and chatbots create highly personalized customer interactions, enhancing engagement and conversion rates. In inventory management and supply chain optimization, AI predicts demand, monitors inventory in real-time, and optimizes resource allocation. AI-driven customer service solutions provide 24/7 support and efficient query resolution. Data analytics and market insights enable data-driven decision-making and targeted marketing campaigns. AI plays a crucial role in fraud detection and cybersecurity, safeguarding businesses and consumers. As AI continues to advance, its role in commerce will expand, providing businesses with a competitive edge in an evolving digital landscape.

Keywords: Artificial Intelligence, Commerce, Personalized Customer Experiences, Supply Chain Optimization, Data Analytics, Fraud Detection

Introduction:

In the rapidly evolving landscape of modern commerce, there exists a dynamic force that has fundamentally reshaped the way businesses operate, make decisions, and engage with consumers: Artificial Intelligence (AI) [1]. The integration of AI technologies into various facets of commerce has catalyzed a revolution, ushering in an era characterized by enhanced efficiency, hyper-personalization, and data-driven insights [2]. This transformation is not merely a trend; it represents a seismic shift that holds the potential to redefine the very essence of commerce as we know it.

The journey of AI in commerce begins with its profound impact on the realm of customer experiences. In a world where consumers are inundated with choices, AI emerges as a guiding light, illuminating the path to personalized interactions [3]. E-commerce giants like Amazon and Netflix have harnessed the power of AI-driven recommendation systems to decipher individual preferences and behaviors, curating product and content suggestions that resonate with unparalleled precision. Whether it's suggesting the perfect book, movie, or pair of shoes, AI-driven recommendations not only enrich the customer experience but also drive conversion rates and boost revenues [4].

Furthermore, the advent of chatbots and virtual assistants powered by AI has ushered in a new era of customer service. These digital entities are on standby around the clock, ready to assist customers, answer inquiries, and process orders swiftly and efficiently. Their tireless availability not only elevates customer satisfaction but also allows businesses to allocate their human resources to more complex and value-added tasks [5]. This synergy between AI and human agents is reshaping the customer service landscape, creating a potent blend of automation and empathy.

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Commerce Ethics and Corporate Responsibility

Rajeev Sharma[1], Arvind Hans[2], Somya Bansal[2], Chiging Yamang[3], Shivangi Dwivedi[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP\
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Marti University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
Email: rajeev.sharma@mangalayatan.edu.in

Abstract: Commerce ethics and corporate responsibility represent critical dimensions in the contemporary business landscape. Commerce ethics, often referred to as business ethics, encompasses a set of moral principles that guide decision-making and behavior within the commercial sphere. Corporate responsibility extends this ethical framework to encompass broader responsibilities to society, the environment, and stakeholders, including social, environmental, and economic dimensions. This article explores the profound significance of commerce ethics and corporate responsibility, emphasizing their role in shaping the behavior and impact of businesses. Beyond regulatory compliance, these principles contribute to enhanced reputation, risk mitigation, talent attraction, and competitive advantage. Moreover, they are essential for fostering stakeholder relations, meeting legal requirements, and ensuring global relevance. In a rapidly changing world marked by global challenges, embracing commerce ethics and corporate responsibility is not only a choice but a necessity. These principles pave the way for businesses to become responsible agents of positive change, contributing to a just, sustainable, and prosperous future for all.

Keywords: Commerce Ethics, Corporate Responsibility, Business Ethics, Sustainability, Stakeholder Relations

Introduction:

In an era marked by rapid globalization, technological advancements, and shifting societal values, the realms of commerce ethics and corporate responsibility have emerged as critical considerations in the business world [1]. The traditional view of businesses solely as profit-driven entities has evolved, and contemporary enterprises are increasingly expected to assume broader roles, reflecting a commitment to ethical conduct and social and environmental responsibility [2].

Commerce ethics, often interchangeably referred to as business ethics, is the moral compass that guides decision-making and behavior within the corporate sphere. It is a reflection of the values and principles that underpin business operations and interactions with various stakeholders [3]. In a world where information flows freely, transparency and accountability have become paramount, placing ethics at the forefront of corporate agendas. Businesses must navigate the complex landscape of commerce ethics to ensure that their actions align with societal expectations and ethical standards [4].

Corporate responsibility extends beyond the confines of ethics, encompassing a multifaceted commitment to society and the environment. It comprises three key dimensions: social responsibility, environmental responsibility, and economic responsibility. Social responsibility dictates that companies must consider the well-being of their employees, customers, and the communities in which they operate [5]. It calls for equitable employment practices, diversity and inclusion, and active community engagement. Environmental responsibility, on the other hand, compels organizations to minimize their ecological footprint by adopting sustainable practices that reduce emissions, conserve resources, and mitigate environmental harm. Lastly, economic responsibility entails not only maximizing shareholder value but also contributing positively to the economic development of the regions and countries in which a company operates [5].

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Commerce in the Metaverse: Virtual Economies

Ashok Kumar Purohit[1], Ashutosh Saxena[2], Sephalika Sagar[3], Amit Srivastav[4], Nyarik Geyi[5]

[1]Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP
[2]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: ashok.purohit@mangalayatan.edu.in

Abstract: The metaverse is rapidly emerging as a transformative digital frontier. This article explores how virtual economies, blockchain technology, and Non-Fungible Tokens (NFTs) are reshaping commerce within this evolving landscape. Virtual assets gain real-world value, facilitated by blockchain's security, while businesses and content creators leverage the metaverse for immersive experiences and direct engagement. Challenges such as digital ownership, privacy, and equitable access must be addressed. As the metaverse evolves, it presents both opportunities and considerations, necessitating a thoughtful approach to ensure innovation, safety, and inclusivity in this emerging digital reality.

Keywords: Metaverse, Virtual Economies, Blockchain, NFTs, Commerce, Digital Ownership

Introduction:

The concept of the metaverse, once confined to the realms of science fiction and futuristic speculation, is now inching closer to becoming an undeniable reality. In this ever-evolving digital landscape, commerce in the metaverse has emerged as a compelling frontier, offering a glimpse into a future where virtual economies shape our daily lives [1]. The metaverse represents a convergence of technologies, creating a virtual shared space that transcends the boundaries of augmented reality (AR), virtual reality (VR), and the traditional internet, ushering in a new era of interconnected digital experiences [2].

As we embark on this journey through the metaverse, it is crucial to understand the profound impact it is poised to have on commerce, society, and the very essence of human interaction []3. The metaverse is not merely an extension of the internet or a fancy virtual gaming platform; it is a dynamic ecosystem where people from all corners of the globe can come together, create, trade, and forge connections like never before.

Virtual economies lie at the core of the metaverse's commercial landscape, constituting the beating heart of this digital realm. These economies are characterized by the creation, exchange, and consumption of virtual goods and services [4]. Imagine a world where digital clothing, accessories, real estate, and even currency hold intrinsic value, traded, and transacted with the same fervor as their physical counterparts. Virtual economies transcend the boundaries of traditional commerce, transcending time and space, offering endless possibilities for entrepreneurs, investors, and consumers alike [5].

Online gaming has been a precursor to the metaverse, exemplifying how virtual economies can flourish. Games like Fortnite, World of Warcraft, and Second Life have introduced millions of users to the concept of owning and trading virtual assets [6]. Players can purchase virtual skins, accessories, and in-game currency using real-world money, creating a thriving marketplace within these digital realms.

The metaverse's evolution has been further catalyzed by blockchain technology and the advent of Non-Fungible Tokens (NFTs). These unique digital assets, recorded securely on a blockchain, have revolutionized the concept of digital ownership. Artists, musicians, content creators, and even brands now have the ability to tokenize their

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E-Commerce Security and Cyber Threats

Anil Kumar[1], Devesh Kumar Upadhay[2], Dinesh Mishra[3], Roma Singh[4], Amit Srivastav[5]

[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: anil.sharma@mangalayatan.edu.in

Abstract: In an increasingly digital world, e-commerce has revolutionized the way we conduct business and make purchases. However, this transformation has brought with it a multitude of cyber threats that can have severe consequences for both businesses and consumers. This article explores the significance of e-commerce security and highlights the most common cyber threats faced by e-commerce platforms, including phishing attacks, malware and ransomware, data breaches, payment fraud, DDoS attacks, and account takeovers. To address these threats, a set of best practices is provided, encompassing regular updates, strong encryption, robust authentication, secure payment gateways, and proactive monitoring. The importance of e-commerce security goes beyond safeguarding financial transactions; it also safeguards customer trust, business reputation, and compliance with regulatory standards. By understanding and implementing these security measures, e-commerce businesses and individuals can navigate the digital landscape safely and securely, ensuring the continued growth and prosperity of online commerce.

Keywords: E-commerce security, Cyber threats, Phishing attacks, Data breaches, Best practices

Introduction:

In an era marked by digital transformation and the increasing prevalence of online transactions, e-commerce has emerged as a driving force behind the global economy [1]. The convenience and accessibility of shopping, banking, and conducting business transactions from the comfort of our digital devices have reshaped the way we engage with commerce. However, beneath the veneer of this digital utopia lies a complex and evolving landscape of cyber threats that pose significant challenges to both businesses and consumers. This introduction explores the multifaceted realm of e-commerce security, shedding light on the critical need for robust defenses against cyberattacks in an era where online transactions have become the lifeblood of our interconnected world [2].

The inexorable rise of e-commerce has revolutionized the way consumers interact with businesses. Whether it's ordering a new gadget, purchasing groceries, or subscribing to digital content, the convenience of e-commerce platforms has become an integral part of our daily lives [3]. The global e-commerce market, which surpassed the $4 trillion mark in 2020, continues its rapid expansion, underpinned by the proliferation of smartphones, improved internet connectivity, and the convenience-seeking behavior of consumers [4].

However, this meteoric growth is accompanied by a dark underbelly—the pervasive and ever-evolving threat of cyberattacks. The e-commerce ecosystem, by its very nature, is a treasure trove of valuable data. From personal information like names, addresses, and payment card details to purchasing histories and browsing habits, e-commerce platforms hold a wealth of sensitive data that cybercriminals covet [5]. As the saying goes, "where there's treasure, there are pirates," and the digital realm is no exception.

Cyber threats in the e-commerce sector manifest in a variety of forms, each with potentially devastating consequences. Phishing attacks, for instance, involve crafty cybercriminals creating deceptive emails and websites that mimic trusted brands, luring unsuspecting victims into divulging their personal and financial information [6]. Malware and ransomware, on the other hand, have the power to cripple e-commerce operations by infecting

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Retail Revolution: Emerging Technologies

Ankur Kumar Agrawal[1], Jai Anand Shukul[2], Md Saifullah Khalid[3], Nyarik Geyi[4], Vipul Jain[5]
[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[3]Associate Professor, Associate Professor, Faculty of Business Management & Commerce Usha Martin University, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email ID: ankur.agarwal@mangalayatan.edu.in

Abstract: The rapid advancement of emerging technologies is ushering in a new era of innovation and change. Artificial Intelligence and Machine Learning are enhancing efficiency and personalization. The Internet of Things is connecting our world like never before. Blockchain is revolutionizing trust and transparency, while 5G is set to transform connectivity. These technologies offer immense promise, but also raise important ethical and societal questions. As we embrace this technological future, we must strike a balance between innovation and responsibility, using these tools to create a better world while addressing challenges like data privacy, security, and the future of work.

Keywords: Emerging technologies, Artificial Intelligence, Machine Learning, Internet of Things, Blockchain, 5G technology, Innovation

Introduction:

The rapid advancement of technology has ushered in an era of unprecedented change, transforming nearly every facet of our lives. From the way we communicate and work to how we entertain ourselves and access information, technology has become the driving force behind our modern world [1]. As we stand on the threshold of the third decade of the 21st century, it is increasingly clear that we are living in an age of technological revolution, one characterized by innovation and disruption at an astonishing pace.

This revolution is not confined to a single sector or industry; it is a global phenomenon that has touched every aspect of human existence [2]. It has reshaped our economies, redefined our social interactions, and reimagined the possibilities of what we can achieve. In this article, we will embark on a journey through the multifaceted landscape of the technological revolution, exploring its far-reaching implications and the emerging trends that are shaping our future [3].

At the heart of this revolution is the relentless march of digitalization. The digitization of information, once confined to the realms of computers and the internet, has now permeated every aspect of our lives. Our smartphones have evolved into powerful pocket-sized computers, granting us access to a vast digital universe [4]. From social media platforms connecting people across continents to e-commerce platforms revolutionizing the way we shop, the digital realm has become an integral part of our daily routines.

Artificial Intelligence (AI) is one of the most transformative facets of this technological revolution. AI systems, powered by machine learning algorithms, have the capacity to analyze vast datasets and extract meaningful insights, making them indispensable tools in fields as diverse as healthcare, finance, and transportation [5]. They are driving innovations such as autonomous vehicles, personalized medicine, and natural language processing, and their potential continues to expand.

Moreover, the Internet of Things (IoT) has ushered in an era where our devices, appliances, and even our homes are interconnected, sharing data and enabling automation on an unprecedented scale. This connectivity has the potential to revolutionize industries such as agriculture, manufacturing, and healthcare, improving efficiency and sustainability [6].

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Economic Trends: Commerce in a Post-Pandemic World

Anurag Shakya[1], Ankit Khare[2], Shabana Bano[3], Sangeetha Prasad[4], Salima Bhattarai[5]

[1]Assistant Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP
[2]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: anurag.shakya@mangalayatan.edu.in

Abstract: This article explores the profound economic trends shaping commerce in a post-pandemic world. It delves into the accelerated digital transformation, the resilience of supply chains, shifts in consumer behavior, the rise of sustainability and ESG focus, and the evolution of remote and flexible work arrangements. These trends are not transient; they represent lasting changes that will define the future of commerce. Embracing digitalization, adaptability, and responsible practices is essential for businesses seeking success and sustainability in this transformed economic landscape.

Keywords: Post-pandemic commerce, Digital transformation, Resilient supply chains, Consumer behavior shifts, Sustainability and ESG, Remote work arrangements

Introduction:

The COVID-19 pandemic, an unprecedented global crisis that swept across the world in late 2019 and early 2020, disrupted economies, transformed industries, and forever altered the way we conduct commerce [1]. As we emerge from the pandemic, the economic landscape bears the scars and lessons of this extraordinary period. In this article, we embark on a journey to explore the intricate economic trends and shifts that are shaping commerce in this new post-pandemic world.

The pandemic served as a powerful catalyst for change. It exposed vulnerabilities in our global systems, challenged conventional wisdom, and accelerated transformations that were previously unfolding at a more gradual pace [2]. The world faced lockdowns, quarantines, and a shift in priorities, forcing businesses to adapt and innovate in unprecedented ways. The result is a commerce landscape that is, in many respects, unrecognizable from what it was just a few years ago.

One of the most notable trends to emerge from the pandemic is the rapid acceleration of digital transformation. Businesses, large and small, were forced to embrace technology as a means of survival. Remote work became the norm, online shopping surged, and contactless payments proliferated [3]. Companies that had already invested in robust digital infrastructures found themselves in a position of relative strength, while those lagging behind scrambled to catch up.

As we delve deeper into this article, we will explore how this digital transformation is reshaping the world of commerce. We will analyze the enduring impact of e-commerce and the shifting dynamics of customer behaviour [4]. The way businesses connect with consumers and the manner in which they deliver products and services have been irrevocably altered, and these changes are reverberating throughout the global economy.

Supply chains, too, have come under the spotlight in the post-pandemic world. The pandemic exposed the fragility of global supply networks, prompting a fundamental rethinking of supply chain strategies [5]. Businesses are now actively diversifying their supply sources, investing in technology to enhance resilience, and reevaluating just-in-

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Words Unbound: Exploring the Power of Language in English Literature

Farhana Farooqi[1], Mukul SK[2], Vineeta Kaur Saluja[3], Chiging Yamang[4], Amit Srivastav[5]

[1]Assistant Professor, Department of Arts, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Department of English, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: farhana.farooqi@mangalayatan.edu.in

Abstract

"Words Unbound: Exploring the Power of Language in English Literature" embarks on a captivating journey into the profound interplay between language and literature. This exploration unveils the transformative potential of language and its enduring impact on the literary landscape. The intersection of language and literature reveals a symbiotic relationship, where words serve as both the medium and masterpiece. Language evolves alongside literature, reflecting cultural shifts, historical milestones, and artistic innovation. The English language's evolution, from Old English epics to contemporary global literature, underscores its adaptability and influence. Innovations and experimentation in literature showcase the daring spirit of authors who manipulate language to challenge conventions and redefine storytelling. From stream-of-consciousness narration to linguistic playfulness, these experiments push the boundaries of literary expression. Moreover, language's power to transform is evident in its ability to challenge norms, amplify marginalized voices, and inspire societal change. Authors employ language to question oppressive systems, promote empathy, and ignite social movements. In conclusion, "Words Unbound" celebrates language and literature as dynamic, transformative forces that shape our understanding of the world, provoke thought, and inspire change. Through words, the pages of literature become unbound, inviting readers to embark on transformative journeys of imagination and discovery.

Keywords: Language, Literature, Innovation, Transformation, Empowerment

Introduction:

Language, with its kaleidoscope of words, idioms, and grammatical intricacies, serves as the cornerstone of human civilization [p1]. It is the medium through which we communicate, share our thoughts, and bridge the chasms that separate us. In the realm of literature, language takes on a heightened significance, becoming the brushstroke that paints vivid narratives, the chord that composes melodic prose, and the vehicle that transports us to distant realms of imagination [2]. "Words Unbound: Exploring the Power of Language in English Literature" embarks on an enthralling journey into the symbiotic relationship between language and literature, unveiling the profound influence of words in shaping our understanding of the world [3][4].

As we embark on this exploration, it is essential to acknowledge that language and literature are inseparable companions, deeply entwined from the dawn of human storytelling [5]. Language provides the raw material for literature, the very clay from which authors mold their creations. In the grand tapestry of literary history, each epoch is marked by the distinct linguistic palette it employs [6][7]. From the poetic Old English verses of "Beowulf" to the eloquent Early Modern English of Shakespearean sonnets, language serves as both the mirror reflecting society's evolution and the lens through which authors view the human condition.

The English language, in particular, stands as a testament to the transformative power of linguistic evolution. "Words Unbound" delves into the fascinating journey of English, a language that has absorbed and assimilated words and phrases from cultures worldwide [8]. From the Latin influence on English vocabulary during the Renaissance to the vibrant diversity of contemporary English in the globalized digital age, we witness how language adapts and thrives, becoming a living entity that breathes life into literature.

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Reading between the Lines: Subtext in English Literature

Farhana Farooqi[1], Mukul SK[2], Vineeta Kaur Saluja[3], Chiging Yamang[4], Amit Srivastav[5]

[1]Assistant Professor, Department of Arts, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Department of English, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: farhana.farooqi@mangalayatan.edu.in

Abstract: Subtext, the art of implication and the unsaid, is a profound and often overlooked dimension of English literature. This article explores the significance and impact of subtext in literary works, shedding light on its role in conveying complex themes, fostering character depth, and engaging readers in a more profound reading experience. Subtext emerges as a vehicle for exploring intricate themes and ideas indirectly, allowing authors to navigate sensitive or controversial subjects with subtlety. Through subtext, allegory, and metaphor, literature becomes a conduit for discussions on social, political, and philosophical issues. Character development takes on new depth through subtext, with authors crafting multi-dimensional personas whose inner worlds are partially concealed. This ambiguity invites readers to engage their intuition and empathy to understand the unspoken motives, desires, and conflicts that shape characters. Moreover, subtext invites readers to become co-creators of meaning, fostering critical thinking and personal engagement. The act of reading becomes an interactive journey, with readers decoding subtext to uncover hidden treasures within the narratives. In conclusion, subtext is the hidden gem of English literature, inviting readers to explore its depths, enriching storytelling with layers of meaning, and reaffirming the timeless power of literature to spark discourse, provoke introspection, and illuminate the human experience.

Keywords: Subtext, English Literature, Implication, Character Development, Reading Experience

Introduction:

The world of English literature is a realm of boundless imagination and storytelling. It is a world where words serve as portals to adventures, emotions, and ideas, where authors weave intricate tales and characters that leave an indelible mark on our hearts and minds [1]. Yet, beneath the surface of the explicit narratives that grace the pages of books and poems, there exists a hidden dimension, a labyrinth of subtleties and unspoken truths known as subtext [2]. It is in this enigmatic realm that the true magic of literature often resides, waiting to be discovered by those who dare to read between the lines [3][4].

Subtext is the whispered conversation behind closed doors, the unshed tears in a character's eyes, the unspoken tension lingering in the air, and the unexpressed passions that simmer beneath the surface [5]. It is the art of implication, a literary device that authors employ to convey deeper layers of meaning without spelling it out explicitly. It invites readers to embark on a journey of interpretation, to decipher the unsaid and to explore the rich tapestry of emotions, themes, and messages that lie hidden within the text [6].

In this exploration of subtext in English literature, we will delve into the artistry of implication, examining how it enriches storytelling by conveying complex themes, fostering character depth and development, and engaging readers in an active role of interpretation. Through the lens of renowned literary works, we will unravel the power of subtext to elevate the reading experience, to provoke thought and introspection, and to remind us that the beauty of literature often lies not in what is explicitly stated, but in what is left to the imagination [7][8].

So, join us on this journey as we peel back the layers of text to uncover the hidden treasures that await within the subtext of English literature. Let us embark on a quest to read between the lines, to discover the nuances that make literature a timeless and ever-evolving art form, and to appreciate the profound impact subtext has on the way we perceive and engage with the stories that shape our world.

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Shakespeare's Shadows: The Enigmatic Characters of the Bard

Vineeta Kaur Saluja[1], Mukul SK[2], Farhana Farooqi[3], Chiging Yamang[4], Amit Srivastav[5]

[1]Professor, Department of English, Mangalayatan University, Jabalpur, MP
[2]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Arts, Mangalayatan University, Aligarh, UP
[4]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email- vineeta.saluja@mangalayatan.ac.in

Abstract:

William Shakespeare's literary genius is exemplified through a diverse array of enigmatic characters, each possessing a depth and complexity that continue to captivate audiences across the ages. This article explores the multifaceted personas of some of Shakespeare's most iconic creations, including Hamlet, Lady Macbeth, Iago, Prospero, and Shylock. Hamlet's profound melancholy and existential musings, Lady Macbeth's relentless ambition and moral descent, Iago's masterful manipulation and malevolence, Prospero's journey from exile to redemption, and Shylock's complex portrayal as a Jewish moneylender challenge conventional character archetype and provoke contemplation on themes such as revenge, prejudice, and the human condition. These characters remain relevant today, offering insights into the intricacies of human nature and the enduring allure of Shakespeare's works. As we delve into the enigmatic world of Shakespeare's characters, we are invited to reflect on our own lives, choices, and moral dilemmas, underscoring the enduring power of the Bard's storytelling.

Keywords: Shakespearean Characters, Enigmatic Personalities, Character Complexity, Literary Analysis, Human Nature

Introduction:

William Shakespeare, a name synonymous with literary excellence and theatrical brilliance, stands as an unrivaled giant in the world of English literature. Born in 1564 in the quiet town of Stratford-upon-Avon, Shakespeare's life journey took him from the son of a glover to the celebrated "Bard of Avon" whose works continue to enchant, provoke, and inspire. While his impact on literature and drama as a whole is immeasurable, it is perhaps his enigmatic characters that stand as some of the most enduring and compelling creations in the realm of storytelling [1].

Shakespeare's pen, mightier than any sword, crafted narratives that transcended the boundaries of time and culture, exploring the intricate complexities of human nature, society, and the human condition [2]. Through his unparalleled ability to breathe life into his characters, he beckoned us into a world where the human soul was laid bare, its darkest corners explored with unwavering candor, and its highest aspirations celebrated with boundless eloquence.

In this exploration of "Shakespeare's Shadows: The Enigmatic Characters of the Bard," we embark on a journey through the pages of his timeless plays, each a treasure trove of psychological depth and literary brilliance. It is in these characters, ranging from tormented princes and cunning villains to tragic heroines and complex antiheroes, that we find a mirror reflecting our own humanity [3][4].

The enduring allure of Shakespeare's characters lies in their ability to remain ever-relevant, their struggles and triumphs resonating with readers and audiences across the ages [5]. The Bard's characters are not mere figments of imagination; they are intricate tapestries woven from the threads of human experience, representing the myriad facets of our existence. Through their words and actions, we confront our own fears, desires, virtues, and vices, transcending the confines of time and place [6].

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Epic Journeys: Adventure and Exploration in English Literature

Vineeta Kaur Saluja[1], Preeti Pankaj Gupta[2], Mukul SK[3], Chiging Yamang[4], Amit Srivastav[5]

[1]Professor, Department of English, Mangalayatan University, Jabalpur, MP
[2]Associate Professor, Department of Arts, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email- vineeta.saluja@mangalayatan.ac.in

Abstract: Epic journeys have been a recurring and enduring theme in literature, transcending time and culture. From ancient myths to modern science fiction, these narratives have captivated readers with tales of heroism, self-discovery, and exploration. This exploration delves into the evolution of epic journeys in English literature, spanning different eras and genres. In the medieval period, heroic quests in chivalric romances and Arthurian legends celebrated valor, honor, and the hero's moral growth. The Age of Exploration saw literature reflecting the spirit of adventure during voyages of discovery and exploration. The Romantic Movement added depth to epic journeys by emphasizing emotion, nature, and individualism. In the modern era, science fiction and fantasy have taken epic journeys to new frontiers, exploring the limits of human knowledge, technology, and imagination. Throughout this journey, common threads emerge—themes of courage, sacrifice, and the relentless pursuit of the unknown. Epic journeys remind us that life itself is a quest, a search for meaning and self-discovery. These narratives continue to resonate, bridging the past with the future and inspiring us to embark on our own adventures of exploration and growth.

Keywords: Epic Journeys, Exploration, Literature, Adventure, Heroic Quests

Introduction:

Humanity has always been driven by an innate curiosity to explore the unknown, to embark on epic journeys that push the boundaries of our understanding and capability [1]. Throughout the ages, literature has served as a vessel for capturing and celebrating these adventures, offering readers a glimpse into the realms of imagination and reality. In English literature, the theme of epic journeys and exploration has been a central and enduring motif, weaving its way through the tapestry of storytelling, from the earliest epics to modern novels [2].

The concept of the epic journey is deeply rooted in our cultural heritage, dating back to the earliest recorded narratives. One of the most iconic examples is the epic of "Gilgamesh," a Sumerian poem that predates even the famous Greek epics of Homer. In this tale, we follow the adventures of Gilgamesh and his friend Enkidu as they journey to seek immortality, a quest that ultimately explores themes of mortality, friendship, and the human condition itself [3].

In English literature, the heroic quest has been a recurring theme since the Middle Ages, where tales of chivalry and valor were popularized in the Arthurian legends and medieval romances [4]. Works like "Sir Gawain and the Green Knight" and "Le Morte d'Arthur" transport us to a world of knights, dragons, and noble quests, where the hero's journey is a path to honor and virtue.

The Age of Exploration, marked by the daring voyages of adventurers such as Christopher Columbus and Sir Francis Drake, also left an indelible mark on English literature. John Milton's "Paradise Lost" took readers on a cosmic journey through heaven and hell, while travel narratives and accounts of newly discovered lands inspired literary works that celebrated the spirit of discovery [5]. These narratives expanded the literary horizons, reinforcing the idea that epic journeys could be grounded in historical and geographical reality.

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The Female Pen: Women Writers in English Literature

Preeti Pankaj Gupta[1], Prakash Chandra. Panda[2], Vineeta Kaur Saluja[3], Chiging Yamang[4], Amit Srivastav[5]

[1]Associate Professor, Department of Arts, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Department of English, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email- preeti.gupta@mangalayatan.edu.in

Abstract: This article explores the remarkable journey of women writers in English literature, from their historical struggle for recognition to their enduring influence on the literary world. It highlights key moments in the evolution of women's voices in literature, including the groundbreaking contributions of figures like Julian of Norwich and the Brontë sisters in challenging gender norms and societal expectations. The 19th century emerges as a turning point when women writers like the Brontës, Mary Shelley, and others defied conventions, crafting enduring masterpieces and transforming the portrayal of female characters in literature. The intersection of the Women's Suffrage Movement and literature during this era underscores the significance of women's writing as a platform for advocacy and social change. The article also acknowledges the contributions of contemporary women writers such as Toni Morrison, Maya Angelou, J.K. Rowling, and Chimamanda Ngozi Adichie, whose works continue to shape the literary landscape and challenge societal norms. Ultimately, it emphasizes that the legacy of women writers is one of resilience, creativity, and the enduring power of the written word to inspire, inform, and effect social change.

Keywords: Women Writers, English Literature, 19th Century, Women's Suffrage Movement, Contemporary Voices

Introduction:

English literature is a magnificent tapestry woven from the words, ideas, and imaginations of countless writers over the centuries. It is a realm of storytelling, exploration of the human condition, and reflection on the complexities of life [1]. Yet, for much of its history, the literary world was dominated by male voices, and women writers often found themselves relegated to the margins, their contributions overlooked or dismissed. This article seeks to rectify that historical oversight by shining a spotlight on the remarkable journey of women writers in English literature [2].

The struggle for recognition and acceptance in the world of literature has been a long and arduous one for women [3]. Throughout various periods in history, societal norms and expectations confined women primarily to domestic roles, stifling their creative ambitions. Writing, a pursuit often considered intellectual and professional, was not readily accessible to women in these traditional contexts. It is a testament to the resilience and tenacity of women that they fought against these limitations, using the power of the written word to voice their experiences and perspectives [4].

The earliest glimpses of women's contributions to English literature can be found in the works of extraordinary figures like Julian of Norwich. A 14th-century mystic, Julian authored "Revelations of Divine Love," a remarkable theological text that stood out in an era when women were seldom given a voice in such matters [5]. Julian's courage in sharing her spiritual insights laid a foundation for future generations of women writers.

However, it wasn't until the 17th century that women began to assert themselves more visibly as professional writers. Margaret Cavendish, one of the first women to publish her work under her own name, challenged societal norms with her philosophical and scientific writings. Aphra Behn, a prolific playwright and novelist,

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Lost in Translation: Adaptations of English Literature on Screen

Preeti Pankaj Gupta[1], Prakash Chandra Panda[2], Vineeta Kaur Saluja[3], Chiging Yamang[4], Amit Srivastav[5]

[1]Associate Professor, Department of Arts, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Department of English, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email- preeti.gupta@mangalayatan.edu.in

Abstract: The adaptation of English literature to the screen is a complex and delicate art that involves translating the essence of literary works into a visual and auditory medium. This article explores the nuances of adaptation, focusing on both its successes and pitfalls. Successful adaptations, such as Joe Wright's "Pride and Prejudice" and Peter Jackson's "The Lord of the Rings" trilogy, serve as exemplary models of how faithfulness to the source material can bring beloved stories to life while capturing the spirit of the original work. On the other hand, pitfalls like oversimplification, alterations of endings, and misrepresentation of characters can lead to disappointments and controversies. The importance of fidelity to the source material is emphasized throughout, highlighting how it preserves the author's vision, maintains narrative consistency, and respects the themes and messages of the original work. Ultimately, the article underscores that the art of adaptation serves as a bridge between literature and cinema, enriching storytelling and captivating audiences across generations.

Keywords: Adaptation, English literature, Fidelity, Cinematic storytelling, Pitfalls

Introduction:

The timeless beauty of English literature has not only graced the pages of countless books but has also found its way onto the silver screen and television, captivating audiences worldwide [1]. The journey from written word to moving image is a multifaceted process, one that involves translating the intricate nuances of language, character, and plot into a visual and auditory medium. Yet, with every adaptation, there lies the inherent risk of something being "lost in translation," a challenge that has intrigued and challenged filmmakers, screenwriters, and fans for decades [2].

The adaptation of English literature into visual storytelling is a reflection of the deep and enduring connection between literature and cinema. It is a testament to the power of storytelling itself, as it transcends the boundaries of the written word to reach a broader, more diverse audience [3]. In this article, we embark on a journey through the world of adaptations, exploring the successes, the pitfalls, and the art of maintaining the essence of the source material when transitioning from the page to the screen.

At its core, the art of adaptation is a delicate dance between preserving the heart and soul of a literary work and adapting it to the unique demands and opportunities of the cinematic or televised medium. It involves a careful consideration of what aspects of the source material are essential to convey the story's spirit and which elements can be adjusted or condensed without sacrificing its core essence [4].

In the realm of successful adaptations, we find shining examples of filmmakers who have struck this delicate balance with finesse. One such instance is the 2005 adaptation of Jane Austen's "Pride and Prejudice" by Joe Wright [5]. This film encapsulated Austen's wit, romance, and social commentary while also bringing the Regency era to life through breathtaking cinematography and exceptional performances. It serves as a testament to how a well-crafted adaptation can breathe new life into a cherished classic, making it accessible to a new generation of enthusiasts.

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The Gothic Imagination: Dark Tales in English Literature

Preeti Pankaj Gupta[1], Prakash Chandra Panda[2], Vineeta Kaur Saluja[3], Amit Srivastav[4], Chiging Yamang[5]

[1]Associate Professor, Department of Arts, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Department of English, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
Email- preeti.gupta@mangalayatan.edu.in

Abstract: Gothic literature, born in the late 18th century as a reaction to Enlightenment rationalism, has left an indelible mark on the literary landscape. This article delves into the origins, key themes, and enduring legacy of the Gothic genre in English literature. Beginning with Horace Walpole's ground-breaking "The Castle of Otranto," we explore how Gothic literature evolved to encompass themes of the sublime, isolation, the duality of human nature, and the empowerment of women. The legacy of Gothic literature extends beyond the written word, influencing architecture, art, cinema, and television. It gave rise to the horror genre, with authors like Edgar Allan Poe pushing the boundaries of terror. Gothic architecture and art continue to inspire awe, and Gothic themes thrive in modern cinema and television series. Contemporary authors have breathed new life into the genre, infusing it with feminist perspectives and subversion. Ultimately, Gothic literature endures as a testament to humanity's fascination with the dark and mysterious, offering readers a timeless journey into the shadows of the human soul.

Keywords: Gothic Literature, Supernatural, Duality, Horror, Legacy

Introduction:

In the realm of English literature, where the boundaries of human experience and imagination are endlessly pushed and explored, the Gothic genre stands as a haunting and captivating beacon [1]. Defined by its gloomy atmospheres, eerie castles, and enigmatic characters, Gothic literature has cast a long and lingering shadow over the literary landscape for centuries. It is a genre that beckons readers to venture into the depths of the human psyche, unraveling the mysteries of the supernatural, the macabre, and the unspoken fears that lurk in the darkest corners of our minds [2][3].

The origins of Gothic literature can be traced back to the late 18th century, a period marked by the Enlightenment's rationalism and scientific progress [4]. It emerged as a reaction to the prevailing ethos of reason and order, seeking to plunge into the abyss of the irrational and the unknown. Horace Walpole's "The Castle of Otranto" (1764) is often hailed as the first Gothic novel, a tale that introduced readers to the foreboding atmosphere of haunted castles, hidden family secrets, and the enigmatic specter of the supernatural. This seminal work ignited a literary movement that would endure through the centuries, continually evolving while retaining its dark and mysterious core [5].

Gothic literature is replete with themes that tap into the deepest recesses of the human psyche. The sublime and the supernatural are central to the genre, with authors conjuring ghosts, vampires, and otherworldly forces to create a sense of both terror and wonder [6]. In Bram Stoker's "Dracula" (1897), the ancient vampire Count Dracula embodies the allure of the supernatural, while Sheridan Le Fanu's "Carmilla" (1872) explores the eerie sensuality of a female vampire.

Isolation and madness form another thematic pillar of Gothic literature. Characters often find themselves in remote and desolate settings, cut off from society and confronting their own descent into madness [7]. Emily Brontë's "Wuthering Heights" (1847) presents the wild and windswept moorland as a backdrop to the emotional

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Postcolonial Perspectives: Global Influences in English Literature

Anuradha Yadav[1], Prakash Chandra Panda[2], Vineeta Kaur Saluja[3], Vipul Jain[4], Rana Taku[5]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Department of English, Mangalayatan University, Jabalpur, MP
[4]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
Email- anuradha.yadav@mangalayatan.edu.in

Abstract: The infusion of global voices into English literature through the postcolonial movement has redefined the literary landscape, leaving a profound and enduring legacy. This transformation has challenged traditional Eurocentric perspectives and expanded the canon to include voices from former colonies, diversifying the representation of human experiences. The impact reaches beyond literature, encompassing cultural understanding, linguistic innovation, and engagement with socio-political issues. These global voices empower marginalized authors, paving the way for new generations of writers to share their stories and perspectives. The legacy fosters cross-cultural empathy, inspires cultural exchange, and stimulates dialogue on pressing global challenges. As English literature evolves, the enduring legacy of global voices reminds us of literature's power to connect people, promote diversity, and enrich our collective understanding of the human experience. In an increasingly interconnected world, this legacy resonates as a testament to the importance of representation and storytelling in shaping a more inclusive and empathetic society.

Keywords: Postcolonial Literature, Global Voices, English Literature, Cultural Diversity, Legacy

Introduction:

English literature, a repository of human imagination and expression, has undergone profound transformations over the centuries. While it has always evolved to reflect changing times and perspectives, one of its most pivotal shifts occurred with the emergence of postcolonial perspectives [1]. This literary movement has ushered in a new era of global influences, introducing voices from the former colonies and challenging conventional notions of identity, power, and representation within the English literary canon [2].

Traditionally, English literature was largely defined by the works of British authors, reflecting the cultural and societal norms of the colonial empire. The literary landscape was dominated by voices that hailed from the heart of the British Isles, and narratives often revolved around themes and settings deeply rooted in the imperial homeland. However, the end of the colonial era, marked by decolonization and independence movements in Asia, Africa, and the Caribbean, precipitated a seismic shift in the world order. As nations broke free from colonial rule, they embarked on journeys of self-discovery, identity reconstruction, and cultural revitalization [3].

It is within this historical context that postcolonial literature began to flourish. This literary movement encompasses a vast array of writings produced by authors from regions that were once subjugated by European colonial powers. These authors brought with them diverse narratives, histories, and perspectives, creating a literary tapestry that defied the narrow confines of the traditional English literary canon [4].

The heart of postcolonial literature lies in its exploration of the complex legacies left behind by centuries of colonialism. It delves into the intricate web of power dynamics, cultural clashes, and the enduring struggle for independence. Authors from Africa, such as Chinua Achebe, depict the collision of European and African worldviews, highlighting the tensions that arise when two vastly different cultures collide [5]. In the Caribbean, writers like Jamaica Kincaid challenge the stereotypes and colonial narratives that persist in the postcolonial era, offering a fresh and critical perspective on the legacy of empire.

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The Romantic Revolution: Nature and Emotion in English Poetry

Anuradha Yadav[1], Shimpi Kumari Chaturvedi[2], Vineeta Kaur Saluja[3], Vipul Jain[4], Rana Taku[5]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Department of English, Mangalayatan University, Jabalpur, MP
[4]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
Email- anuradha.yadav@mangalayatan.edu.in

Abstract: The Romantic Revolution in English poetry, spanning from the late 18th to the mid-19th century, ushered in a profound transformation in literary expression. At its core, this movement celebrated the dynamic interplay between nature and human emotion. Poets like Wordsworth, Coleridge, and Keats elevated nature from a mere backdrop to an active protagonist in their works. They believed that nature possessed the power to evoke and mirror the full spectrum of human feelings, from profound joy to intense despair. Simultaneously, the Romantics championed unbridled emotion as a driving force in their poetry, a stark departure from the rationality of the Enlightenment era. Through the first-person perspective, they explored their own emotional landscapes with raw intensity, forging a deep connection between poet and reader. This intersection of nature and emotion in Romantic poetry underscored that nature was not just an external realm but an integral part of human experience, offering solace, inspiration, and a profound reflection of our innermost emotions. The enduring legacy of the Romantics continues to inspire readers to connect with nature and explore the depths of their own emotions through the medium of poetry.

Keywords: Romantic Revolution, English poetry, Nature, Emotion, Poetry transformation, Romantic poets, Interplay of nature and emotion

Introduction:

The late 18th and early 19th centuries marked a remarkable turning point in the world of literature, particularly in the realm of English poetry. This period, known as the Romantic era, brought forth a profound transformation in the way poets approached their craft [1]. It was an era characterized by an intense reverence for nature and a passionate exploration of human emotions, encapsulating a movement aptly referred to as the Romantic Revolution [2][3].

The Romantics sought to redefine the relationship between humanity and the natural world. They looked beyond the practical and utilitarian aspects of nature, viewing it not as a mere backdrop but as a living, breathing force of its own [4]. The landscapes, forests, rivers, and mountains became more than just settings; they became integral elements of the poetry itself. William Wordsworth, one of the seminal figures of this era, captured this sentiment beautifully when he described nature as "a presence that disturbs [him] with the joy / Of elevated thoughts" in his poem "Lines Composed a Few Miles Above Tintern Abbey." Nature, for the Romantics, was a profound source of inspiration and a sanctuary for the soul [5].

However, the Romantic poets did not stop at merely portraying nature as an external, aesthetic phenomenon. They believed that the natural world mirrored the human soul. Nature was not just a reflection of the world outside but a canvas on which emotions, thoughts, and spiritual experiences were painted [7]. The Romantics often ventured into the heart of nature to seek solace and inspiration, and in the process, they discovered deeper layers of their own emotions.

At the core of Romantic poetry lay an unapologetic celebration of human emotions. This was a direct reaction to the preceding Enlightenment period, which had favored reason and restraint over the tumultuous depths of feeling. The Romantics embraced the full spectrum of human emotions, from the ecstatic heights of joy to the

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Revolutions in Prose: Transformative Movements in English Fiction

Shimpi Kumari Chaturvedi[1], Anuradha Yadav[2], Vineeta Kaur Saluja[3], Vipul Jain[4], Rana Taku[5]

[1]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[3]Professor, Department of English, Mangalayatan University, Jabalpur, MP
[4]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
Email- shimpi@umu.ac.in

Abstract: This article delves into the transformative movements that have shaped English fiction throughout its history. It explores five key literary epochs: The Enlightenment, Romanticism, Victorian Realism, Modernism, and Postmodernism. Each movement is characterized by a distinct approach to storytelling and a profound reflection of the cultural, social, and intellectual contexts of its time. The Enlightenment ushered in the novel as a vehicle for moral and psychological exploration, emphasizing reason and rationality. Romanticism celebrated emotion and imagination, challenging Enlightenment ideals. Victorian Realism, set against the backdrop of societal upheaval, depicted the intricacies of everyday life and class disparities. Modernism shattered conventional narrative structures, offering fragmented, introspective narratives. Postmodernism deconstructed reality, embracing metafiction and questioning the nature of truth. Through the works of influential authors such as Dickens, Woolf, Rushdie, and others, these movements have left an enduring legacy in English literature, reshaping the way we understand storytelling and its role in reflecting the human experience.

Keywords: Literary Movements, English Fiction, Enlightenment, Romanticism, Postmodernism

Introduction:

English fiction, a vibrant tapestry of narratives woven over centuries, has witnessed a series of transformative revolutions that echo the shifting cultural, intellectual, and societal landscapes of their respective eras. These literary movements, characterized by distinct stylistic innovations, thematic shifts, and philosophical underpinnings, stand as testament to the ever-evolving nature of storytelling. As we embark on this literary journey, we shall navigate through the winding corridors of history to unearth the profound impact of these revolutions in prose on both literature and society.

The dawn of the 18th century heralded the Enlightenment, an intellectual movement emphasizing reason, rationality, and the pursuit of knowledge. It was during this epoch that the novel, as a form of literary expression, began to take its first tentative steps. Works like Daniel Defoe's "Robinson Crusoe" (1719) and Samuel Richardson's "Pamela" (1740) marked a shift from the traditional modes of storytelling, focusing on the inner lives and moral dilemmas of their characters. These early novels laid the groundwork for a burgeoning tradition of psychological realism in English fiction, where the exploration of human nature and personal development would become central.

The subsequent Romantic movement, flourishing in the late 18th and early 19th centuries, countered the Enlightenment's emphasis on reason with a celebration of emotion, imagination, and individualism. Mary Shelley's "Frankenstein" (1818) and Jane Austen's "Pride and Prejudice" (1813) exemplified this shift, as they delved into themes of love, nature, and the supernatural, exploring the depths of human passion and the vivid landscapes of the heart.

The Victorian era brought forth a new era of realism, where authors such as Charles Dickens, George Eliot, and Thomas Hardy meticulously depicted the multifaceted facets of Victorian society. Novels like "Oliver Twist" (1837-39) and "Middlemarch" (1871-72) acted as societal mirrors, exposing the harsh realities of industrialization, class inequality, and the struggles of the working class. Victorian realism did not merely entertain; it illuminated the moral and social dilemmas of the age.

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The Short Story Renaissance: Exploring Concise Narratives

Ram Kumar Pathak[1], Shimpi Kumari Chaturvedi[2], Ashutosh Saxena[3], Somya Bansal[4], Nyarik Geyi[5]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP [2]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

[3]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

[5]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh

Email- ram.pathak@mangalayatan.edu.in

Abstract: The Short Story Renaissance is a dynamic and multi-faceted literary resurgence that transcends traditional boundaries and captivates contemporary audiences. Rooted in a rich historical tradition that spans cultures and epochs, short stories have evolved to meet the demands of our fast-paced digital age. These concise narratives offer complete storytelling experiences in a world where time is precious and attention spans are fleeting. Themes explored in short stories range from identity and love to social justice and technology, reflecting the breadth of human experience and contemporary concerns. In popular culture, the Short Story Renaissance finds expression in anthology series, short films, podcasts, and interactive storytelling, demonstrating the form's adaptability to various media. This resurgence reaffirms that the power of brevity is not confined to literature alone; it extends into the realms of visual media and digital platforms, enriching the cultural landscape. As an enduring and versatile form of artistic expression, short stories continue to resonate with readers and audiences worldwide, offering a glimpse into the human condition in its most compact and potent form.

Keywords: Short Story Renaissance, Concise Narratives, Contemporary Appeal, Diversity in Themes, Popular Culture

Introduction:

In a world marked by the relentless hustle and bustle of modern life, where time seems to slip through our fingers like grains of sand, literature too has evolved to accommodate the pace of our existence. In the midst of this temporal whirlwind, there emerges a captivating and resurgent literary form: the short story. These concise narratives, often overshadowed by their heftier counterparts in the world of fiction, have experienced a renaissance in recent years, leaving an indelible mark on contemporary literature. The short story, once confined to the periphery, has now stepped into the spotlight, asserting its relevance and captivating readers worldwide.

The historical roots of the short story extend deep into the annals of human storytelling. From the ancient oral traditions of our ancestors to the quill-penned tales of classic literature, the short story has served as a conduit for cultural expression, moral instruction, and artistic experimentation. Literary luminaries such as Edgar Allan Poe, Anton Chekhov, and O. Henry crafted timeless works within the confines of these concise narratives, showcasing the form's unique ability to captivate, provoke thought, and evoke profound emotions.

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Wordsworth's Wanderlust: Nature and Travel in Romantic Poetry

Mukul SK[1], Kavita Sharma[2], Ashutosh Saxena[3], Somya Bansal[4], Nyarik Geyi[5]

[1]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[3]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
Email- mukulsk234@gmail.com

Abstract: William Wordsworth, a luminary of the Romantic movement, left an indelible mark on literature through his exploration of nature, travel, the sublime, and the picturesque. This essay delves into Wordsworth's profound influence on the Romantic era, emphasizing how his poetry celebrated the intrinsic connection between humans and nature. His verses embodied the Romantic ideals of individualism, emotional depth, and spiritual communion with the natural world. Wordsworth's belief that nature served as an active muse rather than a passive backdrop shaped the very essence of Romanticism. Furthermore, his vivid portrayal of the transformative power of travel and introspection paved the way for poets seeking to capture the profound changes brought about by physical and inner journeys. The essay also examines how Wordsworth's musings on the sublime and the picturesque became recurring themes in Romantic literature, influencing contemporaries and subsequent generations of poets and artists. In conclusion, Wordsworth's poetry continues to resonate, inspiring individuals to explore the beauty of the natural world and embark on their own journeys of self-discovery and creative expression, ensuring his enduring legacy in the annals of literary history.

Keywords: Wordsworth, Romantic poetry, Nature, Travel, Sublime and picturesque

Introduction:

The Romantic era, which unfolded in the late 18th and early 19th centuries, stands as a literary movement that celebrated the individual spirit, the sublime beauty of nature, and the allure of travel [1]. At its heart, Romanticism was a reaction against the Enlightenment's rationalism, emphasizing emotion, intuition, and a deep connection to the natural world. Among the luminaries who illuminated this literary epoch, William Wordsworth, with his profound wanderlust, emerged as a guiding light [2][3].

Wordsworth's poetry is an exquisite tapestry that weaves together threads of nature and travel. His verses breathe life into landscapes, offering readers an intimate glimpse into the splendor of the natural world. However, Wordsworth's oeuvre transcends mere admiration for nature; it delves into the transformative power of travel, beckoning readers to explore the world around them and the depths of their own souls [4].

The essence of Wordsworth's wanderlust is encapsulated in his belief that nature is not a passive backdrop but an active and powerful muse. His renowned poem "Lines Composed a Few Miles Above Tintern Abbey" eloquently conveys this sentiment. Wordsworth writes of learning "to look on nature, not as in the hour of thoughtless youth; but hearing oftentimes the still, sad music of humanity." In these lines, we witness the evolution of his relationship with nature from youthful admiration to a profound communion, where the natural world becomes a mirror reflecting the human soul [5].

Yet, Wordsworth's wanderlust extends beyond poetic admiration. He understood that travel, particularly in natural settings, could have a transformative effect on the individual. In his autobiographical epic, "The Prelude," he chronicles his own experiences of wanderlust, narrating the impact of his journeys on his personal and creative growth [6]. To Wordsworth, travel was not just a physical act but a journey of self-discovery, an odyssey into the depths of one's being.

As we embark on a journey through Wordsworth's exploration of nature and travel in Romantic poetry, we will uncover how his verses resonate with the ideals of the Romantic movement: the sublime and the picturesque, the

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Folklore and Fantasy: Myths and Legends in English Literature

Farhana Farooqi[1], Prakash Chandra Panda[2], Ashutosh Saxena[3], Somya Bansal[4], Nyarik Geyi[5]

[1]Assistant Professor, Department of Arts, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: farhana.farooqi@mangalayatan.edu.in

Abstract: This article explores the enchanting interplay of folklore and fantasy in English literature, showcasing the enduring power of myths and legends. Folklore, with its oral tradition, serves as a repository of cultural wisdom and values, influencing classic tales like the Arthurian legend. Fantasy, on the other hand, transports readers to otherworldly realms, often rooted in folklore, where magic and mythical creatures abound. Authors like J.R.R. Tolkien and C.S. Lewis have crafted immersive universes that resonate with readers of all ages. Furthermore, contemporary authors like Neil Gaiman and Philip Pullman seamlessly blend folklore with fantasy to create narratives that challenge societal norms and explore profound philosophical questions. The timeless appeal of these genres lies in their capacity to transcend boundaries and tap into universal themes, fostering empathy and understanding among diverse audiences. Folklore and fantasy continue to enrich our lives, reminding us of the enduring power of storytelling and the boundless possibilities of the human imagination in the world of literature.

Keywords: Folklore, Fantasy, English literature, Myths and legends, Timeless appeal

Introduction:

In the vast tapestry of literature, there exists a realm where the ordinary merges seamlessly with the extraordinary, where the boundaries of reality blur and myths and legends come to life [1]. This realm is the enchanting world of folklore and fantasy, where tales of old and imaginative realms collide, leaving an indelible mark on the landscape of English literature. It is a world where heroes embark on epic quests, mythical creatures roam, and the line between reality and imagination is beautifully blurred [2].

Folklore, the age-old practice of passing down stories, myths, and legends through generations, has served as a wellspring of inspiration for countless authors. It is the repository of humanity's collective wisdom, fears, and dreams, a reflection of our shared heritage and cultural identity [3]. The rich tapestry of folklore has given birth to timeless classics and enduring characters, shaping the literary tradition in profound ways [4].

One cannot explore the realm of folklore and fantasy in English literature without encountering the iconic Arthurian legend [5]. The tales of King Arthur, the Knights of the Round Table, and their quest for the Holy Grail have been woven into the very fabric of literary history. Through the works of writers like Sir Thomas Malory, T.H. White, and Marion Zimmer Bradley, the legend of King Arthur has been reinvented and reimagined, each author adding their own unique interpretation to this enduring saga.

Fantasy, a genre closely intertwined with folklore, offers a departure from the ordinary world into entirely new realms where magic, mythical creatures, and epic adventures reign supreme. Authors like J.R.R. Tolkien and C.S. Lewis have crafted entire universes filled with intricate mythologies, captivating readers with tales of hobbits, talking animals, and epic battles between good and evil. These visionary authors have set the bar high, inspiring generations of writers to build their own immersive and fantastical worlds [6].

This journey into the realm of folklore and fantasy is a journey into the heart of human imagination and the enduring power of storytelling. It is a journey that explores universal themes, challenges societal norms, and invites readers of all ages to embark on adventures that transcend time and place. Join us as we delve deeper into

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Legal Tech Revolution: Navigating the Future of Law

Vikas Sharma[1], Aishwarya Sharma[2], Animesh Rishi[3], Geeta Shrivastava[4]

[1]Associate Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
[3]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand
[4]Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
Email: vikas.sharma@mangalayatan.edu.in

Abstract:

The legal tech revolution is reshaping the practice of law, ushering in a new era of efficiency, accessibility, and innovation. This abstract explores the multifaceted impact of legal tech on legal professionals, clients, and the broader legal landscape. Legal tech, encompassing AI, document automation, blockchain, and online dispute resolution, streamlines tasks, enhances accuracy, and improves client engagement. Legal professionals experience increased efficiency and accuracy but must also grapple with ethical concerns, data security, and the need for ongoing skill development. Clients benefit from cost-effective, tech-driven legal services, while society gains improved access to justice. Navigating this transformation requires a balanced approach, embracing innovation while upholding ethical standards. Education and training are pivotal to equip legal professionals with the skills needed to navigate the evolving tech landscape. Ultimately, embracing legal tech is essential to ensure the legal profession remains relevant, accessible, and just in an increasingly digital world.

Keywords: Legal tech, Artificial intelligence (AI) in Law, Document automation, Online dispute resolution (ODR), Data security in iegal tech, Ethical considerations in legal tech, Legal tech adoption, Future of law

Introduction:

The legal profession, often perceived as a steadfast guardian of tradition and precedent, is in the midst of a profound and dynamic transformation that is reshaping its very foundations [1]. This transformation, fuelled by the relentless march of technology, is commonly referred to as the "legal tech revolution." It represents a seismic shift in the way legal services are conceived, delivered, and consumed, portending a future where the practice of law is unrecognizable from its traditional roots.

The legal tech revolution is not a singular event, but rather an ongoing evolution that has gained momentum over the past two decades. Its emergence is emblematic of the broader digitization and automation of various industries [2], each of which is striving to harness technology to improve efficiency, reduce costs, and enhance outcomes [3]. In the case of the legal profession, this technological renaissance is fundamentally changing how legal professionals approach their work, how clients access justice, and how society engages with the law [4][5].

At the heart of the legal tech revolution lies a diverse and potent array of technologies, each with its unique capacity to disrupt and reshape the legal landscape [6]. Among these transformative technologies are artificial intelligence (AI) and machine learning, which have breathed new life into legal research, document analysis, and predictive analytics. With the ability to process colossal volumes of legal data in mere seconds, these tools empower lawyers to make more informed decisions and provide clients with precise and expedient counsel [7].

Document automation, another hallmark of legal tech, has revolutionized the creation and management of legal documents, contracts, and agreements [8]. By automating the often tedious and error-prone task of document generation, legal professionals can now redirect their energy and expertise towards the nuanced and strategic aspects of their cases.

Blockchain technology, famed for its role in underpinning cryptocurrencies, has found applications in law through the development of smart contracts [9]. These self-executing contracts are not only tamper-proof but also capable of automating contractual obligations when predefined conditions are met. This has the potential to streamline and secure a wide array of transactions, from business agreements to real estate deals.

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Legal Pluralism: Exploring Multiple Legal Systems

Jitendra Yadav[1], Pratishtha Mishra[2], Kritika Singh, Pankaj Choudhury[4]

[1]Assistant Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
[3]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand
[4]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
Email: jitendra.yadav@mangalayatan.edu.in

Abstract:

Legal pluralism, the coexistence of multiple legal systems within a single jurisdiction, is a complex and dynamic phenomenon that reflects the diversity and cultural richness of societies worldwide. This article explores the concept of legal pluralism, examining its manifestations, advantages, and challenges. Legal pluralism takes various forms, encompassing customary, religious, indigenous, state, and international legal systems. While it offers advantages such as cultural respect, inclusivity, and access to justice, it also presents challenges related to conflicts, inequalities, and legal uncertainties. Striking a balance between preserving cultural traditions and upholding universal human rights is a central theme in the study of legal pluralism. As our world becomes increasingly interconnected, understanding legal pluralism is essential for fostering just and inclusive legal systems. This abstract encapsulates the intricate interplay of multiple legal systems and their impact on governance, justice, and cultural diversity in pluralistic societies.

Keywords: Legal Pluralism, Multiple Legal Systems, Customary Law, Religious Law, Indigenous Legal Systems, Cultural Diversity, Access to Justice

Introduction:

In a world that is as diverse as it is interconnected, the concept of a singular, universal legal system does not hold true for many societies. Legal pluralism, a dynamic and complex phenomenon, acknowledges and embraces the coexistence of multiple legal systems within a single jurisdiction [1]. These systems can be rooted in diverse sources of law, such as customary practices, religious doctrine, indigenous traditions, or the statutes and regulations of the state [2]. The essence of legal pluralism lies in its recognition that different individuals or communities may seek justice, resolve disputes, or regulate their affairs through the lens of these distinct legal systems, depending on the context and their personal beliefs [3][4].

As we embark on a journey to explore legal pluralism, it becomes evident that this concept is far from monolithic; instead, it reflects the rich tapestry of human societies, their histories, cultures, and values [5]. Legal pluralism manifests itself in myriad ways, offering insight into the intricate relationships between law, society, and governance. In this article, we will delve into the multifaceted world of legal pluralism, examining its definitions, manifestations, advantages, and challenges [6][7].

The heart of legal pluralism beats in the everyday lives of individuals and communities around the globe [8]. It finds expression in customary legal systems, deeply rooted in the traditions and practices of specific communities, often regulating issues like family matters, land disputes, and even criminal offenses. In societies with a strong religious influence, religious laws may coexist with secular state law, shaping personal matters such as marriage, divorce, and inheritance [9]. Indigenous communities maintain their own legal traditions, addressing issues related to land rights, natural resource management, and cultural preservation [10].

The globalization of our world has brought about the coexistence of international law with domestic legal systems, influencing international relations, trade agreements, and the establishment of human rights standards. As such, legal pluralism is not a historical artefact but a living, evolving phenomenon that continues to shape our societies in profound ways [11].

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Family Law in the 21st Century: Evolving Norms and Challenges

Mamta Rani[1], Laishram Malem Mangal[2], Amarnath Gupta[3], Shivangi Chouhan[4]

[1]Assistant Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
[3]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand
[4]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
Email: mamta.rani@mangalayatan.edu.in

Abstract:

The 21st century has witnessed a profound transformation of family law, reflecting the changing landscape of family structures, gender dynamics, and technological advancements. This article explores the evolution of family law in the modern era, addressing key themes such as changing family structures, gender equality, marriage and divorce, child welfare and custody, and technological challenges. Changing family structures have reshaped the traditional nuclear family model, with diverse arrangements like same-sex marriages, blended families, and cohabitation becoming more prevalent. Family law has adapted to recognize and protect the rights and responsibilities of individuals within these varied family forms. The advancement of gender equality and women's rights has been a hallmark of contemporary family law, addressing issues of autonomy, protection, and economic equity within marital relationships. Marriage and divorce practices have evolved, emphasizing fairness, mediation, and child-centric approaches. Child welfare and custody now prioritize the best interests of the child, with shared parenting models gaining prominence. Additionally, technological challenges have introduced new complexities, from digital evidence to cyberbullying. This article delves into these facets of family law, highlighting the ongoing efforts to modernize and adapt legal systems to meet the needs of diverse families in the 21st century.

Keywords: Family Law, 21st Century, Changing Family Structures, Gender Equality, Marriage and Divorce, Child Welfare

Introduction:

Family law, a cornerstone of the legal landscape, has always reflected society's values, norms, and structures. As we navigate the complexities of the 21st century, family law finds itself at the forefront of change, grappling with evolving family dynamics, shifting societal expectations, and emerging legal challenges [1]. This article embarks on a journey through the intricate landscape of family law in the 21st century, exploring how it adapts to new norms and addresses the unique challenges posed by our modern world [2].

In the not-so-distant past, the concept of a family was often synonymous with the nuclear family—a married heterosexual couple with children. However, the 21st century has ushered in a remarkable transformation of family structures. Now, families come in an array of forms, including same-sex marriages, blended families, single-parent households, and cohabiting couples [3]. These diverse family arrangements challenge traditional legal paradigms and necessitate legal reforms to recognize and protect the rights and responsibilities of all family members.

Perhaps one of the most remarkable shifts in family law over the past two decades has been the advancement of gender equality and women's rights. Family law has evolved to address issues like marital rape, domestic violence, and gender-neutral custody arrangements, reflecting society's commitment to equal rights and protection for all individuals within a family unit [4][5]. This shift has had profound implications for divorce laws, property division, alimony, and child custody arrangements, which have become more equitable and child-centric.

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Legal Labyrinths: Navigating the Complexities of Justice

Haider Ali[1], Tulika Sinha[2], Neeraj Rai[3], Pankaj Choudhury[4]

[1]Associate Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand
[3]Associate Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
Email: haider.ali@mangalayatan.edu.in

Abstract:

Access to justice is a fundamental human right that serves as the bedrock of any just and equitable society. This abstract explores the multifaceted concept of access to justice, emphasizing its pivotal role in ensuring that individuals, regardless of their backgrounds or circumstances, have meaningful access to the legal system. It highlights the principles of equal protection under the law, affordable legal services, and simplified legal procedures as key components in facilitating access. Furthermore, it discusses the importance of legal education and awareness, alternative dispute resolution methods, and technological innovations in breaking down barriers to justice. Access to justice is not just a legal doctrine but a moral imperative, and this abstract underscore the collective responsibility of legal professionals, policymakers, and society to promote and protect this essential human right. By prioritizing access to justice, we pave the way for a society where the law serves as a tool for empowerment, protection, and the realization of fundamental rights for all.

Keywords: Access to Justice, Legal System, Equal Protection, Legal Education, Equity

Introduction:

Legal systems, much like labyrinths, are intricate and multifaceted constructs that govern the behavior and interactions of individuals within a society [1]. In the intricate maze of laws, regulations, and judicial processes, the quest for justice resembles Theseus' journey through the labyrinth, requiring not only knowledge and determination but also the guiding thread of legal expertise [2]. This article delves into the captivating world of law, exploring the intricacies, challenges, and profound importance of navigating these legal labyrinths [3][4].

The concept of a labyrinth has long been associated with complexity and mystery, often symbolizing a perplexing journey towards a desired goal. Similarly, the legal system encompasses a labyrinthine network of rules, statutes, precedents, and procedures [5]. It is a landscape where navigating the twists and turns can be a daunting task, and where decisions have far-reaching consequences for individuals, communities, and societies as a whole.

Every legal jurisdiction presents a unique labyrinth, with its own set of laws, customs, and interpretations. Branches of law, such as criminal, civil, family, and administrative law, constitute separate facets of this intricate structure, each demanding a deep understanding of its complexities [6][7]. At the international level, the legal labyrinth expands to encompass the complex web of treaties, conventions, and agreements that regulate relations between countries.

Just as Theseus had Ariadne's thread to guide him through the labyrinth, individuals embroiled in legal matters rely on legal professionals as their guides. Lawyers, judges, paralegals, and legal scholars serve as the thread that helps individuals navigate this labyrinth of laws, providing counsel, representation, and clarity [8].

Legal professionals, through their rigorous education, training, and experience, possess the knowledge and insight required to decipher the intricacies of the legal system [9] [10]. Their role extends beyond interpreting laws; they also advocate for justice, uphold the principles of fairness, and ensure that individuals' rights are protected.

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The Age of Algorithmic Justice: Navigating the Impact of AI on Legal Decision-Making

Mamta Rani[1], Amarnath Gupta[2], Laishram Malem Mangal[3], Shivangi Chouhan[4]

[1]Assistant Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand
[2]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
Email: mamta.rani@mangalayatan.edu.in

Abstract
Artificial intelligence (AI) and automated decision-making (ADM) are increasingly used in various domains of law, such as criminal justice, civil litigation, and administrative law. These technologies promise to enhance efficiency, accuracy, and consistency in legal processes and outcomes. However, they also pose significant challenges for the principles of due process, fairness, and accountability that underpin the rule of law and access to justice. This article examines the opportunities and risks of AI and ADM in legal decision-making, and explores some of the legal and ethical issues that arise from their use. It also suggests some possible ways to address these issues, such as developing standards and guidelines for the design, implementation, and oversight of AI and ADM systems; ensuring transparency and explainability of the algorithms and their decisions; providing mechanisms for human review and intervention; and promoting public awareness and participation in the development and governance of AI and ADM in law.

Introduction

AI and ADM are technologies that use algorithms, data, and computation to perform tasks or make decisions that would otherwise require human intelligence or judgment. Examples of AI and ADM in law include software that predicts the risk of recidivism or bail violation for criminal defendants; tools that assist judges and lawyers in finding relevant precedents and statutes; systems that automate the resolution of low-value disputes or claims; and applications that generate legal documents or contracts.

The use of AI and ADM in law has been driven by various factors, such as the increasing volume and complexity of legal information and cases; the need to reduce costs and delays in legal processes; the demand for more consistent and objective decision-making; and the availability of new sources of data and computational power. AI and ADM have the potential to improve the quality and efficiency of legal services, enhance access to justice for marginalized groups, and foster innovation and creativity in legal problem-solving.

However, AI and ADM also raise significant concerns for the values and principles that underlie the legal system, such as due process, fairness, accountability, human dignity, and autonomy. These concerns stem from the limitations and biases of the algorithms and data used in AI and ADM systems; the lack of transparency and explainability of how these systems work and why they make certain decisions; the difficulty of ensuring human oversight and control over these systems; the impact of these systems on human rights, privacy, and democracy; and the ethical implications of delegating legal authority and responsibility to machines.

These concerns are not merely hypothetical or futuristic. They have already manifested in several cases where AI and ADM systems have been shown to produce inaccurate, unfair, or discriminatory outcomes or to violate legal or ethical norms. For example, in 2016, a US court found that a software used to assess the risk of recidivism for criminal defendants was biased against black defendants 1. In 2018, a UK court ruled that an algorithm used by the Home Office to process visa applications was unlawful because it discriminated against certain nationalities 2. In 2019, a French court annulled a decision made by an algorithm that allocated places for medical students based on their academic performance [3].

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Indigenous Water Rights: A Comparative Analysis

Jitendra Yadav[1], Pankaj Choudhury[2], Pratishtha Mishra[3], Kritika Singh[4]

[1]Assistant Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
[3]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand
Email: jitendra.yadav@mangalayatan.edu.in

Abstract: Water, a fundamental element for life and culture, holds unique significance for Indigenous Peoples and local communities worldwide. This abstract provides a concise overview of a comprehensive study conducted across 15 countries in Africa, Asia, and Latin America, examining the recognition and protection of Indigenous water rights. Drawing from international legal frameworks and a novel analytical methodology, this research reveals both progress and challenges in the recognition and realization of these rights.The comparative analysis encompasses various dimensions of Indigenous water rights, including procedural and substantive aspects. Findings highlight the varying degrees of recognition, with some nations taking significant steps towards acknowledging Indigenous water rights, while others lag behind. Procedural rights, such as consultation processes, have shown advancements, indicating a growing recognition of the need for Indigenous participation in water management decisions.However, substantive water use rights for Indigenous communities remain limited in many legal frameworks, posing challenges to their control over water resources. Inconsistencies in the inclusion of Indigenous communities in governance structures related to water management persist, with disparities in the authority granted. Few countries empower Indigenous communities with exclusion powers, leaving their water resources vulnerable to external interference. Moreover, restrictions on the transfer of water rights are rare, raising concerns about the potential exploitation of Indigenous water resources. Mechanisms for resolving water-related disputes are often lacking or inaccessible, perpetuating conflicts within these communities. Gender considerations within legal frameworks remain inadequate, failing to recognize and protect the rights and roles of women in Indigenous water management. In conclusion, this comparative analysis underscores the importance of comprehensive legal reforms to bridge the gap between recognition and substantive rights. Upholding Indigenous water rights is not only a matter of justice but also essential for sustainable water management, cultural preservation, and environmental stewardship. To address the identified challenges and build a more equitable and sustainable water future, policymakers are urged to consider the recommendations provided in the full study.

Keywords: Indigenous water rights, comparative analysis, recognition, procedural rights, substantive rights, governance, exclusion powers, transferability, dispute resolution, gender sensitivity, sustainable water management

Introduction

Water, the lifeblood of our planet, is essential for sustenance, livelihoods, culture, and spirituality. It is a source of vitality and identity, transcending its mere physical presence to become a fundamental right and a sacred element for Indigenous Peoples and local communities. Their relationship with freshwater resources shapes their worldview, cultural practices, and connection with nature. However, these communities often find their rights to access, manage, and protect these invaluable resources disregarded, violated, or undermined by dominant legal systems, development projects, and competing water users.

While Indigenous water rights have garnered recognition in comparative and international legal documents, including the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the Convention on Biological Diversity (CBD), and the Brasília Declaration of Judges on Water Justice, there remains a stark disjuncture between these acknowledgments and the practical realities on the ground. Western legal systems frequently fall short of comprehensively recognizing and safeguarding Indigenous water rights. This failure not

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Digital Evidence Preservation: Challenges and Solutions in the Age of Cybercrime

Vikas Sharma[1], Animesh Rishi[2], Aishwarya Sharma[3], Geeta Shrivastava[4]

[1]Associate Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand
[3]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
[4]Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
Email: vikas.sharma@mangalayatan.edu.in

Abstract

Digital evidence is any information that is stored or transmitted in digital form and that can be used as evidence in legal proceedings. However, digital evidence also poses unique challenges for its preservation, which is the process of ensuring that the evidence is not altered, damaged, lost, or destroyed during its collection, analysis, storage, and presentation. In this article, we discuss some of the main challenges and solutions for digital evidence preservation in the age of cybercrime, such as territoriality, possession, confiscation procedure, international cooperation, cloud forensics, and live forensics. We also provide some recommendations for best practices and future research directions for digital evidence preservation.

Keywords: Digital evidence, preservation, cybercrime, forensics, cloud computing

Introduction

Digital evidence is any information that is stored or transmitted in digital form and that can be used as evidence in legal proceedings. Digital evidence can include emails, text messages, photos, videos, audio recordings, documents, web pages, social media posts, online transactions, and more. Digital evidence can be crucial for investigating and prosecuting various types of crimes, such as fraud, identity theft, cyberattacks, child pornography, terrorism, and homicide.

However, digital evidence also poses unique challenges for its preservation, which is the process of ensuring that the evidence is not altered, damaged, lost, or destroyed during its collection, analysis, storage, and presentation. Unlike physical evidence, digital evidence is volatile and fragile, meaning that it can be easily modified or deleted by human or natural causes. Moreover, digital evidence is often distributed across multiple devices and locations, such as computers, smartphones, cloud servers, and networks. This makes it difficult to identify, access, acquire, and preserve the relevant data without violating legal or ethical principles.

In this article, we will discuss some of the main challenges and solutions for digital evidence preservation in the age of cybercrime. We will also provide some recommendations for best practices and future research directions.

Challenges for Digital Evidence Preservation

Some of the major challenges for digital evidence preservation are:

- **Territoriality**: The loss of location of digital evidence due to its mobility and transborder nature. Digital evidence can be stored or transferred across different jurisdictions and countries, which may have different laws and regulations regarding its access and use. This can create legal conflicts and uncertainties for law enforcement agencies and courts when dealing with cross-border cases.

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The Unsettled Waters of Space Law: Regulating Commercial Activities Beyond Earth

Haider Ali[1], Tulika Sinha[2], Neeraj Rai[3], Pankaj Choudhury[4]
[1]Associate Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand
[3]Associate Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
Email: haider.ali@mangalayatan.edu.in

Abstract
Space law is the branch of international law that governs the activities of states and non-state actors in outer space. It is based on a set of treaties and principles that were established during the Cold War era, when space exploration was mainly driven by state interests and motivations. However, in recent decades, the commercialization of space has emerged as a new and powerful force that challenges the existing legal framework and poses new questions and dilemmas for the regulation of space activities. This article examines the opportunities and risks of commercial activities in outer space, such as satellite communications, remote sensing, space tourism, asteroid mining, and lunar exploration. It also explores some of the legal and policy issues that arise from these activities, such as the allocation of orbital slots and spectrum, the protection of the environment and cultural heritage, the liability for damages and accidents, the ownership and exploitation of resources, and the jurisdiction and dispute resolution mechanisms. It also suggests some possible ways to address these issues, such as developing new norms and rules, enhancing cooperation and coordination, promoting transparency and accountability, and fostering innovation and sustainability.

Introduction

Outer space is often described as the final frontier of human exploration and discovery. It is also a domain of immense scientific, economic, strategic, and cultural value and potential. Since the launch of Sputnik in 1957, humanity has achieved remarkable feats in outer space, such as sending humans to the moon, landing probes on Mars, exploring the outer planets, deploying satellites for various purposes, and establishing a permanent presence in low Earth orbit through the International Space Station (ISS).

However, outer space is also a domain of uncertainty and complexity. It is subject to physical and technical challenges, such as harsh environments, orbital dynamics, debris hazards, and cybersecurity threats. It is also subject to legal and political challenges, such as conflicting interests, competing claims, diverse actors, and evolving norms.

Space law is the branch of international law that governs the activities of states and non-state actors in outer space. It is based on a set of treaties and principles that were established during the Cold War era, when space exploration was mainly driven by state interests and motivations. The cornerstone of space law is the 1967 Outer Space Treaty (OST), which declares that outer space is the common heritage of mankind, that it is free for exploration and use by all states without discrimination or interference, that it is not subject to national appropriation or sovereignty by any means, that it shall be used exclusively for peaceful purposes, and that states shall bear international responsibility for their national activities in outer space.

However, in recent decades, the commercialization of space has emerged as a new and powerful force that challenges the existing legal framework and poses new questions and dilemmas for the regulation of space activities. Commercial activities in outer space are those that are undertaken by private entities for profit or gain. They include a variety of sectors and services, such as satellite communications, remote sensing, space tourism, asteroid mining, and lunar exploration. These activities have been enabled by technological advances, market

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The Law Unveiled: A Journey through Legal Systems Around the World

Jitendra Yadav[1], Pankaj Choudhury[2], Pratishtha Mishra[3], Kritika Singh[4]

[1]Assistant Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
[3]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranchi, Jharkhand
Email: jitendra.yadav@mangalayatan.edu.in

Abstract: This article delves into the rich diversity of legal systems worldwide, offering insights into their origins, characteristics, and unique features. From Common Law's reliance on precedent to Civil Law's codified statutes, from the flexibility of Islamic Law (Sharia) to Customary Law's community-based approach, and from Socialist Legal Systems' state-centric focus to the global reach of International Law, each system reflects the intricate interplay of culture, history, and philosophy. Despite their differences, these systems share a common commitment to justice. This exploration highlights the enduring human pursuit of fairness and equity within the varied tapestry of legal traditions that shape our global society.

Keywords: Legal Systems, Diversity, Justice, Cultural Traditions, Global Society

Introduction:

The pursuit of justice is a fundamental aspect of human civilization, transcending borders, cultures, and millennia. It is the cornerstone upon which societies are built, the force that maintains order, and the beacon guiding us toward a fair and equitable world [1]. Yet, justice is not a one-size-fits-all concept; it is as diverse and multifaceted as the communities and cultures it serves. To truly grasp the intricate nature of justice, one must embark on a journey through the myriad legal systems that have developed across the globe [2].

The legal systems that govern our lives are a reflection of history, culture, philosophy, and politics. They represent the collective wisdom of societies in their pursuit of balance, accountability, and social harmony [3]. As we embark on this intellectual expedition, we will traverse the rich tapestry of legal systems that have emerged on every continent, each with its unique origins, principles, and idiosyncrasies.

Our journey begins with the Common Law systems, rooted in the storied halls of medieval England. These systems, influential in countries such as the United States, Canada, and England, are built upon the principle of precedent and emphasize the adversarial process. In the realm of Common Law, judges' decisions in past cases serve as binding precedents, forming a web of jurisprudence that evolves over time [4]. This system's distinctive feature is its reliance on the wisdom of earlier rulings to inform current legal judgments.

Next, we delve into the Civil Law systems that dominate continental Europe, Latin America, and various parts of Asia. Unlike Common Law, Civil Law systems prioritize codified statutes over judicial decisions [5]. The Napoleonic Code and the German Civil Code are prime examples of comprehensive legal codes that form the bedrock of these systems. In Civil Law, judges play a more inquisitorial role, determining the facts and applying the law to ensure consistency and predictability.

Islamic Law, or Sharia, forms another integral part of our journey. Rooted in Islamic jurisprudence and theology, Sharia governs various aspects of life in countries such as Saudi Arabia and Iran. It offers a unique approach to justice, emphasizing ethics, morality, and divine guidance. Its flexibility allows for interpretation by Islamic scholars to adapt to contemporary contexts, a testament to its enduring relevance [6].

Customary Law systems, often prevalent in indigenous communities and remote regions, bring a distinct flavor to our exploration. These systems are built on traditions, customs, and norms passed down through generations. While they may lack formal written laws, Customary Law places a strong emphasis on community consensus and restitution, fostering social cohesion and harmony.

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CONVERSION RATE OPTIMIZATION (CRO): A COMPREHENSIVE ANALYSIS OF TECHNIQUES, TESTING METHODS, AND USER EXPERIENCE

Md Saifullah Khalid[1], Ankur Kumar Agrawal[2], Nyarik Geyi[3], Jai Anand Shukul[4], Vipul Jain[5]

[1]Associate Professor, Associate Professor, Faculty of Business Management & Commerce Usha Martin University, Jharkhand

[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[5]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Email ID: saif.kh92@gmail.com, ankur.agarwal@mangalayatan.edu.in

Abstract

Conversion rate optimisation (CRO) is crucial in digital marketing since even small gains in conversion rates have a significant impact on revenue. This study looks at testing procedures, user experience (UX), and CRO tactics. By meticulously searching through academic databases for recent and comprehensive writings on the subject, it provides insights for academics and marketers. The study's conceptual framework defines CRO and examines elements such as the user experience, the conversion funnel, website design, usability, content relevance, trust signals, and outside impacts. A/B testing, multivariate testing, customization, behavioural targeting, copywriting, design optimisation, call-to-action optimisation, social proof, trust signals, and pricing strategies are all included in an overview of CRO approaches. A/B testing, multivariate testing, controlled experiments, observational studies, online and offline testing, as well as quantitative and qualitative testing, are compared, highlighting their benefits and factors to be taken into account. The importance of UX in CRO is highlighted, with particular attention paid to website navigation, page load speeds, mobile optimisation, visual design, and content relevancy. The abstract wraps up by discussing CRO's challenges and limitations, including resource limitations, ethical issues, and technical and testing procedure limitations. Businesses can create successful strategies to optimise conversion rates and improve their online platforms by overcoming these difficulties and giving UX priority.

Keywords: CRO techniques, A/B testing, user experience (UX), conversion metrics, optimization strategies.

I. Introduction

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A STUDY ON THE RELATIONSHIPS AMONG ORGANIZATIONAL TRUST, OGRANIZATIONAL COMMITMENT AND JOB SATISFACTION AMONG NURSES IN PRIVATE HOSPITALS IN RANCHI

Bidisha Sarkhel[1], Rohit Akhouri[1], Arvind Hans[1], Saurabh Kumar[2], Chiging Yamang[3],Vipul Jain[4]

[1]Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

[2]Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P.

[3]Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Email: arvind@umu.ac.in, saurabh.kumar@mangalayatan.edu.in

Abstract:

Healthcare Industry is one of the most developing Industries currently with Government's emphasis on increased healthcare spends the sector is growing manifold. Healthcare professionals play an important role in serving the community and Nurses have a huge role to play to provide the effective and efficient health care services to the patients. This study focuses on the nurses in major Private Hospitals of Ranchi which reflect their level of Organizational Trust, Commitment and job Satisfaction. A descriptive and causal research was adopted to investigate the phenomena

Related to trust, organizational commitment and job satisfaction in private hospital of Ranchi.75 nurses responded to the questionnaire measuring the above constructs. Data was analyzed by using descriptive and inferential statistics. The findings indicate that organisational commitment and trust have a significant impact on the nurses' job satisfaction at Ranchi's private hospitals. This research article may help healthcare officials take the appropriate actions to boost employees' commitment and trust in the organisation. This will help to retain qualified nurses and to improve the productivity of the hospitals.

1. Introduction:

Low nurse productivity and poor patient care are major problems in the healthcare services sector. It is essential to evaluate and enhance nurses' quality of work in order to enhance their working conditions and decrease burnout. Burnout, emotional tiredness, and job discontent are all consequences of nurses' work-life unhappiness, which eventually affects patient care. For an organisation to succeed, it is critical to address the physical and emotional requirements of hospital nurses.(Taware & Patil, n.d.)

Nurse job satisfaction is crucial for retention, and research has shown that high levels of job

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CONSUMERS' PURCHASE BEHAVIOUR OF ESSENTIALS DURING THE COVID-19 LOCKDOWN PERIOD: AN EMPIRICAL INVESTIGATION

Md Saifullah Khalid[1], Rajeev Sharma[2], Sangeetha Prasad[3], Jai Anand Shukul[4], Amit Srivastav[5]

[1]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand, India

[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P.

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Email: saif.kh92@gmail.com, rajeev.sharma@mangalayatan.edu.in

Abstract

This study investigates consumer purchasing behavior concerning essential goods and services during the Covid-19 lockdown in the Indian state of Jharkhand. Conducted from March 2020 to May 2020, the research targeted adults over 18 who purchased essential items during that period. The study employed a structured online questionnaire to collect primary data using judgment sampling. Results indicated that most respondents refrained from unnecessary purchases, focusing on conserving money for necessities. Product quantity, quality, and variety were the primary influencers in purchase decisions, while price, product attributes, and brand image also played significant roles. Branded and ecologically friendly goods were preferred. Customers delayed purchases until genuinely needed and often sought credit as a motivator. Demographic characteristics influenced purchasing habits, with family members and spouses having a notable impact. The UPI app gained popularity as a payment method, and convenience stores remained a preferred choice despite an increasing preference for online stores.

Keywords: Covid-19 lockdown, Purchase decisions, Essentials, Consumer behaviour

1. Introduction

By the end of 2019, the globe saw the arrival of the new terrifying phenomenon, known as Covid-19. The first Covid-19 case to be documented originated in Wuhan, China (Page J, Hinshaw D, McKay B, 2021). The Director-General of the World Health Organization Dr. Tedros Adhanom Ghebreyesus declared the coronavirus epidemic a "pandemic" on March 11, 2020 (WHO, 2020). In India, Prime Minister Mr. Narendra Modi declared a 21-day state-wide lockdown on March 24, 2020, in order to protect the country's 1.3 billion residents from illness.

In this backdrop, understanding how consumer behaviour changed during the Covid-19 shutdown is crucial since prior studies have shown that certain behaviours tend to emerge during and after catastrophes or crises. According to Valaskova et al. (2015), consumer behaviour is a crucial and

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THE EMPOWERING IMPACT OF ZAKAT: REDEFINING SOCIAL JUSTICE AND ECONOMIC WELL-BEING

Md Saifullah Khalid[1], Md. Tarique Anwer[2], Swati Saxena[3], Nyarik Geyi[4], Amit Srivastav[5]

[1]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand, India

[2]Associate Professor, Department of Arts, Mangalayatan University, Aligarh, Uttar Pradesh, India

[3]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Email: saif.k92@gmail.com

Abstract:

This article investigates how Islam's obligatory almsgiving practice, zakat, fits up with the UN's Sustainable Development Goals (SDGs). As a cornerstone of the Islamic socioeconomic system, zakat works to advance financial security, social justice, and the fair allocation of resources. The potential effects of zakat on people's socioeconomic well-being are investigated in this article through reviews of theoretical and empirical studies. It examines how zakat contributes to social justice, economic growth, and the reduction of poverty. It also explores how zakat aligns with particular SDGs, like ending poverty and reducing inequality (Haq, S. G. 2013). The article also covers zakat administration and implementation, including difficulties and suggestions for boosting efficiency. This article illustrates the potential of zakat as a tool for sustainable development and inclusive progress by looking at the junction of Islamic values and world goals.

Keywords: *Zakat, Sustainable Development Goals, Poverty alleviation, Social justice, Wealth redistribution*

1. Introduction

The Islamic teachings attach considerable emphasis to zakat, a crucial component of the Islamic economic system. It strives to promote universal brotherhood, provide financial equality, and promote economic well-being within Muslim communities (Ismail, A. G., & Shaikh, S. A., 2017). In line with the tenets of "*maqasid al-shar'iyah*" (the objectives or goals of Islamic law), zakat is essential to the development of a community that values social justice, equity, and freedom (Chapra, 1992). Zakat is regarded as a religious obligation rather than merely charitable giving in Islam (Masruki, R. B., Sulaiman, & Majid, H. M. A., 2021). It is one of the five pillars of Islam and emphasises the requirement to provide alms to the needy and the destitute. According to Quraishi, M. A. (1999; Rao, P. (2016), zakat serves as a tool for fostering piety and boosting *Iman* (faith) in the pursuit of a society free from prejudice, discrimination, and class distinction. It is a framework created to give every member of society an equal chance to succeed (Bukowski, 2014).

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BLOCKCHAIN TECHNOLOGY IN MARKETING: A SYSTEMATIC REVIEW OF ITS POTENTIAL FOR TRANSPARENCY, TRUST, AND DATA SECURITY

Md Saifullah Khalid[1], Ashok Kumar Upadhyay[2], Swati Saxena[3], Chiging Yamang[4], Somya Bansal[5]

[1]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Jharkhand, India

[2]Librarian and Associate Professor, Dept. of Library and Inf. Science, Mangalayatan University, Aligarh, UP, India

[3]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Email Id: saif.kh92@gmail.com, ashoka143@gmail.com

Abstract

This systematic review explores the potential applications of blockchain technology in marketing and its impact on data security, trust, and transparency. The study employs strict criteria, exhaustive search techniques, and techniques for data extraction and analysis. Exploring blockchain in marketing is vital because traditional marketing tactics are criticised for lacking transparency, trust, and data security. The review identifies research areas that concentrate on blockchain's potential to improve stakeholder trust, transparency, and data security in marketing. The results are important for scholars, marketers, and policymakers because they shed light on the benefits, difficulties, and constraints of using blockchain in marketing practises. The paper covers blockchain ideas including decentralisation, cryptography, and consensus procedures while highlighting the technology's advantages for marketing, such as increased transparency and data protection. The use of case studies to demonstrate how blockchain might improve marketing transparency includes supply chain tracking and verified advertising transactions. Concerns about scalability and data security are also covered in the review, which emphasises the significance of regulatory frameworks and standardisation. It discusses how immutability, decentralised consensus, and smart contracts on the blockchain might increase confidence among marketing stakeholders. Blockchain's decentralised architecture, cryptographic techniques, privacy protection mechanisms, and transparency all place an emphasis on data security. In order to fully realise the potential of blockchain in marketing, challenges and prospective applications, such as scalability and integration, are reviewed. Overall, the evaluation offers a thorough analysis of blockchain's marketing applications, including its benefits, drawbacks, and the need for additional study and use.

Keywords: Blockchain technology, Marketing, Transparency, Trust-building, Data security

1. Introduction

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AN IMPROVED PAYMENT MODEL TO ENHANCE COOPERATION IN MANET

Md. Amir Khusru Akhtar[1], Rajesh Kumar Upadhyay[2], Manish Saxena[3], Dr. Dinesh Mishra[4], Vishal Khatri[5]

[1]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand, India

[2]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, U.P., India

[3]Associate Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP

[5]Associate Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim

Email: amir@umu.ac.in, rajeshupadhyay1@gmail.com

Abstract

Mobile Ad-Hoc network is a peer to peer network in which nodes are equally responsible for forwarding and routing. If a node drops packet of others it is called packet dropping attack or selfish misbehavior. We have several solutions to minimize packet dropping attack such as reputation-based mechanisms and incentive-based mechanisms. In the incentive-based mechanisms a successful forwarding will be counted and senders must be rewarded by virtual money or credits. Existing incentive-based mechanisms have limitation in terms of message size and range. If a sender wants to send a message whose size comes within a small range then, the question arises that why sender has to pay a fixed amount of virtual money while transferring some small message. In order to enhance the flexibility for sender node we have proposed credit management in more flexible manner. In the proposed Enhance Payment Model (EPM) the sender has to pay variable types of credit for sending a message through intermediate nodes and this credit is totally depends upon the size of messages. Our method reduces the overburden of sender node because the intermediate nodes are assigned credits that follow a particular pattern. The nodes following the sender node is allotted a certain credit value α, and the subsequent nodes are given values a fixed amount 2β less than the previous ones. Thus, the first node has value α, second node has α-γβ; third has α-2γβ and so on. The nth node will have the credit value α-(n-1) γβ. Where γ is any other variable and the value of γ is always belongs between the range $0 \leq \gamma \leq 1$. Simulation results shows that the proposed model reduces the overburden of sender node more than 20%.

Keywords: enhance payment model (EPM), credit, virtual money, incentive-based mechanism, packet dropping attack, peer to peer network

1. Introduction

A Mobile Ad-Hoc Network [1-5] is a form of Ad-Hoc network that can change locations and build up itself anytime and everywhere in dynamic fashion. This type network can utilize any medium such as a Wi-Fi connection, a cellular or satellite transmission.

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PHONETICS AND COMMUNICATION: BRIDGING THE GAP BETWEEN SPEECH AND UNDERSTANDING

Shimpi Kumari Chaturvedi[1], Deepshikha Saxena[2], Rana Taku[3], Vineeta Kaur Saluja[4], Salima Bhattarai[5]

[1]Assistant Professor, Department of English, Usha Martin University, Ranchi, Jharkhand, India

[2]Associate Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Professor, Department of English, Mangalayatan University, Jabalpur, MP

[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Email: Email: shimpi@umu.ac.in, deepshikha.saxena@mangalayatan.edu.in

Abstract

Phonetics is essential to facilitating effective communication, which is at the heart of human connection. The present study examines the complex interrelationship between phonetics and communication, concentrating on the processes that connect spoken words to their understanding. It examines the production, transmission, and reception of speech sounds by delving into the articulatory, acoustic, and auditory components of phonetics.

The paper investigates the role of phonetics in various linguistic contexts, from local dialects to international accents, highlighting how variations in sound patterns influence the way individuals comprehend and respond to spoken language. Furthermore, it examines the impact of technology, such as speech recognition systems and language processing algorithms, in improving communication efficiency and accessibility for diverse populations.

This paper underscores the vital role of phonetics in facilitating successful communication, both within and across linguistic communities. By bridging the gap between speech and understanding, phonetics offers valuable insights into the fundamental nature of human language and the ways in which we connect with one another. As communication continues to evolve in an increasingly interconnected world, the study of phonetics remains pivotal in fostering inclusive and effective communication practices.

Key words: Phonetics, Communication, Language comprehension, Articulatory, Technology, Speech synthesis, Language processing algorithms, Vowel shifts, Tonal languages, Linguistic diversity, Regional accents.

Introduction

The interchange of ideas, emotions, and information takes place through effective communication, which is the lifeblood of interpersonal relationships. The interesting study of phonetics, a foundational area of linguistics that aims to explain the mysteries of speech sounds and their function in enabling language interpretation and expression, is at the core of this complex process.

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A QUICK RUN THROUGH THE SCENARIO OF WILDLIFE CRIMES IN INDIA

Madona Mathew[1], Jitendra Yadav[2], Geeta Shrivastava[3], Aishwarya Sharma[4]

[1]Assistant Professor, Department of Forensic Science, Usha Martin University, Ranchi, Jharkhand

[2]Assistant Professor, Institute of Legal Studies and Research, Mangalayatan University, Aligarh, U.P.

[3]Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP

Email: madona2908mj@gmail.com, jitendra.yadav@mangalayatan.edu.in

Abstract

India is noted for its diverse biodiversity, which includes a vast range of wild floral and faunal species. Because of massive poaching and illegal trading, this wildlife treasure of ours fears extinction. Poaching and trafficking of wild species for money and fashion has wiped off a variety of wildlife species, necessitating immediate action to combat this threat. Illegal wildlife trade (IWT) is a type of green crime or environmental crime, which is defined as "illegal activities harming the environment and aimed at benefiting individuals, groups, or companies through the exploitation, damage to, trade, or theft of natural resources." Many transit routes run through Uttar Pradesh, Karnataka, West Bengal, Rajasthan, Madhya Pradesh, and Assam, all of which are key sites for wildlife trafficking in both local and international markets. The paper deals with gathered wildlife crime data from various stakeholders, government agencies, and credible news sources, and discussed current crime trends, difficulties, and prevention techniques needed to regulate and restore animal biodiversity in India.

Keywords: wildlife crimes, forensics, illegal activities, trafficking

Introduction

India is one of the 12 mega-biodiversity nations, accounting for 8% of global biodiversity and home to 60% of the world′s tigers, 50% of Asian elephants, 70% of Asian rhinos, and the only wild population of Asiatic lions.[1] India also features a unique mix of Palaearctic, Oriental, and Afrotropical fauna[2], with over 400 animal species.[3] We run the risk of losing all of our valuable species due to rampant poaching and the expanding illegal wildlife trade.

Mankind has been using wildlife and natural resources for food, clothing, medicine, pleasure, and profit since time immemorial, but commercial exploitation in recent years has destroyed certain species to the point of extinction.[4] As a result of continuing illegal trade, conservation of wild species is currently a severe concern.

As a result of the ongoing illegal traffic in animal parts and goods, conservation of wild species is currently a major concern.[4] The annual international trade in wildlife and its products is estimated to be around US $20 billion, with illegal wildlife traffic alone accounting for $5 billion, ranking second only to drugs in terms of economic value.[1] Because the majority of the trade is extremely clandestine, it is difficult to produce accurate estimates of its magnitude, and the true

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ICT IN DISTANCE EDUCATION: AN EXPLORATION OF ROLE AND IMPACT

Madhusudan Murasing[1], Bechan Singh[2], Ashok Kumar Upadhyay[3], Tad Nime[4], Sumit Singh Sonkar[5]

[1]Assistant Professor, Department of Education, Maharaja Bir Bikram College, Agartala, Tripura

[2]Assistant Professor, Faculty of Education, Usha Martin University, Ranchi, Jharkhand

[3]Librarian and Associate Professor, Department of Library and Information Science, Mangalayatan University, Aligarh, Uttar Pradesh

[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP

Email: bechan@umu.ac.in, ashoka143@gmail.com

Abstract: Information and communication technology (ICT) is an emerging tool in the area of distance education and the students are studying in remote areas where schools are not easily accessible. Nowadays various types of Web 2.0 technologies like podcast, social networking sites are also used by the educators in the area of distance education for making effective teaching learning process. The present study aims to focus on role of ICT in distance education for tribal learners in Tripura. This study also focuses on impact of ICT on distance education for tribal learners in Tripura. This study is descriptive and informative in nature. This study is based on the secondary data and data is collected from the online and offline repositories including government reports. This study is brief one but describes various roles of ICT like competency and performance based curricula, information literacy, students centered learning and support in constructing student's knowledge. Moreover, impact of ICT on students learning have explored in terms of time and place. This study creates the portfolio for the next step of quantitative research for mapping the extent of impact on distance education for remote and rural area students and how it influences and enhances the students learning performances in Indian context. In this study some points have discussed by researchers to reflect the influence of ICT in social and economic development.

1. Introduction:

Education is one of the main keys to economic development and improvements in human welfare. As global economic competition grows sharper, education becomes an important source of competitive advantage, closely linked to economic growth, and a way for countries to attract jobs and investment. In addition, education appears to be one of the key determinants of lifetime earnings countries therefore frequently see raising educational attainment as a way of tackling poverty and deprivation. In developing countries, education is also linked to a whole batch of indicators of human development. Education of women influences the health of children and family size. The experience of Asian economics in particular in the past two decades has demonstrated the benefits that public investment in education can bring. In richer countries, education is as important not just in the early years, but also in later life/As the pace of technological change quickens and as the work force in many rich countries grows older,

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MEDIA LAW: CENSORSHIP AND RELIGIOUS EXPRESSIONS

Amarnath Gupta[1], Mamta Rani[2], Pratishtha Mishra[3], Pankaj Choudhury[4]

[1]Assistant Professor, Assistant Professor, Faculty of Legal StudiesUsha Martin University, Ranchi, Jharkhand

[2]Assistant Professor, Institute of Legal Studies and Research, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP

[4]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh

Email: amarnath9487@gmail.com, mamta.rani@mangalayatan.edu.in

INTRODUCTION

In the recent years the debate over the freedom of speech have become more contentious where two sides of arguments were advanced of which first was regarding restrictions on the free speech and second was for freedom of speech that there should not be any curtailment on free speech. The problem becomes grave when the free speech is used for religious matters. In past there have been many instances where there have been voracious criticisms on the views expressed by people through different media. In many instances there has happened that that restrictions have been put on the free speech and the religious sentiments of the people have won the game. There have been legal and extra legal restrictions on the free speech. The legal restrictions are those which have been put by the government or court in compliance with the constitutional provision, that is, article 19(2) of the Constitution and the extra legal sanctions are those where the government succumbs to the pressure or violence by the people and put restrictions on the free speech. There is not only constitutional censorship but also through different statutes the government prohibits expression of any form in public.

Restriction on Criminal Ground

Restrictions in Indian Penal Code on expression in the media on the ground of religion, section 153 penalizes the promoting of enmity between different groups on grounds of religion, race, place of birth, residence, language etc. section 295A penalizes deliberate and malicious acts intended to outrage religious feelings of any class by insulting its religious or religious beliefs. Section 298 criminalizes any expression made with deliberate intent to hurt the religious feeling of any person. The intent of the parliament enacting these provisions is to prevent any hurt to the religious sentiments of one group by another, secure the public order in the society, to put restrictions on free speech and to uphold the secular fabric of nation.

Constitutional Framework

Article 25 of the Constitution talks of propagation of religion, in which media plays an important role and this makes their relationship indispensible but putting excessive restrictions on or attacking these media houses creates a catch over their relationship. Freedom of thought and expression and the freedom of the press are not only valuable freedoms in themselves but are basic

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STRIVING FOR EQUITABLE PROGRESS: UNRAVELING THE GENDER EQUALITY PARADIGM

Swati Sawar[1], Vikas Sharma[2], Pankaj Choudhury[3], Shivangi Chouhan[4]

[1]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranchi, Jharkhand, India

[2] Associate Professor, Institute of Legal Studies and Research, Mangalayatan University, Aligarh

[3]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP

Email: swatisawaradv@gmail.com, vikas.sharma@mangalayatan.edu.in

Abstract:

The goal of this article is to investigate the ongoing efforts to make equitable progress while delving into the multidimensional world of gender equality. The study examines numerous aspects of gender discrepancies in both historical and modern contexts, highlighting the necessity of gender equality as a cornerstone of society growth. The report provides a thorough review of the difficulties and impediments to achieving actual gender equality, including ingrained cultural norms, unfair practices, and systemic biases. The article discusses the effects of gender disparity on various facets of life, such as education, work, healthcare, and political representation, drawing on a wide range of research. It emphasizes the significance of eradicating conventional gender roles and stereotypes in order to promote an inclusive and just society in which people can flourish regardless of their gender identification. The paper also examines the linkages between concerns of social justice and gender equality, highlighting the need to address intersectionality in order to create a comprehensive and revolutionary strategy. The inquiry also examines the function of laws, regulations, and institutional structures in advancing gender equality, assessing both effective programmes and those that need more development. The article examines the accomplishments and failures of international initiatives through a critical lens, highlighting the necessity of continuous and cooperative engagement by governments, civil society, and international organizations to bring about revolutionary change. The article's conclusion emphasizes the importance of working towards equitable advancement in tearing down the gender equality paradigm. It urges everyone to work together to create a society where everyone has equal access to opportunities and rights, regardless of gender. Societies may move forward towards a more just, inclusive, and prosperous future for all by addressing the underlying causes of gender inequality, combating damaging stereotypes, and supporting intersectional approaches.

Key words: Equitable progress, Gender equality, Intersectionality, International initiatives, Systemic biases

Introduction

A crucial component of social justice and human rights is gender equality. It involves providing everyone with the same opportunities, rights, and treatment regardless of their gender identity. Even while gender equality has come a long way in recent years, persisting discrepancies still stand

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INSTITUTIONAL SELF-PRESERVATION AND RELIGION VIS-A-VIS GLOBAL JUSTICE

Kritika Singh[1], Deepmala[2], Neeraj Rai[3], Geeta Shrivastava[4]

[1]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranchi, Jharkhand, India

[2]Assistant Professor and Deputy Librarian,, Department of Library and Information Science, Mangalayatan University, Aligarh, UP

[3]Associate Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP

[4]Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh

Email: singhkritika781@gmail.com, deepmala@mangalayatan.edu.in

Abstract

From the sociological lens, it is to be acknowledged that religion is attributed as an institution, like any other institutions. At the same time, the religious institution is very different from any other institutions as it circumscribes within it the notions of faith, belief, hope, love and peace which attempts to raise humanity to be more civilised. In that alignment where religion is viewed as rescuer and preserver of humanity often roars for preserving itself. It is in this context the notion of institutional self-preservation has been attempted to be associated with the religion in this research article. On the other hand, human conscience has evolved upon the parameters of duality, discriminating one from other, good from evil, moral from immoral and just from unjust; such is the nature of mind. In that alignment and for the reasons of the human history, justice becomes too crucial and involves sensitivity for all. With the contemporary understanding of human civilization and the present phase of globalization and transnationalism, justice has also been initiated to be understood with the lens of global justice. This paper presents three coordinates on the one landscape; these three coordinates are institutional self-preservation, religion and global justice.

Key Words: *institutional self-preservation, religion, global justice, transnationalism, peaceful co-existence.*

Introduction

Self-preservation is a universal principle which is based on instinctive responses in order to preserve the self. For an individual, the notion of self-preservation holds its prominence in the ambits of fear and pain. In order to avoid pain and to resist fear, the basic survival instinct is to tackle the threat and ensure security. The principle of self-preservation is being studied across disciplines such as anthropology, psychology, evolutionary psychology, sociology, political theory and international law, etc. While considering anthropological understanding of self, it summarises as *'self is the cause of self-preservation'*[1]. In that sense the foundation for an individual to chalk out just and unjust in her consciousness resonates from self. The logical reasoning of moral and immoral strands is being first validated and contradicted in one's consciousness, which are actually

[1] Martin P J Edwardes, *The Origins of Self: An Anthropological Perspective* (1st edn, UCL Press, 2019)

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AUTOMATION IN BANKING INDUSTRY: A STUDY ON ITS IMPACT ON BUSINESSES OF BANK AND THEIR CUSTOMERS' RESPONSE

Sephalika Sagar[1], Anupama Verma[2], Saurabh Kumar[3], Sangeetha Prasad[4], Dilip Singh Hazari[5], Salima Bhattarai[6]

[1]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Jharkhand.

[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Jharkhand.

[3]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh

[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[5]Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP

[6]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Email: reachsephalikasagar@gmail.com, saurabh.kumar@mangalayatan.edu.in

Abstract:

RPA is the use of software with artificial intelligence (AI) and machine learning capabilities to conduct high-volume, repeated operations that were previously performed solely by humans. In brief, typical Business Process Management (BPM) systems have at least one flaw: they cannot recommend the ideal mix of activities, people, and timings, which can maximise the benefits of operating them while lowering costs and risk concerns. Nonetheless, it is an undeniable reality that the contemporary corporate climate is quite dynamic. On the one hand, we must be more efficient in carrying out what is operational and evident, so freeing up precious resources for more vital areas. When it comes to business process management and automation, a typical stated advantage is performance enhancement. In addition to these and other possible benefits, we identify several potential operational hazards associated with the use of AI-based technologies such as RPA. The business context's acceleration makes it more difficult to foresee what changes will occur and how they will effect the technical solutions utilised in more automated business operations. We emphasise that immature or poorly trained models might eventually reduce productivity and increase mistakes due to unsupported or even incorrect judgements. The article focuses on its influence on the performance of the banking industry. As growing consumer expectations shift the concept of banking from traditional to convenient operation, an online survey was conducted on chatbot efficiency and effectiveness. 300 respondents who frequently interface with chatbots were invited to contribute their opinion in the survey. The survey reveals inadequcies of chatbots in effective execution of customer's queries.

Keywords - Business Process Management (BPM); Business Process Automatiom (BPA); Business Process (BP); Robotic Process Automatiom (RPA); Artificial Intelligence (AI).

INTRODUCTION:

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MIGRAINE DETECTION AND ANALYSIS USING FUZZY INTELLIGENT SYSTEM

Ritushree Narayan[1], Love Mittal[2], Naghmakhatoon[3], Sharmistha Roy[4], Nasiruddin Molla[5], Dinesh Mishra[6], Sandip Kulkarni[7]

[1,3,4]Faculty of Computing and Information Technology, Usha Martin University, Ranchi, Jharkhand

[2]Department of Computer Engineering and Applications, Mangalayatan University, Aligarh

[5]Associate Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim

[6]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP

[7]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

Email: ritushree@umu.ac.in, love.mittal@mangalayatan.edu.in

Abstract: Fuzzy logic is used to handle situations when the outcome cannot be specified by a hard limit of yes or no. Many human diseases may be diagnosed using a particular test or diagnostic method which tells people whether they have the condition or not. Migraine is a less-known condition; hence, there is no permanent treatment for migraines yet. There isn't a specific test for diagnosing migraines, which implies that only an individual's physical and mental symptoms may be used for the diagnosis of migraines. Symptoms also vary from one another—no standard definition of migraine at the moment. There are currently no tests in the medical field that can diagnose migraines. The symptom indicates the severity and health state of the migraine. This professional method attempts to assess and diagnose migraine utilizing ambiguous symptoms. Obscure refers to items or traits that are not measured using precise logic; in other words, there isn't a significant differentiation between yes and no. Migraine has various symptoms; we can estimate the severity of the migraines based on all these symptoms.

Keywords: Fuzzy Intelligent System, Fuzzy logic, Migraine analysis, Migraine symptom.

Introduction:

Machine learning researchers and practitioners have become part of our everyday and personal affairs. Artificial intelligence includes fuzzy logic. Machine learning is used extensively in every sector of research as well as in non-scientific fields. Machine learning is utilized in diagnostic techniques, medication selection, blood counts, and other sorts of diagnostic tools. Fuzzy logic is a prominent artificial intelligence field. Fuzzy solves problems that cannot be determined utilizing our yes or no, true or false logic. It ranges from 0 to 1, and to express a solution, the membership function is applied. Assume you have a headache. No instrument or procedure can assess or calculate headaches. However, with fuzzy logic, we may decide to use the membership function. We can determine the severity of the headache. We may categorize headaches into mild, moderate, and severe. A conventional fuzzy intelligent system gets fuzzy inputs and interacts with the knowledge base before de-fuzzing files and returning a crisp result. (M, 2018)

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SCIENTIFIC DISCOVERIES IN THE AGE OF ARTIFICIAL INTELLIGENCE

Sharmistha Roy[1], Rajesh Kumar Upadhyay[2], Ritushree Narayan[3], Dinesh Mishra[4], Sheetal Choudhary[5]

[1]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand, India

[2]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan. University, Aligarh, UP, India

[3]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand, India

[4]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP

[5]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

Email: 1sharmistha@umu.ac.in 2rajeshupadhyay1@gmail.com, 3ritushree@umu.ac.in

Abstract: The age of artificial intelligence (AI) has ushered in a new era of scientific exploration and discovery. AI, as a transformative and powerful technology, has permeated various domains of research, revolutionizing traditional scientific methodologies and unlocking unprecedented avenues of knowledge. In this abstract, we delve into the remarkable impact of AI in scientific discovery, showcasing its applications across diverse fields, from medicine and astronomy to climate research and neuroscience.

AI has accelerated drug discovery by predicting potential drug interactions, identifying disease-associated genes, and even repurposing existing drugs for new therapeutic indications. In astronomy, AI has enabled the detection of gravitational waves, automated celestial object classification, and refined cosmological simulations. In the realm of climate research, AI has facilitated climate data analysis, extreme weather forecasting, and sustainable energy optimization. Moreover, AI's integration in neuroscience has enhanced brain imaging analysis, enabled brain-computer interfaces, and simulated neural networks, offering profound insights into brain functions and neurological disorders. In genetics and genomics, AI has aided in genome sequencing, disease gene identification, personalized medicine, and gene editing techniques like CRISPR.

Throughout this abstract, we highlight the collaborative efforts between AI and traditional scientific approaches, underscoring the significance of responsible and ethical AI use to ensure its potential is harnessed for the betterment of humanity. As AI technologies continue to advance, their synergy with scientific inquiry will undoubtedly fuel further discoveries, propelling us into an era of limitless exploration and progress.[17,19,22,23]

Keywords: scientific discovery, artificial intelligence, AI-driven research, age of AI.

1. Introduction

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Catalyst Research Volume 23, Issue 2, October 2023 Pp. 1995-2007

THE IMPACT OF ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT: A REVIEW

Anupama Verma[1], Amit Upadhyay[2], Ritushree Narayan[3], Sumit Singh Sonkar[4], Nasiruddin Molla[5]

[1]Associate Professor, Faculty of Business Management & Commerce Usha Martin University, Ranchi, Jharkhand

[2]Assistant Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh

[3]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP

[5]Associate Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim

Email: anupama@umu.ac.in, amit.upadhyay@mangalayatan.edu.in, ritushree@umu.ac.in

Abstract:

Artificial Intelligence (AI) has emerged as a transformative force in various industries, and Human Resource Management (HRM) is no exception. This research article presents an in-depth analysis of the impact of AI in HRM. The study examines the adoption of AI technologies in recruitment, employee engagement, talent management, training, and performance evaluation. The article also discusses the benefits, challenges, and ethical considerations associated with integrating AI into HR practices. Findings suggest that AI-driven HRM solutions enhance efficiency, objectivity, and decision-making while raising concerns about privacy and human-technology interaction. The paper concludes with recommendations for organizations seeking to harness the full potential of AI in their HR processes.

Keywords: Artificial Intelligence, HR Management, Recruitment, Training, Challenges.

Introduction

In recent years, the rapid advancement of Artificial Intelligence (AI) has reshaped the landscape of various industries, and Human Resource Management (HRM) is no exception. AI technologies have revolutionized the way organizations manage their workforce, transforming traditional HR practices into data-driven, efficient, and strategic processes. From recruitment and talent acquisition to employee engagement and performance evaluation, AI's impact in HRM has been profound and far-reaching.

The integration of AI in HRM is driven by its ability to process and analyze vast amounts of data with unprecedented speed and accuracy. Through machine learning algorithms and natural language processing, AI systems can derive valuable insights from employee data, candidate profiles, performance metrics, and employee feedback. These insights enable HR professionals to make data-driven decisions, optimize HR processes, and create personalized employee experiences.

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COMPOSITE MATERIALS FOR ENERGY STORAGE

Rahul Kumar Gupta[1] and Shivam Upadhyay[2], Meenali Modi[3]

[1]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand

[2]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Department of Civil Engineering, Himalayan University, Itanagar, Arunachal Pradesh

Email: rahul@umu.ac.in, shivam.upadhyay@mangalayatan.edu.in

Abstract

Composite materials have emerged as promising candidates for energy storage applications due to their unique combination of properties, including high specific surface area, excellent electrical conductivity, mechanical strength, and chemical stability. This research paper provides an overview of recent advancements in the development and utilization of composite materials for energy storage systems. Various types of composites, including polymer composites, metal composites, and carbon-based composites, are explored in the context of energy storage applications such as batteries, super capacitors, and fuel cells. The paper also discusses the challenges and opportunities associated with the synthesis, characterization, and performance optimization of composite materials for energy storage. Finally, potential future directions and research prospects are presented to guide the development of composite materials for next-generation energy storage technologies.

Keywords: Composite materials, Energy storage, Polymer composites, Metal composites, Carbon-based composites, Batteries, Super capacitors, Fuel cells, Synthesis techniques, Performance optimization

Introduction

In recent years, the demand for advanced energy storage systems has surged due to the rapid growth of renewable energy sources, the need for reliable power supply, and the proliferation of portable electronic devices. Energy storage technologies play a crucial role in addressing the intermittency of renewable energy generation, enabling efficient energy management, and meeting the escalating energy demands of various sectors. However, conventional energy storage materials often face limitations in terms of energy density, power density, and cycling stability.

To overcome these limitations and unlock new possibilities for energy storage, researchers have turned their attention to composite materials. Composite materials, composed of two or more distinct components with synergistic properties, offer unique advantages for energy storage applications. By strategically combining different materials, such as polymers, metals, and carbon-based materials, composite materials can exhibit improved characteristics that surpass those of their individual constituents.

The motivation behind investigating composite materials for energy storage arises from their potential to enhance the performance of energy storage devices. Polymer composites, for instance,

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GENDER INEQUALITY IN INDIAN SOCIETY

Tulika Sinha[1] and Ashok Kumar Upadhyay[2], Laishram Malem Mangal[3], Neeraj Rai[4]

[1]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Aligarh, UP, India

[2]Librarian and Associate Professor, Department of Library and Information Science, Mangalayatan University, Aligarh

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP

Email: sinha.tulika07@gmail.com, ashoka143@gmail.com

Indian society is believed to be socially and culturally very vibrant. We associate nature with Gods and Goddesses and at the same time personify everything into man and woman. Traditionally, Indian culture accords immense respect and honor to women. In fact, in the Vedas and the Upanishads, women are held in extremely high regard and considered to be mothers and Goddesses. Manusmriti also declares that "women must be honored and adorned." But this is only as long as we are taking only women into consideration, moment we bring men into play the entire scenario changes. From the very inception of it what we biologically refer to as sex i.e. male and female we enter into a complete different classification of this biological description and reach to what we call as *'gender.'* What is this gender and why gender being unequal? When we talk of male and female on biological terms we know that there is certain task that nature has provided to both and accordingly they have been conditioned and structured to flourish in nature and also contribute to the growth and well-being of nature. One thing which is very clear from this classification is that when nature has decided certain roles for it creatures there can be no instance of inequality. Let us get into this discussion of gender inequality.

Gender is a man-made terminology referring to this it is a socio cultural term that defines the role and behavior of men and women in a given society. It is a function of power relationship between men and women. Similarly, when we talk of gender inequality we directly refer to the inequality prevailing in the society between the two genders on social and cultural patterns. The gender inequality exists among every region, social class and prevents the growth of Indian economy from improving the lives of Indian people. The reality of gender inequality in India is very complex and diversified, because it exists in every field like education, employment opportunities, income, health, cultural issues, social issues, economic issues etc. This man made inequality has created a wedge that requires to be filled in order to seek women empowerment and a more developed society. An attempt has been made in this paper to find out those factors which are responsible for this problem in India. So, this paper highlights the multi-dimensional context of gender inequalities prevalent in India. Overall, the study indicates the inequality in

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EFFECTS OF TV ADVERTISEMENTS ON CHILDREN'S BEHAVIOR

Shahnaaz Zabi[1], Ashok Kumar Upadhyay[2], Manisha Upadhayaya[3], Balwinder Kaur[4], Srijana Mishra[5]

[1]Assistant Professor, Faculty of Journalism and Mass Communication, Usha Martin University, Ranchi, Jharkhand, India

[2]Librarian and Associate Professor, Department of Library and Information Science, Mangalayatan University, Aligarh, UP, India

[3]Assistant Professor, Department of Journalism and Mass Communication, Mangalayatan University, Aligarh, UP, India

[4]Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Collage of Nursing, Sikkim Professional University, Gangtok, Sikkim

Email: shahnaaz@umu.ac.in, ashoka143@gmail.com

Author/s: Siddhant Kumar Singh*, Shikha Kumari* and Dr. Shahnaaz Zabi**

**Final year student, Bachelors in Journalism and Mass Communication, Usha Martin University, Ranchi*

***Assistant Professor, Faculty of Journalism and Mass Communication, Usha Martin University, Ranchi*

Abstract

The purpose of this research is to study the effect of TV advertisement on children's decision making and how TV advertisements are affecting the young audiences and their buying nature. The study was conducted using primary data. A close-ended questionnaire was prepared for the parents of children between the age group of 5 to 10 years. A population of 200 parents were selected who are staying in Ranchi district and all families have a TV set at home.

On analysis, it was found that most TV advertisements focus on children because they are easy to influence. Television is not only selling entertainment but sowing unhealthy habits in them. Most advertisements were of fast foods, ice cream, chocolates, packed juices, and cold drink. The survey suggests that these advertisements influence children's behavior which eventually lead to unhealthy and indisciplined lifestyle.

Keywords: Advertisement, Television, children

Introduction

Children are one of the most important parts of society who are not considered important in making decisions. Children are often considered as least important when it comes to hearing their say on something. But, when it comes to purchasing a product, it is observed that elders often buy things which their children like more than what they like for them. Since the industrialization and advancement of technology, children are exposed to TV and smartphones, the major source of how they want to view their life and surroundings. Advent of TV and internet not only brought

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FINANCIAL INCLUSION IN INDIA: CHALLENGES, PROGRESS, AND POLICY INTERVENTIONS

Meenakshi Kumari[1], Anurag Shakya[2], Neha Kumari[3], Chiging Yamang[4], Shivangi Dwivedi[5], Amit Srivastav[6]

[1,3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University

[2] Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh

[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP

[6]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Email: meenakshi270209@gmail.com, anurag.shakya@mangalayatan.edu.in

Abstract:

Financial inclusion is a vital component of economic development, especially in emerging economies like India. This tutorial paper provides an overview of the status of financial inclusion in India, examines the challenges hindering its progress, and explores the policy interventions adopted by the Indian government to promote greater financial inclusion. The paper aims to shed light on the significance of financial inclusion and its potential to drive sustainable economic growth and social development. To support our analysis, we have incorporated a wide range of scholarly sources and credible references.

Keywords: Financial Inclusion, Financial system, Financial Literacy

Introduction:

Financial inclusion refers to the access, usage, and availability of financial services to all segments of the population, particularly the underserved and marginalized. In India, where a significant portion of the population remains excluded from the formal financial system, achieving inclusive growth becomes a key priority for policymakers. This paper aims to analyze the progress made in promoting financial inclusion, the obstacles faced, and the strategies employed to overcome these challenges. Financial literacy is a critical aspect of fostering a financially inclusive society, empowering individuals with the knowledge and skills to make informed financial decisions. In India, while efforts have been made to improve financial literacy, challenges persist in achieving comprehensive awareness and understanding of financial products and services among the population. This introduction provides an overview of the current status of financial literacy in India, highlighting its challenges, impact, progress, and policy interventions to address the issue. Despite progress in recent years, financial literacy in India faces significant challenges. A substantial portion of the population, particularly in rural and underserved areas, lacks access to formal financial education and remains unaware of the benefits of participating in the formal financial system. Cultural and social factors, coupled with low digital literacy, impede the adoption of digital financial services, limiting financial inclusion opportunities for many. The lack of

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SYNTHESIS AND PROPERTIES OF SNO_2 THIN FILMS

Nanda Shakti[1], Rajesh Kumar Upadhyay[2], Praveen Bhatt[3], Nirdesh Kumar[4]

[1]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand, India

[2]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India

[3]Associate Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Physics, Sikkim Professional University, Gangtok, Sikkim

Email: nanda@umu.ac.in, rajeshupadhyay1@gmail.com

* Corresponding Author: E-mail: nanda@umu.ac.in

Abstract: Multilayered SnO_2 thin films were prepared by sol-gel spin coating method. The deposited films were characterized with X-ray diffraction and UV-visible spectroscopy. The synthesized films showed crystalline nature. The band gap of the films agreed to their theoretical value.

Keywords: Thin films; sol-gel processes; optical properties; X-ray diffraction

1. Introduction

Among various semiconducting metal oxides used for sensing methane gas, Tin oxide (SnO_2) is one such material. SnO_2 is n-type, wide band gap (3.6 eV) semiconductor with high thermal and chemical stability in air. Most of the SnO_2 based methane sensors operate at temperature higher than room temperature [1-6]. In order to reduce the operating temperature nanostructures of SnO_2 such as nanorods [7] and nanofibers [8] have been used.

Therefore, the development of a CH_4 gas sensor operated at a relatively low temperature is important. Our study deals with the deposition of doped multilayered SnO_2 films on glass substrates followed by their rapid thermal annealing.

2. Experimental details:

Reagent grade(Merck) $SnCl_2.2H_2O$ was used as precursor material. 8.374 gm of $SnCl_2.2H_2O$ was dissolved in 100 ml of absolute ethanol. The mixture was refluxed and stirred at 353 K for 3 hours and then it was allowed to cool to the room temperature for 1½ hours with continuous stirring. A commercial spin coater (Apex SCU 2005) was used for coating the sol on the glass substrates. The speed of the spin coater was fixed at 2100 rpm. Six drops (0.8 ml = 6 drops) of sol were dropped on approximately 1 inch x 1 inch sized clean glass slide. The coated glass slide was air annealed at 673 K for 10 minutes. The slide was then allowed to cool to the room temperature to produce a transparent SnO_2 film. Using the above procedure multilayered

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MERGER AND ACQUISITION IN INDIAN BANKING SYSTEM- A BRIEF STUDY

Dinesh Kumar Pandey[1], Anurag Shakya[2], Rupesh Kumar Singh[3], Chiging Yamang[4], Ankit Khare[5]

[1]Assistant Professor, Faculty of Business Management and Commerce, Usha Martin University, Ranchi

[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh

[3]Research Scholar, Faculty of Business Management and Commerce, Usha Martin University, Ranchi

[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

Email: dineshws77@gmail.com, anurag.shakya@mangalayatan.edu.in, rupesh224501@gmail.com

Abstract

In the emerging economy with the changing scenario in the banking sector there are various steps taken to strengthen the financial sector. Since the aeon of globalisation and post-liberalisation of the Indian economy, the banking sector has begun to reform itself with the changing period of time. But since 2019 with the move to grow toward $5 trillion economy many steps had been taken in the banking sector, one of the major steps in the history of banking sector was the mega merger. In 2019 under Union Finance Minister Nirmala Sitharaman in the form of mega merge in the banking sector many banks were merged, such as Punjab National Bank with United Bank of India and Oriental Bank of Commerce (making it a 2nd largest public sector bank), Canara Bank with Syndicate Bank (making it a 4th largest public sector bank) and recently HDFC merged into HDFC Ltd (the biggest mortgage lender) on 4th April,2022. This study deal with the merger and acquisition in the banking sector, types of mergers, history of merger and acquisition, reasons and outcomes.

Keyword: -Merger and Acquisition, Indian Banking Sector, Financial Sector.

Introduction

Merger can be terms as **"the voluntary fusion or agreement of two company to form a single new legal entity"**. It is also said a way of mixing or combining of two business entities into one below the common possession(Indrapriya, 2018). Acquisition means "**acquiring or takeover of another company by one company".** In simple words it can be said as "purchasing of one company by the another to gains control over it".

Merger and Acquisition takes places due to different reasons may it be when one company suffers a loss or increase in NPA, to reduce competition among the rivalry, etc…

Overview of Indian Banking Industry

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DEVELOPMENT OF A NEW VALIDATED MULTICOMPONENT UV-VISIBLE SPECTROPHOTOMETRIC METHOD FOR AN AGED OLD ANTIHYPERTENSIVE COMBINATION LOSARTAN POTASSIUM AND ATENOLOL

Rojalini Samanta[1], Soni Singh[2], Dashrath Singh[3], Abhishek Pandey[4], Suraj Sharma[5]

[1]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand

[2]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh

[3]Professor, Department of Pharmacy, Mangalayatan University, Aligarh

[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh

[5]Associate Professor, Collage of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

E-mail: rojalinsamanta91@gmail.com, singh.sonia0001@gmail.com

ABSTRACT

A specific and validated UV spectrophotometric method was developed using Shimadzu model 1700 UV Spectrophotometer for the simultaneous estimation of losartan potassium and atenolol both in bulk drugs as well as pharmaceutical formulations. This method was established using water as the solvent and multicomponent analysis was performed for the better validation parameters which were not reported earlier. The r^2 value estimated was 0.999 and percentage recovery was in the range of 99.97 to 100.05 for both of the drugs. Validation experiments performed to demonstrate system suitability, specificity, precision, linearity, accuracy, inter day assay, intraday assay, robustness, ruggedness, LOD, and LOQ. While estimating the commercial formulation there was no interference of excipients and other additives. Hence this method can be used for routine analysis of losartan potassium and atenolol simultaneously in bulk and their formulations.

Keywords: Losartan, Atenolol, Multicomponent Method, Simultaneous Estimation

Introduction: Hypertension can be considered as the major risk factor in case of ischemic and hemorrhagic stroke, chronic kidney disease, heart failure, myocardial infarction, cognitive decline and premature death. β_1 receptor blocking can be considered as prophylactic treatment. On the other hand, blocking of angiotensin 1 receptor may result into marked fall in blood pressure. However, combination of drugs is chosen on the basis of complementary mechanisms of actions thus provide synergistic effects on raising blood pressure. Combination therapy has advantages like reduction in the risk of development of CHD (coronary heart disease), stroke and better patient compliance. One of the age-old combinations available over the market is losartan potassium and atenolol.

Atenolol (ATN), designated chemically as (RS)-4-(2-hidroxy-3-isopropylaminopropoxy) phenylacetamide is commercially available as a racemic mixture (Figure 1), it is found in the form of tablets, oral solution, and sterile solution for injectable. Atenolol (ATN) is a β1-selective (cardio selective) β-adrenergic receptor-blocking agent without membrane-stabilizing or intrinsic sympathomimetic (partial agonist) activities. ATN is also used to treat myocardial infarction (heart

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SYNTHESIS OF MATHEMATICAL DISCIPLINES: INTERDISCIPLINARY INSIGHTS AND APPLICATIONS

Shasanka Dev Bhuyan[1], Dheeresh Upadhyay[3], Jayantika Pal[3], Vipin Kumar[4], Mohit Bajpai[5]

[1,3] Department of Mathematics, Usha Martin University, Ranchi, Jharkhand, India

[2]Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India

[4]Professor, Department of Physics, Sikkim Professional University, Gangtok, Sikkim

[5]Assistant Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh

Email: shashanka.bhuyan@umu.ac.in, dheeresh.upadhyay@mangalayatan.edu.in, jayantika@umu.ac.in

Abstract

Mathematics finds wide-ranging applications across numerous fields, including physics, engineering, economics, computer science, genetics, environmental studies, medicine, biology, and the social sciences. It is a fundamental tool for problem-solving, modeling, and understanding complex phenomena in these disciplines. From the formulation of physical theories to the design of structures, the analysis of market behavior to the development of algorithms, and the study of genetic data to the modeling of ecological systems, mathematics plays a crucial role. Its interdisciplinary applications continue to expand, making it an indispensable discipline for researchers and professionals across diverse domains.

Introduction

Mathematics is a universal language that permeates every aspect of our lives, providing a robust framework for understanding and analyzing the world around us. Its application extends far beyond the confines of classrooms and textbooks, finding relevance and significance in various fields and industries. Mathematics is an essential tool for problem-solving, prediction, and optimization, from the intricate calculations of engineering and the statistical analysis in finance to the algorithms driving computer science and modelling natural phenomena in physics.

In this modern age, the application of mathematics has become increasingly pervasive, shaping progress and advancements in various disciplines. The rigorous logical reasoning and precision inherent in mathematics make it an indispensable tool for scientists, researchers, engineers, and professionals across diverse domains. Let's explore some key areas where mathematics plays a crucial role, unveiling its profound impact on our world.

Engineering and Technology: Mathematics provides the fundamental language for engineers, enabling them to design structures, solve complex equations, and optimize systems. From calculating structural integrity to designing circuits, modeling fluid dynamics, and developing efficient algorithms, mathematics underpins the innovations and technological breakthroughs that propel our society forward.

Physics and Astronomy: Mathematics is the backbone of theoretical physics, allowing scientists to describe and predict the behavior of particles, study the principles of motion, and explore the

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MYTHS, FOLKLORE, AND ECOLOGY IN NORTHEAST ENGLISH POETRY

Mukul SK, Farhana Farooqi, Sandip Paul, Prakash Chandra Panda, Vineeta Kaur Saluja[5]

[1,3,4]Department of English, Usha Martin University, Ranchi, Jharkhand

[2]Department of Arts, Mangalayatan University, Aligarh, UP

[5]Department of English, Mangalayatan University, Jabalpur, MP

Email- mukulsk234@gmail.com, farhana.farooqi@mangalayatan.edu.in

Abstract: Myths, folklore, and ecological celebrations have long been deeply ingrained in the culture and life of Northeast people. The northeast people had a long tradition of oral literature, mythic stories and a deep connection with the pastoral nature. But people of this region seem to be losing their way amidst postcolonial modernity, cultural colonization and social stratification. Many of the Northeast poets have felt the exigencies of their indigenous socio-cultural values and draw their poetry on the values of their traditional folk-myths and ecology. In their poetry, we can sense a common bond of sensibility like a love for their land, folklores, myths and oral traditions which vividly manifest a growing crisis of their roots. Writers like Temsula Ao, Yamlan Tana, Robin N. Ngongom, Easterine Iralu and many more produce a canonical body of poetry that constantly echoes a deep pathos about the local myths, folklore and ecology. The present paper attempts to explore and appreciate the Northeast traditions of folklore, myths and ecology manifested in the poetry of the Northeast writers and then, to highlight the concerns of the poets for local socio-cultural values of the Northeast folks.

Keywords: Myths, Folklore and Ecology, nature, Northeast poetry

Objectives

The objectives of the present essay are:

- To explore and appreciate the traditions of folklore and myths manifested in Northeast poetry in English.
- To highlight the aesthetic values of the inbuilt human-nature bond in the northeast region
- To examine and uphold the concerns of the northeast poets for the degradation of their indigenous culture along with the ecology.
- To probe into the common thematic concerns of the representative poets and then, examine them as part of their resistance to the destructive modernity.

Methodology:

Instead of selecting representative poets from the different states of the Northeast region, my paper finds it useful to discuss the major thematic strands that characterize their major concerns. A good number of poems from various anthologies and books and journals have been taken for critical analysis. They are examined closely with references to the concerns of the poets. Some other primary sources like interviews and notes of the poets have been considered in the context of the arguments of the essay. Secondary sources- journal articles, news articles, critical books, and published thesis have been consulted to substantiate the arguments.

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Strategies for Managing Virtual Teams: Overcoming Challenges and Enhancing Collaboration

Dr. Prakash Divakaran[1],Dr. Subir Chattopadhyay[2], Dr. Saurabh Kumar[3] , Dr. Swati Saxena[4]
[1]Professor,
Department of Business &Management,
Himalayan University,
Itanagar- Arunachal Pradesh
Email: prakashtek@gmail.com
[2]Professor
Faculty of Business Management & Commerce
Usha Martin University, Ranchi- Jharkhand.
Email: drsubir57@gmail.com
[3]Professor
Department of Commerce
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: saurabh.kumar@mangalayatan.edu.in
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: swati@mangalayatan.ac.in

Abstract

The administration of virtual teams has emerged as a significant focal area for attaining successful collaboration and preserving productivity as businesses increasingly embrace remote work and global connection. This abstract looks at different tactics used by managers to deal with the special difficulties that arise in virtual teams and promote better teamwork. The report opens by describing the basic difficulties that virtual teams face, including communication breakdowns, decreased social interaction, time zone variations, and potential feelings of isolation. It then digs into a thorough analysis of the tactics that businesses and team leaders can use to lessen these difficulties and improve collaboration. The use of cutting-edge communication technology, developing an inclusive and trusting culture, adopting clear and well-defined goals, establishing effective work procedures, and encouraging regular virtual team contacts are some of the key techniques covered. The abstract also explores the function of leadership in virtual team management, highlighting the demand for flexible leadership philosophies that place a premium on empowerment, active communication, and the acknowledgment of both individual and group accomplishments.

Keywords: Strategies, Managing, Virtual Teams, Overcoming, Challenges, Enhancing Collaboration

1. INTRODUCTION

Collaboration is becoming more and more crucial for producing the information that boosts company competition. Virtual teams are becoming more and more popular, and many organizations have implemented them in response to their changing circumstances. Additionally, this trend has been hastened by the quick development of new communication technologies like the Internet, and today, the majority of larger organizations use virtual teams to some extent. An increasing number of adaptable and flexible organizations have looked into the virtual environment as a way to improve responsiveness. According to Howells et al., simultaneous and parallel working have replaced serial working more frequently. Virtual environments based on established information technologies and Internet-based platforms can be leveraged to support business growth through virtual engagement and communication. After defining virtual teams and their characteristics, this paper

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Strategic Human Resource Management: Aligning Organizational Goals with HR Practices for Competitive Advantage

Dr. Subir Chattopadhyay[1], Dr. Chiging Yamang[2], Dr. Shalu Agrawal[3], Dr. Neeta Deepaware[4]
[1]Professor,
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: drsubir57@gmail.com
[2]Assistant Professor,
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: yamang@himalayanuniversity.com
[3]Assistant Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: shalu.agrawal@mangalayatan.edu.in
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email : neeta@mangalayatan.ac.in

ABSTRACT

-Like other business gatherings, academic organizations attempt to get, endlessly maintain their competitive advantages. In this review, we checked how "key human resources management (HRM) practices" influence the accomplishment of "competitive advantages" that will endure out. We likewise checked how "human capital" improvement and representative responsibility in an academic setting went about as a "middle person" between the two out. 600 overviews were given out indiscriminately to laborers at specific colleges. With the assistance of Shrewd Fractional Least Square PLS, structural equation displaying (SEM) techniques were utilized to do the investigation. The consequences of our review showed that vital HRM significantly affects the manageability of "competitive advantages." Key HRM likewise emphatically affects the improvement of human capital and the unwaveringness of representatives to their foundations. Both human capital turn of events and representatives' dependability to some extent intervene the connection between vital HRM practices and sustainable competitive advantage (SCA). Finally, ideas were made about hypothetical and management impacts.

Keywords: Sustainable Competitive Advantage; Academic Environment, Strategic Human Resources Management (HRM), Organizational Goals, Competitive Advantage, HR Practices.

1. INTRODUCTION

Key human asset management is the most common way of drawing in, creating, fulfilling, and saving laborers to help both the representatives and the organization overall. The best aftereffect of vital human asset practices is the point at which an association's HR division doesn't work alone, however rather converses with different divisions to figure out what their goals are and afterward makes systems that match those goals and the association's goals. Subsequently, a reasonable positive change should be visible while the association's goals are as yet met. This is on the grounds that savvy human asset management practices help to arrive at these goals.

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Managing Diversity in the Workplace: Best Practices and Challenges for Global Organizations

Dr. Anupama Verma[1], Dr. Nyarik Geyi[2], Dr. Arsalan Ahmad[3], Dr. Neeta Deepaware[4]
[1]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: anupama@umu.ac.in
[2]Assistant Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email : nyarik.geyi@himalayanuniversity.com
[3]Assistant Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email : arsalan.ahmad@mangalayatan.edu.in
[4]Assistant Professor
Department of Management,
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: neeta@mangalayatan.ac.in

ABSTRACT

Diversity management alludes to hierarchical strategies and practices pointed toward recruiting, retaining, and managing representatives of different foundations and characters, while creating a culture where everyone is similarly empowered to perform and accomplish authoritative and individual targets In a globalized climate, there is a requirement for important and transnational ways to deal with handle both the advantages of global diversity and the challenges affiliations might confront while interacting with an assorted workforce. Specifically, it is urgent to consider how diversity is estimated and overseen in non-Western settings, for example, in BRICS nations (i.e., Brazil, Russia, India, China, and South Africa) and Muslim-greater part nations. This paper upholds the possibility that various leveled tries should be cantered around interacting with and managing a different working climate in manners that give them a sensible benefit and are coherently and socially sound. Organizations these days are supposed to blow away lawful consistence to guarantee equivalent access, business and progression amazing open doors, as well as to guarantee that diversity programs use labourer differentiates and add to neighbourhood as well as global organizations.

Keywords: Global Diversity, BRICS, Diversity Management, Diversity in The Workplace, Best Practices, Challenges, Global Organizations.

1. INTRODUCTION

Different workforces are becoming a reality in organizations today on the grounds that to quick progressions in science and innovation, which are key parts of globalization. Subsequently, globalization has led to various elements, which have in go prompted the assortment in the work market. These elements included shifting socioeconomics, a decline in how much work, increased interest for laborers within organizations, the improvement of ladies' work, and a huger inclusion of explorers and individuals with handicaps in the labor force.

In request to make due in the global business community, organizations needed to embrace a global methodology, which drove them to begin looking for a more grounded social model. Affiliations then started to

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Sustainable Supply Chain Management: Integrating Environmental and Social Factors into Business Operations

Dr. Subir Chattopadhyay[1], Dr. Prakash Divakaran[2], Dr. Saurabh Kumar[3],Dr. Swati Saxena[4]
[1]Professor
Faculty of Business Management & Commerce
Usha Martin University, Ranchi- Jharkhand.
Email: drsubir57@gmail.com
[2]Professor,
Department of Business &Management,
Himalayan University,
Itanagar- Arunachal Pradesh
Email: prakashtek@gmail.com
[3]Professor
Department of Commerce
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: saurabh.kumar@mangalayatan.edu.in
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: swati@mangalayatan.ac.in

ABSTRACT

In recent years, both in the corporate and academic worlds, there has been a significant increase in interest in practical retail network the board. The growing number of papers, events, special distributions, and websites devoted to the topic reflects this. Nevertheless, recent developments in emerging countries' actual advancement have started to become significant. This article's objective is to examine the present research on practical store network the board (SSCM) in developing countries from a global perspective. As a result, the results are presented, demonstrating the growing interest in SSCM while lagging behind in the comparison of emerging economies to developed ones. Recent findings indicate that while doing experimental or contextual inquiry studies, the environment plays a crucial role in agricultural countries. Additionally, from the perspective of an emerging economy, it is crucial to investigate the coordination of the three maintainability components and what they signify for the execution of production networks. As a result, limitations of this effort are established, and potential open doors for future lines of exploration—particularly in crucial production network capabilities—are identified. Finally, the conclusion confirms the need for future research from numerous production network viewpoints, including collaboration, the expansion of reasonable practises, acquiring, and provider enhancement from the angle and basis of emerging nations.

Keywords: SustainableSupplyChainManagement,,Sustainability,Integrating,Environmental.

Social Factors, Business Operations.

1. INTRODUCTION

Associations are under pressure these days to demonstrate controllable progress in their operations, and these demands come from partners, buyers, the government, the media, and financial supporters. Additionally, it is becoming increasingly clear that a traditional approach to activities is unsustainable, and organisations must modify their cycles to comply with regulations and achieve sustainability. This has led to organisations being recognised for their ability to work with the implementation of practical practises, aside from the necessity to

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Managing Diversity in the Workplace: Best Practices and Challenges for Global Organizations

Dr. Anupama Verma[1], Dr. Nyarik Geyi[2], Dr. Arsalan Ahmad[3], Dr. Neeta Deepaware[4]
[1]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: anupama@umu.ac.in
[2]Assistant Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email : nyarik.geyi@himalayanuniversity.com
[3]Assistant Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email : arsalan.ahmad@mangalayatan.edu.in
[4]Assistant Professor
Department of Management,
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: neeta@mangalayatan.ac.in

ABSTRACT

Diversity management alludes to hierarchical strategies and practices pointed toward recruiting, retaining, and managing representatives of different foundations and characters, while creating a culture where everyone is similarly empowered to perform and accomplish authoritative and individual targets In a globalized climate, there is a requirement for important and transnational ways to deal with handle both the advantages of global diversity and the challenges affiliations might confront while interacting with an assorted workforce. Specifically, it is urgent to consider how diversity is estimated and overseen in non-Western settings, for example, in BRICS nations (i.e., Brazil, Russia, India, China, and South Africa) and Muslim-greater part nations. This paper upholds the possibility that various leveled tries should be cantered around interacting with and managing a different working climate in manners that give them a sensible benefit and are coherently and socially sound. Organizations these days are supposed to blow away lawful consistence to guarantee equivalent access, business and progression amazing open doors, as well as to guarantee that diversity programs use labourer differentiates and add to neighbourhood as well as global organizations.

Keywords: Global Diversity, BRICS, Diversity Management, Diversity in The Workplace, Best Practices, Challenges, Global Organizations.

1. INTRODUCTION

Different workforces are becoming a reality in organizations today on the grounds that to quick progressions in science and innovation, which are key parts of globalization. Subsequently, globalization has led to various elements, which have in go prompted the assortment in the work market. These elements included shifting socioeconomics, a decline in how much work, increased interest for laborers within organizations, the improvement of ladies' work, and a huger inclusion of explorers and individuals with handicaps in the labor force.

In request to make due in the global business community, organizations needed to embrace a global methodology, which drove them to begin looking for a more grounded social model. Affiliations then started to

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Innovative Management Techniques for Nurturing Creativity and Enhancing Employee Engagement

Dr. Dinesh Kumar Pandey1, Dr. Prakash Divakaran Dr. Sidharth Jain,
Dr Shivangi Dwivedi
[1]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: dinesh@umu.ac.in
[2]Professor
Department of Business &Management,
Himalayan University,
Itanagar- Arunachal Pradesh
Email: prakashtek@gmail.com
[3]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh.
Email : sidharth.jain@mangalayatan.edu.in
[4]Assistant Professor
Department of Commerce
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: shivangi@mangalayatan.ac.in

ABSTRACT

The current article's objective is to highlight the concept of development execution, importance, and the numerous factors that may genuinely increase it inside an association. By focusing on opportunities like corporate business and employee engagement, the paper has attempted to provide insight into how advancement execution is fundamentally important for organisations to thrive in the current global market. According to the poll, employee performance towards fostering innovation and advancement is crucial for organisations. Corporate business is a developing concept that talks about maintaining and setting up an environment that supports and motivates people to operate with a driving attitude, enjoying inventiveness, and progressing within the organisation. Surprisingly, historical observational evidence has shown that employee dedication is crucial for enhancing execution-cantered performance. The goal of the study was to explain how corporate business may improve development execution inside an organisation. Importantly, the article also demonstrates the significance of employee dedication as a presumed mediator to strengthen this link. The study model presented in the report is very understudied and has a high priority for developing advancement execution at work.

Keywords: Corporate Entrepreneurship, Employee Engagement, Innovation Performance, Creativity, Innovative Management Techniques, Nurturing Creativity, Enhancing Employee Engagement.

1. INTRODUCTION

Due to the rapidly evolving ideal models for data collection practises, intensifying competition among data suppliers, modifications to data packaging and access techniques, and the broadening impacts of innovation, all library duties now have a greater emphasis on continual innovation and improvement. The idea of how libraries are expected to thrive in the aforementioned hurried environment inspired this study. Libraries are being more tested to accept innovation and growth as a crucial motivator to clear-cut and useful skills. To continue to be

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Artificial Intelligence in Project Management: Opportunities, Challenges, and Future Prospects

Dr. Meenakshi Kumari[1], Dr. Chiging Yamang[2], Dr. Rajeev Sharma[3]. Dr Ashutosh Saxena[4],
[1]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: meenakshi270209@gmail.com
[2]Assistant Professor,
Department of Business &Management,
Himalayan University,
Itanagar- Arunachal Pradesh
Email: yamang@himalayanuniversity.com
[3]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: rajeev.sharma@mangalayatan.edu.in
[4]Associate Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: ashutosh@mangalayatan.ac.in

ABSTRACT

The reason for the review is to examine the effect of Man-made consciousness on the fate of Undertaking The executives. This study gives itemized applied data about Computerized reasoning and alternate points of view. Man-made reasoning is characterized as the new specialized discipline, which would foster an application framework, a mechanical strategy to mimic the development and expansion of human knowledge. This examination is a survey that talks about what man-made reasoning means for project the board. The paper has examined different advantages of man-made intelligence reception and its execution. The outcomes demonstrate the way that innovation and artificial intelligence can't supplant the human brain. Machine and other man-made intelligence robots can computerize devices and errands, yet by the day's end, machines need human assistance to work and screen. Mechanical improvement of society, and specifically the widespread digitization of the economy, will essentially affect the work market and on the chief's work capabilities. The utilization of Computerized reasoning frameworks and mechanical technology conveys with it both colossal open doors and dangers of changes and even vanishing of specific callings.

Keywords: Artificial Intelligence, AI, Digital Economy, Digital Management, Smart Decisions, Project Management, Machine Learning, Opportunities, Challenges, And Future Prospects.

1.INTRODUCTION

Man-made intelligence offers a variety of new tools and techniques under the banner of a Data and Correspondence Innovation global insurgency to ensure greater and more economically viable viability in the corporate environment. Additionally, as seen in [Fig. 1], man-made insight applications are now utilizing these new mechanical turns of events. This pattern is ready to go on at an astounding rate from now on. the headway of man-made consciousness in light of PCs over the course of time.

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Exploring the Impact of Organizational Learning on Firm Performance: Evidence from Different Industries

Prof. Mukesh Chaturvedi[1], Dr. Nyarik Geyi[2], Dr. Anurag Shakya[3], Dr. Prakash Mishra[4]
[1]Professor,
Faculty of Business Management & Commerce,
Usha Martin University,
Ranchi- Jharkhand
Email: prof.mukeshchaturvedi@gmail.com
[2]Assistant Professor,
Department of Business &Management,
Himalayan University,
Itanagar- Arunachal Pradesh
Email : nyarik.geyi@himalayanuniversity.com
[3]Professor
Department of Commerce
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: anurag.shakya@mangalayatan.edu.in
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: prakash@mangalayatan.ac.in

ABSTRACT

The main objectives of this research were to decide the effect of various levelled plan on firm execution and to distinguish which kind of firm offers the best learning open doors. Research was led involving formative conceptualization for definitive learning. As indicated by the framework, legitimate learning fluctuates relying upon the sort of development. The assessment of the many arrangement parts empowers us to expand the extent of how we could grasp different definitive learning proposals. Zero in on exhibits that regular principal profiles, rather than repairman profiles, help progressive learning and more amazing information creation. Centralization and guidance are the key components that impact learning. By propelling the level of this emanant region of the board research utilizing formative conceptualization, the concentrate further fulfils the need to give observational confirmation with respect to the impact of progressive development on definitive getting.

Keywords: Organizational Learning, Product Innovation, Firm Performance, Organisational Structure

1. INTRODUCTION

Organisational progressions, money related globalization, persistently expanding contest, and advancement force organizations all around the world to search for further developed ways of improving their show. Turkey's organizations and associations are most certainly not world class. It is normal that an organization would as of now have various characteristics before it might additionally extend its show. Essentially zeroing in on one or a couple of characteristics in business builds the likelihood that this organization or partnership will turn out to be less serious. In a cutthroat business climate, organizations should concoct imaginative thoughts, make sly items, be versatile to mechanical developments, stay up to date with mechanical headways, and give equivalent load to preparing in new turns of events, which is a vital part of working on their show.

Various scholastics have concentrated on definitive learning, and a couple of them have referenced the idea that, whenever done accurately, progressive learning will without a doubt deliver ruling execution. As indicated by certain scholastics, progressive learning might be stalled into stages for information the executives,

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Ethical Leadership in Business: Building Trust and Enhancing Corporate Reputation

Dr. Arvind Hans[1], Ms. Sangeetha Prasad[2], Dr. Ankur Kumar Agrawal[3], Dr. Neeta Deepaware[4],
[1]Assistant Professor,
Faculty of Business Management & Commerce,
Usha Martin University,
Ranchi- Jharkhand
Email: arvind@umu.ac.in
[2]Assistant Professor,
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: sangeetha.prasad@himalayanuniversity.com
[3]Professor,
Department of Management,
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: ankur.agarwal@mangalayatan.edu.in
[4]Assistant Professor,
Department of Management,
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: neeta@mangalayatan.ac.in

ABSTRACT

Corporate social responsibility (CSR) is at present not an original idea in growing organization areas because of the extension of globalization. In view of Vietnam, a couple of variables, for example, moral drive, will affect the way things are completed. This study creates and investigations a successive mediation model, which it bases on the accomplice speculation, to make sense of how CSR and company status could interface moral drive to better business execution. The PLS-SEM discoveries from information gathered from 653 mid-and undeniable level managers from critical associations in Indian show that ethical authority impacts CSR, which prompts worked on firm status and firm execution. The conversion of CSR and authority regarding arising corporate areas is additionally investigated in this review. Furthermore, this centre offers specific managerial repercussions to Vietnamese organizations endeavouring to help moral drive to accomplish CSR benefits.

Keywords: Ethical leadership Corporate social responsibility corporate reputation Firm performance

1. INTRODUCTION

Moral behaviour should not be ignored while making business decisions. Fundamentally, morals are moral principles that are right and wrong, good and bad for an organisation. In practical terms, promoting moral conduct means refraining from breaking the law, avoiding activities and exercises that might result in a complaint from any partners, and avoiding activities and exercises that might damage the organization's reputation. Negative consequences will follow from disregarding morality. Since they have to worry about the psychological stress of working for an organisation with a bad reputation, representatives' confidence will erode. Workers may also feel uncomfortable and endure mental fatigue as a result of having to respond to inquiries and objections. Additionally, the organisation must spend a significant amount of money to rebuild its reputation, which undoubtedly reduces effectiveness. The general public would never again trust a company that acted dishonestly. History has proven that ignoring moral principles destroys an organisation far more quickly than when it develops and implements an unconventional system while upholding moral principles.

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The Impact of Corporate Social Responsibility on Brand Perception and Consumer Behavior

Dr Ashutosh Saxena[1], Dr. Sidharth Jain[2], Dr. Subir Chattopadhyay[3], Dr. Prakash Divakaran[4]
[1]Associate Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email : ashutosh@mangalayatan.ac.in
[2]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: sidharth.jain@mangalayatan.edu.in
[3]Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: drsubir57@gmail.com
[4]Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: prakashtek@gmail.com

ABSTRACT

In the present business world, corporate social responsibility (CSR) is taking on an increasingly big job. The most respected organizations stick to a governing set of principles that focuses on the requirements of others before their own. Indian firms have likewise come to comprehend that it is so vital to fashion persevering through associations with the local area on the loose as well as growing their ventures. Regardless of whether the effect of CSR isn't perfect in India, it tends to be found in the little endeavors the business is making. In spite of the market's developing accentuation on CSR, little is had some significant awareness of what CSR endeavors mean for clients, especially in India. The objective of this study is to more readily comprehend what CSR means for Indian consumers' purchasing propensities. The focal point of this study is on deciding the way that consumers see socially cognizant organizations, how they feel about them, and how this influences their choice to purchase items.

Keyword: CSR; corporate social responsibility; consumer actions; CSR activities; Consumer Perception

1. INTRODUCTION

Consumers these days are more finicky than any other time in recent memory, and they anticipate that brands should have the option to give something beyond top notch products at cutthroat costs. Along these lines, corporate social responsibility (CSR) has been seen as a decent essential showcasing method for situating the brand uniquely in contrast to that of its opponents. Clients' perspectives about an organization's CSR commonly affect their choice to buy the brands. While contrasting comparable things, clients favor socially cognizant brands, and that implies that CSR is impacting consumer conduct.

CSR has been a huge issue for associations; it can help leaders in using sound judgment for their partners as well concerning the actual organizations. CSR contemplations show activities that live up to the assumptions of

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The Role of Emotional Intelligence in Conflict Resolution and Negotiation

Dr. Anurag Shakya[1], Dr. Anupama Verma[2], Dr. Prakash Divakaran[3], Dr. Prakash Mishra[4]
[1]Professor
Department of Commerce
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: anurag.shakya@mangalayatan.edu.in
[2]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: anupama@umu.ac.in
[3]Professor
Department of Business & Management,
Himalayan University,
Itanagar- Arunachal Pradesh,
Email: prakashtek@gmail.com
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: prakash@mangalayatan.ac.in

ABSTRACT

In order to gauge underlying worries and motivations and to better comprehend the underlying reasons of conflicts, one must be able to appropriately identify emotions. In order to determine whether factors such as age, gender, occupation, etc. have an impact on these characteristics, it is important to understand the function that emotional intelligence (EI) plays in people's conflict resolution styles. Methods/Analysis: Data was gathered from primary and secondary sources. 46 items made up the questionnaire used to collect the primary data. These are tried-and-true tools: questionnaire sources. Only the online approach was used to distribute the questionnaire. Professional respondents who are in the workforce were chosen by convenience sampling at random. There were 200 responders in the sample. For research Because respondents who displayed various conflict resolution approaches were not taken into account, data from 99 respondents were used. Tools for analysis: SPSS and Excel. Findings: It was noticed that the avoiding approach of dispute resolution was commonly used. by survey participants who scored well on emotional intelligence. People with disabilities tended to adopt accommodating and avoidant behaviors. People with more than 10 years of experience and those with less industry experience viewed competition as a source of conflict. type of resolution.

Keywords: Emotional Intelligence, Conflict, Resolution, Negotiation

1. INTRODUCTION

In past decades, it was customary knowledge to "separate the people from the problem" before beginning a negotiation People are, unfortunately, a significant element of the issue in many negotiations and mediations. Simply expressed, the core principles of negotiation and mediation practice include acknowledging the underlying emotional aspects at play in addition to the cognitive examination of conflicting interests and the rational construction of the most effective solution. Negotiation's emotional and rational components might be viewed as yin and yang, complementary forces as opposed to antagonistic ones. They work together to create a dynamic process that might yield the best outcomes. Effective negotiators and mediators must consider all of the parties' emotional states during the process, in addition to the economic, political, and physical considerations.

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Sustainable Leadership: Integrating Environmental and Social Responsibility in Managerial Practices

Dr. Neeta Deepaware[1] , Dr. Ankur Kumar Agrawal[2], Dr. Prakash Divakaran[3], Md. Saifullah Khalid[4],
[1]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: neeta@mangalayatan.ac.in
[2]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: ankur.agarwal@mangalayatan.edu.in
[3]Professor,
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: prakashtek@gmail.com
[4]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: saifullah@umu.ac.in

ABSTRACT

The idea of leadership has transcended conventional paradigms and evolved to cover a wider spectrum of responsibilities in today's fast changing global environment. A guiding concept known as sustainable leadership has arisen that acknowledges the interdependence of social and environmental factors in managerial practices. In order to solve urgent global concerns, this abstract analyses how to include environmental and social responsibility into leadership techniques. Companies are required to adhere to CSR and best practices from a sustainable viewpoint towards their stakeholders and society as a result of the globalization process. The express goal is to create trends and future research areas by assessing the value of corporate social responsibility (CSR) and its connection to sustainability. From 2001 to 2018, the development of this field's study on a global scale was examined. An analysis of 1832 papers using bibliometric methods was used to determine the scientific productivity of the journals, authors, organizations, and nations that contributed to this study. There is rising interest in researching how socially responsible behaviors and the sustainability metric interact.

Keywords: Sustainable Leadership, Integrating, Environmental, Social Responsibility

1. INTRODUCTION

Because of its suggestions for the procedures and manageability execution that organizations are progressively seeking after, the subject of sustainable leadership (SL) is very pertinent today. Consequently, apparently SL is the result of the movement of different worries that have generally been the subject of administrative and scholarly practices (leadership, human asset the executives, partner approach, and so forth), as impacted by the ongoing system on supportability. The crossing points of the different issues that SL tends to make hypothetical exploration and application in the field testing because of the difficulties in characterizing the relationship and the limits between them, especially among SL and corporate social responsibility (CSR), which is filling in significance for organizations, all things considered. The meaning of SL (what it is), the capability and characteristics of sustainable pioneers (who execute it), the acts of SL (the way things are finished), and the

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Innovation Management: Fostering A Culture of Creativity and Idea Implementation

Dr. Swati Saxena[1], Dr. Ankur Kumar Agrawal[2], Dr. Chiging Yamang[3], Dr. Dinesh Kumar Pandey[4]

[1]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: swati@mangalayatan.ac.in

[2]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: ankur.agarwal@mangalayatan.edu.in

[3]Assistant Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: yamang@himalayanuniversity.com

[4]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand,
Email: dinesh@umu.ac.in

Abstract

Innovation has emerged as a key driver of competitive advantage and organizational success in today's ever changing corporate environment. This abstract investigates the diverse field of innovation management, emphasizing the development of a vibrant culture that fosters creativity and successfully converts concepts into meaningful reality. Beyond merely creating new products, innovation management comprises a thorough strategy for using market knowledge, technology breakthroughs, and human brilliance. Its fundamental goal is to create a culture that values experimenting, taking calculated risks, and unrestricted idea exchange. This abstract explores the fundamental components, such as leadership support, open communication, and the appreciation of other perspectives, that create a culture of creativity. Just those organizations who can foster clever thoughts, particular items, or creative applications can get by and succeed in an exceptionally cutthroat business climate. Innovation and creativity remain inseparable; more innovation is the consequence of better creativity. For associations hoping to acquire an upper hand, making a hierarchical culture that supports and invigorates creativity and innovation is fundamental. The connection between culture (picked viewpoints), creativity, and development is analyzed in this paper. Based on essential information gathered through a poll study acted in Slovak associations, relationship between all of the (sets of) factors were found.

Keywords: Innovation, Management, Fostering, Culture, Creativity

1. INTRODUCTION

The expressions "creativity" and "innovation" were much of the time utilized reciprocally on the grounds that the investigation of the thoughts of individual, group, and authoritative creativity is normally attempted related to an appraisal of the sidekick idea of innovation in the work environment. As indicated by Woodman, Sawyer, and Griffin (1993, p. 293), creativity is "the formation of an important, valuable new item, administration, thought, strategy, or cycle by people cooperating in a perplexing social framework" or associations. The

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The Influence of Leadership Styles on Employee Job Satisfaction and Turnover Intentions

Dr Shivangi Dwivedi[1] Dr. Ankur Kumar Agrawal[2] Dr. Nyarik Geyi[3], Dr. Meenakshi Kumari[4],
[1]Assistant Professor
Department of Commerce
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: shivangi@mangalayatan.ac.in
[2]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: ankur.agarwal@mangalayatan.edu.in
[3]Assistant Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: nyarik.geyi@himalayanuniversity.com
[4]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand.
Email : meenakshi270209@gmail.com

ABSTRACT

This review's essential objective was to decide how groundbreaking and value-based leadership styles impacted the job satisfaction, hierarchical citizenship conduct, authoritative responsibility, employees' apparent presentation, and turnover intentions of educators in non-public schools in Region Act of Khyber Pakhtunkhwa (KPK), Pakistan. 300 56 (356) instructors' reactions to a dependable poll were utilized to assemble the information. Except for groundbreaking and conditional leadership, which were surveyed utilizing planned things, different factors were evaluated utilizing altered things. Information examination was finished utilizing SPSS, which represents Measurable Bundle for Sociologies. While groundbreaking leadership exhibited a genuinely huge negative connection with employees' goal to find employment elsewhere, it showed a critical positive relationship with job satisfaction, hierarchical responsibility, employees' apparent presentation, and authoritative citizenship conduct. Like this, Value-based Leadership exhibited a genuinely huge negative relationship with employees' goal to stop their jobs however a critical positive connection with job satisfaction, hierarchical responsibility, employees' apparent presentation, and authoritative citizenship conduct.

Keywords: Influence, Leadership Styles, Employee, Job Satisfaction, Turnover Intentions

1. INTRODUCTION

Leaders are accountable for performance, which generates the organization's competitive advantage. Planning, organizing, leading, and controlling are management functions that assist an organization in achieving its goals. All members of the organization must have a clear grasp of how to achieve good performance. However, due to several internal and external issues, there are numerous difficulties that arise when a performance measurement is implemented to the organization. The organization places a high premium on performance management. According to Raziq and Malbasa (2015), job satisfaction has an impact on output. As these are crucial steps in the process of accomplishing the company's goals, organizations must encourage members to concentrate on the organization's goals. The leader is crucial in organizing all the resources needed for change (Canterino et al.,

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Managing Technological Disruptions: Strategies for Adapting to Industry 4.0

Dr Ashutosh Saxena[1], Dr. Saurabh Kumar[2],Ms. Sangeetha Prasad[3] , Prof. Mukesh Chaturvedi[4]
Associate Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: ashutosh@mangalayatan.ac.in.
Professor
Department of Commerce
Mangalayatan University,
Aligarh-Uttar Pradesh,
Email : saurabh.kumar@mangalayatan.edu.in
Assistant Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: sangeetha.prasad@himalayanuniversity.com
Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: prof.mukeshchaturvedi@gmail.com

ABSTRACT

The era of Industry 4.0 has arrived as a result of the quick advancement of technology; it is a period of transformation marked by automated, networked digital systems, and data-driven decision-making. In the context of Industry 4.0, this paper explores the topic of managing technological disruptions and provides techniques that businesses may use to successfully adapt to and succeed in this dynamic environment. The article begins by outlining Industry 4.0's fundamental tenets and how it has the potential to revolutionize a wide range of industries. It examines the disruptive effects of cutting-edge technology like sophisticated robotics, the Internet of Things (IoT), blockchain, and artificial intelligence on established business models and procedures The paper presents a complete methodology for managing technological disruptions with a focus on adaptation and resilience. This paradigm covers tactics involving preventative actions, ongoing learning, and tactical foresight. Organizational agility, workforce development, innovative culture, and cooperative relationships are important factors to take into account. Object - It is anticipated that resistance would manifest as new technologies are adopted and used in production techniques. The goal of this research is to pinpoint the sources of opposition to the adoption of Industry 4.0. technology for managing production disruptions and effective managerial strategies to handle them. Design, method, and strategy In this study, a qualitative methodology was used. The writers did a review of the literature and a number of interviews. 31 papers were selected for the literature review, and 16 persons were questioned from five different companies and data was examined.

Keywords: Managing, Technological, Disruptions, Adapting, Industry 4.0

1. INTRODUCTION

The rapid and unparalleled growth of technology is causing a seismic shift in the global industry landscape. A wave of technological upheavals that are changing how businesses operate, compete, and innovate have been sparked by the birth of Industry 4.0, which is characterized by the convergence of digitalization, automation, and data-driven insights. The ability to successfully handle technological disruptions and adapt to Industry 4.0

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Work-Life Balance Initiatives and Their Impact on Employee Productivity and Well-Being

Dr. Prakash Divakaran[1], Dr. Arvind Hans[2], Dr Niyati Sharma[3], Dr. Prakash Mishra[4],
[1]Professor,
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: prakashtek@gmail.com
[2]Assistant Professor,
Faculty of Business Management & Commerce,
Usha Martin University, Ranchi- Jharkhand
Email: arvind@umu.ac.in
[3]Assistant Professor,
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: niyati.sharma@mangalayatan.edu.in
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: prakash@mangalayatan.ac.in

ABSTRACT

The reason for this exploration is to break down what elements like work fulfillment and time off mean for workers' productivity. To scrutinize this model, we fostered a poll overview in view of information from 200 workers in the drug and clinical gadget businesses in Jordan. Numerous relapse was utilized to test the review's speculations. Positive and significant impacts of employee bliss and work-life balance on productivity were found. However, work satisfaction has no effect on how well employees perform. The results have significant implications for Jordan's pharmaceutical industry. Organisations are increasingly focusing on the pursuit of work-life balance as they realise how important it is for determining employee productivity and well-being. In-depth discussions of work-life initiatives' significant effects on improving employee productivity and general wellbeing are provided in this study. The abstract opens by underlining the current environment, where work-life balance has grown to be of utmost importance. The need to build an atmosphere that prioritises both work commitments and personal well-being has been more obvious as workplaces change and demands on employees rise. In order to support their employees, organisations take a variety of steps to promote work-life balance. These programmes include wellness initiatives, parental leave regulations, flexible work schedules, and technology-enabled remote work. Each endeavour is examined in light of how it affects worker productivity and wellbeing.

Keywords: Work-Life, Balance, Employee, Productivity, Well-Being

1. INTRODUCTION

Lately, organizations all over the planet have raised their emphasis on their employees' very own well-being to the level of a top vital need. Like the monetary motivators that the firm offers, the work-life balance programs that it gives have turned into a significant consider the employing system. Huge organizations can never again seek top faculty in view of the unbelievable status of previous chiefs had the option to propel their vocations while staying inside the organization. The present workers gauge their general joy and wellbeing while evaluating a business' exhibition, and this has turned into the conclusive calculate an organization's capacity to

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Managing Cross-Cultural Teams: Challenges, Best Practices, And Outcomes

Dr. Arvind Hans[1], Ms. Sangeetha Prasad[2], Dr. Ankur Kumar Agrawal[3], Dr. Neeta Deepaware[4]
[1]Assistant Professor,
Faculty of Business Management & Commerce,
Usha Martin University,
Ranchi- Jharkhand
Email: arvind@umu.ac.in
[2]Assistant Professor,
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: sangeetha.prasad@himalayanuniversity.com
[3]Professor,
Department of Management,
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: ankur.agarwal@mangalayatan.edu.in
[4]Assistant Professor,
Department of Management,
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: neeta@mangalayatan.ac.in

ABSTRACT

Directors in the present savagely cutthroat industry, from the biggest worldwide companies to the smallest neighborhood organizations, believe that effectively managing individuals is fundamental for progress. Our greatest durable upper hand is the bond we have with our representatives and the organization's way of life. The exercises utilized by associations to deal with the capacities and mental cosmetics of the labor force successfully fall inside the domain of HR. These skills decide the association's productivity, client bliss, and various other fundamental authoritative achievement pointers, including human asset the board. Present day labor forces are progressively comprised of cross-cultural teams where individuals from various beginnings cooperate to accomplish shared objectives in a time of unmatched worldwide association. This theoretical offers a compact investigation of the mind boggling universe of managing cross-cultural teams, zeroing in on the issues that happen, the best techniques for managing them, and the potential outcomes that can be achieved through great administration.

Keywords: Managing, Cross-Cultural, Teams, Challenges, Best Practices

1. INTRODUCTION

Culture is a term used to depict a specific lifestyle that shows particular implications and values. Such impacts affect general organizations and ways of behaving notwithstanding craftsmanship and schooling. Separating people starting with one gathering then onto the next is a component of the aggregate association of the brain.

As of now, the expression "culture" alludes to both cultural worth frameworks and values tracked down inside the cultural establishments itself. Worldwide monetary rivalry has prompted both unrivaled open doors and remarkable instability. Shrewd individuals and savvy organizations fabricate their own fates, and organizations that have a future consideration about their representatives. Future-arranged organizations have elevated expectations for execution and empowering work societies. Incredible outcomes are being created by individuals for strong endeavors. Viable individuals the board, as per leaders of both enormous global firms and

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Impacts On The Organizational Awareness Adoption Of Cloud Computing

Dr. Prakash Divakaran[1], Dr. Subir Chattopadhyay[2], Dr. Saurabh Kumar[3], Dr. Swati Saxena[4]
[1]Professor,
Department of Business &Management,
Himalayan University,
Itanagar- Arunachal Pradesh
Email: prakashtek@gmail.com
[2]Professor
Faculty of Business Management & Commerce
Usha Martin University, Ranchi- Jharkhand.
Email: drsubir57@gmail.com
[3]Professor
Department of Commerce
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: saurabh.kumar@mangalayatan.edu.in
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: swati@mangalayatan.ac.in

ABSTRACT

Cloud computing technology is becoming ubiquitous and exploited increasingly by organisations to leverage the information technology (IT) opportunities [1] and to stay competitive and innovativeComputing in the cloud is becoming an increasingly popular option for businesses as they want to capitalise on the many new opportunities presented by advances in information technology and keep a competitive edge in a market that is changing constantly. Cloud accounting provides a number of benefits, including the ability to save money and time, to make it easier for accountants to work together, to safeguard confidential information, to broaden the accountant's function, to automatically back up and restore data, and to direct the focus of the company to where it should be. The usage of cloud accounting is still relatively uncommon, despite the various benefits it offers in comparison to more traditional accounting practises. This is partially attributable to the fact that potential customers as well as accounting professionals have a limited grasp of cloud accounting. Because of this, we decided to conduct our research on accountants and other financial professionals in order to gauge how knowledgeable they are about cloud accounting. The objective was successfully accomplished with the assistance of primary data collected using a surveying approach. The findings of the poll indicate that fifty percent of the persons questioned were familiar with a significant new concept.

Keywords: Cloud Accounting, Professionals, Awareness, financial

INTRODUCTION

In business, accounting refers to the process of keeping detailed records of all financial dealings. In addition to keeping track of financial transactions, accounting entails summarizing, analyzing, and reporting those transactions to whomever is responsible for collecting taxes or other fees. A company's financial statements are a condensed version of the potentially hundreds of thousands of financial transactions that occurred during the period being summarized. The accounting department plays a crucial role in the success of most enterprises. In smaller businesses, this could fall under the purview of a bookkeeper or accountant, whereas larger corporations can have whole financial departments staffed by dozens of people. Important company choices can't be made without the reports supplied by cost accounting and management accounting, two of accounting's many

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Review the 5s Program in Action at Many Hotels

Dr. Subir Chattopadhyay[1], Dr. Chiging Yamang[2], Dr. Shalu Agrawal[3],Dr. Neeta Deepaware[4]
[1]Professor,
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: drsubir57@gmail.com
[2]Assistant Professor,
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: yamang@himalayanuniversity.com
[3]Assistant Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: shalu.agrawal@mangalayatan.edu.in
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email : neeta@mangalayatan.ac.in

ABSTRACT

Guests of hotels place a higher value on cleaning than on the front desk or the restaurant, according to a number of research on consumer satisfaction with various service areas. The success of 5'S at a selection of hotels in the bustling tourist hub of delhi is assessed by the study's authors. Based on a survey of a hypothetical subset of delhi hotels' employees, we learn that most hotel workers are male, earn between P10,000 and P20,000 per month, have some college education, and have been with the firm for less than a year. Evaluation of the 5'S methodology revealed that hotel employees routinely participated in the first four principles—Sort (Seiri), Set in Order (Seiton), Shine (Seiso), and Standard (Seiketsu)—and sometimes engaged in the fifth principle, Sustain (Sisei) (Shitsuke). No profile component from the 5'S model showed a statistically significant link with the respondents' actual responses.

Keywords: 5'S, Hotels, Sort, Set in Order, Shine, Standard and Sustain.

INTRODUCTION

For a long time, housekeeping was one of the most underappreciated jobs there was. This is due to the fact that, in contrast to many other occupations, housekeeping does not need a high level of formal education. That's why it's regarded a job for uneducated or untrained people. Washing, cleaning, organizing, decorating, and even minor repairs are all part of housekeeping (American School of Home Economics 5). Taking care of children and the elderly are also aspects of this. However, most individuals do not wind up in this field since they did not complete their formal education. Many individuals end up working in this field for a wide variety of reasons. The ability to pay for necessities like housing, food, clothes, and medical care has made the housekeeping industry a lifeline for many.

Since more and more individuals are devoting so much of their time to their work and other aspects of their daily lives, housekeeping services have grown more popular in recent years. They must pay the housekeeper a

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Analyzing Network Function Virtualization in 5g Communication

Dr Shivangi Dwivedi [1], Dr. Ankur Kumar Agrawal [2], Dr. Nyarik Geyi[3], Dr. Meenakshi Kumari[4]

[1]Assistant Professor
Department of Commerce
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: shivangi@mangalayatan.ac.in
[2]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: ankur.agarwal@mangalayatan.edu.in
[3]Assistant Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: nyarik.geyi@himalayanuniversity.com
[4]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand.
Email : meenakshi270209@gmail.com

ABSTRACT

Telecom companies all around the globe may now more easily roll out innovative new network services thanks to the invention of network function virtualization (NFV). A significant advantage of network function virtualization is the removal of the need for expensive specialized hardware in establishing a service delivery infrastructure (NFV). If data center capacity can be raised without allocating more square footage for storage, it might minimize capital expenditures (CAPex) and operating costs (OPex) (OPex). When one server is overburdened, the administrator may create a new virtual machine (VM) or relocate the one that is particularly resource-intensive to another server. uses, applications, and integration of SDN and NFV for 5G networks by the use of commodity-grade high-throughput servers, switches, and storage that may be located in data centers, network function virtualization aims to revolutionize the way in which network operators construct networks. These virtual appliances may be spun up on the go, eliminating the need to make any hardware adjustments.

Keywords: Network Function Virtualization, SDN,5g, Computer Network and Communication

INTRODUCTION

The pattern of interactions between people in a group, or the flow of information between them, is called the communication network. To facilitate communication between management and workers, contacts are made using a variety of different patterns. The network enables the resources to exchange both information and software. In order to better understand the network, we may break it down into subsets depending on factors like the number of individuals participating in the communication, the size of the company, and the kind of communication network. Vertical Networks, Circuit Networks, Chain Networks, Wheel Networks, and Star Networks are all examples of typical network patterns. The foundation of communication is the sending and receiving of messages.

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A Comparative Study of Private and Public Sector Healthcare Services

Dr Ashutosh Saxena[1], Dr. Saurabh Kumar[2], Ms. Sangeetha Prasad[3], Prof. Mukesh Chaturvedi[4].

[1]Associate Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: ashutosh@mangalayatan.ac.in.
[2]Professor
Department of Commerce
Mangalayatan University,
Aligarh-Uttar Pradesh,
Email : saurabh.kumar@mangalayatan.edu.in
[3]Assistant Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: sangeetha.prasad@himalayanuniversity.com
[4]Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: prof.mukeshchaturvedi@gmail.com

ABSTRACT

National development, including the expansion of the economy and the maintenance of internal peace, depend critically on the state of its citizens' health. At now, the healthcare industry in India is one of the most lucrative and labor-intensive in the country. Senior physicians often oversee and administer a health center's many sections, as is the standard in most medical facilities. Nonetheless, in the modern era of international healthcare facilities, it is generally acknowledged that managing a hospital is a full-time job distinct from the medical profession. More than 80% of healthcare dollars are being spent by private hospitals, making them the clear leaders in the industry. For the growth and development of the hospital industry, whether it be a private or government healthcare unit, it is necessary to identify, the factors which increase the satisfaction level of the patients of the hospital; this is because the hospital's staff and their interface with the patients decides the impression and subsequent feelings that the patients carry with them about the hospital. Throughout the last several years, significant reforms have been implemented across India's health care system, raising the bar for the quality of treatment provided to the public. The purpose of this research is to compare the quality of service provided by public and private hospitals in the eastern area of India from the viewpoint of their patients.

KEYWORDS: Public and private hospitals, health care services, Service quality of health, development

INTRODUCTION

Everyone agrees that a healthy population is crucial to a thriving economy. Throughout the last several decades, India's healthcare systems have seen both positive and negative changes. Opportunities to increase income and reduce poverty have increased since the economy was liberalized. As a result of these factors, individuals are now more likely to seek medical attention. Today's consumers are increasingly health-conscious and willing to pay a premium for premium services. India's healthcare system is a strange contradiction. It boasts both some of the best hospitals in the world and some of the most under-equipped clinics in the world. Although India's population is skewed toward its younger years, the country's massive elderly population (over a billion) need special attention. Former Microsoft chairman Bill Gates once said, "If there was one thing you could do to make

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The Most Effective B2b Marketing Strategies

Dr. Subir Chattopadhyay[1], Dr. Chiging Yamang[2], Dr. Shalu Agrawal[3], Dr. Neeta Deepaware[4]
[1]Professor,
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: drsubir57@gmail.com
[2]Assistant Professor,
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: yamang@himalayanuniversity.com
[3]Assistant Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: shalu.agrawal@mangalayatan.edu.in
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email : neeta@mangalayatan.ac.in

ABSTRACT

The article elaborates on the relationship between branding and efficiency in the context of a particular kind of industrial marketing. A common misconception is that industrial purchasers are unaffected by the emotional values associated with a brand, hence the academic community has paid less attention to branding and effectiveness in B2B markets. Brand names that go hand in hand. The role of business-to-business (B2B) branding in strategic decision-making; B2B brands as communication facilitators and connection builders The value of a company's brand, however, is conditional on the company's branding strategy. Consultative selling is an integral aspect of corporate strategy, and it's especially important when dealing with business clients (B2B). In contrast to Business to Consumer (B2C) marketing, in which companies sell directly to consumers, this strategy targets other businesses. The push for digitization in the BRICS countries (Brazil, Russia, India, China, and South Africa) has inspired new ways of thinking about digital marketing.

Keywords Effectiveness, B2B Marketing, effectiveness, consumer, social media marketing

INTRODUCTION

There is a wealth of information on the efficacy of web-based branding in the B2B sector since B2B marketers have been heavily using Internet applications for some years. Nevertheless, the web has progressed; what was once mostly didactic, one-way computer-mediated communication has evolved with the rise of social media platforms and the development of what are now known as Web 2.0 apps. By "collection of open-source, interactive, and user-controlled web applications" (Constantinoides & Fountain), Web 2.0 is characterized as "increasing the experiences, knowledge, and market power of the users as active participants in corporate and social activities." By enabling the production, distribution, sharing, and revision of content, these networks help get the word out and keep the creative juices flowing. At now, Facebook stands as the most prominent example of this way of thinking, being a media phenomenon that has been the subject of much discussion due to its rapid uptake and enormous impact. Since the majority of their target demographic now spends so much time online engaging in social activities like blogging, microblogging, and video streaming, marketers of consumer goods and services, especially those aimed at younger age groups, have no choice but to develop social media marketing strategies.

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Different Components Affecting the Productivity of Employees in Indian Organizations

Dr. Subir Chattopadhyay[1], Dr. Prakash Divakaran[2], Dr. Saurabh Kumar[3], Dr. Swati Saxena[4],
[1]Professor
Faculty of Business Management & Commerce
Usha Martin University, Ranchi- Jharkhand.
Email: drsubir57@gmail.com
[2]Professor,
Department of Business &Management,
Himalayan University,
Itanagar- Arunachal Pradesh
Email: prakashtek@gmail.com
[3]Professor
Department of Commerce
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: saurabh.kumar@mangalayatan.edu.in
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: swati@mangalayatan.ac.in

ABSTRACT

Finding the effects of employee performance on organizations was the driving force for this study. The four criteria that were analyzed were employee motivation, job design, management, and working conditions. The target audience for this study is Postal Corp. management, HR professionals, academics, and labor organizations. Using questionnaires, we conducted a descriptive study to learn more about the individuals. All specified levels of management were included in the 3,500 respondents selected using stratified random sampling. Three hundred and fifty individuals participated in the survey. Both qualitative and quantitative analysis techniques were used for the study findings, which were then presented visually in the form of tables, charts, and graphs. Motivated workers, well-defined roles, supportive supervisors, and favorable environments all contribute to high productivity in the workplace. The great majority of employees place a high importance on receiving recognition from their superiors for their achievements. The majority of employees complain about their pay and benefits.

Keywords: - Management, Productivity, Employee, Theory, Factors

I. INTRODUCTION

Productivity has been more valued in today's workplaces. The term "productivity" is often used to describe the efficacy with which resources like labor, money, and time are converted into outputs. The difficulty of reading employees' emotions in today's fast-paced workplace is a real issue for companies. Various authors have provided various definitions of productivity in the workplace. Many studies have been undertaken on the topic of productivity, but only those that demonstrate the influence of external influences on employee production have been considered.

Today, productivity is more important than ever. However, a review of the appropriate literature finds several studies that investigate the issue, although from different vantage points that arrive at

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Factors Effective Financial Management Behaviour of Individuals in Recent Times

Dr. Arvind Hans[1], Ms. Sangeetha Prasad[2], Dr. Ankur Kumar Agrawal[3], Dr. Neeta Deepaware[4]
[1]Assistant Professor,
Faculty of Business Management & Commerce,
Usha Martin University,
Ranchi- Jharkhand
Email: arvind@umu.ac.in
[2]Assistant Professor,
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: sangeetha.prasad@himalayanuniversity.com
[3]Professor,
Department of Management,
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: ankur.agarwal@mangalayatan.edu.in
[4]Assistant Professor,
Department of Management,
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: neeta@mangalayatan.ac.in

ABSTRACT

The analytical technique used by the researcher is multiple regression analysis. The results point to a connection between financial stability and frugal behavior. A university degree is unrelated to thrifty spending habits. Lack of financial education has little bearing on economic responsibility. How one's level of financial literacy affects their approach to managing money. How we feel about money affects how we spend it. The locus of control has little effect on managerial conduct in the financial sector. The purpose of this research is to investigate the financial behaviors and attitudes of Jakartans during the recent COVID-19 pandemic. Due to the government's strong regulations on various company activities during the pandemic, people's capacity to spend money will decrease. In this investigation, we use a mixture of Structural Equation Modeling (SEM) and Partial Least Squares (PLS) to examine an alternative hypothesis. Purposive non-probability sampling was employed to collect data for this research, with 185 people filling out an online Google Form Questionnaire. The results of this research show that one's financial management style may be influenced by one's level of financial literacy. In the midst of the COVID-19 pandemic, money was handled in line with Ajzen and Fishbein's Theory of Planned Behavior (TPB).

Keywords: - Covid-19, Management, Financial, Finance, Financial Knowledge

I. INTRODUCTION

In this day of constant change, people need to know how to properly manage their finances. The ability to handle money well and make good decisions is a skill that every modern person must work hard to acquire. Because of this, people often face a decision that pits competing priorities. Originally, consumers paid only for absolute requirements. However, as a country's economy and technology develop, people will have to compete to meet their tertiary needs. This might show up as a failure to prepare for the unexpected, to plan for the future, to save money, or to look for investment possibilities. This is clear from the fact that individuals nowadays have

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Applicability of School Management Model for Smooth Functioning

Prof. Mukesh Chaturvedi[1], Dr. Nyarik Geyi[2], Dr. Anurag Shakya[3], Dr. Prakash Mishra[4]
[1]Professor,
Faculty of Business Management & Commerce,
Usha Martin University,
Ranchi- Jharkhand
Email: prof.mukeshchaturvedi@gmail.com
[2]Assistant Professor,
Department of Business &Management,
Himalayan University,
Itanagar- Arunachal Pradesh
Email : nyarik.geyi@himalayanuniversity.com
[3]Professor
Department of Commerce
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: anurag.shakya@mangalayatan.edu.in
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: prakash@mangalayatan.ac.in

ABSTRACT

The purpose of this study was to build a model for efficient administration in elementary schools by examining its existing condition and its ideal state. Six distinct procedures made up the current study. A conceptual framework and knowledge of elements of effective management of primary schools were formulated in Phase 1 through the study of rationale, related theories, and a review of the literature; in Phase 2, a pilot study was conducted on those components, and the concept on the predetermined components was revised. In the third stage, a group discussion was conducted to further expand the notion of what makes for good management. The fourth stage involves researching the present and ideal states, along with the requirements for efficient administration of elementary schools, while concurrently considering statistical findings to enhance management. Phase 5 saw the development of a template for efficient administration. In the last stage, the model was presented to the public for feedback, confirmation, and acceptance.

Keywords: - Model, School Management, Community, Students, Teachers

I. INTRODUCTION

Developing the country's brainpower should be a top priority. Indonesia is making an attempt in this direction by establishing a national education system. The purpose of national education is to help students reach their full potential so that they can become people of faith and fear of God Almighty, noble, healthy, knowledgeable, capable, creative, independent, and democratic and patriotic citizens. This is in accordance with the requirements of Law Number 20 Year 2003 on National Education System.

When all educational units are well-organized, the mandate may be achieved in a wide range of educational paths, levels, and kinds. Strong and professional leadership, a focus on teaching and learning, a common vision and objectives, teaching with purpose, high standards, learning communities, accountability, and a dynamic and safe learning environment are all hallmarks of successful schools. The emphasis on instruction and education is a hallmark of high-performing schools. Because of the importance placed on education, instructors must

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Role of Leadership Style for Influencing Employee Turnover Rate in Selected Companies

Dr. Meenakshi Kumari[1], Dr. Chiging Yamang[2], Dr. Rajeev Sharma[3]. Dr Ashutosh Saxena[4]
[1]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: meenakshi270209@gmail.com
[2]Assistant Professor,
Department of Business &Management,
Himalayan University,
Itanagar- Arunachal Pradesh
Email: yamang@himalayanuniversity.com
[3]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: rajeev.sharma@mangalayatan.edu.in
[4]Associate Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: ashutosh@mangalayatan.ac.in

ABSTRACT

Considering competitive pressure, increasing financial performance, and competitiveness in organizations, employee retention plays an important role. This paper aims to review the existing literature and propose a model for employee retention for a better understanding of the critical factors that help to increase employee retention. Extensive literature has been reviewed to find the relationship between leadership style and employee retention and identified significant determinants of employee retention in an organization. A review of the literature indicated that transformational leadership and transactional leadership have a positive relationship with employee retention. Transformational leadership and transactional leadership have a positive relationship with job satisfaction and organizational commitment. It also indicated that is positive relationship exists between job satisfaction and organizational commitment. Moreover, is positive relationship existing between job satisfaction, organizational commitment, and employee retention. From a review of the literature, it is also highlighted that there is a dearth of literature on leadership styles and employee retention. Keeping good employees is crucial in today's business climate when it's becoming more difficult to attract and retain top talent. To better understand the essential aspects that aid in promoting employee retention, this research attempts to analyze the available literature and present a model for employee retention. Significant drivers of employee retention in a firm have been established after a thorough literature analysis revealed a correlation between leadership style and employee loyalty. Literature reviews have shown a favorable correlation between transformational and transactional styles of leadership and employee retention. Both transformational and transactional leadership styles increase morale and loyalty in the workplace. In addition, the data showed that contentment on the work correlates positively with loyalty to the company. Employee retention, loyalty, and enthusiasm for their work are all positively correlated. Literature study findings further indicate the scarcity of published material about the relationship between leadership styles and employee retention.

Keywords: - Employee, Leadership, Company, Turnover, Employee retention

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Need of Hrm Practices in Present Times with Respect to it Organizations

Dr. Dinesh Kumar Pandey[1], Dr. Prakash Divakaran[2], Dr. Sidharth Jain[3], Dr Shivangi Dwivedi[4]
[1]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: dinesh@umu.ac.in
[2]Professor
Department of Business &Management,
Himalayan University,
Itanagar- Arunachal Pradesh
Email: prakashtek@gmail.com
[3]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh.
Email : sidharth.jain@mangalayatan.edu.in
[4]Assistant Professor
Department of Commerce
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: shivangi@mangalayatan.ac.in

ABSTRACT

The practices of human resources in the Indian IT sector are analyzed in this article. In order to remain competitive, IT companies should implement excellent human resources practices and get rid of inefficient ones. The goal of this essay is to analyze the results of both successful and unsuccessful HRM strategies in the Indian IT sector. According to studies, HR-focused IT companies with superior HRM systems rapidly advance to the top of their field. However, these changes have increased the workload for HR experts. It is well-established that companies with strong human resource management have an advantage in terms of production and growth. Using a qualitative methodology, this essay examines the impact of successful and unsuccessful human resource strategies in India's IT sector.

Keywords: - HRM (Human Resources Management), IT, Practices, Management, Organization

I. INTRODUCTION

Both large and small HR departments need to find a happy medium between sticking to tried-and-true methods and being open to novel approaches. Among High-Impact companies, "The Basic Rights for HR Leaders" is another unarguable truth. Reputation is at stake if HR fundamentals like employing new employees, processing payroll, paying employees fairly, and giving chances for professional and personal growth aren't carried out in a timely manner. Experts in human resources are entrusted with the organization's strategic goal and given wide latitude to carry out HR responsibilities. One needs the authority to lawfully accept the responsibilities and authority of a position.

The best HR practices must be adopted, and the worst must be eliminated, for the HR system to be effective. Human resources managers in charge of information technology should have the business acumen to supervise efficient HR practices. The HR division of an IT firm should act as an integral component of the business. Human resource managers are increasingly essential to a company's success, rather than a peripheral factor. They have shown to be valuable to the business. Human resource management that works is explored, along with both good and bad HR examples from India's IT sector.

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Assessing the Impact of Brand Image on Customer Retention Under the Mediation Effect of Customer Satisfaction

Md. Saifullah Khalid[1], MS. Sangeetha Prasad[2], Dr. Ashok Kumar Purohit[3], Dr. Swati Saxena[4]
[1]Assistant Professor
Faculty of Business Management & Commerce,
Usha Martin University,
Ranchi- Jharkhand
Email: saifullah@umu.ac.in
[2]Assistant Professor
Department of Business &Management,
Himalayan University,
Itanagar- Arunachal Pradesh
Email: sangeetha.prasad@himalayanuniversity.com
[3]Professor
Department of Commerce
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: ashok.purohit@mangalayatan.edu.in
[4]Assistant Professor,
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email : swati@mangalayatan.ac.in

ABSTRACT

In recent decades, the brand has received extensive focus from marketing academics and professionals. The brand is now ineffective as a management tool. Strategically, brands are essential because of the value they provide for consumers and the lasting competitive advantages they help businesses achieve. Customers will have an easier time imagining and identifying intangible offerings thanks to well-established brands. A company's reputation is established in the minds of consumers by their familiarity with its products and services, or its "brand image." There is a good correlation between this and another instrument for marketing strategy: satisfied customers. In this research, we analyze the mediation impact of customer satisfaction on the relationship between brand image and customer retention.

Keywords: - Brand Image, Customer, Satisfaction, Customer retention, Market, Loyalty

I. INTROCUSTION

These days, a product's reputation is based on how its target market perceives it. To the target demographic, it seems like a discounted package deal. It helps choose the best distribution channel for the goods. When consumers have complete knowledge, they generate more accurate impressions of a brand. Marketing is a head game since you have to figure out how to get in front of your ideal customers, but once they know the ins and outs of your product, they'll feel more invested in it emotionally. The company's declared mission and vision can be realized, and its goals can be achieved, with its help. A company's standing in its industry, its business philosophy, and its core values form the bedrock of every successful brand. An image's capacity to affect a consumer in a manner that results in greater brand awareness and loyalty must be evaluated in light of the brand's image, the societal perspective, and the public image, among other orientation factors.

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Examining the Impact of Risk Management Process on Project Succession Rate

Dr. Anupama Verma[1], Dr. Nyarik Geyi[2], Dr. Arsalan Ahmad[3], Dr. Neeta Deepaware[4],
[1]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: anupama@umu.ac.in
[2]Assistant Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email : nyarik.geyi@himalayanuniversity.com
[3]Assistant Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email : arsalan.ahmad@mangalayatan.edu.in
[4]Assistant Professor
Department of Management,
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: neeta@mangalayatan.ac.in

ABSTRACT

The general consensus in the construction industry and academia alike is that good risk management is pivotal to project success. However, quantitative evidence supporting this conjecture is lacking. The SCIRT alliance, formed after the 2011 earthquakes in Christchurch, provided the opportunity to compare projects with different risk management strategies analyze the effects of changes in scope, and forecast final cost on project success. Data from more than 200 projects was used in statistical and qualitative analysis. It showed that early contractor involvement and risk workshops in the design stages significantly improved the financial performance of projects. Project managers changed their forecasted final project cost more frequently and the changes led to improved cost certainty. Changes in project scope were linked to poor financial performance. Enhanced risk management techniques employed in the design stages of a project provided project managers with a better platform from which to manage project risks. The results of this study quantitatively support the intuitive notion that proactive risk management has favorable effects on the financial performance of projects. The general consensus in the construction industry and academia alike is that good risk management is pivotal to project success. However, quantitative evidence supporting this conjecture is lacking. The SCIRT alliance, formed after the 2011 earthquakes in Christchurch, provided the opportunity to compare projects with different risk management strategies analyze the effects of changes in scope, and forecast final cost on project success. Data from more than 200 projects was used in statistical and qualitative analysis. It showed that early contractor involvement and risk workshops in the design stages significantly improved the financial performance of projects. Project managers changed their forecasted final project cost more frequently and the changes led to improved cost certainty. Changes in project scope were linked to poor financial performance. Enhanced risk management techniques employed in the design stages of a project provided project managers with a better platform from which to manage project risks. The results of this study quantitatively support the intuitive notion that proactive risk management has favorable effects on the financial performance of projects.

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Impact of Different Leadership Styles on the Productivity of Employees

Dr. Subir Chattopadhyay[1], Dr. Chiging Yamang[2], Dr. Shalu Agrawal[3], Dr. Neeta Deepaware[4]
[1]Professor,
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: drsubir57@gmail.com
[2]Assistant Professor,
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: yamang@himalayanuniversity.com
[3]Assistant Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: shalu.agrawal@mangalayatan.edu.in
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email : neeta@mangalayatan.ac.in

ABSTRACT

An authoritative manner of leading is required for group administration. Organizational success depends heavily on strong leadership and productive employees. Leadership and management have a significant role in determining an employee's output. A strong leader will do whatever it takes to retain exceptional employees who contribute substantially to the company's success on staff because he understands the importance of high-performing individuals to the success of his organization. Organizational culture and structure influence the leadership styles that are most successful. Leadership is mostly responsible for boosting productivity and retaining top employees. Leaders must choose effective leadership styles that are suited to the challenges they face. It's not always the firm itself that's to blame when an employee decides to leave; sometimes it's the management. Although pay is an important factor, so are perks like flexible hours, opportunities for promotion, and a positive workplace culture. Staff turnover and output are examined in relation to three distinct leadership styles: authoritarian, democratic, and laissez-faire. The primary purpose of the research was to understand how different types of leadership influence employee retention and performance. There are three main components to the theoretical underpinnings of this study. The level of employee productivity is the dependent variable, whereas the leadership styles of autocrats, democracies, and free agents are the independent variables. D.G Fashion Garment (Pvt) Ltd., a garment factory in Sri Lanka, asked 150 workers to fill out a survey. The sample was selected using a basic random process, and primary data was collected via the administration of questionnaires. Participants were asked to assess their degree of preference using a five-point Likert scale. SPSS 13.0, the Statistical Package for the Social Sciences, was used to conduct a number of statistical analyses, including computations of Cronbach's alpha, the means and medians, the variances and standard deviations, as well as correlation and regression tests. Graphs and tables were also used to display the data.

I. INTRODUCTION

Leadership is essential for running a successful business. Northouse (2007) argues that a leader is someone who can inspire a group of people to work together toward a common goal. According to Ethe et al. (2012), leadership is the ability to motivate followers to take action that advances organizational goals and improves

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Effectiveness of Talent Management Strategies for Efficient Organizational Performance

Dr. Prakash Divakaran[1], Dr. Arvind Hans[2], Dr Niyati Sharma[3], Dr. Prakash Mishra[4],
[1]Professor,
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: prakashtek@gmail.com
[2]Assistant Professor,
Faculty of Business Management & Commerce,
Usha Martin University, Ranchi- Jharkhand
Email: arvind@umu.ac.in
[3]Assistant Professor,
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: niyati.sharma@mangalayatan.edu.in
[4]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: prakash@mangalayatan.ac.in

ABSTRACT

Over the last decade, talent management and employee engagement have been the subject of a great deal of research in the area of management literature. This research investigates the influence of employee engagement as a mediator between talent management and organizational performance. The rationale for this study is that previous research has not accounted for employee engagement as a mediating variable between talent management and organizational success. Samples of midwives were chosen because of the unique skills they bring to the job of ensuring the safety of both mother and child during labor and delivery.

I. INTRODUCTION

Human resource management in today's businesses entails a group of individuals who work together to foster an encouraging workplace, foster professional and personal growth, and provide precisely the appropriate services to the right people in order to accomplish set objectives. Human resource management and risk management are only two examples of the numerous difficulties encountered by the healthcare sector, which falls under the umbrella of the service sector. The future of a hospital department relies heavily on its ability to effectively address upcoming difficulties. But without competent personnel, risk management will fail. Attracting, motivating, developing, and keeping the most qualified and skilled people is made possible by talent management methods that contribute to the organization's overall strategy. The difficulty for businesses comes from having too many gifted workers. Only 3-5% of a company's workers are really talented. Talent, defined as skills, aptitudes, experience, knowledge, intellect, and personal qualities, as well as the willingness to learn and grow, is a critical aspect in enhancing and sustaining an organization's performance. An organization's competitive advantage, productivity, and profitability can all be improved by investing in its people. Talented workers are able to accomplish organizational goals efficiently and effectively with outstanding performance, and they are more engaged with the organization because they are highly motivated. The premise behind research into the effect of talent management on business results is that such initiatives boost performance by helping companies find and keep the highly skilled workers they need.

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Identify the Framework of the Performance Management System in Smes

Dr Ashutosh Saxena[1], Dr. Saurabh Kumar[2], Ms. Sangeetha Prasad [3], Prof. Mukesh Chaturvedi[4]
[1]Associate Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: ashutosh@mangalayatan.ac.in.
[2]Professor
Department of Commerce
Mangalayatan University,
Aligarh-Uttar Pradesh,
Email : saurabh.kumar@mangalayatan.edu.in
[3]Assistant Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: sangeetha.prasad@himalayanuniversity.com
[4]Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: prof.mukeshchaturvedi@gmail.com

ABSTRACT

The expansion of India's economy is largely due to the contributions of its SMEs. Small and medium-sized enterprises (SMEs) function in a highly competitive market, thus it is essential that they practice efficient and effective management of their operations. It is claimed that by establishing a performance management framework, SMEs would be able to better pinpoint problem areas, define their goals and plans, and refine their overall approach to managing performance. In order to evaluate the efficacy of the performance management system in India's SMEs, this study proposes the Performance Management and Control (PMC) framework. While other research has shown that not all businesses have implemented a formal PMS procedure, our data suggests that many have.

Keywords: - Small and Medium Enterprises, Performance Management, Employees, Enterprises, Frame work.

I. INTRODUCTION

In terms of employment and GDP, small and medium-sized businesses (SMEs) are critical to every economy's growth and prosperity. However, academics have claimed that not enough attention has been paid to the requirements and difficulties faced by SMEs. Despite time, money, and human capital limitations, SMEs are eager to pursue long-term strategy reforms in order to remain competitive and sustainable in the modern business environment. This is supported by data indicating that small and medium-sized enterprises (SMEs) in Sri Lanka, Australia, and the United Kingdom are increasingly preparing strategically for the future. Further, SMEs are now benefiting from IT by embracing technologies like electronic data exchange and ecommerce to boost supply chain efficiency. In addition, data showed that Indian SMEs understand the value of using lean manufacturing practices. Scholars have claimed that SMEs' scale advantage over big firms allows them to be more inventive and adaptable in reacting to change. However, prior research has shown that the ability of SMEs to adopt suitable management methods is affected by their size. Although most studies in the literature treat SMEs and MSMEs as a single group, it is clear that the size of the SME is an essential component when researching management practices, as shown by studies such as. Explain that it is important to be explicit about

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Managing the Process of Marketing in Higher Education Institutes

Dr Shivangi Dwivedi [1], Dr. Ankur Kumar Agrawal[2], Dr. Nyarik Geyi[3], Dr. Meenakshi Kumari[4]
[1]Assistant Professor
Department of Commerce
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: shivangi@mangalayatan.ac.in
[2]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: ankur.agarwal@mangalayatan.edu.in
[3]Assistant Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: nyarik.geyi@himalayanuniversity.com
[4]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand.
Email : meenakshi270209@gmail.com

ABSTRACT

Meanwhile, colleges, universities, and specialty schools like MBA programs, language immersion programs, art schools, etc. are not exempt. A university or other higher education institution may become a household name via strategic, concurrent competition in both the digital and conventional spheres, as well as the development of methodical advertising strategies. As the suffix "-ing" (continuous) suggests, the branding process is meant to be ongoing and never-ending. CEM (Client Experience Management), which comprises SEM (Student Experience Management) and TEM (Teacher Experience Management), is one of the most important instruments in the branding of higher education institutions. In order to attract students, educational institutions throughout the globe must constantly innovate in order to better meet the diverse requirements and preferences of today's learners. Educational institutions are discovering that when students and professors have considerably diverse cultural backgrounds and learning styles, the expectations of the learning experience might be disappointed, despite the growing popularity of flexible distance learning. Education is the third biggest service exported from Australia, bringing in $5.8 billion thanks to the country's overseas student population. This implies that instead of having a homogeneous student body subject to a single set of home limitations and expectations, today's student body is much more likely to be made up of students from a wide variety of cultural backgrounds. The Turkish government now oversees all aspects of education, although the private sector has increasingly joined the market, offering classes for students of all ages. There has been a dramatic increase in the number of for-profit private HEIs during the 1990s.

Keywords: - Education, Higher education, Institutions, Market, Strategies

I. INTRODUCTION

As the world of higher education becomes more globalized, controlled, marketed, and competition-driven, so too is the role of marketing inside it. In a limited sense, marketing is all about spreading the word about whatever it is that's being sold. As an alternative, more all-encompassing definition, market can be thought of as "a mindset in which questions are asked about the optimal relationship an organization has with its environment, or parts of its environment, and action is taken that is informed by the answers to these questions."

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Necessity of Supply Chain Management in Food Processing Industries

Dr. Swati Saxena[1], Dr. Ankur Kumar Agrawal[2], Dr. Chiging Yamang[3], Dr. Dinesh Kumar Pandey[4],
[1]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: swati@mangalayatan.ac.in
[2]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: ankur.agarwal@mangalayatan.edu.in
[3]Assistant Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: yamang@himalayanuniversity.com
[4]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand,
Email: dinesh@umu.ac.in

ABSTRACT

In this study, we investigate opportunities for enhancing food processing sector (sugar industry) transportation and supply chain management. The food processing business may benefit from the use of lean technologies, the transportation model, and supply chain management. Improper handling and transportation methods increase the risk of a drop in production by preventing a steady supply of high-quality raw material (sugar cane) for the processing sector. Successfully producing high-quality, low-cost items in today's competitive market without incurring additional costs from suppliers is exceedingly challenging. Management of the supply chain involves coordinating many different entities and their respective roles, functions, information, and resources. Uncertainty and supply fluctuation are crucial issues that impact supply chain performance, hence supply chain management must be able to account for them.

I. INTRODUCTION

Delivering food, the most fundamental necessity of all living things, should be a top priority. Numerous reports of food shortages and food waste have poured in from all across the globe, and many groups are working to find solutions. One-third of all food produced is lost somewhere along the way from farm to fork, according to the United Nations' Food and Agriculture Organization FAO. This loss can happen for a number of different reasons, including spillage or breakage, degradation during handling or transportation, and distribution-related waste. Environmental factors contribute to food spoilage, and the availability of temperature-controlled packing, transportation, and storage facilities are all factors that might affect the efficiency of the supply chain. Contrary to this, the need for food rises along with the population. The United Nations estimates that by 2050, the global population will have reached about 10 billion, up from its current estimate of 8.5 billion. Since one-third of all food intended for human consumption is either lost or wasted, the United Nations has made ending hunger and malnutrition a priority for the Sustainable Development Goals.

Supply chain management (SCM) refers to the administration of an interconnected network of suppliers, customers, vendors, transporters, information brokers, and physical and digital assets. Time is of the essence for high-quality, low-cost, and resource-constrained production in the food processing business, making supply

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Practice of Change Management and its Impact on Performance of Companies

Dr. Neeta Deepaware[1], Dr. Ankur Kumar Agrawal[2], Dr. Prakash Divakaran[3], Md. Saifullah Khalid[4],
[1]Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: neeta@mangalayatan.ac.in
[2]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: ankur.agarwal@mangalayatan.edu.in
[3]Professor,
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: prakashtek@gmail.com
[4]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: saifullah@umu.ac.in

ABSTRACT

Due to advancements in technology, services, and goods, the pace of competition in today's marketplace is accelerating quickly. This has led change management specialists to highlight the need to generate organizational preparation for change in addition to developing diverse tactics for effective change management. For any firm to thrive in the current, fiercely competitive business world, change management is essential. The transition of businesses, groups, and people from a current condition to a necessary future one is facilitated by change management, which is a planned process. Therefore, just as important as the change itself is, change management is a process. Therefore, the topic of this essay is change management and how it affects business performance. In order to accomplish the primary goals of this study, the researcher will analyze the prior research and literature. The impact of change management practices on organizational performance was investigated in this research. A representative sample of 70 employees working at the headquarters in Nairobi, Kenya, were used for the research. A questionnaire created by the researcher was used. For analysis and presentation, descriptive statistics in the form of percentages, means, and frequencies were employed. In order to forecast correlations between variables, spearman's coefficient correlation analysis was also performed. There are suggestions for personnel and resource distribution.

Keywords: - Change Management, Performance, Organization, Employee, Technology

INTRODUCTION

A management approach known as "change management" aims to assist groups and people in adjusting to and managing the ongoing change in their working environments. The accomplishment of an organization's personnel is a need for achieving its objectives. There are several ways that things may change; for instance, something might be changed in both planned and unforeseen ways. Change is the process of changing or the result of something being altered. To leave our comfort zones, we must acknowledge that we must embrace change. According to this theory, an organization can transform through a variety of means, such as mergers,

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Factors Influencing Decision Choice of Working Women

Dr. Anurag Shakya[1], Dr. Anupama Verma[2], Dr. Prakash Divakaran[3], Dr. Prakash Mishra[4]

[1]Professor
Department of Commerce
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: anurag.shakya@mangalayatan.edu.in
[2]Assistant Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: anupama@umu.ac.in
[3]Professor
Department of Business & Management,
Himalayan University,
Itanagar- Arunachal Pradesh,
Email: prakashtek@gmail.com
[4],Assistant Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email: prakash@mangalayatan.ac.in

ABSTRACT

Indian women are increasingly becoming economically independent while also actively engaged in many fields including education, politics, media, science, and technology. Although it still depends on factors like women's risk tolerance, social support networks, and the difficulty of learning about and gaining access to cutting-edge investment opportunities, women are increasingly taking an active role in investing their extra cash. The goal of this study is to better understand what influences working women in the Delhi-National Capital area (NCR) area to make certain investing choices. A study of 100 well-educated women investors in Delhi-NCR reveals the importance of elements including attachment, information source, risk tolerance, lifestyle preferences, and decision-making autonomy when determining investing strategies. Women in the workforce were interviewed individually using a pre-designed questionnaire for this research. Advisors, distributors, and prospective investors will all benefit greatly from this research, as will academics.

Keywords: - Women, Decision, Investment, Working, Factor

I. INTRODUCTION

As if that weren't enough, men and women also make equal contributions to building strong families and vibrant communities. Traditionally, male breadwinners had the primary responsibility for supporting their families, while female caregivers stayed at home. Women are now as likely to compete with males in the job as they were in the past to stay at home and raise a family. This is because changes in society brought about by urbanization, industrialization, liberalization, globalization, etc. have improved opportunities for women like her to get an education and find work. Through increased opportunities in education, employment, and other spheres, women have gained economic security and political and social agency. Women influence the growth of the other half of the population greatly, and they make up half of the population themselves. As a result, the advancement of women is a good indicator of a country's overall prosperity and growth.

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Practices of Customer Relationship Management in E-Commerce

Dr Ashutosh Saxena[1] Dr. Sidharth Jain[2] Dr. Subir Chattopadhyay[3] Dr. Prakash Divakaran[4]
[1]Associate Professor
Department of Management
Mangalayatan University,
Jabalpur-Madhya Pradesh
Email : ashutosh@mangalayatan.ac.in
[2]Professor
Department of Management
Mangalayatan University,
Aligarh-Uttar Pradesh
Email: sidharth.jain@mangalayatan.edu.in
[3]Professor
Faculty of Business Management & Commerce
Usha Martin University,
Ranchi- Jharkhand
Email: drsubir57@gmail.com
[4]Professor
Department of Business &Management
Himalayan University,
Itanagar- Arunachal Pradesh
Email: prakashtek@gmail.com

ABSTRACT

Numerous shifts have occurred as a direct result of how businesses employ technology. Customers now have greater bargaining power than ever before because to the advent of "E-Commerce" made possible by the Internet. Therefore, businesses should put an emphasis on customer retention strategies like customer relationship management (CRM) and continuous customer relationships (CCR). If used correctly, customer relationship management (CRM) enables forward-thinking marketers to use data to inform product design, advertising, and sales targets. The Scope of CRM Has Expanded to Include Finance, R&D, Channel Partners, and Even Customers. This piece will examine what it means to take a customer-focused CRM strategy. The current state of the CRM industry, the industry's top players, and the most recent innovations are also covered. Significant advantages of electronic commerce include the capture of vast quantities of raw data about customers' purchasing behaviors; the classification, processing, statistics, and mining of these data; and the provision of high-quality service to customers centered on technology. This study delves into the specifics of customer relationship management (CRM) in the e-commerce sector, suggests a data-driven, algorithmically-driven model for an e-commerce CRM system, and ties it all together with a feasible, implementable solution.

Keywords: - Customer Relationship Management, Customer's, E-Commerce, Customer, Product

I. INTRODUCTION

Customer relationship management, or CRM, is a kind of advertising that aims to meet customers' demands at each stage of their engagement with a business. The goal of customer relationship management (CRM) is to acquire, maintain, and collaborate with the most valuable customers in order to maximize profits for both parties. The new marketing strategy has elevated the importance of customer relationship management (CRM) as a tool for businesses to tailor their operations to better engage with their clientele and establish lasting connections with them.

There are numerous CRM market approaches, including the customer market, the referral market (consisting of customers who have been referred to the business by word of mouth), supplier markets, recruitment markets,

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Application Development of Smart Grid System

Dr. Lokesh kumar
Assistant professor, EEE Dept,
Usha Martin University, Ranchi
Email-lokesh@umu.ac.in

Abstract- The power grid is the name given to the infrastructure that is used to supply energy. This infrastructure includes power plants, transmission lines, and distribution networks. One of the most impressive achievements in engineering is the construction of the electrical grid in its current state. The infrastructure of the grid has been extremely important in ensuring that people have access to electric electricity in a dependable and cost-effective manner. Before we can even get started on modernizing the grid we use today, we need to have a crystal clear picture of the power system that will be necessary in the future. By having this understanding, we will be able to generate the alignment that is required to drive enthusiasm, investment, and progress toward the Smart Grid for the 21st century. In order to build a flourishing society in the future, the Smart Grid will be an essential enabler. The provision of adequate sources of energy has emerged as one of the most pressing problems confronting humanity in the 21st century. The demand for energy has skyrocketed in every section of the nation as a direct result of increasing populations, an increase in the number of residences and enterprises, and an increase in the number of various new appliances. Utilities all over the world are racking their brains to find a solution that would bring their networks into the 21st century and the digital era. The creation of a "smart grid" is the common name given to the process that aims to increase the intelligence of the electricity system. The business world views the transition to a smart grid as an opportunity to improve both the delivery and use of electrical power. The 'State of the Art' of the Smart Grid, together with its vision, application, and control, are all introduced in this paper. This paper also discusses the benefits, opportunities for growth, and challenges presented by smart grids. A case study of the implementation of smart grid technologies is also presented and analyzed in this paper. The study is based on recent references and technical reports produced by government, research, and academic agencies.

keywords: Smart, Grid, System

INTRODUCTION

The process of rapidly upgrading the United States' electrical wire system infrastructure is being referred to as the "smart grid," and the term "smart grid" has been chosen to denote this process. since of this, after the upgraded system has been completely created, it will be referred to as a "smart" system since it will make it viable to link across grids using qualities that are not now accessible. This process is being defined by the term "smart grid." A "smart grid" is nothing more than an advanced electrical distribution system that incorporates the capability to balance electrical demands that are created from a broad range of alternative energy generating sources, which are often intermittent in nature. This ability to balance electrical needs is what gives the "smart grid" its name. The term "smart grid" is used to describe this kind of technology in various contexts. The capacity to store electrical energy is essential to the operation of the so-called "smart grid," which makes it possible for the supply of electricity to keep up with the demand from end users. This is an essential part of what we refer to as the "smart grid." Adaptable, with lower dependent on operators, particularly in terms of its capacity to promptly react to changing conditions, the Smart Grid is characterized by the following characteristics: Predictive in the sense that operational data may be exploited to enhance equipment maintenance methods, and even in the sense that prospective outages might be spotted before they even take place in the first place. Completely integrated in terms of the responsibilities of operational control and real-time communications Interactional between several markets and the customers of each specific marketplace, Designed to provide the highest possible levels of

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Co-treatment of stabilized landfill leachate and municipal wastewater in a granular activated carbon-sequencing batch reactor (GAC-SBR)

Mohini Verma [a], Shubhrasekhar Chakraborty [a b], Shweta Kumari [a], Aalok Gupta [a], Dewanshu Kumar [a], Jawed Iqbal [a], J. Rajesh Banu [c], Arulazhagan Pugazhendi [d e], R. Naresh Kumar [a]

[a] Department of Civil and Environmental Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, Jharkhand, India
[b] Department of Agriculture, Usha Martin University, Ranchi 835103, Jharkhand, India
[c] Department of Biotechnology, Central University of Tamil Nadu, Thiruvarur, India
[d] Centre of Excellence in Environmental Studies, King Abdulaziz University, Jeddah 21589, Saudi Arabia
[e] Department of Marine Biology, King Abdulaziz University, Jeddah, Saudi Arabia

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Abstract

A laboratory-scale granular activated carbon-sequencing batch reactor (GAC-SBR) was used to co-treat stabilized landfill leachate with municipal wastewater. GAC-SBR was studied for the different mixing ratios of leachate and municipal wastewater at different hydraulic retention time (HRT). GAC dose (5, 10, 15 and 20 g/L) was optimized for COD reduction with a contact time of 22 h. GAC-SBR treatment efficiency was assessed on mixed liquor suspended solids (MLSS), mixed liquor volatile suspended solids (MLVSS), turbidity, chemical oxygen demand (COD), ammonia, nitrate, and phosphate removal. Univariate ANOVA was applied to test the statistical significance of treatment at different leachate:wastewater ratios. Results showed that the increase in GAC concentration led to an increase in the removal of COD and ammonia from stabilized landfill leachate. Adsorption efficiency decreased or remained constant after 15 g/L GAC. GAC-SBR was efficient in removing COD (83%) and nutrients (80–90%) from stabilized landfill leachate at 10 d HRT. Univariate analysis of variance (ANOVA) highlighted that there was a statistically significant difference in

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Relativistic modeling of stellar objects in a Schwarzschild's coordinates with embedded class one spacetime

Amit Kumar Prasad[1,2,3,a], **Mahesh Kumar**[1,2,3,b], **Jitendra Kumar**[1,2,3,c]

[1] Department of Mathematics, Usha Martin University, Ranchi 835222, India
[2] Department of Mathematics, Central University of Jharkhand, Cheri-Manatu, Ranchi 835222, India
[3] Department of Mathematics, Central University of Haryana, Jant Pali, Mahendragarh 123031, India

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Abstract In this study, we investigate a new relativistic anisotropic Einstein field equations solution for compact stars under embedding class 1 conditions. In order to do this, we apply the Karmarkar condition and the embedding class one technique. By taking Buchdahl type metric potential g_{rr} into consideration, the precise analytical solution has been investigated. We have studied physical characteristics of various compact star using this analytical solution. Central singularities are absent from the solution. We have explored thermodynamic observables inside the stellar models, such as radial and tangential pressures, matter density, anisotropic factor, energy conditions, TOV, red-shift, and the speed of sound, etc., after establishing this space-time geometry for the stellar models. From the graphical representation of various physical characteristics, it is demonstrated that our model meets all the specification for ultra-high density compact bodies.

1 Introduction

Compact objects are astronomical objects with an extremely high density. For a long time, the study of general relativistic compact objects has been of great interest. Some important parameters, such as mass, radii, internal composition etc., remain difficult to measure because they cannot be inferred directly from the observational data. Many of these physical parameters of compact objects are predicted using theoretical relativistic stellar models. A compact star model provides a detailed understanding of the compact stars that it represents. Modeling compact stars is one of the most challenging tasks in relativistic astrophysics because we know very less about the constituent matter of an ultra-compact star. Schwarzschild had discovered the exact solutions to Einstein's Field Equations (Efes), since then the theoretical modeling of stellar structure has been a field of active research astrophysical bodies [1]. Oppenheimer and Volkoff were the first to derive computational solutions of Efes for a degenerate neutron gas. It was previously assumed that the nature of a spherically symmetric substance is similar to that of a perfect fluid, in which the radial pressure coincides with the tangential pressure. However, in 1922 the authors [2] proposed that anisotropy should be given importance in studying the nature of matter distribution due to the extreme and unusual conditions that exist in the interior of compact objects. Anisotropy generally describe the direction-dependent properties of materials. In the context of compact stars, however, anisotropy refers to the difference in radial and tangential pressures. When dealing with relativistic fluids, anisotropy must be taken into account. According to Mak and Harko [3], and Sharma et al. [4], anisotropy is sufficient for studying compact stars with dense nuclear matter. Works such that [5–10] clarified our understanding of highly dense spherically symmetric fluid spheres with anisotropic pressure. Anisotropy may occur in a compact star due to the presence of a mixture of different types of fluids, rotation, the presence of superfluid, the presence of a magnetic field or an external field, or phase transitions, etc. The primary anisotropic version with tangential stress and consistent density was modeled by Leimatre [11]. Ruderman [6] proposed in 1972 that compact structures are generally anisotropic in nature due to their excessive density ($> 10^{15}$ gm/cc). Later, Bowers and Liang [5] conducted extensive research in the field of anisotropic spheres in general relativity and discussed the causes and effects of anisotropy in compact objects. In his work, de Leon [12] obtained two new exact analytical

[a] e-mail: amitkarun5@gmail.com
[b] e-mail: kumar1994mahesh@gmail.com
[c] e-mail: jitendark@gmail.com (corresponding author)

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Structure-based drug design-guided identification of estrogen receptor binders

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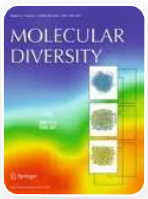

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Abstract

Cancer is one of the life-threatening diseases and the second leading cause of death in the world. The estrogen receptor can be considered as one of the significant drug targets for cancer. A large number of clinically used anticancer drugs were identified from phytochemicals. Multiple literatures suggested that extracts of *Datura* sp. significantly inhibit estrogen receptors associated with human cancer. In the present study, all reported natural products present in *Datura* sp. were subjected to molecular docking against estrogen receptors. The top hits were shortlisted based on binding orientation and docking score and subjected to molecular dynamics simulation to explore the conformational stability followed

Optimization of Microwave-assisted Extraction Technique for Flavonoids and Phenolics from the Leaves of *Oroxylum indicum* (L.) Kurtz Using Taguchi L9 Orthogonal Design

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Rojalini Samanta[1,2] and Manik Ghosh[1]

Abstract

Background: An experimental design to obtain bioactive ingredients from *Oroxylum indicum* (L.) Kurtz was performed applying microwave-assisted extraction (MAE). Recently, tremendous research interest and benefits have been observed for extracting active constituents from plant materials using the microwave.
Objectives: This work aimed to develop an optimized, green, efficient, alternative procedure for extracting flavonoid and phenolic (total flavonoid content [TFC] and total phenolic content [TPC]) from leaves of *Oroxylum indicum* (L.) Kurtz.
Materials and Methods: A total of 1 g of the powdered sample was extracted using classical Soxhlet apparatus for 48 hr to ensure exhaustive extraction; simultaneously, maceration and ultrasound-assisted extraction were also carried out using 1 g of the plant sample for 12 hr and 60 min at 25°C, respectively. The optimization of MAE was done using Taguchi L9 orthogonal design. The optimum operating conditions were microwave power (160 W), soaking time (4 min), irradiation time (4 min), and temperature (57°C).
Results: The microwave method has shown 70% higher yield than other conventional techniques in a shorter time, along with increased TFC and TPC.
Conclusion: The TPC, TFC, and total antioxidant capacity (TAC) values are higher in the extract obtained by MAE extracts in comparison to other techniques. The extraction technique will be an ideal tool to safeguard the thermolabile plant constituents that will be more environmentally friendly.

Keywords

Microwave-assisted extraction, phenolics, Soxhlet, total phenolic content, total flavonoid content, total antioxidant capacity

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Introduction

In recent decades, the role of herbal medicines has become exceptionally successful in disease prevention and management. Different bioactive compounds are present in plants naturally, such as phenolic compounds, which have numerous health benefits for humans. However, we must consume a lot of plant materials to achieve the effective dose of these pharmacologically active compounds, as they are available in trace quantities naturally in plants which may be impossible practically. Hence, extraction of bioactive compounds from the plant material is the best way to achieve health-promoting properties. As extraction is one of the best methods, it has been practiced for centuries to concentrate the active pharmaceutical ingredients and add them to food products as functional ingredients.

The plant *Oroxylum indicum* belonging to the family Bignoniaceae is an evergreen or partly deciduous, small to medium-sized tree with light greyish brown, soft, and spongy bark.[1] It is found in many parts of the world, particularly in South Asia, Southeast Asia, and China.[2] This plant is reported to possess various activities such as gastroprotective, anticancer, anti-inflammatory, antioxidant, and immune stimulant.[3] Researchers have focused on more efficient

[1] Department of Pharmaceutical Sciences & Technology, Birla Institute of Technology, Mesra, Ranchi, Jharkhand, India

[2] Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand, India

Corresponding author:
Manik Ghosh, Department of Pharmaceutical Sciences & Technology, Birla Institute of Technology, Mesra, Ranchi, Jharkhand 835215, India.
E-mail: manik@bitmesra.ac.in

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RESEARCH ARTICLE

A Static Machine Learning Based Evaluation Method for Usability and Security Analysis in E-Commerce Website

BIRESH KUMAR[1], SHARMISTHA ROY[1], KAMRED UDHAM SINGH[2], SAROJ KUMAR PANDEY[3], ANKIT KUMAR[3], ANURAG SINHA[4], SHUBHAM SHUKLA[5], MOHD ASIF SHAH[6,7], AND ADIL RASOOL[8]

[1]Faculty of Computing and Information, Technology, Usha Martin University, Ranchi, Jharkhand 835103, India
[2]School of Computing, Graphic Era Hill University, Dehradun 248002, India
[3]Department of Computer Engineering and Applications, GLA University, Mathura 281406, India
[4]Department of Computer Science, IGNOU, Delhi 110068, India
[5]Krishna Institute of Engineering and Technology, Ghaziabad 201206, India
[6]School of Business, Woxsen University, Hyderabad, Telangana 502345, India
[7]Division of Research and Development, Lovely Professional University, Phagwara, Punjab 144001, India
[8]Department of Management, Bakhtar University, Kabul 1006, Afghanistan

Corresponding author: Adil Rasool (adilrasool@bakhtar.edu.af)

ABSTRACT Measurement of e-commerce usability based on static quantities variable is state-of-the-art because of the adoption of sequential tracing of the next phase in the categorical data. The global COVID-19 outbreak has completely disrupted society and drastically altered daily life. The concept refers to an electronic commerce network that appears with thorough, understandable conviction, demand, and rapid confirmation as a replacement for the economical market's ''brick-and-mortar'' model, which replaces how we do everything, including business strategy, and provides a better understanding with the interpretation of e-commerce features. This study was supervised to analyze usability assessments using statistical methods and security assessments using online e-commerce security scanner tools to investigate e-business standards that consider the caliber of e-services in e-commerce websites across Asian nations. The method was developed to optimize complex systems based on multiple criteria. The initial (supplied) weights are used to determine the compromise ranking list and compromise solution. This paper examines the usability of e-commerce in rural areas using a new data set from the Jharkhand region. On the e-commerce websites of Jharkhand, India, usability is commonly considered in conjunction with learnability, memorability, effectiveness, engagement, efficiency, and completeness. Using a user-oriented questionnaire testing method, this survey attempts to close the gaps mentioned above. Then, across each column, divide each value by the column-wise sum that is created using their corresponding value, whichever produces a new matrix B. Finally, determine the row-wise sum of matrix B representing the (3×1) matrix. Using model trees and bagging, this study addresses classification-related issues. This regression technique is useful for problems involving classification. The model is trained using secondary data from the MBTI 16 personality factors affecting personality category.

INDEX TERMS Machine learning, usability, security, E-commerce, data analysis, statistics.

I. INTRODUCTION

E-commerce is the use of the Internet and computer network infrastructure to perform tasks such as selling and acquiring products, transferring and exchanging services, and sharing information. E-business has grown at a rapid pace since 1994 [1], [2]. All traditional commercial enterprises are expected to be converted to e-commerce by 2050 [3]. Although numerous studies on e-commerce websites concerning usability and security have been conducted over the

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Original Article

Invo-Substitute: Three Layer Encryption For Enhanced E-Commerce Website Security Using Substitution Cipher And Involution Function

Biresh Kumar[1], Sharmistha Roy[1], *Anurag Sinha[2], Vikas Kumar[3] , Ashish kumar verma[4]

[1]Faculty of Computing and Information Technology, Usha Martin University, Ranchi, Jharkhand, India
bireshmtech@gmail.com (B.K.), sharmistha@umu.ac.in (S.R.)

[2] Department of Computer Science, IGNOU, New delhi, India, anuragsinha257@gmail.com
[3]Department of CSE,
KIET GROUP OF INSTITUTION, kvikas1482@gmail.com
[4]Dr Rajendra Prasad kendriya vidyalaya Rashtrapati bhavan
imdigitalashish@gmail.com
*Corresponding Author:-Anurag Sinha, anuragsinha257@gmail.com
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Abstract

The use of cryptography, or the art of secret writing, to secure information exchanged via an open medium is an ancient technique, but its significance in the modern world has greatly expanded. It has become necessary to search for ever-better cryptographic primitives that offer a level of security while limiting the time needed to encrypt and decode the data as eavesdroppers' computational power has increased. Each letter in the message is swapped out for a different letter using a substitution cipher that follows a predetermined mapping. A, B, and C are shown as an image of two alphabets with a mapping between them: D, E, and F. the Caesar cipher is an easy illustration of a substitution cipher. When more than one independent layer of encryption is used, it is known as double encryption and it serves as a safeguard against the compromising of any one layer. The dangers associated with encrypting data are reduced by using two levels of encryption. Concurrent Error Detection (CED) for cryptographic chips also offers a huge potential for detecting (intentional) fault injection attacks when errors are injected into a cryptographic chip to break the key. For a family of symmetric block ciphers whose round functions are involutions, we present in this study a temporal redundancy based CED approach that is low cost, low latency, and effective. Nearly little more time is required for this CED approach to identify both ongoing and passing errors. F(F(x))=x indicates that a function F is an involution.

Keywords : E-commerce, security, cipher, cryptography, substitution cipher, involution function

INTRODUCTION

Using the same or a different algorithm, multiple encryption is the process of encrypting a communication that has previously been encrypted once or more. Additionally, it is referred to as multiple encryption, superencipherment, cascade ciphering, and cascade encryption. Superencryption is the term used to describe a multiple encryption's outer-level encryption.

According to certain cryptographers, such as Matthew Green of Johns Hopkins University, multiple encryption addresses an issue that mostly doesn't exist: Ciphers used nowadays are seldom cracked... As opposed to being subjected to a devastating attack on AES, you are much more likely to be affected by malware or an implementation error. The root cause of multiple encryption, bad implementation, is shown in the quotation [1]. It is necessary for both suppliers' products to be compromised for using two distinct crypto modules and keying procedures from two separate vendors. If the keys used for any two cryptosystems are the same, the second cipher may be able to partially or completely decipher the first cipher. This is true for ciphers when the decoding

Section A-Research paper

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Resume Screening Classification using Artificial Intelligence and Natural Language Processing

Arvind Kumar Sinha[1], Md. Amir Khusru Akhtar [2], Mohit Kumar[3], Shrikant Upadhyay

[1,2] Faculty of Computing and Information Technology, Usha Martin University, Ranchi, India

[3] Department of IT, MIT Art Design and Technology University, Pune, India

Department of Electronics & Communication Engineering, Cambridge Institute of Technology, Ranchi, Jharkhand, India

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ABSTRACT

Resume screening is the process of assessing candidates' resumes to determine their suitability for a particular position. The purpose of resume screening is to identify the most qualified candidates who meet the requirements for the job. Conventionally, resume screening has been a manual process, with hiring managers spending significant time reviewing each resume individually. Besides the fact that it is a time-consuming procedure, there are also unknown biases. Therefore, it is important to research the methods for automating resume screening using Artificial Intelligence and Machine Learning. To address this, this paper proposes a two-phase model named "Prospect" based on feature extraction and matching using machine learning. The first phase pre-processes the dataset and extracts resume content by using feature extraction. The second phase applies "selection" and "rejection" classification by applying a matching score algorithm and custom logic. To validate its approach, this paper also designs a unique Prospect dataset with approximately 5,000(thousand) resumes, which incorporates different data sets to generate an unbiased classification output. Experimental result shows that the Prospect model categorizes the resume in "selected" and "rejected" categories with a 93.5% accuracy which improves the overall accuracy by 19.5% compared to convolutional neural network models.

Keywords:

Levenshtein Distance
Cosine Similarity
FuzzyWuzzy
Artificial Intelligence
Prospect

1. INTRODUCTION

A Resume is unstructured data and extracting information is a complex process. Natural language processing with complex patterns/language analysis techniques have been used for feature extraction[1]. Feature extraction, Cosine similarity, and Levenshtein Distance have been mainly used to get the classification result. Matching with a similarity score is further provided to a model and custom logic is overlayed to get the final result. There is some level of flexibility purposely added to avoid resume rejection in favor of selection, which further with supervised learning can be reduced. The whole of the Artificial Intelligence/Machine Learning implementation is done using Python. Some of the important libraries that are used are sklearn, fuzzyWuzzy, numPy, pandas and spaCy. The level of flexibility is made configurable and customizable for the organization, which provides further flexibility for using the Resume Screening application.

To perform the resume screening, it is important to make it user-friendly and to expose the Artificial Intelligence and Natural Language Processing based model to the web. It is achieved through Django in Python, with this it is just a few clicks that predicts the resume results. A bulk model is also built which performs the matching for "n" number resume at a time. This provides speed to the tool and the whole screening for a hiring drive can be done in just a few minutes which conventionally takes days and weeks. Additionally, a dashboard is also built which does the relative ranking for the resume. This product is being piloted at some esteemed organizations for further learning for machines. There are a few features in a resume that are important for decision-making, below is the list of considered features.

1. Basic Information: This is mainly to maintain uniqueness across the resume list screened by the machine. This includes name, address, phone, and email address. It is not for the decision-making process; however, decisions are tagged to these unique attributes.

Modified matrix minima method for subset constrained transportation problem and its performance evaluation with respect to the optimal solution by mathematical model

Raju Prajapati[1*], Jayantika Pal[2], Om Prakash Dubey[3]
[1*,2]Usha Martin University, Ranchi, Jharkhand, India; [3]Veer Kunwar Singh University, Ara, Bihar, India.
Email: [1*]r.prajapati@umu.ac.in, [2]jayantika@umu.ac.in, [3]omprakashdubeymaths@gmail.com

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Transportation Problem, Subset Constraint, Matrix Minima Method, Least Cost Method, Mathematical Modeling.

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Abstract

Purpose of the study: The transportation problem has a huge application in logistics. Therefore, dealing a transportation problem with permissible constraints is always an interesting area. In the present paper, we have tried a version of transportation problem which is constrained in nature. We have explored strategies for dealing the subset constrained transportation problem.

Methodology: An updated version of matrix minima method is proposed in this paper. This version is used for subset constrained transportation problem only. We have also applied the mathematical model for solving the same subset constrained transportation problem.

Main Findings: The mathematical model gives an optimal solution of the constrained transportation problem with the help of software. It is found that the proposed updated matrix minima method does not guarantee the optimality. However, we use the matrix minima approach for having an idea of the closer feasible solution. It is found that the mathematical model is always a superior way to find an optimal solution.

Applications of this study: The study has a huge application in logistics.

Novelty/Originality of this study: An updated version of matrix minima method is proposed. The method is applied on constrained transportation problem and the results are compared with the optimal solution.

INTRODUCTION

Operations research consists of a lot of problems which are to be dealt with the help of mathematical modeling. Some well known problems which could be processed are knapsack problem, graph coloring problem, packing problem, assignment problem and transportation problem etc. Each problem could further be categorized into several sub-categories which is must for a better analysis. For example, the packing problem consists of ball packing problems in three dimensional spaces, circle packing problem in two dimensional space or even rectangle packing in two dimensional spaces. Each of these categories creates a unique field which needs to be dealt separately. In addition to these, the literature is filled up of various problems where mathematical model plays a vital role for the search of optimal value of the variable(s), which is/are to be optimized.

The transportation problem is always an interesting field when operations research comes into the picture. It has a huge application in logistics. Trans-shipment problem is an extension of transportation problem, which needs a separate attention. Further, we have a plenty of transportation problems which needs to be dealt separately. Some of the categories coming under transportation problem may include constrained transportation problem, red-blue transportation problem etc. The constrained transportation problem analysis is further a huge area dealing the various types of constrained problems such as constraints in terms of supply/demand, limitation on the path etc.

The present paper consists of a problem based analysis of constrained transportation problem. The paper is inspired from an idea of subset constraints, which already exists in the literature (Prajapati, R., Pal, J., & Dubey, O. P. (2022)). We are willing to deal only those transportation problems which have some constraints, which are in terms of subset constraints.

The originality of this paper is the application of the above idea (mathematical model of the subset constrained transportation problem in (Prajapati, R., Pal, J., & Dubey, O. P. (2022)) on some problems, the performance evaluation of the same and comparison of the results with the updated version of an existing method (for dealing the subset constrained transportation problem), which is matrix minima method. Therefore, we are proposing the matrix minima method for the subset constrained transportation problem. In this regard, we can also say that the idea presented here for dealing such constrained transportation problem by an updated matrix minima method is also the originality of this paper. We can find the feasible solution by updated matrix minima method while the mathematical model for

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Break Down Resumes into Sections to Extract Data and Perform Text Analysis using Python

Arvind Kumar Sinha[1], Md. Amir Khusru Akhtar[2], Mohit Kumar[3]
[1]Faculty of Computing and IT
Usha Martin University
Ranchi, India
passionarvind@gmail.com
[2]Faculty of Computing and IT
Usha Martin University
Ranchi, India
akakhtar.2020@gmail.com
[3]Department of Information Technology
MIT Art, Design and Technology University
Pune, India
mohitsmailbox13@gmail.com

Abstract— The objective of AI-based resume screening is to automate the screening process, and text, keyword, and named entity recognition extraction are critical. This paper discusses segmenting resumes in order to extract data and perform text analysis. The raw CV file has been imported, and the resume data cleaned to remove extra spaces, punctuation and stop words. To extract names from resumes, regular expressions are used. We have also used the spaCy library which is considered the most accurate natural language processing library. It includes already-trained models for entity recognition, parsing, and tagging. The experimental method is used with resume data sourced from Kaggle, and external Source (MTIS).

Keywords- Resume Parser, Text Analysis, text classification, python, regular expressions, tagging, parsing.

I. INTRODUCTION

Resume/CV is extracted from the given document using natural language processing with complex patterns / language analysis techniques. It is a method of converting unstructured information from unknown resumes provided to a structured target. Typically, this process converts pdf, doc and docx type of files, as all companies accepts these types of files as resume, into structured data format. To understand human language and automate processes, AI and NLP technologies have been used. Semantic search is used by resume parsers to understand the resume data and screening criteria is applied to find the shortlisted candidate. The extraction of an indigenous language is a complex process because indigenous languages are extremely different as well as incomprehensible. Because text forms like resumes are written and interpreted by "n" number of ways, the analytical tool should be able to capture it using complex rule engine and mathematical algorithms. There are many instances where the same word would mean different things in different contexts, there is ambiguity that needs to be handled in the parsing tool. A few digit number in the resume/cv can be part of phone, address, email etc. As a result, the idea behind training a machine is to analyze the context of documents written as if by a person.

Hiring agencies use analytics system to streamline the process and cut down on hiring time for employers. The resume launcher automatically categorizes information based on the conditions found in CV/resume, which contains personal details like candidate name, address, email, phone, experience like companies worked, start-end date, designation, education details, hobbies and so on [1]. Resumes can be written in a variety of ways, making it difficult for online recruitment companies to store this information in relational databases. In this study, Kariyer.net (Turkey's largest online recruitment website) and TUBITAK (Turkey's Scientific and Technological Research Council) proposed a system that allows free structured resume formats to be transformed into an ontological structure model. [2]

The specific information from free text sources is extracted and the process is called as "information extraction". Sentence segmentation or sentence boundary detection is used to divide textual information into sentences [3]. The rule-based AI method [4] for subdivision employs list of punctuation like '; ', '?', '.' and so on, but it doesn't work when it finds contractions like 'e.g.', 'etc.', 'n.d.' and so on. The supervised machine learning approach was implemented to classify punctuation marks. It uses decision tree to build sentence boundaries to categorize punctuation [5].

INDIAN JOURNAL OF SCIENCE AND TECHNOLOGY

RESEARCH ARTICLE

Automated Resume Parsing and Job Domain Prediction using Machine Learning

Arvind Kumar Sinha[1], **Md Amir Khusru Akhtar**[1], **Mohit Kumar**[2]*

1 Faculty of Computing and Information Technology, Usha Martin University, Ranchi, India
2 Department of IT, MIT Art Design and Technology University, Pune, India

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* **Corresponding author**.

mohitsmailbox13@gmail.com

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Abstract

Objectives: This study aims to develop an efficient approach for parsing resumes and predicting job domains using natural language processing (NLP) techniques and named entity recognition to enhance the resume screening process for recruiters. **Methods:** The proposed approach involves preprocessing steps, such as cleaning, tokenization, stop-word removal, stemming, and lemmatization, implemented with the PyMuPDF and doc2text Python modules. Regular expressions and the spaCy library are utilized for entity recognition and name extraction. The model achieved a prediction accuracy of 92.08% and an F1-score of 0.92 on a dataset of 1000 resumes. An ablation experiment assessed the contributions of different factors. **Findings:** The approach demonstrated a high prediction accuracy of 92.08% and F1-score of 0.92 for job domain prediction, effectively identifying relevant job domains from resumes. Evaluations on individual job domains showed excellent precision and recall scores, validating its applicability. Preprocessing techniques significantly improved accuracy, while the integration of regular expressions and spaCy enhanced the model's performance. This approach automates resume screening, reducing recruiters' workload, saving time and effort, and improving candidate selection and the hiring process. **Novelty:** This study introduces a novel approach combining NLP techniques, regular expressions, and entity recognition for resume parsing and job domain prediction. This integration enhances accuracy and efficiency, offering a unique solution for resume screening.

Keywords: Resume parsing; Job domain prediction; Entity recognition; Machine learning; Natural Language Processing

1 Introduction

The process of screening resumes for job openings has become a significant challenge for recruiters in today's job market. With the increasing number of applicants and resumes submitted in various formats, the task of extracting relevant information from resumes has become time-consuming and tedious. Additionally, the use of online-based recruiting systems has created new challenges for recruiters, including the inability to

REVIEW ARTICLE

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Reliability and Responsiveness of Endurance Shuttle Walk Test to Estimate Functional Exercise Capacity in Patients with Chronic Obstructive Pulmonary Disease: A Systematic Review and Meta-analysis

Shagufa Amber, Aqsa Mujaddadi and Jamal Ali Moiz*

Centre for Physiotherapy and Rehabilitation Sciences, Jamia Millia Islamia (A Central University), New Delhi, India

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Exercise Tolerance; Walk Test; Pulmonary Disease, Chronic Obstructive.

ABSTRACT

The endurance shuttle walk test (ESWT) is a simple, acceptable, field-based test first established in 1999 to measure endurance exercise capacity in patients with chronic obstructive pulmonary disease (COPD). The aim of this systematic review was to examine the reliability and responsiveness of ESWT in COPD. Of the 791 articles identified through electronic databases, 17 were included in this review. Qualitative and quantitative analyses were conducted according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses, and as per Consensus-Based Standards for the Selection of Health Status Measurements Instruments, the quality of the studies was graded as low for reliability and moderate for responsiveness. Qualitative analysis indicated inadequate evidence for the reliability of the ESWT in patients with COPD. The meta-analysis found strong evidence that ESWT was responsive to change following pulmonary rehabilitation with an estimated mean difference (ESWT time, seconds) 303.19 s (95% CI: 175.63–430.75; $p < 0.001$), ambulatory oxygen with a mean difference (ESWT time, seconds) 129.04 s (95% CI: 47.98–210.09; $p = 0.002$), and (ESWT mean distance, meters) 80.71 m (95% CI: 38.66–122.76; $p < 0.001$). The ESWT was also responsive to bronchodilation with a mean difference of 168.62 m (95% CI: 117.03–220.21; $p < 0.001$). Our findings suggest the strong potential of ESWT as a responsive test in COPD, but to draw a definitive conclusion regarding the reliability of the ESWT, further research is needed in this population.

The endurance shuttle walk test (ESWT) is a test of endurance capacity, first described in 1999 in patients with chronic obstructive pulmonary disease (COPD).[1] The measurement of endurance capacity using the ESWT is a simple, acceptable field-based test, with nominal cost or resource implications. It is valid and highly responsive with minimal learning effects.[2] The endurance time is used in the evaluation of exercise tolerance in COPD.[3] The ESWT was designed to complement the incremental shuttle walk test (ISWT) and uses the same 10-meter shuttle course.[4] The pace of the ESWT is traditionally calculated at a predefined percentage of peak performance on the ISWT around 70–85% estimated VO_2 peak.[5] However, recent data have indicated that the speed can also be accurately derived using 85% of walking speed on the ISWT, making it easier.[6] The test is terminated when the subject is limited by dyspnea or a heart rate > 85% predicted maximum, or when the subject is unable to maintain the required speed and hence, fails to complete a shuttle for a second consecutive time.[4] The primary outcome is the distance covered (meters, m) or the time required (seconds, s) to complete the test.

The leading cause of worldwide mortality and morbidity is attributed to COPD, ranked eighth in causing disability and disease burden in 2015 by disability-adjusted life years.[7–9] Breathlessness and reduced exercise capacity are characteristic symptoms of COPD.[10,11] Reduction in exercise capacity can result in reduced ability to perform activities of daily living (ADL) and further, the resultant sedentary lifestyle and inactivity can exacerbate exercise impairment (the COPD "vicious circle").[12] The systemic effects of COPD

*Corresponding author: ✉jmoiz@jmi.ac.in

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An Exhaustive Analysis of the Influence of Social Relationships on Mental Health

Sanjay Pal[1], Puja Kumari[2], Jadab Dutta[3]
[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Health Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Education, Himalayan University, Itanagar, Arunachal Pradesh
Email: sanjay.pal@mangalayatan.edu.in

Abstract:
Social connections are of paramount importance in influencing the mental health and overall well-being of an individual. This scholarly article conducts an exhaustive literature review concerning the complex correlation between social connections and mental health outcomes. This interdisciplinary approach integrates discoveries from public health, psychology, sociology, and sociology in order to clarify the ways in which mental health is impacted by social relationships. The article highlights the positive effects of social support, companionship, and belongingness on psychological resilience and emotional stability. Furthermore, it examines the detrimental effects of social isolation, loneliness, and interpersonal conflicts on mental health, emphasizing their association with increased risks of depression, anxiety disorders, and other psychiatric conditions. Additionally, the article explores the role of digital and virtual interactions in moderating the impact of social relationships on mental health in the contemporary digital age. By shedding light on the multifaceted nature of social connections and their implications for mental well-being, this review aims to inform interventions and policies aimed at promoting psychological resilience and fostering healthier communities.

Keywords: social relationships, mental health, social support, social isolation, psychological resilience, emotional well-being, digital interactions

Social relationships

Social relationships encompass the various connections individuals form with others**,** including family members, friends, romantic partners, colleagues, and community members. These relationships play a fundamental role in shaping individuals' social identity, emotional well-being, and overall quality of life. Social relationships provide avenues for emotional support, companionship, and mutual assistance, contributing to individuals' sense of belongingness and fulfilment.

The nature and quality of social relationships can vary widely, ranging from close, intimate bonds to more distant or superficial connections. Close relationships, characterized by trust, reciprocity, and mutual understanding, often have a significant impact on individuals' mental health outcomes. They serve as sources of emotional support during times of stress or adversity, providing comfort, validation, and encouragement. Moreover, close relationships can foster a sense of security and attachment, contributing to individuals' overall psychological well-being.

In addition to providing emotional support, social relationships offer opportunities for social interaction, engagement, and shared experiences. These interactions promote feelings of connectedness and belongingness, which are essential for individuals' mental health and social integration. Positive social relationships can enhance individuals' self-esteem, confidence, and resilience, enabling them to navigate life's challenges more effectively.

Conversely, deficits in social relationships, such as social isolation or loneliness, can have detrimental effects on mental health. Social isolation, characterized by a lack of meaningful social connections or interactions, has been linked to increased risks of depression, anxiety, and other.

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An Analysis of Employee Welfare Practices and Productivity in a Public Sector Banks of District Aligarh

Unnati Jadaun[1], Shabana Bano[2], Yibom Bagra[4], Dilip Singh Hazari[5]

[1]Assistant Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP
[2]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
Email: unnati.jadaun@mangalayatan.edu.in

Abstract:
The purpose of this paper is to ascertain the research on employee welfare practices in public sector banks. The workforce constitutes an organization's most valuable asset. The bank will furnish its personnel with facilities, amenities, services, and benefits. They should be entitled to certain amenities, including lodging facilities, canteen facilities, medical facilities, and provisions for their children's education, pension plans, insurance, and more. The goals include gaining knowledge of employee welfare measures, enhancing the quality of life for the working class, promoting the holistic development of employees, and more. The current investigation is predicated on the welfare initiatives of public sector bank employees.

Based on the evidence presented in this organization, it can be inferred that employee retention and commitment to organizational objectives are influenced, in part, by welfare measures implemented within the organization.

Key words: employee welfare, holistic development

INTRODUCTION

In addition to the remuneration provided to employees in the form of salary, compensation, and remuneration, measures must be taken to ensure their social welfare and standard of living. In actuality, welfare is a comprehensive expression that encompasses a variety of services, facilities, and amenities designed to ensure that employees have a comfortable place to live. The primary objective of implementing welfare measures is to enhance the working conditions of employees; therefore, employers ought to undertake actions that fulfill the requirements of their staff.

OBJECTIVES

1. To ascertain the diverse employee welfare practices implemented at the Public Sector Banks of District Aligarh.

2. To examine the manner in which employee welfare benefits are provided to staff members at the Public Sector Banks of District Aligarh.

3. To assess the positive effects of employee welfare on employee productivity at the Public Sector Banks of District Aligarh.

REVIEW OF LITERATURE

1) Divya (2016) evaluated the welfare activities and working conditions provided to ARFA creations employees. Additionally, the level of employee satisfaction with regard to welfare facilities was assessed in this study.

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An Analytical Study of Human Resource Development in Private Sector Banks of Uttar Pradesh

(A Case Study of Aligarh District of Uttar Pradesh)

Anurag Shakya[1], Anupam Shakya[2], Anupama Verma[3]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Sri Babu Singh Daddu Ji Krishi Mahavidyalaya , Fatehgarh, Farrukhabad, UP
[3]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Jharkhand
Email: anurag.shakya@mangalayatan.edu.in

ABSTRACT

Human Resource Development is crucial for promoting employee development, improving organizational performance, and contributing to social progress. It is a crucial investment for firms seeking to flourish in a more competitive and dynamic commercial environment.

Present research paper based on primary and secondary data, primary data collected through questionnaire filled by the employees of HDFC and ICICI Bank of Aligarh district and secondary data collected through the internet, books, journals and other published materials.

Keywords: Human resource Development, Training and development, Career Planning , Performance appraisal, HDFC Bank, ICICI Bank.

1. Introduction

Human Resource Development:

Human Resource Development (HRD) is a specialized area of human resources management that focuses on improving the competencies, expertise, and capacities of personnel within a company. It involves a range of actions and procedures designed to enhance the performance of individuals and organizations. Several fundamental components of Human Resource Development (HRD) encompass:

Training and Development: Offering workers the chance to gain more expertise, information, and capabilities essential for their present positions or future professional progress. This encompasses both structured educational programs and casual learning experiences.

Performance Management involves the establishment of systematic procedures for defining performance objectives, delivering constructive feedback, and assessing employee performance. Performance management facilitates the identification of areas that need improvement and growth.

Career Development: Providing assistance to workers in strategizing and progressing their careers inside the business. This may include providing career guidance, mentorship, and activities for preparing future leadership transitions.

Talent Management refers to the process of attracting, maintaining, and developing highly skilled people who have the ability to make valuable contributions to the success of a business. Talent management encompasses the process of recognizing individuals with exceptional potential, offering them chances for growth and advancement, and ensuring that their career trajectory is in line with the objectives of the business.

Organizational Development involves the implementation of strategies and interventions aimed at improving the overall effectiveness and performance of the organization. These may include endeavors such as implementing change management strategies, fostering leadership development, and undertaking culture-building endeavors.

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Effect of Process Parameters on Deposition Rate in Saw (sub-merged arc welding) using Taguchi L9 Array

Avatar Singh Kuntal[1], Mohan Maheshwari[2], Asim Ahamad[3]
[1,2]Department of Mechanical Engineering, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand
Email: avtar.kuntal@mangalayatan.edu.in

Abstract

Submerged Arc Welding is one of the major welding processes in industry because of its inherent advantages, including deep penetration and a smooth bead. The research on controlling metal transfer modes in SAW process is essential to high quality welding procedures. Quality has now become an important issue in today's manufacturing world. Experiments are conducted using submerged arc welding process parameters viz. welding current, arc voltage and welding speed (Trolley speed) on steel plate IS2062, Gr.B of 10 mm thickness, to study the effect of these parameters on depth of penetration. The experiments are designed using Taguchi method (with Taguchi L9 orthogonal array) considering three factors and three levels.

Key words: Submerged arc welding, Process parameters, Taguchi method, IS2062, Gr.B.

1. Introduction:-

Submerged arc welding is a process capable of producing high output in the quality standards in a wide range of thicknesses for ferrous and stainless steels components. As the metal and the arc pool are totally under the cover of flux there is no radiation from the arc. The fumes and smoke from the process is minimal. Submerged arc welding owing to high deposition rate, excellent surface appearance, invisible arc and lower welder skill requirement proves versatile in the fabrication of pressure vessels, marine vessels, pipelines, steel mill rollers, offshore structures, etc. The present trend in the fabrication industries is the use of automated welding processes to obtain high production rates and high precision. Submerged arc welding is preferred over other methods of because of its inherent qualities like easy control of process variables, high quality, deep penetration, smooth finish, capability to weld thicker sections and prevention of atmospheric contamination of weld pool. With the growing emphasis on the use of automated welding systems, SAW is employed in semiautomatic or automatic mode in industry. The schematic diagram of the process shown in fig.1.

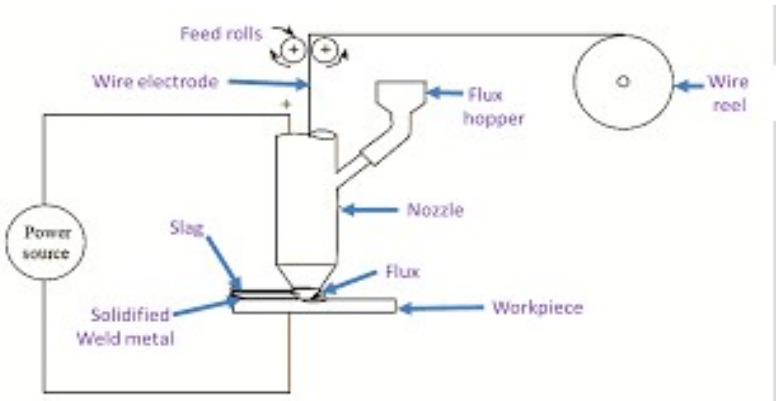

Figure: 1 Line diagram of SAW

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A Study on Training and Development and its Effectiveness in Banking Industries

Sidharth Jain[1], Nitin Kumar Agarwal[2], Dinesh Pandey[3], Prakash Divakaran[4], Prakash Mishra[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Associate Professor, TMIMT, Moradabad, UP
[3]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
Email: siddharth.jain@mangalayatan.edu.in

ABSTRACT

In this competitive world analysis and evaluation of training and development plays an important role in the competent and challenging format of business. In the changing phase of market all the organizations have the ultimate aim of any training program is to add value. Training and development is the nerve that suffices the need of fluent and smooth function of work which helps in enhancing the quality of work life of employees and organization development too. Training and developments is to impart and assist employees to function more effectively in their present position by exposing them to the latest consent, information and techniques and developing the skills they will need in their particular field and prepare them to occupy more responsible position. The society is moving towards a moneyless state and a plastic card society. Such a changing society demands a faster processing of funds with a least cost of quality of service is a critical factor in boosting the image of any banks. The evaluation of training and development try to upgrade their human resource by enhancing their level of knowledge, sharpen skills and by setting right kind of work environment. Employee training and development in banking sector is not only an activity that is desirable but also an activity that an organization must commit resources to if it has to maintain a viable and a knowledgeable workforce. Training is an attempt to improve the employee‟s performance on the current job or prepare them for an intended job. In other words training improves, changes, and moulds the employee‟s knowledge, skill, behavior, aptitude and attitude towards the requirement of job and organization. Thus training bridges the gap between the job requirements and employee‟s present specifications. The main aim is to assess the effectiveness of various facets like training and development exist in banks and their impact to generate efficiency of employees to cater to need of their customers, quality of training program, employee attitude towards training inputs, growth and results. The present paper explained that training and development is inevitable and unavoidable. Anyone can cope up with the existing challenges in the wake of severe competition with training and development only.

Keywords: Analysis and evaluation Training and development program, customers, banks, training effectiveness, quality work.

1. INTRODUCTION

Indian banking is the lifeline of the nation and its people. . Every bank has a dream to face this situation and emerge as victorious, but it is not as easy as one could imagine. People within many professions and occupations especially Banks can achieve their goals through an appropriate policy and practice regarding training and development of their human resources. Transformation in the Indian banking industry, ever increasing competition, fast moving and complex world of latest technology have compelled banks to think of and to adapt themselves to the changing banking environment. In banking sector, training and development is one of the important tools which transfer an employee to a better employee. banking sector may refer to this sort of training and development as professional development.

The main purpose of companies lavishly on such programmers with a view to attract to retain the best brains in industries. Training and development is deep rooted in every human activity, and it is as old as human society itself. Whenever human being has thought to create, doing, and mastering the technique, he/she has looked more

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The Significance of Communication in Improving the Employability of Women in Rural Regions: A Review

Akanksha Singh[1], Manjri[2], Lopamudra Satapathy[3], Jagriti Upadhyay[4], Joram Yari[5]

[1]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Assistant Professor, Department of Agriculture, SGT University, Gurgaon-Badli Road, Chandu, Budhera, Gurugram, Haryana
[3]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh
[5]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh
Email: singh.akanksha050619@gmail.com

ABSTRACT

Communication is a dynamic and interactive process wherein multiple individuals engage in a continuous exchange of messages. Within this process, one person assumes the role of the speaker, transmitting messages, while the other person acts as the listener, receiving and reacting to these messages. The communication process persists through the ongoing transmission and reception of messages. Communication can be defined as conveying information, thoughts, emotions, attitudes, opinions, and behavioral patterns from one individual to another through a relationship between the sender and receiver, intending to facilitate an exchange. Furthermore, communication can also refer to the relationship or dialogue that is established through mutual speaking, fostering intellectual closeness between individuals.

Key Word: Communication, Employability

INTRODUCTION

Effective communication plays a pivotal role in the dissemination of information within the agricultural sector. The advancement of agriculture necessitates the timely and systematic transmission of pertinent agricultural information from the technology generation system (source) through various communication channels to the intended audience (receiver). It is imperative that the feedback loop is completed, whereby the client's behavioral changes resulting from the received message (effect) are relayed back to the source (feedback) to ensure the efficacy of the communication process (Adebayo, 1997). Age (2010) defines communication as a process wherein participants create and share information with one another to achieve mutual understanding. This interactive process emphasizes the interpretation and comprehension of information over time.

Communication comprises four crucial elements: source, message, channel, and receiver (as illustrated in the figure). The source refers to the origin of the idea. The message pertains to the information or idea that needs to be conveyed. The channel denotes the medium through which the information or idea is transmitted. The receiver is the intended recipient of the message.

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An Empirical Study on Artificial Intelligence Impacts on Human Resource Management with Reference to IT Employee

Mohammad Arsalan Ahmad[1], Sephalika Sagar[2], Nyarik Geyi[3], Prakash Mishra[4]
[1]Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Department of Management, Mangalayatan University, Jabalpur
Email: arsalan.ahmad@mangalayatan.edu.in

Abstract

The landscape of (HRM) has seen a substantial transformation in recent years due to the integration of Artificial Intelligence (AI) into numerous business processes. The advent of AI technologies has revolutionized the traditional recruitment process by automating resume screening, candidate sourcing, and even conducting initial interviews. This efficiency not only reduces the time and cost associated with recruitment but also enhances the accuracy of candidate selection through data-driven insights. Performance management has also undergone a paradigm shift with AI, as it enables real-time tracking of employee performance through data analytics. Predictive analytics assists HR professionals in identifying potential issues, allowing for proactive interventions and personalized development plans. The incorporation of AI in decision-making processes within HRM introduces objectivity and data-driven insights. AI algorithms analyze vast datasets to derive patterns, aiding in strategic workforce planning, talent management, and diversity and inclusion initiatives. While the integration of AI in HRM offers numerous advantages, challenges such as ethical considerations, data privacy, and the potential for bias must be addressed. Striking a balance between automation and the human touch is crucial to maintaining the empathy and interpersonal relationships integral to HR functions. In conclusion, the impact of AI on HRM is profound, reshaping traditional practices and paving the way for a more data-driven, efficient, and strategic approach to managing human capital. As organizations navigate this transformative journey, it is imperative to adopt AI responsibly, ensuring a harmonious coexistence of technology and human expertise in the HR domain.

Keywords: *Employee Training, Quick Deployment of AI Solutions, Innovation and Adaptability and HRM*

Introduction

In the current competitive environment, human resources are a necessary asset for enhancing organisational success. Organizations need to put advanced HR ideas into practice if they want to beat their competitors and boost productivity. Traditional HR methods may soon give way to more advanced HRM strategies integrating automation, augmented intelligence, robotics, and artificial intelligence. AI has the power to alter our lives, as seen by its successes. AI has the potential to drastically alter both our personal and professional lives. It can automate laborious and repetitive tasks while also enhancing and amplifying human potential. An increasing amount of HR data is being produced in the cloud by humans and learning machines collaborating, and using artificial intelligence analysis provides improved understanding of how to implement and function. This document offers information about intelligent automation using the technology-neutral Chabot and focuses on conversational AI capabilities for HR transactions. The use of AI in HRM and recruiting has given rise to what is known as "the new age of HR," since it has replaced mundane duties previously carried out by human recruiters in the recruitment process. The research aimed to cultivate a pragmatic comprehension of the favourable and unfavourable employee encounters resulting from the integration of artificial intelligence (AI) and the generation of technological stress.

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Analysis of Weld Defects Using Non-Destructive Testing (NDT) Techniques: A Comprehensive Review

Avatar Singh Kuntal[1], Mohan Maheshwari[2], Asim Ahamad[3]

[1,2]Department of Mechanical Engineering, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand
Email: avtar.kuntal@mangalayatan.edu.in

ABSTRACT:

In many different sectors, welding plays a vital role in guaranteeing the structural soundness and operational efficiency of integrated parts. On the other hand, weld flaws have the potential to severely impair the welded joints' dependability and quality. Techniques for non-destructive testing, or NDT, are essential for identifying and characterizing weld faults without endangering the welded structure. The NDT techniques used for weld defect analysis—radiographic testing (RT), ultrasonic testing (UT), magnetic particle testing (MPT), liquid Penetrant testing (LPT), eddy current testing (ECT), and visual inspection—are thoroughly reviewed in this work. Every technique's foundations, benefits, drawbacks, and uses are covered. Additionally, new developments and trends in nondestructive testing (NDT) technology for weld defect analysis are examined, emphasizing the possibility for enhancing defect detection sensitivity, accuracy, as well as effectiveness. To illustrate the usefulness of NDT techniques in locating and assessing several kinds of weld defects, including porosity, fractures, lack of fusion, and undercutting, case studies and experimental data are also provided. In order to assure dependable and economical inspection of welded structures, standard operating procedures, cutting-edge instruments, and improved training programs are crucial. Finally, obstacles and future directions in the field of NDT for weld defect analysis are highlighted.

Keywords: Welding, Weld Defects, Non-Destructive Testing (NDT), Radiographic Testing, Ultrasonic Testing, Magnetic Particle Testing, Liquid Penetrant Testing, Eddy Current Testing, Visual Inspection, Defect Detection, Quality Assurance.

1. INTRODUCTION: - Welding is a basic joining technique that is widely used to produce structures and components in a variety of industries, including industrial, aerospace, automotive, and construction. To create a solid and continuous junction, materials, usually metals, are fused together or solid-state bonded. Although there are many benefits to welding, including cost-effectiveness, efficiency, and versatility, the quality and integrity of welded joints are crucial for guaranteeing the dependability and safety of engineered goods and structures.

1.1 Non-Destructive Inspection (NDI) Techniques known as Non-Destructive Inspection (NDI) are essential for evaluating the quality of welds without endangering the welded components. The term "nondestructive inspection" (NDI) refers to a group of techniques that make it possible to identify, describe, and assess discontinuities, flaws, and internal and external faults in welded joints and other materials. Throughout the welding process, from fabrication to in-service inspection, these methods are crucial for quality control, defect detection, and structural integrity evaluation.

The integration of welding and NDI technologies enables manufacturers and inspectors to ensure that welded components meet stringent quality standards and regulatory requirements. By employing NDI techniques, defects such as cracks, porosity, lack of fusion, incomplete penetration, and undercutting can be detected and quantified, facilitating timely corrective actions and preventing catastrophic failures.

This paper presents an overview of welding methods, such as gas welding, resistance welding, and arc welding, emphasizing the fundamentals, practical uses, and critical variables that determine the quality of the weld. We also

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Socio-Cultural Factors and Their Profound Impact on Language Learning: A Comparative Study

Preeti Pankaj Gupta[1], Prakash Chandra Panda[2], Tana Nutul[3], Vineeta Kaur Saluja[4]

[1]Department of Arts, Mangalayatan University, Aligarh, U.P.
[2]Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand, India
[3]Department of English, Himalayan University, Itanagar, Arunachal Pradesh
[4]Department of English, Mangalayatan University, Jabalpur, MP
Email: preeti.gupta@mangalayatan.edu.in

Abstract:

This extensive article delves into the intricate relationship between socio-cultural factors and language learning, conducting a thorough comparative study among diverse populations. Recent research highlights the profound influence of societal norms, cultural values, and educational systems on the multifaceted process of language acquisition. Drawing upon socio-cultural theory and recent empirical studies, this research sheds light on the nuanced interplay between socio-cultural elements and language learning, providing valuable insights for educators, policymakers, and practitioners in the ever-evolving field of language teaching.

Keywords: socio-cultural factors, language learning, comparative study, cultural influences, education, language acquisition

Introduction:

Language learning, a complex and multifaceted process, is significantly shaped by socio-cultural factors. Recent studies underscore the pivotal role of the socio-cultural environment in which individuals are immersed, influencing their language acquisition journey. This article aims to provide a comprehensive exploration and comparison of these socio-cultural influences on language learning, incorporating recent findings to contribute to the evolving discourse on effective language teaching strategies.

Theoretical Framework:

Socio-cultural theory, particularly Vygotsky's socio-cultural perspective and cultural-historical activity theory, serves as the theoretical foundation for this research. Recent studies by Johnson and Brown (2022) and Li et al. (2021) have delved into the impact of societal and cultural elements on language learning, guiding the exploration of how recent developments in social interactions, cultural norms, and educational structures significantly influence language acquisition.

Methodology:

Utilizing a mixed-methods approach, this comparative study integrates recent qualitative and quantitative data collection methods. Surveys, interviews, and observational studies conducted across diverse cultural settings provide comprehensive insights into the latest socio-cultural factors affecting language learning. Recent studies by Thompson et al. (2023) and Chen and Wang (2022) inform the selection of sample populations from contrasting socio-cultural backgrounds, facilitating a robust comparative analysis.

Societal Norms and Language Acquisition:

Recent research by Smith and Jones (2020) emphasizes that societal norms and values significantly impact language learning. The degree of importance placed on language proficiency within a society, as highlighted by recent studies (Brown et al., 2021), shapes an individual's language learning experience. Furthermore, recent findings by Garcia and Rodriguez (2022) delve into societal attitudes towards multilingualism and how language policies within a society contribute to language learning trajectories.

Cultural Values and Language Acquisition:

Recent studies by Kim and Park (2021) have explored how cultural values, such as collectivism versus individualism, influence communication styles and attitudes towards authority, thereby impacting language

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In Vivo Anti Diuretic Activity of Aqueous and Alcoholic Extract of *Boerhavia Diffusa* in Albino Wistar Rats

Rajkumar[1], Abdul Wadood Siddiqui[2], Divya Shikha[3], Abhishek Pandey[4]
[1]Assistant Professor, Mangalayatan Institute of Pharmaceutical Education and Research, Mangalayatan University, Aligarh, UP
[2]Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: rajkumar.sop@mangalayatan.edu.in

ABSTRACT

Ayurveda aims for a holistic man with sharp intellect which can pierce in to the hidden truths of nature, and a heart concerned about the fellow beings, well supported with a physical efficiency to perform duties properly. The most ancient scriptures and the reference point of Indian life are Vedas. [1]

The aim and subject of many researchers is the discovery and development of isolating a new efficient, active and less toxic molecule for systemic activities. The biologically active agents from natural sources have always been of great interest to working on various diseases[2].

Tribal community is using their traditional knowledge system to cure different diseases. They use plant as a source of drug through trial and error method and the process is experienced over hundreds of years, which says that the medicinal plants have been in the focus as lifesaving drugs right from the beginning of the human civilization. The medicinal plants have been the object of research in both systematic and advanced areas of plant sciences[3]

Antidiuretic hormone (ADH), also called vasopressin for its pressor effect, is a regulatory hormone secreted by the posterior pituitary in response to increased serum osmolality. ADH is actually synthesized in the hypothalamus, mostly in the supraoptic nuclei, though one-sixth can be synthesized by the paraventricular nuclei. ADH is then transported down the hypothalamic-hypophysial tract and is stored in large granules in the nerve endings of the posterior pituitary (Neurohypophysis). ADH is released when nerve impulses from the supraoptic and paraventricular nuclei are stimulated by osmotic changes in the plasma. Release is immediate from the nerve endings by exocytosis and is then absorbed into the adjacent capillaries

1.INTRODUCTION

Ayurveda aims for a holistic man with sharp intellect which can pierce in to the hidden truths of nature, and a heart concerned about the fellow beings, well supported with a physical efficiency to perform duties properly. The most ancient scriptures and the reference point of Indian life are Vedas. Ayurveda is an offshoot of Vedas. The umbilical cord connection of Ayurveda with the Vedas explains its strong philosophical basement. Earlier Ayurveda was taught in Gurukuls where the disciples stay serving their guru learning both theory and practical of life in a very organic way. Life is a journey.

To avoid the wrong doings of the past, memory has to be intact. So Prajnaparadha remains the reason behind all the reasons that cause diseases. Apart from this, environmental and genetical reasons of disease are also recognized by Ayurveda. In all diseases in spite of varying reasons, the basic reason is the imbalance of Tridosha and the treatment principle is to bring back the normalcy. The disease can manifest as somatic, psychiatric, or psycho somatic. Based on the diuretic action of calomel, organomercurials given by injection were introduced in the 1920s and dominated for nearly 40 years. The CAse inhibitors were developed in the 1950s from the obsenation that early sulfonamides caused acidosis and mild diuresis. The first modern orally active diuretic clzlorothiazidc was discovered in 1957, and by early 1960s its congeners (thiazide diuretics) were

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Impact of Digital Marketing on Consumer Buying Behaviour of Furrkhabad District U.P.

Anurag Shakya[1], Anupam Shakya[2], Dinesh Kumar Pandey[3]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Sri Babu Singh Daddu Ji Krishi Mahavidyalaya , Fatehgarh, Farrukhabad, UP
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Jharkhand
Email: anurag.shakya@mangalayatan.edu.in

ABSTRACT
Digital marketing encompasses the use of digital channels, platforms, and technology to advertise and establish connections with consumers and potential clients in order to promote goods, services, or brands. It involves a range of online methods and plans designed to connect with and involve certain audiences via the internet and electronic gadgets.Digital marketing encompasses the use of digital channels, platforms, and technology to advertise and establish connections with consumers and potential clients in order to promote goods, services, or brands. It includes a range of online methods and plans designed to attract and captivate certain audiences via the internet and electronic gadgets.
Consumer buying behavior encompasses the choices and behaviors that customers engage in while acquiring products or services. It includes several elements that impact customers' choices on when, where, and why to make purchases. Comprehending customer purchasing behavior is essential for organizations to efficiently promote and vend their items or services.
After analyzing data It was concluded that the how digital marketing affect consumer buying behaviour of Furrkhabad district U.P.

Keywords: Digital marketing, Social media marketing, Video Marketing, Consumer buying behaviour.

1. Introduction

A.Digital Marketing:

The term "digital marketing" describes the practice of reaching out to potential buyers and existing consumers via various online mediums. It includes a wide range of techniques and methods tailored to the internet and electronic devices with the goal of reaching and engaging certain audiences.

Digital Marketing Essentials:

Web page: An integral part of any digital marketing strategy, a website allows companies to display their wares, provide useful information, and interact with customers.
Search engine optimization, or SEO, is the practice of enhancing a website's visibility in search engine results in order to attract more natural, unpaid visitors.
material marketing is the process of attracting and retaining a targeted audience via the production and distribution of high-quality, regularly updated material with the goal of generating a profit.
Advertising on social media sites like Facebook, Instagram, Twitter, LinkedIn, etc. in order to reach a wide demographic, spread the word about a product or service, and ultimately increase sales and engagement.
Marketing via email entails contacting potential consumers, keeping existing ones, and encouraging them to buy from you again and again through the use of personalized messages and promotional material.
Ads on search engines (like Google Ads) and social media platforms (like Facebook Ads) often employ a pay-per-click (PPC) model, where advertisers pay a charge whenever their ad is clicked.
Advertisements that are shown to a larger audience on websites, apps, or social media platforms might take the shape of banner advertising or other graphical ads.

With affiliate marketing, you may form partnerships with other companies or people to promote your goods and services. In return, you can get a fee for every sale or lead they bring in.

The term "video marketing" refers to the practice of promoting goods and services via the creation and distribution of moving images and sound files, often through online video sharing sites like YouTube or social media.

Marketing to those who use mobile devices; this includes using text message marketing, mobile applications, and

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The National Education Policy (NEP) of 2020 in the Context of an Interdisciplinary and Holistic Approach to Education

Sanjay Pal[1], Sandip Paul[2], Jadab Dutta[3]
[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Education, Himalayan University, Itanagar, Arunachal Pradesh
Email: sanjay.pal@mangalayatan.edu.in

Abstract
The Indian government just implemented the National Education Policy 2020. The strategy seeks to implement a significant overhaul in the realm of higher education in India, with the objective of fundamentally altering the existing paradigm. Throughout history, it has been observed that the educational methods used in higher education have shown to be inefficient in effectively addressing certain challenges, particularly those pertaining to multidisciplinary and holistic approaches, advancements in research, and the organisation of degree programmes. In order to achieve optimal results in the realm of creativity, it is imperative to formulate an educational strategy that explicitly prioritises the development of critical thinking, cultivation of decision-making abilities, and enhancement of problem-solving skills. The implementation of a comprehensive educational framework that integrates several disciplines and adopts a holistic approach is vital in facilitating the all-encompassing growth and development of an individual. To achieve a leadership position in the global arena, it is imperative for India to persist in preserving its rich historical legacy of interdisciplinary and comprehensive education, which has evolved from the past and continues to be relevant in the 21st century. The 2020 National Education Policy (NEP) places significant emphasis on the integration of flexible and innovative curricula into value-based education, environmental education, and community engagement and service. The National Education Policy (NEP) places emphasis on the revision of degree programme durations and the implementation of multiple entry-exit options for students. The establishment of the National Research Foundation (NRF) has been established by the National Education Policy (NEP) with the aim of enhancing the quality and quantity of research conducted at Higher Education Institutions (HEIs). The principal goal of the National Research Foundation (NRF) is to bolster research endeavours through the provision of financial assistance for research initiatives and the facilitation of partnerships between the corporate and academic sectors. The principal aim of the National Education Policy (NEP) 2020 is to institute a sophisticated and all-encompassing educational framework in India that is specifically designed to address the demands of the present age. The integration of an interdisciplinary and holistic approach is a critical component of the National Education Policy of 2020 (NEP-2020) for higher education institutions (HEIs). The objective of this technique is to offer learners a comprehensive education that surpasses the limitations imposed by conventional academic boundaries. In addition, the NEP-2020 proposes the establishment of the National Scientific Foundation (NRF) as a means to promote scientific endeavours.

Introduction

The National Education Policy (NEP) 2020 is an all-encompassing policy framework designed to facilitate a significant restructuring of the Indian education system. The strategy emphasizes the development of a multidisciplinary approach in the realm of education as a crucial component.

Prior to commencing the examination of the subject matter, it is imperative to recognize the foundational inquiry: "What is the precise definition of multidisciplinary education?"

Multidisciplinary education involves the implementation of an instructional approach that amalgamates numerous academic fields, thereby cultivating a holistic and cohesive environment conducive to the acquisition of knowledge. The primary objective of this curriculum is to cultivate a comprehensive comprehension of the interdependencies that exist among various academic disciplines and the potential of these links to enhance problem-solving capabilities. The integration of interdisciplinary education into educational institutions, such as

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Evaluating the Factors Influencing the Choice of Digital and Social Media Marketing Strategies

Shalu Agrawal[1], Shabana Bano[2], Yibom Bagra[3], Ankit Khare[4], Salima Bhattarai[5]
[1]Assistant Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP
[2]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: shalu.agrawal@mangalayatan.edu.in

ABSTRACT
Digital and social media platforms have become integral components of modern marketing strategies, offering unparalleled opportunities for businesses to connect with their target audiences. As reported, social media marketing has been growing over the recent five years and is predicted to be exponentially growing in the future. However, despite the huge promise and intention to adopt social media marketing strategies by organisations, there remain challenges regarding the successful implementation of these new marketing programme. However, the effectiveness of digital and social media marketing strategies relies heavily on various factors that influence their selection and implementation. This paper aims to evaluate these factors, including technological advancements, consumer behavior, competitive landscape, organizational resources, and regulatory considerations. By examining these influences, businesses can make informed decisions to optimize their digital and social media marketing efforts and achieve their objectives efficiently.

Keywords: Digital marketing, Social media marketing, Factors, Strategy, Influence

INTRODUCTION
The development of digital technology and the widespread use of social media sites have changed the way marketing is done. More and more, businesses are using digital and social media to connect with their ideal customers, advertise their goods and services, and increase sales. However, the success of digital and social media marketing strategies depends on a number of things that affect how they are chosen and used. In the digital age, companies need to understand these factors in order to come up with and use effective marketing strategies.

Improvements in technology
New technologies are one of the main things that affects the choice of digital and social media marketing tactics. Digital technologies and social media platforms are changing quickly, which is always changing the marketing landscape and giving companies new chances and problems to solve. New technologies like artificial intelligence (AI), augmented reality (AR), and virtual reality (VR), for example, offer creative ways to keep people interested and give them a unique experience. To stay competitive in the digital world, businesses need to keep up with changes in technology and make the necessary changes to their marketing plans.

How Consumers Act
Digital and social media marketing tactics are heavily influenced by how people act online. To make interesting material and send relevant messages through digital channels, you need to know what your target audiences like, what they need, and how they act. Marketers choose the channels, content formats, and engagement strategies they use based on things like demographics, psychographics, and buying habits. The popularity of social commerce and influencer marketing also shows how important it is to make sure that marketing strategies are in

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Phytochemical Analysis and Medical Benefits of *Ocimum sanctum* (*Tulsi*)

Neha Singh[1], Rupsa Seth[2], Brishnendra Mishra[3]

[1]Associate Professor, Mangalayatan Institute of Pharmaceutical Education and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: neha.singh@mangalayatan.edu.in

Abstract

Ocimum sanctum, a fragrant member of the Lamiaceae family of plants, is also referred to as holy basil or *Tulsi*. It is frequently used as medication to treat a variety of illnesses. The study's goal was to examine the various phytochemical components found in *Tulsi* leaves. Since the dawn of time, humans have used plants as a source of medical substances. *Tulsi*'s principal chemical components include oleanolic acid, ursolic acid, rosmarinic acid, eugenol, carvacrol, linalool, and β-caryophyllene. It has long been a popular ingredient in food items, cosmetics, and dental and oral hygiene products. Anticancer, antifungal, antibacterial, antifertile, hepatoprotective, antispasmodic, cardioprotective, antiemetic, antidiabetic, analgesic, adaptogenic, anti-inflammatory, and diaphoretic qualities are just a few of the many health advantages of *Ocimum sanctum Linn.*
Keyword - — *Ocimum sanctum*, phytochemical, medicine, Plant, Phytoconstituent

Introduction:

The aromatic herb known as holy basil, or *Tulsi* (*Ocimum sanctum*), has therapeutic and restorative qualities. In India, it is considered a sacred herb and is grown in gardens, homes, and temples alike. With four branches, it can reach a height of one to one and a half metres. The leaves are opposite to one another, 2-4 cm long, and have hair on both surfaces. The margins of the leaves are either whole or serrated. *Tulsi* has tiny, purple flowers with an inflorescence that grows 12–14 cm long. *Tulsi* produces smooth, small-sized nuts as fruits [1]. Numerous illnesses, including mental illness, fever and cough, gastrointestinal disorders, issues with bones and joints, diseases of the eyes and other visual organs, ringworm, insect bites Malaria, snakebite, and scorpionbite [2]. *Ocimum sanctum* is grown in Southeast Asia and India, which has the world's greatest supply of medicinal plants. [3] Herbs have the ability to be therapeutic for an individual's health. The need for this plant for medical purposes is growing daily. *Tulsi* contains antimicrobial properties that include antiviral, antifungal, antibacterial, antiprotozoal, and antimalarial properties. It can also be used to eradicate mosquitoes [4]. It is anti-oxidant, anti-inflammatory, anti-cataract, anti-radiation, beneficial for the liver, nerves, and heart, anti-carcinogenic, immune system, central nervous system, and memory, and it treats thyroid and asthma. It also resolves problems with conception. [5].

Tulsi contains natural substances in addition to carbohydrates, proteins, and lipids, such as terpenoids, alkaloids, glycosides, tannins, flavanoids, etc. and essential oils. An essential component in the management and treatment of illnesses is played by herbal medicine [6].In India, holy basil is one of the most revered and consumed herbs. In the Lamiaceae family of plants, the Ocimum genus has over 60 species. *Tulsi* can be broadly classified into two groups. Ocimum basilicum, or Mediterranean basil, and Ocimum sfântum, or holy basil [7].The plant is widely adaptable and may be cultivated in tropical and subtropical regions. It is sufficiently hard and can be grown on any type of soil, with the exception of extremely alkaline, saline, or water-logged situations. [8].Many scientists have recently examined the potential medical benefits of specific *Tulsi* parts on the human immune system, reproductive system, central nervous system, heart, and other systems [9].While there are several varieties of *Tulsi*, the most popular ones are Thai, Lemon, Rama, Krishna, and American basil [10].Compared to other types, Rama *Tulsi* has pure green leaves and is more resilient to winter and sunlight. It is referred to as "The Queen of Herbs" and is native to Malaysia, Sri Lanka, and India. On the other hand, Krishna *Tulsi* is more

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Relevance of Mahatma Gandhi's Educational Philosophy in India in Context to NEP-2020

Ram Kumar Pathak[1], Prakash Chandra Panda[2], Jadab Dutta[3]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Education, Himalayan University, Itanagar, Arunachal Pradesh
Email: ram.pathak@mangalayatan.edu.in

Abstract:

This research article examines the relevance of Mahatma Gandhi's educational philosophy in the context of the National Education Policy (NEP) 2020 in India through a comparative analysis. Mahatma Gandhi's educational ideals, emphasizing holistic development, empowerment, experiential learning, sustainability, community engagement, and ethical values, are juxtaposed with the principles and provisions outlined in NEP 2020. particularly in areas such as holistic development, experiential learning, and ethical education. However, challenges in implementation and opportunities for further integration of Gandhian principles into educational policy and practice are also identified. The implications of this comparative analysis for educational policy.
Keywords: Mahatma Gandhi, educational philosophy, National Education Policy 2020, holistic development, empowerment, experiential learning, sustainability, community engagement, ethical education.

Introduction

Mahatma Gandhi, revered globally as a pioneer of nonviolent resistance and social reform, also left a profound legacy in the realm of education. His educational philosophy, deeply rooted in principles of morality, simplicity, and holistic development, continues to resonate with educators and policymakers worldwide. In India, the land of his birth and the canvas for many of his social experiments, Gandhi's ideas on education hold particular significance.

Gandhi envisioned education not merely as a means to acquire knowledge but as a transformative force capable of nurturing individuals into morally upright, socially responsible, and self-reliant citizens. Central to his philosophy was the belief in the integral development of body, mind, and spirit, with an emphasis on character-building and practical skills alongside academic learning. Through his educational experiments at institutions like Tolstoy Farm and Wardha Ashram, Gandhi demonstrated the efficacy of his approach, which prioritized manual labor, community service, and ethical conduct.

In contrast, the National Education Policy (NEP) 2020 represents the latest attempt by the Indian government to overhaul the country's education system to meet the needs of the 21st century. Embracing principles of flexibility, inclusivity, and multidisciplinary, NEP 2020 aims to transform the educational landscape from one focused on rote memorization and examination-centric learning to one that fosters critical thinking, creativity, and holistic development.

However, amidst the aspirations and reforms outlined in NEP 2020, questions arise regarding its alignment with the timeless wisdom embodied in Gandhi's educational philosophy. Does NEP 2020 adequately reflect Gandhi's emphasis on moral education and character development? Does it prioritize experiential learning and community engagement, as advocated by Gandhi? How effectively does NEP 2020 address the concerns of equity and social justice, central to Gandhi's vision of education as an instrument of social change?

This research seeks to explore these questions by conducting a comparative analysis of Mahatma Gandhi's educational philosophy and the provisions outlined in NEP 2020. By examining the convergence or divergence between these two frameworks, this study aims to elucidate the relevance of Gandhi's ideas in shaping contemporary education policy and practice in India. Ultimately, it seeks to contribute to ongoing discussions on educational reform by drawing insights from the timeless wisdom of one of India's greatest visionaries.

Alignment of Gandhi's Educational Philosophy with NEP 2020

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A Recent Update on Phytochemistry and Pharmacological activity of *Anogeissus latifolia* plant

Suneel Kumar[1], Dashrath Singh[2], Harish Kumar Singh[3]
[1]Assistant Professor and Research Scholar, Mangalayatan Institute of Pharmaceutical Education and Research, Mangalayatan University, Aligarh, Uttar Pradesh, India
[2]Professor, Department of Pharmacy, IBMER, Mangalayatan University, Aligarh, Uttar Pradesh, India
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
Email: suneel.ksingh@mangalayatan.edu.in

Abstract:
Reviewing existing pharmacological activity and phytochemistry of *Anogeissus latifolia* was the goal of the current investigation. It is frequently found in hill forests in the Barsana Mathura region of Uttar Pradesh, India. This plant has a high concentration of terpenoids and flavanoids, which gives it a significant potential for antioxidant activity. The pharmacological effects of this plant, including its antibacterial, ulcer-healing, Anti-inflammation Activity and Anti Pyretic activity**,** Antidiabetic activity, Heart disease, Snake and scorpion bites Activity and Kidney Protectives have been studied. Additionally, this plant creates a gum exudate known as ghatti gum, which is widely utilised as a polymer in the drug development process. Recently, the gum's anti-hyperlipidemic properties have been demonstrated.

KEY WORDS: *Anogeissus latifolia*, Pharmacological activity, Phytochemistry, Dhava leaf.

Introduction

Anogeissus latifolia, a member of the *Combretaceae* family, is a significant species of multifunctional tree. The tree is also known as ghatti gum or axle wood. It is a straight, cylindrical, medium- to large-sized tree with a height of up to 36 m. a sizable tree that is common in Indian deciduous forests. It is one among the more useful trees since it has medicinal value, provides wood for fuel, is used to make agricultural equipment, and its leaves and bark may be used to make leather. The plant is traditionally used as medicine to treat a wide range of human illnesses and conditions, antioxidant, anti-microbial, anti-cancer, anti-diabetic[2], including heart disease[3], anticonvulsants[4], snake and scorpion bites[1],and kidney disorders[5]. One of the constituents in various Ayurvedic compositions is *A. latifolia* stem bark is one of the components of the Ayurvedic medicine Ayaskrti. Salicylic acid and morphine, two significant analgesic prototypes that have been used for centuries to treat pain, were originally obtained from plant sources. These plants provide the secondary metabolites needed for the creation of health care products for the majority of pharmaceutical enterprises. The phytochemical components found in the crude plant extracts are known as secondary metabolites.[2]

Fig.1- *Anogeissus latifolia* Plant

Chemistry of *Anogeissus latifolia*

Recent research studies have demonstrated that *Anogeissus latifolia* comprises a wide range of chemical substances. AL contains a wide variety of chemical compounds, which is shown by research papers published recently. This plant contains different type of triterpenoids like 3-β-hydroxy-28-acetyltaraxaren and β-sitosterol

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Formulation and Evaluation of Mucoadhesive Microspheres of Atenolol for Nasal Delivery

Rahul Singh[1], Abdul Wadood Siddiqui[2], Rojalini Samanta[3], Ananga Mohan Das[4], Pranal Chhetri[5]

[1]Assistant Professor, Mangalayatan Institute of Pharmaceutical Education and Research, Mangalayatan University, Aligarh, UP
[2]Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: rahul.singh@mangalayatan.edu.in

Abstract: The study aims to develop a formulation of Atenolol for the nasal drug delivery system with consideration to parameters required for nasal administration, to get maximum utilization and efficacy of the drug also delivery of the drug in case of emergency. The use of Atenolol in conventional dosage form possesses several disadvantages, as the absorption in the GI tract is low, hence low bioavailability requires a large amount of dose and has to pass first-pass metabolism. This encourages us to formulate the dosage form with Atenolol as a novel drug delivery which will show maximum potential utilization of the Atenolol. The in vitro studies of microspheres were performed. The scattering electron microscopy (SEM), study was also performed. The SEM demonstrated spherical particles with rough surfaces. The mean particle size increased with the increase in polymer concentration. The adhesive force of microspheres was equivalent to that of Eudragit RL 100. The results indicate that Atenolol solvent evaporation microspheres formulated with HPMC are a promising nasal delivery system.

Keywords: Microspheres, Atenolol, Eudragit RL 100, HPMC, Mucoadhesive.

1. INTRODUCTION:

DRUG DELIVERY SYSTEM

The determination of delivery system relies on the medication getting utilized, proposed indication, affected person populace, and closing but not least, promoting inclinations. Drugs delivery structures that can precisely manage the discharge fees are goal medicine to the explicit body website have a massive sway on the fitness care device. In current years, provider generation offers a smart approach for medicate conveyance by coupling the medication to a service molecule along with microspheres, nanoparticles, liposomes, and so forth, which adjusts the discharge and surface assimilation traits of the medicament Microspheres represent a critical split of this particular drug delivery gadget to using excellence in their minor length or green bearer traits.

To NDDS basically consists of the drug in opposition to the causative agent of the sickness being treated and a provider machine into which the drug is loaded and transported to the site of action. Efforts now are being made to plan companies which could carry multiple pills and launch them on command.

MUCOADHESIVE MICROSPHERES

Macropartical at small particles, with diameters inside the micrometre range (usually one μm to one thousand μm). Microspheres are occasionally called macropartical. Microsphere could to make from different herbal medicinal source substances. There are commercially available glass microspheres, polymer microspheres, and ceramic microspheres. Solid and hole microspheres range extensively on decrimination, used to exclusive programs. Empty microspheres are commonly used in components of decrease the thickness of a material. Strong microspheres have various applications relying of that cloth these may be built of and what are they size

MECHANISM OF DRUG RELEASE

Hypothetically, the charge of drug launch from the biodegradable as microspheres may be categorized widely into four classifications. Be that as it may, in genuine exercise, the mechanism is greater complicated, and interaction of different mechanism can also function. The discharge profile from the microsphere relies upon these character for polymers used within these instruction as on for character of dynamic medication

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Oscillations of Solar, Geomagnetic Activity and Cosmic-Ray Intensity During Solar Magnetic Cycles

Yatendra Pal Singh[1], Nanda Shakti[2], Praveen Bhatt[3], Rahul Solanki[4]

[1]Professor, Institute of Applied Sciences, Mangalayatan University, Aligarh, U.P.

[2]Assistant Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand

[3]Associate Professor, Department of Physics, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Physics, Sikkim Professional University, Gangtok, Sikkim

Email: yatendra.singh@mangalayatan.edu.in

Abstract Short- and mid-term oscillations of the solar activity, geomagnetic activity and cosmic-ray intensity are analysed during the two solar-magnetic cycles. We have implemented the wavelet analysis on the daily time resolution data of sunspot number, solar flux, geomagnetic Ap index and Oulu neutron monitor count rate. We observed fundamental periods, like 27 day (synodic period), 154 day (Rieger period), semi-annual, annual, 1.3 year, and 1.7 year. We have consistently observed first (27 day), second (13.5 day) and third (9.0 day) solar-rotation harmonics in the geomagnetic Ap-index during both the magnetic cycles. Rieger period is more pronounced in SSN and solar flux during 1980-82 and 1990-92. Semi-annual variation of Ap-index consistently observed during both the magnetic cycles. The annual and ~1.85 year variation are also observed in all the considered parameters with good signatures in CRI.

1. Introduction

The variations of cosmic ray particles are reported e.g. by Maeda (1967), Akioka et al. (1987), Hill, Hamilton, Krimigis (2001), Rybak, Antalova, and Storini (2001), Kudela et al. (2002), Mavromichalaki et al. (2003), Usoskin et al. (2008), Singh, Gautam, and Badruddin (2012), Modzelewska and Alania (2013), Potgieter (2014), Singh and Badruddin (2015a, 2015b), Aslam and Badruddin (2015), Badruddin and Kumar (2016), Kudela and Sabbah (2016). Rieger et al. (1984) reported periodicities in solar flares and Mclntosh et al. (1992) examined in coronal observations. Variations of solar wind parameters are reported by many researchers e.g. Mursula and Zieger (2000), Nayar et al. (2002), Valdes-Galicia and Velasco (2008), Chowdhury and Dwivedi, (2011), Katsavrias et al. (2012), Singh, Gautam, and Badruddin (2012), Singh and Badruddin (2014), Chowdhury et al. (2015), while the oscillations of geomagnetic indices are reported by Gonzalez et al. (1993), Paularena, Szabo, and Richardson (1995), Nayar et al. (2002), Mursula, Zieger, and Vilppola (2003), Singh and Badruddin (2014), Chowdhury et al. (2015) and many others. These oscillations may be classified in three categories, short-term (equal to and less than 0.6 year), mid-term (0.6 – 4 years) and long-term (greater than 4 year) oscillations. The mid-term periodicities are also referred to as intermediate quasi-periodicities (Lou et al. 2003; Valdes-Galicia and Velasco 2008; Kudela et al. 2010) or quasi-biennial oscillations (QBOs) as reported by Bazilevskaya et al. (2014). It has been reported that the geomagnetic activity depends strongly on the solar wind velocity and interplanetary magnetic field at the Earth's orbit (Burton, McPherron and Russell 1975; Echer et al. 2008, Gopalswamy et al. 2008; Alves, Echer and Gonzalez 2011; Constantin, 1989; Bothmer and Schwenn, 1995; Badruddin, 1998; Badruddin and Singh, 2009; Badruddin and Aslam, 2013 and references therein). The solar event followed by a

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The Role of Television in Health Communication: A Comprehensive Examination of HIV/AIDS Awareness and Behavioral Change in India

Santosh Kumar Gautam[1], Shahnaaz Zabi[2], Amandeep Kaur[3]
[1]Associate Professor, Department of Journalism and Mass Communication, Mangalayatan University, Aligarh
[2]Assistant Professor, Faculty of Journalism and Mass Communication, Usha Martin University, Ranchi, Jharkhand, India
[3]Assistant Professor, Department of Nursing, Himalayan University, Itanagar, Jharkhand
Email: santosh.gautam@mangalayatan.edu.in

Abstract:

The research study explores the multifaceted field of health communication, focusing on the pivotal role television plays in disseminating health-related information and influencing behavioral changes. Health communication involves reaching diverse audiences through various media channels to promote, engage, and support individuals, communities, and policymakers in adopting behaviors that improve health outcomes. The study particularly investigates the impact of television in creating awareness about Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) in India, a country grappling with socio-economic challenges, low literacy rates, and inadequate health facilities.

A significant portion of the research focuses on the pervasive issue of HIV/AIDS-related stigma and discrimination. Television, as a powerful medium, is assessed for its potential to reduce stigma, raise awareness, and shape attitudes towards People Living with HIV/AIDS (PLWHAs). The study also scrutinizes the effectiveness of various television formats, including chat shows, soap operas, sitcoms, and suspense thrillers, in conveying health messages.

Keywords: Television, HIV/AIDS, Mass Media, Health communication, Awareness

3. Introduction

Health communication is a subset of communication that concerns itself how individuals in a society seek to maintain health and deal with health related issues, that is, how health related messages are disseminated, accessed and interpreted. Development planners use different mass media vehicles to spread health related messages to influence attitude and behaviour of members of a society so as to influence acts towards desired direction. Health communication is also concerned with communication among policy makers, health planners, doctors, patients and community in health realm. It is an emerging field in which professional communicators and health providers inform, influence and motivate individual, institutional, governmental and public audiences about important health issues. Social and behavioural scientists have defined health communication as follows:-

- Health communication is a multifaceted and multidisciplinary approach to reach different audiences and share health related information with the goal of influencing, engaging and supporting individual, communities, health professionals, special groups, policy makers and the public to champion, introduce, adopt or sustain a behaviour, practice or policy that will ultimately improve health outcomes (Schiavo, 2007).
- Ratzan (1994) defines Health Communication as an art and technique of informing, influencing, and motivating individual, institutional, and public audiences about important health issues. The scope of health communication includes disease prevention, health promotion, health care policy, and the business of health care as well as enhancement of the quality of life and health of individuals within the community.

There has been intensive discourse and debate as regards impact of Television in creating awareness about Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome (HIV/AIDS) and also for effecting attitudinal and behavioural changes in masses towards People Living with HIV/AIDS (PLWHAs). This study

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Digital Media: Issues and Challenges

Manisha Upadhyay[1], Deepmala Gupta[2], Rupa Kumari[3], Dipongpou[4]
[1,2]Department of Journalism and Mass Communication, Mangalayatan University, Aligarh, U.P.
[3]Faculty of Journalism and Mass Communication, Usha Martin University, Ranchi, Jharkhand
[4]Department of Political Science, Himalayan University, Itanagar, Arunachal Pradesh
Email: manisha.upadhaya@mangalayatan.edu.in

Abstract

The digital media environment in India has experienced significant growth and diversity, providing a multitude of services and platforms that have revolutionized the dissemination of information, consumption of entertainment and operations of enterprises. The integration of online news portals and social media platforms for information distribution as well as the emergence of streaming services and online gaming for amusement purposes have resulted in the widespread incorporation of digital media into the everyday routines of countless individuals.
Keywords: Digital Media, Streaming Services, Social Media, Online News Portals

Introduction

The purpose of this introductory section is to provide an overview of the topic at hand and set Digital media refers to many forms of media that are present in a digitalized version, encompassing textual content, visual imagery, auditory elements, and audio-visual recordings. The content may be conveniently accessed and disseminated by electronic devices, including computers, cell-phones, and tablets. India is recognised as a rapidly expanding digital media sector on a global scale. It is projected that the quantity of individuals utilising the internet in India would attain a total of 840 million by the year 2025. The current increase is being propelled by several causes, such as the growing accessibility of smartphones and the widening reach of mobile internet connectivity.
The Indian media landscape is seeing a significant transformation due to the influence of digital media. The advent of technology has significantly transformed the manner in which individuals engage with news, entertainment, and various forms of material. The advent of digital media has also given novel avenues for corporations to effectively engage with their intended target demographics. This paper aims to explore the many categories of digital media prevalent in the Indiancontext.

The predominant forms of Digital Media in India

Social media services, like Facebook, Twitter, and Instagram, have gained significant popularity among Indian users. Social media platforms are utilised by individuals from many age groups and diverse backgrounds as a means to establish connections with acquaintances and loved ones, disseminate news and information, and articulate personal thoughts and emotions.

Video streaming sites like Netflix, Amazon Prime Video, and Hotstar have gained significant popularity in India. The platform provides a diverse selection of Indian and foreign television episodes, films, and documentaries.

Music streaming platforms such as Spotify, Apple Music, and JioSaavn have experienced substantial growth in popularity within the Indian market. The institution offers a wide range of Indian and international music options.

The phenomenon of online gaming has had considerable growth and widespread acceptance within the Indian context. A diverse array of Indian and international gaming companies are involved in the development and

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Study of HRM as Tool for Managerial Success

Saurabh Kumar[1], Arvind Hans[2], Chiging Yamang[3]
[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P.
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: saurabh.kumar@mangalayatan.edu.in

Abstract:

A crucial component of the production matrix is human resources. Materials, funds, time, energy, knowledge, information, and infrastructure are the remaining seven inputs. The process changes these inputs to produce an output that has control and feedback. It is a component of the Leontief model as well. The three components of this model inputs, transformation, and output all depend on human resources to be motivated to produce. In order for people, groups, and organizations to use both human and material resources to accomplish their goals, management entails creating and maintaining an environment inside those entities. One of the functional areas of management is human resource management. Finance, marketing, production, R&D, and innovation are the remaining areas. The three areas of human resource management are employee welfare, industrial relations, and personnel management. Thus, Rountria, Robert Owen, and Henry Fayol three of the early pioneers of human resource management are also considered the founders of production management. These days, the majority of businesses would rather call to functions like hiring, sectioning, placing, induction, orientation, training and development, paying employees, and motivating staff as human resource management. Human resource management is becoming a critical instrument for the success of organizations. An organization must first break even, which is reached when total income and total costs are equal, and even then it must have units that produce over breakeven threshold in order to continue operating and doing well. It must accomplish its aims and objectives in order to function successfully. It must meet the needs of employees, stakeholders, and regulatory bodies. In light of this, this paper conducts a theoretical analysis of HRM as a tool for successful organizational operations.

Keywords: Human Resource Management, Organizational Success, Management.

INTRODUCTION

The effective management of employees inside businesses is a critical component of corporate success. The efficient use of pertinent resources, including financial, material, and human resources, is essential for business success in a market economy. The aim is accomplished by combining these resources to fulfill its objective. The human resource, however, is the most important and complicated element in achieving organizational success.

The term "human resource" refers to the managerial, scientific, engineering, technical, artisan, and other skills that are developed and used in the process of establishing, designing, and developing organizations as well as in the management and operation of economic institutions and productive and service enterprises. The people who work for a company are its human resources; they may be contracted or temporary employees, but taken as a whole, they represent the most significant organizational resource. Because of this, a business has to hire the correct kind and quantity of workers, and they need to be managed so that they may accomplish both corporate and personal goals.

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Construction of Roads using Plastic Waste

Harit Priyadarshi[1], Kavyansh Yadav[2] , Rahul Kumar Gupta[3], Meenali Modi[4]

[1,2]Department of Civil Engineering, Mangalayatan University, Aligarh, Uttar Pradesh, India
[3]Assistant Professor, Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Civil Engineering, Himalayan University, Itanagar, Arunachal Pradesh
Email: harit.priyadarshi@mangalayatan.edu.in

ABSTRACT:

Non-biodegradable plastics are a major cause of environmental deterioration. In addition to causing pollution and global warming, waste plastic and how it is disposed of pose a serious threat to the environment. Bituminous mixes' properties and strength are improved by adding plastic waste. Furthermore, it will be a fix for a number of pavement flaws and a way to dispose of plastic. Polyethylene, Polystyrene, and Polypropylene are the types of waste plastic that are used. The two processes of wet process and dry process are available for incorporating plastic into bituminous mix. The dry process, which involves shredding waste plastic, coating it with hot bitumen, coating it over aggregate, and then mixing it with the resulting mixture to create pavement, is so named. However, in a wet process, waste plastic is crushed and converted into shreds; different percentages of plastic are then mixed with bitumen. The goal of the current study is to determine how much more durable roads constructed with shreds of waste plastic are compared to roads constructed with asphalt using a standard mix. By utilizing cutting-edge technology, roads were built more solidly and had a longer lifespan. This technology will also help to improve the environment and provide a source of income, ecologically, friendly and affordable. The bitumen with plastic properties to be taken into account in pavement design, pavement design, and flexible construction process are all covered in this project.
We will soon have strong, long-lasting, and environmentally friendly roads that will relieve the planet of all types of plastic waste thanks to this process, which is both economical and environmentally friendly. Plastic roads will be a boon for our nation.

Keywords: Non-biodegradable plastic, environmental deterioration, plastic waste, Bitumen.

INTRODUCTION:

Currently, plastic is the material that is used the most. It is thin, flexible, and very affordable. It also resists moisture. These characteristics make plastic more appealing to us, increasing its prevalence. Today, plastic is used in every important sector of the economy, from construction to agriculture, automobiles to electronics. It has radically altered every aspect of life. However, this plastic eventually ends up in the trash. Plastic waste littering the roads is a common sight in both urban and rural areas. The majority of municipal solid wastes (MSW) are made up of it. Numerous plastic wastes, such as bags, cups, and polyethylene, are thrown away every year, polluting the air, water, land, and oceans. Plastic is a non-biodegradable substance that can reportedly last on earth for up to 4500 years without deteriorating. When disposed of improperly, it poses serious risks to human health. We must therefore find ways to reuse plastics because a total ban on them is not justifiable given how they are currently being used. The amount of waste made from plastics is thought to be around 10,000 tons per day (TPD). Thermoplastics and thermoset plastics are the two main types of plastic that make up the plastic waste. The total amount of post-consumer plastic waste produced in India is made up of 80 percent thermoplastics and 20 percent thermoset. Table 1 provides the data on total plastics waste consumption in India during last decade.

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Impact of Stainless Steel Slag and Recycled Concrete Aggregate on the Strength Characteristics of Concrete

Nasim[1] , Mahesh Kumar[2], Aman Garg[3], Rahul Kumar Gupta[4]

[1]Ph.D, Research Scholar, Department of Civil Engineering, Mangalayatan University, Aligarh
[2]Professor of Department of Civil Engineering, Mangalayatan University, Aligarh
[3]Assistant Professor of Department of Civil & Environmental Engineering, The North Cap University, Gurugram
[4]Assistant Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand
Email: nasimkhan251021@gmail.com

Abstract

The research study investigates the effects of replacing natural aggregate in concrete with stainless steel slag (SSS) and recycled concrete aggregate (RCA). Addresses the environmental issues associated with the disposal of non-biodegradable waste products such as SSS and concrete debris in landfills. Identifies SSS and RCA as potential substitutes for natural aggregates in concrete production. Conducted physical and chemical analyses of SSS and RCA, establishing a foundation for understanding their properties. By providing a detailed account of the sieve analysis process and its impact on determining the proportions of SSS and RCA, you strengthen the methodology section of your research and enhance the overall reliability of your findings. Employed SSS as a partial substitute for fine aggregate (sand) and RCA as a partial replacement for coarse aggregate (gravel). Replaced natural aggregate in M40-grade concrete with varying weight proportions of 0%, 15%, 25%, 35%, and 45%. By providing comprehensive details on the testing methods, sample preparation, and data analysis, you enhance the transparency and credibility of your research findings, contributing to the overall quality of our study. Demonstrated an enhancement in the mechanical characteristics of concrete by injecting SSS into mixes containing RCA. Identifying an optimal mix with a significant improvement in mechanical properties, particularly with a combination of 25% stainless steel slag (SSS) and 15% recycled concrete aggregate (RCA), is a key finding in my research. The incorporation of SSS and RCA in concrete positively affects its mechanical properties, supporting their use as sustainable substitutes. Highlighted the specific weight proportions that led to the most significant improvements in mechanical characteristics. Indicates the potential for reducing environmental impact by repurposing waste materials in concrete production. It suggests practical applications for the optimized mix in construction projects, promoting sustainability in the industry.

Keywords: Construction & demolition waste, Stainless Steel Slag, Recycles Concrete Aggregate, Compressive Strength, Flexural Strength & Spit Tensile strength.

1. Introduction

One of the problems that keeps coming up is how to collect and handle building and industrial waste. Due to the excessive use of natural aggregate, however, engineers from every corner of the globe are searching for an alternative building material. steel furnace slag, generated during the steelmaking processes like EAF and BOF, represents a valuable byproduct that can be repurposed for various applications, contributing to both environmental sustainability and efficient resource utilization in the steel industry.This study aims to investigate the impact of using SSS and RCA instead of gravel on the properties of concrete. It is important to recycle RCA from the concrete of old buildings and SS from the process of making steel because it cuts down on trash disposal and pollution. The goal of this work is to find out what properties local slag has and to look into the possibility of using SSS as a partial replacement for fine aggregate and RCA as a partial replacement for coarse aggregate. It is also possible to use both types of waste materials together in concrete. The study primarily examines the effects of mixing RCA and SSS into concrete on the strength of large aggregate and fine aggregate, respectively. The study examined split tensile, compressive, and bending strengths.

2. Materials

2.1 Cement

Portland Cement, as usual the binder was made of 43 grade cement that has a specific gravity of 3.12. The most important thing to do to get good concrete is to choose the right type of cement from a well-known brand. All of this research used Portland cement, which you can buy at the store. It was brand new and

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Response of Sodium Chloride and Calcium Chloride Salinity on Biochemical Changes of Different Wheat Varieties (*Triticum aestivum* L.)

Shailendra Singh[1], Mayank Pratap[2], Priyanka Dubey[3], Jayita Dandapat[4], Techi Yatchi[5]
[1]Chandra Shekhar Azaad University of Agriculture and Technology, Kanpur, UP
[2]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh
[4]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh
Email: mayank.pratap@mangalayatan.edu.in

Abstract

Wheat (*Triticum aestivum* L.) is the most important crop in the country and the second most important crop after rice, which accounts for about a third of the total crop. Wheat is the most important and best food to ensure global food security.
The results of the study showed that the salinity index of rice irrigation (fiveyear average value from 1365 to 1370) was 5ds/liter, after which the result decreased by 1.8% for each unit increase in water flow. Salinity **(Anonymous, 19 99).** The present investigation entitled "Effect of sodium chloride and calcium chloride salinity on Biochemical changes and Growth of wheat varieties (*Triticum aestivum* L.)" Wheat varieties like K-8434,K-9533, K-607, K-9162, and K- 1006 was conducted for consecutive year *i.e.* 2018-2019 at experiment research of crop physiology , Chandra Shekhar Azad University of Agriculture and Technology, Kanpur in pots under five replication four treatment T_0 , T_1 , T_2, T_3 (0%,5%,10%15% solution of NaCl and $CaCl_2$) result revealed the from all genotype viz;K-1006 and K-9162 recorded higher Dry matter production and nitrate reductase under remaining saline irrigation condition. Varieties occupying mediocre position between two varieties control treatment perform well and superior. All the genotype K-1006 performs well under salinity of sodium chloride and calcium chloride.

Keywords: Salinity, Sodium chloride, Calcium chloride, Saline irrigation water and Wheat Varieties.

Introduction

Wheat [*Triticum aestivum* L.] is the moment most critical staple nourishment edit of the world on account of its wide flexibility to diverse agro-climatic and soil conditions. Wheat is the world most exceptional edit that exceeds expectations all other cereals both in zone and generation, known as lord of cereals. Wheat utilization worldwide is assessed to 817 million tons by 2030 and generation would get to increment at 22.6 - 43.6 % in different nations at the current generation level to meet the evaluated utilization demand.

Wheat straw is used for feeding the cattle. Wheat contains more protein than other cereals and has a relatively high content of Niacin and Thiamine. The world's irrigated land is decreasing by 1-2% every year1. However, world population is increasing rapidly and will reach 9.6 billion by 2050 **(UN News Centre, 2013)**. Hence, global food productions will need to be increased 38 and 57% by 2025 and 2050, respectively to maintain current level of food supply **(Wild, A., 2003).**

Irrigation with poor quality water may cause specific saline ion toxicity and infiltration problems in soil, such effects may adversely affect crop production. Generally, development of more salt tolerant varieties of crops by either conventional breeding or genetic modifications that use water more efficiently will be more resilient to salinity stress **(Shinozaki, K *et al.*,2007).** Based on characteristic feature of ground water used by Dermer's in different agro-ecological regions and the indices, which describe their salinity/sodicity on soil and crops, irrigation water can be broadly grouped into two categories saline water and Alkaline water Soil salinity is a major constraint limiting agricultural productivity nearly 20 per cent of cultivated area and half of the irrigated area worldwide. Saline soils are consisting of two kind of ions that is cations are Na+, Ca2+, K+ and anions are Cl−, SO42− and carbonates **(Rengasamy 2010, Tavakkoli *et al.*, 2011)**

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Advancements and Applications of 3D Printing Technology

Kunal[1], Kishan Pal Singh[2], Shweta[3], Asim Ahamad[4]

[1, 2, 3]Department of Mechanical Engineering, Mangalayatan University, Aligarh, Uttar Pradesh
[4]Assistant Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand
Email: kunal.singh1911@mangalayatan.edu.in

Abstract: The present research investigates the invention, current status, and potential applications of 3D printing technology. We discuss the core concepts behind 3D printing while examining different methods and supplies. Significant advancements are additionally outlined in the article, such as increases in affordability, speed, and precision. Additionally, we look at the broad variety of applications in sectors like education, healthcare, aerospace, and vehicles. With the ongoing transformation in manufacturing processes, this study attempts to give an in-depth overview of 3D printing's effects on innovation and the international economy.

1. Introduction:

Additive manufacturing, which is additionally referred to as 3D printing, or additive technology, has totally transformed the manufacturing and prototype industries. When compared with standard subtractive manufacturing techniques, 3D printing develops goods from digital models layer by layer, providing previously unavailable accuracy and adaptability. This groundbreaking method has revolutionized the way we conceptualize, design, and manufacture real goods by finding applications in an extensive number of fields, including aerospace and healthcare [1-7].

The aim of this introduction is to give the reader an overview of 3D printing through inquiry into its underlying ideas, development, and wide range of applications. 3D printing, an influential force in the industry of manufacturing, simplified production procedures and stimulated imaginative thinking, making it feasible to create difficult and elaborate structures that used to be believed to be impracticable or unattainable. In this essay, we will investigate the basic concepts of 3D printing, trace its development across time, and look at all the sectors in which it has had significant impact, bringing in a new era of inventiveness and profitability in manufacturing [8].

1.1 Background of 3D Printing

The commercialization of stereolithography by American innovator Chuck Hull in the early 1980s marked the beginning of 3D printing, usually referred to as additive manufacturing. This ground-breaking technology made it achievable to create three-dimensional things layer by layer by selectively cementing layers of a polymer that was liquid using UV light. Since then, the use of 3D printing has transformed into a dynamic, multifaceted technology with an extensive selection of uses [9-12].

3D printing was initially developed for rapid prototyping, but it slowly expanded its use and is now redefining a number of industries. The technology is being used in fields like healthcare, automobiles, aerospace, and education for its capability to quickly, accurately and individually create complex structures [13].

Improvements in materials, science and technology, and software throughout time have enabled 3D printing to go further than its initial constraints. Experimentation to end-use production is being made possible by improvements in technology enabling components with intricate patterns and specific functionality to be manufactured. The developing maturation of 3D printing continues to make the impact it has on traditional means of production and the larger economy more and more apparent[14-18].

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Optimizing Vertical Handoff for Enhanced Connectivity in 4G Wireless Networks: A Survey

Manoj Varshney[1], Umesh Chandra Sharma[2], Love Kumar[3], Vinay Singh[4], Manish Saxena[5]

[1]Associate Professor, Department of Computer Science and Applications, Mangalayatan University, Aligarh, Uttar Pradesh
[2,3]Assistant Professor, Department of Computer Science and Applications, Mangalayatan University, Aligarh, Uttar Pradesh
[4]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[5]Associate Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
Email: manoj.varshney_dcea@mangalayatan.edu.in

Abstract

Due to the widespread use of cellular and broadband technologies, wireless communication has become increasingly important on a global scale. Universal connectivity is the aspiration, enabling people to stay seamlessly connected regardless of their location or network preference. In the realm of 4G wireless systems, there is a pressing demand for high data transfer rates, top-notch quality of service, and uninterrupted mobility. Within the domain of 4G, a multitude of heterogeneous networks coexist, catering to diverse user needs, including real-time applications, high availability, and ample bandwidth. The transition between these heterogeneous networks, referred to as vertical handoff, is critical to ensuring performance and uninterrupted connectivity. Such handoffs necessitate a meticulous consideration of factors such as network capabilities, handoff latency, network costs, prevailing network conditions, power consumption, and user preferences.
In this paper, we systematically extract and delineate the requisites for effective vertical handoff based on an extensive literature survey. Additionally, we conduct a comprehensive evaluation of existing methodologies, gauging their compatibility with the essential parameters governing vertical handoff. Recognizing the need for a sophisticated, adaptive, and intelligent approach, we emphasize the imperative of implementing a dynamic vertical handoff mechanism in 4G wireless networks. Such an approach accommodates both dynamic and non-dynamic parameters, ultimately enhancing the user's overall service experience.

Keywords: 4G wireless networks, VHO, Requirements, RSS, Parameters, Performance

Introduction

Today's wireless networking systems prioritize mobility as a paramount feature. The achievement of seamless mobility hinges upon the implementation of handoff mechanisms within wireless networks. Handoff, in essence, is the procedure through which alterations to the channel, encompassing frequency, time slot, spreading code, or their amalgamation, are executed while an ongoing call remains in progress [1].

Types of Handoffs in 4G Networks

1.1.1 Horizontal Handoff

Horizontal handoff, often referred to as "HOH" or simply "horizontal handover," is a crucial concept in wireless communication networks. This process allows a mobile device to switch its connection from one access point or base station within the same wireless network technology, such as Wi-Fi or a cellular network, to another access point while maintaining continuous connectivity. The primary purpose of horizontal handoff is to ensure uninterrupted service and improve the quality of the connection as a user moves within the coverage area of a single network. Horizontal handoff encompasses the process where a terminal device switches cells within the same network type (for example, within a CDMA network) to ensure uninterrupted service [2]. This concept can be further categorized into two types: link-layer handoff and intra-system handoff. Link-layer handoff refers to the horizontal handover between two base stations (BS) operating under the same foreign agent (FA). On the

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Analysis of Critical Digital Marketing Elements to Understand Purchase Behavior

Sidharth Jain[1], Piyush Kumar[2], Dinesh Pandey[3], Prakash Divakaran[4], Prakash Mishra[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, School of Commerce and Management, IIMT University, Meerut
[3]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
Email: siddharth.jain@mangalayatan.edu.in

ABSTRACT

India's use of various tactics and tools for digital marketing is rapidly gaining ground across all the sectors with various demographics. Digital marketing for consumers in Delhi/NCR has reported a significant growth for the last few years and impacted their day to day purchase decisions due to pandemic situation. The present study titled "identification of critical factors of digital marketing to understand the buying behaviour practices" aimed to identify the critical factors ofdigital marketing by understanding buying behaviour practices of consumers. To achieve the objectives, a sample of 500 consumers of Delhi/NCR was taken and collected data havebeen analyzed with help of various descriptive & inferential techniques. The analysis concludes that the buying behaviour practices are considered to know how frequently consumers used digital marketing techniques for the buying goods of their need. It is found that income level, quality, occupation, perception and demographic factors affecting the buying behaviour.

Keywords: digital marketing, online shopping, social media, buying behavior, consumer perception, demographic factor

INTRODUCTION

Digital marketing, often known as online marketing, is the promotion of brands over the web and other electronic means of communication. As a means of marketing, this includes text and video messaging, as well as email, social media, and web-based advertising. Companies can take advantage of a variety of opportunities by using digital marketing channels as a platform for their marketing efforts. Digital marketing uses interactive technology for maintaining the relationship with customers as well as traders electronically. To achieve marketing goals, use internet and related digital technologies in conjunction with traditional marketing communications (Chaffey, 2012; Kotler, 2009; Armstrong, 2009). Digital marketing encompasses a variety of online firm presences, such as web - based social networking pages and official websites, as well as online communication tactics including search engine advertising, facebook ads, online ads, email campaigns, and web page partnership agreements. Through e-customer relationship management, these techniques contribute in the development of relationships with customers by supporting the goals of acquiring new customers and delivering services to existing customers.

However, successful digital marketing requires combining these approaches with conventional media like as print, broadcast, and digital ads as part of multimodal marketing communications. The rise of digital marketing methods suggests that businesses have a bright future ahead of them. Business has evolved and gone through numerous stages during the previous 200 years. New marketing technologies and communication strategies have aided in the creation of deeper links in the marketing environment, and the marketing function has evolved in tandem with this advancement (Francesca; 2013).

The world is moving away from analogue and approaching toward digital. People made purchases on numerous e-commerce sites utilising various digital devices such as laptops, mobile phones, and desktop PCs. The traditional buying process for the Attention-Interest-Desire-Action (AIDA) model, which was a linear path from the initial interaction with a brand to the final purchase act, has evolved since 1900. As a result, firms' marketing strategies should be revised to reflect the changing buying habits of consumers as a result of technological advancements and they should place a greater emphasis on digital marketing rather than traditional marketing tactics. In the year 2000, the Attention-Interest-Search-Action-Share (AISAS) model was introduced as a non-linear model in which advertisers attract customers' attention to create interest in their products, after which consumers search for that product using various digital advertisements and reviews to

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Nursing Students Knowledge and Practice regarding Body Mechanics among Nursing Students in Selected Area of Aligarh

Meenakshi Bisht[1], Jaya Nutan Surin[2], J. Rukumani[3], Hishey Lamu Bhutia[4]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[4]Principal-Inchare, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
Email: meenakshi.bisht@mangalayatan.edu.in

ABSTRACT:
A quasi experimental study was carried out to assess the effectiveness of video assisted demonstration program regarding body mechanics, knowledge and practice among nursing students from a selected college in Aligarh. One group pre test, post test was used for the study. Fifty nursing students was taken as sample, self-structured questionnaire for knowledge and checklist for practice was taken as tool. Pre-test knowledge mean was 15.2 and post test score was 20.42, mean percentage of pre test was 50.6 and post test was 68.06 and standard deviation of pre test knowledge was 4.35 and post test was 4.03, coefficient of variance of pre test is 28.6 and post test is 19.7, The paired t test value is 6.22 greater than table value 2.45 at 0.05 level of significance which proved the effectiveness of video assisted demonstration program. Pre test practice mean was 6.02 and post test score was 7.86, mean percentage of pre test was 12.04 and post test was 15.72 and standard deviation of pre test practice was 1.156 and post test was 0.97, coefficient of variance of pre test is 19.2 and post test is 12.21, The paired t test value is 6.34 greater than table value 2.45 at 0.05 level of significance which proved the effectiveness of video assisted demonstration program.

KEYWORDS: Knowledge, Practice, Body Mechanics, Self-instructional Module.

INTRODUCTION:

Body mechanics is the safe use of the body using the correct posture, bodily alignment, balance and bodily movements to safely bend, carry, lift and move objects and people. Body mechanics is a term used to describe the ways we move as we go about our daily lives. It includes how we hold our bodies when we sit, stand, lift, carry, and sleep. Poor body mechanics are often the cause of back problems. When we don't move correctly and safely, the spine is subjected to abnormal stresses that over time can lead to degeneration of spinal structures like discs and joints, injury, and unnecessary wear and tear. That is why it is so important to learn the principals of proper body mechanics.

Body mechanics will be more effective in nurses if they know how to use it as well as practice it in correct way while performing procedures that require its use. This study was a cross sectional study using a set of questionnaires, carried out to determine the knowledge and practice of body mechanics techniques among nurses. Our aim of these studies are to determine the knowledge and practice of nurses towards body mechanics techniques and the obstacles that encountered by nurses. Almost all nurses have the knowledge about body mechanics techniques but did not practice it for their personal reasons. In this study. It was found out that 100 percent of nurses were have the knowledge towards body mechanics techniques. 68.2 percent of them aware that practicing correct body mechanics techniques was important of them and 31.8 percent were not. The findings of the study indicated that majority of nurses were have the knowledge about body mechanics techniques but less practicing on it. However, some of them still lack of knowledge caused them did not practice correct body mechanics techniques. While in clinical area staff nurses should be more aware and know the knowledge of body mechanics techniques as well as practicing it for their own good. **(American International Journal Of Research 2009)**

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Agricultural Robotics: The Future of Indian Farming

Pavan Kumar Singh[1], Pramod Kumar[2], Ratnesh Kumar[3], Sunil Kumar[4], Lipi Rina[5]
[1]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh
[4]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh
Email: pavan.singh@mangalayatan.edu.in

Introduction

Growing population that makes increasing demands on food production coupled with the scarcity as well as high cost of agriculture labour are leading to demand for robots in farming. The developed countries have long used mechanisation in agriculture as the number of people engaged in the sector have been declining over the past few decades. For the seasonal spike in labour demand, particularly during harvest, North America and Europe are now mostly dependent on migrant labour. As more and more nations impose limits on migrant labour, immigration has recently become a contentious political topic. Additionally, even in a nation like India with a labour surplus, agriculturally productive states like Punjab and Haryana depend on migrant labour from other states for their farming activities.

Five essential activities—crop seeding, fertiliser and irrigation, thinning and pruning, weeding and spraying, and picking and harvesting—have been used by experts to group the most typical applications for robotics in agriculture. These tasks require a lot of labour, are time-sensitive, and require precision and accuracy to be truly effective. Data collection for themonitoring of numerous aspects, such as soil, crop development, diseases, etc., is another significant job that agriculture robots perform.

The market for farm robots is predicted to reach USD 27.32 billion by 2026, growing at a CAGR of 29.44% from 2020 to 2026, according to a recent analysis by Market Research Future. For duties including harvesting, sowing, and plant inspection, agriculture robots are utilised. To increase agricultural output while using less arable land, these robots have mechanical components, robot arms, vision cameras, sensing technology, and artificial intelligence. A few of these robots include 3D cameras that scan the modules placed in front of them and gather data so they can continue doing certain functions.

These robots can be broadly divided into completely autonomous and semi-autonomous machines. Fully autonomous robots analyse the best way to pick up plants without disturbing surrounding crops using artificial intelligence and sensors. Robotics and artificial intelligencetechnology advancements drive the development of indoor farming because they lower costs, conserve resources, and increase profitability. The use of technology in agriculture may be themost revolutionary endeavor ever. Agriculture is a sector that makes a substantial contributionto the stability and prosperity of an economy. Over the years, farmers have embraced more technology to increase yields, and the idea that "more is better" has come to dominate farming,rendering small-scale operations impractical.

However, improvements in robotics and sensing technology pose a danger to the current agribusiness paradigm. "Intelligent robots have the potential to revolutionize the economic paradigm of farming, making it possible to return to being a small producer." Robotics and sensing technologies in the twenty-first century have the potential to solve challenges as old asfarming itself.

"I believe that by switching to a robotic agricultural system, we will be able to make crop production far more efficient and sustainable." -Simon Blackmore.

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Motivational function of the Performance Appraisal System at Hindustan Aeronautic Limited

Sujit Kumar Mahapatro[1], Md Saifullah Khalid[2], Nyarik Geyi[3]
[1]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P.
[2]Associate Professor, Associate Professor, Faculty of Business Management & Commerce Usha Martin University, Jharkhand
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: sujit.mohapatra@mangalayatan.edu.in

Abstract
The present research investigates the effects of implementing a performance appraisal system on the motivation of employees at Hindustan Aeronautics Limited (HAL). The analysis specifically targets administrators, supervisors, and workers. The aim of this study is to determine the viewpoints of personnel, officers, and directors at Hindustan Aeronautics Limited, a company based in Hyderabad, concerning performance evaluation and motivation. Through the dissemination of questionnaires to administrators, supervisors, and employees, the primary data for this study were collected.

Introduction
An ongoing process, performance appraisal collects the information necessary to make objective decisions and adjustments concerning employees, supervisors, and executives. The assessment of performance relative to job prerequisites enables the recognition of the qualifications of particular executives, supervisors, and staff members affiliated with the HAL organization. The main aim of this initiative is to determine the discrepancies in employee performance across the entire organization.

Hindustan Aeronautics Limited: An Overview
Hindustan Aeronautics Limited (HAL), an esteemed Navratna Central Public Sector Undertaking, holds a leading position in the aerospace sector of Southeast Asia. The nation is home to twenty production, maintenance, and service divisions, in addition to eleven co-located research and design facilities. HAL strives to establish itself as a leading international corporation operating within the aerospace sector. Enhancing global competitiveness and expanding export opportunities require attaining a high level of professional competence in the design, development, manufacturing, upgrade, and maintenance of aerospace equipment; expanding exports; and managing the business in a dynamic environment to achieve self-sufficiency in these domains.

Literature Review
(Jeseni P.V, 2022) This article says that Even while exhibition inspection is focused on evaluating workers work performance, it also includes an associations specific goals , as the employee is being examined the organization also establishes itself by examining goals and rules for execution, auditing the entire examination method and strategy, as well as hierarchical characteristics and culture. Execution evaluation is a real tool that organizations may use to evaluate and improve the type of training and preparation of their work force to develop their individual and organizational goal.

A 1998 study titled "Human Resource Management" was authored by Mirza S. Saiyadain and investigated diverse aspects of human resource management within the Indian context. The research was predominately concerned with labor motivations. Concrete instances were used to illustrate the numerous methods of motivation. Longenecker and Fink (1999) establish in their article "Creating Effective Performance Appraisals" that the implementation of performance appraisals can enhance organizational competitive advantage and employee motivation. Moats (1999), in his research, provided additional support for Shelly's claim that performance appraisal is an organizational process that evaluates the performance of employees based on pre-established criteria. Kuvaas (2006), in his article "Performance appraisal satisfaction and employee outcomes: mediating and moderating roles of work motivation," identified alternative relationships between performance appraisal satisfaction and employee outcomes as follows: 1) self-reported work performance; 2) affective organizational commitment; and 3) turnover intention.

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Resource Use Efficiency of Paddy Cultivation and Constraints in Ambedkarnagar District of Uttar Pradesh

Pavan Kumar Singh[1], Akanksha Singh[2], Ratnesh Kumar[3], Sunil Kumar[4], Lipi Rina[5]

[1,2]Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh
[4]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand
[5]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh
Email: pavan.singh@mangalayatan.edu.in

ABSTRACT

The present study was conducted in Ambedkarnagar district of Uttar Pradesh due to higher concentration of area and production under paddy cultivation from the selected district. The research centred on primary data obtained through a well-structured survey schedule, employing personal interviews with 100 respondents selected from five villages in the Tarabganj block during the Agricultural Year 2022-23, utilizing the proportionate allocation method. The primary objective was to assess the resource use efficiency of paddy cultivation, employing the Cobb-Douglas production function. The study also aimed to identify the principal constraints in the cultivation of paddy crops in the study area, utilizing the Garrett ranking technique for constraint analysis. The key findings revealed that the returns to scale for marginal, small, and medium-sized sample farms exhibited a trend of decreasing returns to scale.

Keyword: Cobb-Douglas, Multiple determination (R^2), Resource use efficiency, Proportionate allocation method.

INTRODUCTION

In India, agriculture stands as the predominant occupation (Kushwaha et al., 2019; Upadhyay et al., 2021), with approximately two-thirds of the population directly or indirectly reliant on it. Serving as a primary source of sustenance, fodder, and fuel, agriculture forms the fundamental basis for economic development and contributes significantly to the national income (Sri et al., 2022). Paddy (*Oryza sativa L.*), a vital member of the Graminae family, holds particular significance as one of India's key food crops and is anticipated to maintain its prominence in the future. The majority of the country's populace is involved in the processing and marketing of paddy. Beyond its role as a staple food, various by-products derived from rice, such as paddy husk, find diverse applications. Conventionally used as fuel, soil conditioner, packaging material, animal feed, and insulation material, paddy husk is also instrumental in manufacturing building materials and other chemicals. Rice bran, another by-product, is utilized for extracting edible oil, industrial oil, and animal feed. Recognized for its nutritional value, including proteins, carbohydrates, and vitamins, paddy straw emerges as a significant source of dry fodder in animal feed (Singh et al., 2013).

In terms of both cultivation area and production, rice stands out as the most crucial food crop in India, playing a pivotal role in the nation's consumption patterns. In India rice is grown in an area of 43.95 m ha with the production and productivity levels of 106.29 mt and 2416 kg/ha respectively during 2013-14 (Hari Prasad *et al.*, 2014). It's also recognized that these countries have rice as their staple food. Rice is grown under four different ecologies, with irrigated ecology accounting for the largest area (431.94 million/hectare) and highest production (110.15 metric tons) and productivity (25.50 tons/hectare) closely followed by rainfed shallow lowlands. Rainfed upland, which accounts for nearly one fourth of the rainfed low land area, records one seventh of production. Region wise, the predominantly rainfed eastern zone accounts for 29.5 million hectare which is the largest area under rice in the country with highest production of 51.6 metric tons but with the lowest productivity of 1.62 tons/hectare. While the irrigated north and south zones together accounting for nearly 12 million hectare, produce 37.5 metric tons recording a distinct yield edge over eastern India. The distribution pattern of rice growing districts based on productivity range reveal that of 563 districts, 115 districts (20.4%) contribute to 36.9 million tons production with an average yield of 3.15 tons/hectare.

They are largely located in the high productive states of Punjab, Tamil Nadu, Haryana and Andhra Pradesh. Around 103 (18.3%) districts falling in the range of 2 to 2.5 tons/hectare are in Kerala, Karnataka and Uttar Pradesh. Over 345 (61.3%) districts with yield levels less than that of the national average are distributed largely in the

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Prison System in India Under Constitutional Perspective Genesis and Culmination

Haider Ali[1], Tulika Sinha[2], Neeraj Rai[3], Pankaj Choudhury[4]

[1]Associate Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP

[2]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand

[3]Associate Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP

[4]Assistant Professor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh

Email: haider.ali@mangalayatan.edu.in

ABSTRACT

A prison is a location where individuals are physically imprisoned and denied a variety of personal liberties. Since earlier times, imprisonment was not a punishment itself, but rather a means of restraining offenders until either physical or lethal punishment was inflicted[1] on them. Today, prisons are increasingly referred to as correctional institutions, and they are defined as "places that are suitably arranged and equipped to maintain those decided to commit there by the courts in safe custody, and where they are handled with humanity and managed to help to lead a useful life as law-abiding citizens after their release." However, the authoritarian atmosphere of prisons contributes to the following issues: deprivation,[2] prisoner socialization and over punishment.[3]

The current research Article is predicated on the idea that a criminal may be rehabilitated. The term "reformation" refers to the process of re-educating a prisoner in order to restore his socially moldable character. Open Bar system facilitates the process of reformation of prisoners by providing maximum liberty to them. Open prisons are the prison without bars prisoners can even go out to work up to the radius of 5 kms from the prison area. There is a set timing in the prison during which the prisoners can go out. They are also provided with housing facilities where they can live with their families.

The term "prison" originates from Latin words having meaning "seize" and "cage". The Government of India Prisons Act of 1870 defined "prison" as "any goal or penitentiary, as well as, the airing grounds or other grounds or structures occupied for prison's purpose." Any detention centre or location used permanently or temporarily for the custody of prisoners under the particular commands of a localgovernment is referred to as a prison. Since the beginning of time, prison management has been an element of the Indian criminal justice system. At the policy-making level, all subsystems of the criminal justice system, including that of the police, the judiciary, and the prison administration, are being reviewed. The criminal justice system has never been subjected to such widespread criticism from the standpoint of human rights of those in jail as it is now.

Keywords: Prisoner, rehabilitated, criminal justice system, reformation, human rights

Introduction

Prison is where the criminal equity framework put its whole expectations. The correctional mechanism, if falls flat will make the entire criminal methodology futile. The regulation behind discipline for a crime has been changed considerably by the advancement of new human rights statutes. The idea of transformation has turned into the watchword for prison organization. Human rights statutes advocate thatno crime ought to be punished in a pitiless, corrupting or in a cruel way. Despite what might be expected, it is held that any discipline that adds up to remorseless, humiliating or brutal ought to be dealt with as an offence by itself. The change caused to the criminal equity framework and its correctional mechanism has been embraced around the world and question of incorporation of the same in Indian scenario remains unanswered.

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Phytochemical Evaluation and Pharmacological Effect of Turmeric [*Curcuma longa*]Rhizome

Neha Singh[1], Rupsa Seth[2], Brishnendra Mishra[3]

[1]Associate Professor, Mangalayatan Institute of Pharmaceutical Education and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: neha.singh@mangalayatan.edu.in

Abstract

The golden spice turmeric is a member of the zingiberaceae family. The primary ingredient in turmeric is Curcumin. This pigment is a polyphenolic yellow colour. Demethoxycurmin and bisedemethoxyCurcumin are other components identified. In China, India, and Japan, it is commonly planted. Recent data suggests that Curcumin may possess antioxidant, anti-fungal, anti-microbial, anti-inflammatory, and anti-cancer properties. This has piqued scientific curiosity about Curcumin's potential for both disease prevention and treatment. The chemical components of the turmeric plant have been studied in great detail. It mostly consists of phenolic compounds, although there are also documented terpenoids, monoterpenes, sesquiterpenes, alkaloids, and other chemicals. This study's primary goal is to analyse the bioactive components and nutraceutical properties of turmeric that support human nutrition and the prevention of chronic diseases.

Key words: Curcumin, turmeric, bioactive compounds, chronic diseases.

Introduction

Turmeric contain both main and secondary chemicals that are bioactive, plants are significant. It has been discovered that secondary metabolites are very distinct compounds in terms of both taxonomy and chemistry. This metabolite is used in a wide range of fields, including veterinary medicine, scientific research, agriculture, and human therapy. The yellow spice known as turmeric is made from the rhizome of the zingiberaceae family plant curcuma longa. There are close ties between the sociocultural practices of the Indian subcontinent and turmeric. The people of the Vedic era considered this "earthy herb of the sun" with its orange-yellow rhizome to be the "herb of the sun." Curcuma longa is a perennial herb that is upright, leafy, and up to one metre tall. Its short stem has an oblong, pointed shape. In China, Japan, and India, it is commonly planted. India leads the world in curcuma longa production, consumption, and exports. India has historically known "Haldi."[1, 2, 3]

Taxonomical classification:-

Kingdom: plantae

Subkingdom: tracheobionta

Super division: spermatophyte

Division: magnoliophyte

Subclass: zingiberidae

Order: zingiberaceae

Family: zingiberaceae

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Syzygium cumini (L.): A Review of its Phytochemical Constituents and Pharmacological Uses

Suneel Kumar[1], Dashrath Singh[2], Harish Kumar Singh[3]

[1]Assistant Professor and Research Scholar, Mangalayatan Institute of Pharmaceutical Education and Research, Mangalayatan University, Aligarh, Uttar Pradesh, India
[2]Professor, Department of Pharmacy, IBMER, Mangalayatan University, Aligarh, Uttar Pradesh, India
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
Email: suneel.ksingh@mangalayatan.edu.in

Abstract

Jamun is the colloquial name for *Syzygium cumini*. The purpose of this study is to identify the phytochemical components of the methodic leaf extract of *Syzygium cumini*, which is obtainable locally. In order to put the plant through more medical usage, various tests are run to identify the phytochemicals and antimicrobials that are present. Based on phytochemical and antimicrobial research, these chemical ingredients are primarily responsible for a variety of biological activities. Alkaloids, steroids, saponins, cardiac glycosides, carbohydrates, protein, tannins, and phenol were discovered to be present. In the month of May, a plant sample was collected from Beswan's garden. First, the leaves were gathered, dried, and ground into a powder. Afterward, an extract was made with a methanolic solvent. The aforementioned chemical contents of *Syzygium cumini* were then determined by phytochemical and antibacterial investigation.
Keywords: - **Phytochemicals, Antimicrobial**

Introduction

Given that illness, ageing, and death have always coexisted with life, the study of illnesses and the development of medical interventions must have coincided with the decline of human perception. India's people deserve a great deal of credit for knowing a significantly greater variety of medicinal plants than any other nation's indigenous population. The use of herbs and plants as healing agents was largely discredited around a generation ago. The development of medical instruments can be divided into four stages, much as civilization itself has undergone four stages of growth. In India more than anywhere else, medical professionals tend to overlook the study of medicinal plants. We are unfortunate that the majority of these plants' chemistry and pharmacology have not been well studied. The world is blessed with an abundance of medicinal plants, making them a local legacy of global significance. The greatest bioresource for pharmaceutical intermediates, modern medications, food supplements, folk remedies, nutraceuticals, traditional medicine, and chemical entities for synthesized drugs is medicinal plants. Naturally occurring phytochemicals with defense mechanisms and disease-prevention properties can be found in medicinal plants, leaves, vegetables, and roots. *Myrtaceae* is the family to which *Syzygium cumini* (L.) belongs. Mature trees that are grown all across India are known to have anthocyanins, which include cyanidin, petunidin, malvidin glucoside, and other components. These fruits, known as jamun or black plum, are edible and are said to include vitamin C, gallic acid, tannins, and other substances.

The medicinal herb *Syzygium cumini* has antibacterial, anti-HIV, hypoglycemic, and anti-diarrhea properties that have been demonstrated by pharmacological testing. The leaves of this plant have historically been used as an astringent, to treat fever, and to stop diarrhea. Numerous articles have suggested that this plant has pharmacological properties, including antibacterial, antidiabetic, immunomodulatory, and anticancer effects, in its leaves extract.

Religious Veneration: -

In Hinduism, Jamun is considered the "fruit of the gods," particularly in the state of Gujarat. The tree is

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AI Powered Banking: A Catalyst for Economic Growth in India

Mohammad Arsalan Ahmad[1], Khursheed Muzaffar[2], Manoj Kumar Sahoo[3], Nyarik Geyi[4]
[1,2]Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[3]Faculty of Business Management & Commerce Usha Martin University, Ranchi, Jharkhand
[4]Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: arsalan.ahmad@mangalayatan.edu.in

Abstract

The application of artificial intelligence (AI) in the banking sector has emerged as a potential catalyst for economic growth in India. This research intends to investigate how AI-powered banks affects the economy of the country. The objectives of the study are to investigate the various applications of AI technology in the banking sector and to analyse its contribution to economic growth. Through a comprehensive literature review and analysis of relevant data, the study examines the implementation of AI in areas including management of risks, identifying fraudulent activities, and relationship building, and process automation. Additionally, the study evaluates the potential benefits of AI-powered banking, including improved efficiency, enhanced customer experience, and increased financial inclusion. The findings highlight the transformative potential of AI in driving economic growth in the Indian banking sector.

Keywords: *AI technology, Banking sector, Economic growth, Chatbots, Data analytics, Process automation.*

1.1 Introduction

In the present era, the world is undergoing a transformative phase driven by technological advancements. Information technology has played a significant role in bringing about technological changes across various sectors. Consequently, there is a growing demand for artificial intelligence (AI) in different industries. Let's begin by understanding the concept of artificial intelligence. According to **Latimore (2018)**, AI can be defined as the ability of a machine or computer to imitate and apply knowledge and skills from natural sources. When a machine replicates human thinking and decision-making processes, it is referred to as artificial intelligence.

In recent times, the banking sector has also recognized the importance of artificial intelligence, as it offers a a competitive edge. Nevertheless, comparable with various sectors, the widespread use of artificial intelligence (AI) in the Indian banking industry has been sluggish, possibly due to the need for human involvement in banking operations. Nevertheless, there is a continuous requirement for AI in the banking sector, as it assists in customer retention, digital documentation, and the provision of real-time solutions through virtual assistance. Furthermore, In everyday business, businesses are using AI-based solutions for combating money laundering, fraud detection, and lending assessment.

According to **Latimore (2018),** Intelligent technology in accounting refers to software that can draw conclusions and take actions previously requiring direct human involvement. An online survey conducted by the National Business Research Institute in April-May 2016 involved 112 respondents and analyzed their views on artificial intelligence. The results revealed that 32 percent of the respondents confirmed using AI technologies, while 12 percent expressed concerns about the technology being relatively new and uncertain about its security, leading to their decision not to use AI. The paper also highlighted how the business sector's utilization of cognitive technologies may result in over $47 billion in income by 2020, with banking being the leading sector in this regard.

In a post written by **Maskey (2018)**, the founder of Fuse machines, on the Forbes website, it was discussed how artificial intelligence is benefiting financial institutions. The article emphasized that artificial intelligence is playing a crucial role in the growth of financial institutions, with estimates suggesting that AI could save the

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An Analytical Study of Relationship between Shares Prices and Macroeconomic Variables for Bombay Stock Exchange Sensex Based Companies

Sidharth Jain[1], Nitin Kumar Agarwal[2], Dinesh Pandey[3], Prakash Divakaran[4], Prakash Mishra[5]
[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[2]Associate Professor, TMIMT, Moradabad, UP
[3]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
Email: siddharth.jain@mangalayatan.edu.in

ABSTRACT

In the last few years, numerous investors have lost their hard earned money due to the wrong prediction while investing in stocks. Problem of forecasting of stock market trends leads to the objective of this present research study. The problem of investors may be resolved and they may be capable to predict the market if they have the accurate and ample amount of information about the determinants of stock prices. This research work is expected to unearth the factors which play crucial role in determining stock prices. Foreign exchange rate, Money Supply, Foreign reserve have been considered as selected macroeconomic factors for analysis under this study. This research study aims at studying the magnitude of effect of these selected factors on Bombay stock exchange Sensex (India).The monthly data has been collected from reliable source and it is related from April 2018 to March 2023.After review of existing literature, the collected data was examined to state the status of data i.e. existence and non- existence of unit root problem. Johansen co-integration being a wide popular tool has been applied to examine the independent and dependent variables in order to ensure co-integration. To measure the causal relationship among the factors, the granger causality test has been applied.

Keywords: Macroeconomic variables, Stationary of data, Co-integration, Granger causality, BSE Sensex.

Introduction

The Indian stock market has become an inconspicuous share trading platform. The investors across the world have been interested in knowing the factors influencing the stock indices in stock market (BSE). The investors and investment strategy makers are in the pursuit of the accurate information about the factors causing fluctuations in stock indices. This study aims to explore various macroeconomic factors which extensively impact Indian stock market (BSE) and examine the macroeconomic factors and Bombay stock exchange to ensure the relationship between both. The researcher has selected few macroeconomic factors on the basis of their presence in the existing literature and experts' advices. This research study examines the data collected for 5 years from year 2018 to 2023.Exchange rate, Money supply and foreign exchange reserve have been taken as independent factors.

Review of Literature

Kumar Saurabh (2012): The researcher analyzed the monthly return data and examined the impact of macroeconomic variables on variations in stock returns in stock market in India i.e. BSE Sensex. A plenty of macroeconomic variables were studied under this research study. The macroeconomic variables included real economic activity, wholesale price index, exchange rate, World gold price, domestic silver price, Crude oil prices and broad money etc. The adequacy of linear dependence was suggested by factor and regression analysis. The variations in stock returns were significantly impacted by World gold price and broad money.In this research study, monthly data was used and few macroeconomic factors were studied.

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A Comparative Evaluation of Branded Drug Generic Drug: Paracetamol Tablet

Yadvendra Singh Thenuan[1], Shubham Sharma[2], Sakshi Verma[3], Barun Ranjan Sarkar[4], Suraj Sharma[5]

[1]Assistant Professor, Mangalayatan Institute of Pharmaceutical Education & Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, School of Pharmacy, Mangalayatan University, Beswan, Aligarh, U.P.
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Associate Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
E-mail: yvdsingh@gmail.com

ABSTRACT:

This study was performed between generic and branded medicine, in this study we took generic and branded samples of paracetamol. Then we tested these samples according to IP which included weight variation, friability, hardness, disintegration test, and dissolution study. Many people understand that the quality of generic medicine is not good or effective. So, in this article, we did a comparative study of generic and branded products to understand whether generics maintain good quality and have the same efficacy as that of standard drugs. Both versions of the two medicines were within their permissible range for all the quantitative and qualitative parameters as prescribed in Indian Pharmacopoeia.

Keywords: Branded Medicines; Branded-Generic; Generics; Mark-ups; India; Quality Testing; Paracetamol.

INTRODUCTION

Branded and Generic Medicines: - Generic drugs According to the FDA "a drug product that is comparable to branded product is dosage form strength route of administration, quality and performance, characteristics, and intended use. It is a copy of a branded drug whose patent has expired and has no longer exclusive rights to produce and distribute medicines[1]

Branded drugs: - It is the original product developed by a pharmaceutical company. It has the sole right to manufacture and distribute for a period (patent). A brand-name drug is a small medicine that is discovered developed and marketed, by a pharmaceutical company.[2] Once a new drug is discovered, the company files for a patent to protect against other companies making copies and selling the drugs. The drug has two names - a generic name and a brand name to make it stand out in the marketplace. Brand-name medicine was originally discovered and developed by a pharmaceutical company. FDA approves brand name medicine by submitting a New Drug Application along with data regarding proof of characteristics of dosage form, manufacturing, chemistry, stability, efficacy, safety, labelling, and packaging. After approval by FDA only, the innovatory company can exclusively market this brand name medicine for a period of patent protection (about 20 years or as specified). Brand name medicine is generally sold at a high cost to cover the expense of research and development of drug[4]

1.1Authorized Generics: -
They are less costly than brand-name drugs and have been produced by the same manufacturer of brand-name drugs.

•They increase competition by encouraging the sale of low-price authorized generics during the 180-day exclusivity period in which generics are often sold at higher prices.

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Study on Diversity of Microbial Flora of Vermicompost

Rakesh Kumar Sharma[1], Soni Singh[2], Rojalini Samanta[3], Brishnendra Mishra[4], Swarnim Rai[5]

[1]Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh
[2]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Collage of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
E-mail: rakesh.sharma_ibmer@mangalayatan.edu.in

ABSTRACT

A large number of microorganisms like fungi, bacteria, parasites, viruses, and actinomycetes are present in the soil which plays significant role in degradation of organic matter. Degradation is enhanced by vermicomposting which is a biotechnological process and involves the activity of earthworms which supports the growth of micro organisms and also improves physical and chemical properties of soil. In the process of vermicomposting organic waste is converted into useful composts which are used as biofertilizers for sustainable agriculture through the synergistic actions of earthworms. Earthworms play the crucial role of breaking down the large soil particles and leaf litter and helps in increasing the availability of organic matter for the degradation by microbes. A study was conducted to identify the bacterial flora present in vermicomposts produced from domestic wastes like cow dung, vegetable waste, straw and *Azadirachta indica* leaves. Morphological, microscopic and biochemical characterization revealed presence of six species of bacteria *Bacillus subtilis, Pseudomonas aeruginosa, Azotobacter sp., Bacillus cereus and Micrococcus luteus* in the vermicompost.
The present study focuses on the diversity of microbial flora and their identification present in the vermicompost.

Keywords: Vermicompost, Degradation, Biofertilizer, Earthworms, Microbial flora.

INTRODUCTION

Knowledge on the diversity and functional potential of microorganisms is necessary for better understanding of the biology of vermicomposts and its role to increase plant growth (Ahmad et al., 2022). Since population of human being is increasing continuously the availability of land for cultivation and disposal of waste has been decreasing there is an urgent need to intensify the crop production and improvement of waste disposal systems. During the last few years intense activities of human have resulted into increased accumulation of various types of waste materials, management of waste has become an extremely important issue worldwide (Demirbas,2011, Bidabadi, 2018). The most important is the solid waste. To deal with this solid waste in an environment friendly and economically sustainable way is a matter of utmost importance (Sabbas and Polettini2003,Ravindran et al., 2016) Around 2.01 billion metric tons of solid waste are produced annually. It is estimated that this value further increase upto 3.40 billion metric tons by 2050 (Hoornweg and Bhata 2012). Different sources produced solid waste which includes both inorganic and organic materials (Gupta et al., 2019). There are several classifications of solid waste of which sewage waste (Dumontet, Dinel and Baloda,1999, Machfudz et al., 2020), domestic waste (Suthar and Singh, 2008), municipal solid waste, (Kaviraj; Sharma, S; 2003,) ashes, (Usmani, Z.; Kumar, V.; Gupta, P.; Gupta 2019) manures (Arancon, N.Q.2008) are important to deal with. However, crop intensification has resulted in indiscriminate use of pesticides and fertilizers have undesirable effects on the predators which feed on crop pests and also on plant growth enhancing bacteria with other soil microorganisms. Global waste mainly industrial waste can also be classified into nonhazardous waste and hazardous waste (Bhat et al., 2018).Of these two the highest percentage is of nonhazardous waste, therefore an immense action is needed to find an ecofriendly favorable and rapid method for well-organized management of waste for sustainable development (Samal et al., 2019, Kaur et al, 2022, Ahmad and Aslam, 2021).Over the past few years, environmental and disposal problems caused by production of enormous quantities of organic waste requires sustainable approach in cost effective manner and has become a very important issue to maintain healthy environment (Abdullah Hussaini 2013, Rekha et al., 2018). In current years, organic wastes disposal from different sources like domestic agriculture and industries posed serious environmental hazards. The waste materials are disposed in a way that causes environmental pollution and affects air quality water sources and soil

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Role of Nanorobotic in Healthcare

Priyanshi Goyal[1], Abdul Wadood Siddiqui[2], Pankaj Kumar [3], Ananga Mohan Das[4]

[1] Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: priyanshi.goyal@mangalayatan.edu.in

Abstract:

The term "nano-robot" refers to any kind of controllable machine that is built from nano-components and operates on the nano (10^{-9}) metre or molecular size. Specifically, nano robotics is the field of nanotechnology engineering that focuses on the design and construction of these still-largely-speculative machines. Nanorobotics and macrorobotics are quite different fields owing to scale and material variations, yet there are many shared design and control techniques that could be applied in the future. Thanks to today's scientific know-how, we can try to build nanorobotic devices and link them to the macro world for control. There is a chance to construct more of these devices by emulating nature, and there are innumerable examples in nature. Nowadays these nano robots play a vital role in the field of Bio Medicine. This paper guides to the recent research on nano robots in the Bio medical applications with their composition.

Keywords: Nanorobots, healthcare, biomedicine, cancer, diabetes

Introduction:

The field of nanomedicine presents the possibility of developing highly effective new instruments for the treatment of human diseases and the enhancement of human biological systems. This is accomplished by the development of nano- and micro-scale robots that are capable of travelling throughout the human body. This allows for the implementation of new technologies that redefine typical procedures. Through the utilisation of molecular instruments and molecular understanding of the human body, nanomedicine is a process that involves the diagnosis, treatment, and prevention of disease and traumatic injury, as well as the alleviation of pain, as well as the preservation and improvement of human health. Any intelligent structure that is capable of actuation, sensing, signalling, information processing, intelligence, manipulation, and swarm behaviour at the nanoscale (10-9m) would be considered a nanorobot [1,2]. The bio Nanorobots are nanorobots that are built (and inspired) by leveraging the capabilities of biological materials (peptides, DNAs), as well as their designs and functionality. In addition to being influenced by nature, these are also influenced by machines [3]. It is possible that nanorobots could provide solutions to the majority of nanomedicine [4]. In the realm of science and engineering, the activities that take place at the level of atoms and molecules are referred to as nanotechnology. One billionth of a metre is equal to one billionth of a metre, which is approximately one hundred and eighty thousandth of the diameter of a human hair or ten times the diameter of a hydrogen atom. One of the many benefits that nanorobots can provide in comparison to the ways that are already in use is the utilisation of nanorobot medication delivery systems that have higher bioavailability. targeted therapy, in which only cancerous cells are allowed to be treated, As a result of computer control and automation, there are fewer errors. Reach remote parts of the human anatomy that are not accessible to the surgeon while they are operating on the patient. During the process of mass transfer, the advantages of a large interfacial area can be realised because drug molecules are transported by nanorobots and then released at the appropriate location. An approach that is non-invasive, Better accuracy [3, 5, 6] is achieved through computer-controlled operation with knobs that allow for fine-tuning of the amount, frequency, and timing of release. This fictitious context is frequently indicated by the phrase "nanobot," which is also known as "nanite," "nanogene," or "nanoant." The term "nanobot" is a term that is used to refer to the engineering idea of nanorobots, and it can be considered casual or even derogatory.

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Study of Engine Performance Parameters using Different Blends of Biodiesel-Review

Shweta[1], Kishan Pal Singh[2], Asim Ahamad[3]

[1]Assistant Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh
[2]Associate Professor, Department of Mechanical Engineering, Mangalayatan University, Aligarh
[3]Assistant Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand
Email: shweta@mangalayatan.edu.in

Abstract

In the past 15 years, research on the effects of using biodiesel instead of diesel to power compression ignition engines has increased due to its renewable, sustainable, and alternative nature. Biodiesel is made up of alkyl esters of saturated and unsaturated long-chain fatty acids obtained through the transesterification of vegetable or animal fats. It is currently regarded as most promising alternative fuels for I.C. Engines, despite some application issues. The current paper aims to conduct a thorough analysis of engine performance and emissions when using biodiesel derived from various feedstock's and to compare the results with diesel. Based on the review, it is found that using biodiesel reduces PM, HC, and CO emissions significantly. However, there is a noticeable loss of power, an increase in fuel consumption, and an increase in NOx emissions when using conventional diesel engines with little to no modification. It is advised to conduct numerous additional studies on engine modifications, engine performance at low temperatures, new instrumentation and measurement techniques, etc. when utilizing biodiesel as a diesel substitute.

Keywords: Biodiesel, Diesel, Brake Thermal Efficiency, Thermal Efficiency.

1. Introduction

A country's ability to advance depends critically on its energy resource availability. Nowadays, nearly all of humanity's energy needs are satisfied by depleting fossil fuels, which have detrimental effects on the environment. The amount of energy consumed has increased more than 20 times during the past century worldwide and all significant sources of electricity, with the exception of hydropower and nuclear power, are limited resources that will probably run out soon [1]. The most significant environmental issue of the twenty-first century is climate change, which is being caused by the fast increase in fossil fuel consumption. According to recent studies, this has led to the release of greenhouse gases into the atmosphere, which has contributed to the 0.8 °C rise in the world mean temperature over the course of the previous century. Climate change's effects on human societies and ecosystems have led to the development of sustainable and endless renewable energy sources, such as biomass, solar, wind, and small hydropower. By decreasing our reliance on imports, renewable energy sources in general and biomass energy in particular can improve the security of our energy supply. The two liquid biofuels that can be used in place of gasoline or diesel, respectively, are ethanol and biodiesel. In addition to protecting the environment, the use and production of biofuel would create new economic opportunities by generating jobs in rural areas [2,4]. Alternatives to petroleum-based diesel and gasoline can produce from biomass feedstock's to produce biodiesel and ethanol, respectively. Only the biodiesel diesel substitute will be covered in this paper.

Many edible and non-edible oil resources can be used for producing biodiesel, with non-edible seed plants being the main source of supply. In order to produce biodiesel that can run a CI engine, the oil from these crops can be trans esterified using a suitable technique based on its FFA content. Paper focuses on reviews of previous research on diesel engine performance when using blends of biodiesel and different oils in place of diesel [5].

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Performance Evaluation of SVPWM Fed Induction Motor Drive with Three-Level Inverters and Variable Load

Shivam Upadhyay[1], Dheeresh Upadhyay[2], Abhishek Pandey[3]
[1,2] Assistant Profesoor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, India
[3]Associate Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand
Email: shivam.upadhyay@mangalayatan.edu.in

Abstract - Induction motors are fed by voltage source inverters with variable loads, and this work proposes space vector pulse width modulation (SVPWM) and sinusoidal pulse width modulation (SPWM). The effectiveness of each of the aforementioned strategies has been evaluated in terms of eliminating the presence of harmonics under various loads. Additionally, a comparison of SVPWM and SPWM's capabilities has been done. MATLAB/Simulink has been used to carry out the study.

Keywords – Voltage Source Converter, SVPWM, SPWM, Induction Motor Drive

I. INTRODUCTION

The Pulse Width Modulation (PWM) inverters are three phase voltage supplied. The major drivers of this prominence are the simplicity with which high voltages may be shared between devices connected in series and the enhancement of output harmonic quality over a two level inverter. Both speed and torque may be adjusted with a PWM inverter-fed adjustable speed drive (ASD). Due to the huge amount of inverter switching states and hybrid nature of the technology, which involves both under modulation and over modulation techniques, the modulation strategy for such PWM-based technique is quite complex [1]. As compared to the conventional value of 78.5% in Sinusoidal Pulse Width Modulation [2], the Space Vector Pulse Width Modulation (SVPWM) [7] of a three level inverter offers the additional benefit of more effective harmonic quality and a larger under modulation range, increasing the modulation factor to 90.7%.

II. BASIC THREE PHASE INVERTER

Figure 1 depicts a conventional three-phase power inverter, where VA, VB, and VC are the voltages applied to the motor windings when they are coupled in a star pattern, and where VDC is the continuous inverter input voltage.

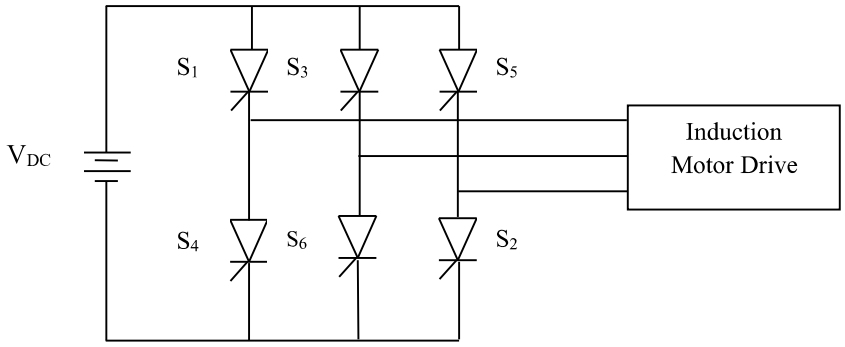

Fig.1 Basic Scheme of 3-Phase Inverter and AC Motor

The power MOSFET has six switches, three of which must always be ON and three of which must always be OFF. Applications requiring medium- to high-power are covered by three-phase inverters. The primary function

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The Effects of Work-Life Integration Programmes on Employee Morale and Performance

Niyati Sharma[1], Anupama Verma[2], Nyarik Geyi[3], , Shivangi Dwivedi[4], Amit Srivastav[5]

[1]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P., India.
[3]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: niyati.sharma@mangalayatan.edu.in

Abstract

The purpose of this investigation is to determine what factors such as job satisfaction and vacation time mean for employee productivity. To evaluate this model, we conducted a survey based on the responses of 200 employees in the pharmaceutical and medical device industries in Jordan. Numerous relapses were employed to verify the review's hypotheses. There were positive and significant effects of employee happiness and work-life balance on productivity. However, job satisfaction has no influence on employee performance. The results have substantial implications for the pharmaceutical industry in Jordan. Organisations are placing a greater emphasis on work-life balance as they recognise its significance in determining employee productivity and well-being. This study provides in-depth discussions of the significant effects of work-life initiatives on enhancing employee productivity and general wellbeing. The abstract begins by emphasising the current context, in which work-life balance has become of paramount importance. As workplaces evolve and employee demands increase, the necessity of fostering an environment that prioritises both professional and personal obligations has become more apparent. Organisations adopt a number of measures to promote work-life balance in order to support their employees. These programmes include wellness initiatives, parental leave regulations, flexible work schedules, and remote work made possible by technology. Each endeavour is evaluated based on its impact on worker productivity and well-being.

Keywords: Work-Life, Balance, Employee, Productivity, Well-Being

1. INTRODUCTION

In recent years, businesses across the globe have elevated the well-being of their employees to the level of a top priority. In addition to monetary incentives, the company's work-life balance programmes have become a significant factor in its hiring procedure. Large organisations can no longer recruit top-tier faculty due to the fact that previous leaders had the option to advance their careers within the organisation. Existing employees evaluate a company's performance based on their general happiness and well-being, and this has become the definitive measure of a company's ability to succeed.

attract, retain, and manage its staff. In this way, the emphasis has shifted from emphasising employee happiness and well-being to emphasizing business success. To support productivity and staff retention, organisations are increasingly emphasizing an individual-centered strategy. Organisations are willing to adopt a more nuanced perspective in order to create attractive working conditions for both employees and executives. Due to the unmistakable link between a healthy work-life balance and positive business outcomes, such as increased productivity, many organisations are currently elevating it to employees. Organisations such as Procter and Gamble provide a variety of benefits aimed at enhancing the personal satisfaction of their employees, such as paid time off to spend with family, the option to work from home one day per week, reimbursement for fitness centre or club membership, yearly complete health screenings, and dietary and mental counseling.

We should begin by defining what we mean when we discuss happiness and contentment. A existence well-lived is one in which one experiences extensive pleasure. The concept extends beyond the workplace (Diener,

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Evaluating the Ripple Effect of Supply Chain Management Practices on Supply Chain Profitability: Study of Cement Industry

Rajeev Sharma[1], Shashi Kant Dikshit[2], Meenakshi Kumari[3]

[1]Professor, Mangalayatan University, Beswan-Aligarh, rajeev.sharma@mangalayatan.edu.in
[2]Assistant Professor, School of Leadership and Management, Manav Rachna International Institute of Research and Studies, Faridabad, Haryana
[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
Email: rajeev.sharma@mangalayatan.edu.in

Abstract:

In cement industry, companies are selling product that is high density and low value to weight ratio and focusing on economies of scale to earn more profit. In Indian cement industry the competition is not among companies but between the supply chains and because of this supply chain management has become the effective way to achieve competitive advantage and improve organisation performance. This study is conducted to analyse the factors that are responsible for strong relation between SC management practices, Supply chain performance, competitive advantage, and organisation performance and profitability. In this study, to understand the relationship 7 dimensions of supply chain management practices, 5 dimensions of supply chain performance, 5 dimensions of competitive advantage, 6 dimensions of organisation performance and 4 dimensions of organisation profitability was identified and empirically tested. Data for the study was collect from SC professionals and employees from cement industry with this assumption that they are aware about the supply chain concept. Collected data was digitized and analysed using SmartPLS.

Key Words: Supply chain, Supply chain management, Competitive Advantage, Organisation Performance, Organisation Profitability, Supply chain performance

1. Introduction:

Supply chain management in the cement industry garners significant interest and importance among business managers, supply chain professionals, academics, and consultants due to its inherent complexities. The cost components of the Indian cement industry can vary depending on factors such as market conditions, government regulations, and technological advancements. Efforts to reduce costs and improve efficiency are ongoing in the industry through measures such as energy efficiency improvements, process optimization, and adoption of advanced technologies.

In India, cement faces a substantial 28% - 30% tax under the Goods and Services Tax (GST). Additionally, the industry is characterized by high energy consumption, with power costs representing a critical component, comprising around 30% - 35% of total production costs. Cement, typically packaged in 50 kg bags, falls into the low price-to-weight ratio category. Moreover, its perishable nature necessitates rapid consumption, limiting geographical coverage to within approximately 300 km of production centres.

One professional from the cement industry aptly noted, "Tax and energy consumption are not within our control, so our last resort is optimizing the supply chain. Efficient supply chain management offers the potential for substantial profits, given that demand consistently exceeds supply." This underscores the paramount importance of supply chain management in the cement industry, serving as a critical factor in navigating challenges and maximizing profitability.

The aim of this study is to explore the correlation between Supply Chain Management Practices (SCMP), Competitive Advantage (CA), and Organizational Performance (OP) through empirical analysis. By conducting this research, we aim to discern the influence of supply chain practices on competitive positioning and, ultimately, enhance the overall performance of the organization.

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A Study of Work-Life Balance among Married Women Employees: Challenges and Solutions

Shalu Agrawal[1], Shabana Bano[2], Yibom Bagra[3], Ankit Khare[4], Salima Bhattarai[5]

[1]Assistant Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP
[2]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: shalu.agrawal@mangalayatan.edu.in

ABSTRACT

This research paper aims to investigate the work-life balance among married women employees, focusing on the challenges they face and potential solutions to enhance their well-being. The modern workforce dynamics have witnessed an increasing number of women actively participating in the workforce, often juggling multiple roles simultaneously. This study focused on assessing the impact of work-life balance determined by work-family conflict and family work conflict on the well being of women employed in the private sector. This study delves into the unique challenges faced by married women employees and explores effective strategies and policies to foster a healthier work-life balance. Studies have identified several variables that influence the life of the married women. Variables such as the size of family, the age of children, the work hours and the level of social support impact the experience. However, these variables have been conceptualized as antecedents of work life balance; it is also important to consider the consequences these variables have on psychological distress and well being of the working women. So, This study explores the evolution and impact of working women, shedding light on the challenges they face and the empowerment they bring to communities and economies.

Keywords: Work-life balance, Married women employees, Challenges, Solutions, Flexible work arrangements.

INTRODUCTION

Background the changing socioeconomic landscape has led to a significant rise in the number of married women entering the workforce. This shift necessitates an examination of the challenges associated with maintaining a satisfactory work-life balance. At the present time, Indian women's exposure to educational opportunities is substantially higher than it was some decades ago, especially in the urban setting. This has opened new vistas, increased awareness and raised aspirations of personal growth. This, along with economic pressure, has been instrumental in influencing women's decision to enter the work force.

In recent decades, the role of women in the workforce has undergone a profound transformation, challenging traditional norms and contributing to the reshaping of societal structures. The increasing presence of working women in various professions and industries reflects not only a shift in economic dynamics but also a significant stride towards gender equality. The present study is aimed at exploring the factors which lead to work life balance among married women employees working in different settings.

Multiple roles and professional women

Super[1] identified six common life roles. He indicated that the need to balance these different roles simultaneously is a reality for most individuals at various stages throughout their lives. Rather than following a transitional sequence from one role to another, women are required to perform an accumulation of disparate roles simultaneously, each one with its unique pressures[2]. Multiple role-playing has been found to have both positive

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A Review Article on Recent Innovation and Future Obstacles in Drug Delivery system to the Eye

Priyanshi Goyal[1], Abdul Wadood Siddiqui[2], Pankaj Kumar [3], Ananga Mohan Das[4]

[1] Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: priyanshi.goyal@mangalayatan.edu.in

Abstract

The presence of numerous anatomic and physiologic obstacles has long made ocular drug delivery a problem for ophthalmologists and researchers into drug delivery. Invincible ocular obstacles, both static and dynamic, not only prevent xenobiotics from entering the eye, but also prevent therapeutic substances from being actively absorbed. Improved medication bioavailability and controlled drug release at the location of action, which can address several ocular defences, should be included when creating the optimum delivery system. To treat disorders of the anterior and posterior segment, traditional ophthalmic drugs include anti-vascular endothelial growth factor intravitreal injections and topical eye drops agents. Puncture plugs, eye implants, contact lenses with drug-eluting material, and ocular iontophoresis are examples of modern innovations for controlled and prolonged medication release for the anterior ocular segment illnesses. Various intravitreal implants have been approved as a result of parallel attempts ocular drug delivery method for diseases of the back of the eye. Dendrimers, microneedles, nanomicelles, nanoparticles, nanomicelles, liposomes, and nanowafers are among the new drug delivery technologies being investigated for anterior and posterior abnormalities. To increase patient compliance for diseases of the back of the eye, new techniques for the noninvasive delivery of potent treatments are becoming more popular. In this review article topics are covered in the current developments and upcoming difficulties in ocular drug administration this review article.

Keywords: Anatomy of Eye; Drug delivery; Intravitreal; Diseases; Administration

Introduction:

Even though the eye is self-contained and well-protected due to its anatomy, it can be affected by a variety of diseases. Diseases that affect the eye's outer layer may only be superficial, such as deep inside the eye, conjunctivitis, such as glaucoma, or in the vitreal portion, affecting such with age-related macula edoema, the retina. The varied features of the layers that make up the eye, of course, have a considerable impact on therapeutic efficacy by restricting drug penetration into the eye and delivery. As the population of America ages, the frequency of these visual problems will rise, resulting in much higher healthcare expenses and demanding the creation of innovative, efficacious, and safe ocular medicines. Despite eye drops continue being the most prevalent ocular dosage method, new numerous dosing platforms and forms have been developed through study to provide better effectiveness while also improving sensitivity. These new platforms or dosage forms administer medications for extended periods of time, improving patient compliance while maintaining the drug's safety record. One of the main advantages of several of these delayed drug release platforms is that while patient noncompliance is not a major issue during disease care, medicine distribution is not under the patient's control. This article gives a broad overview of the anatomy and physiology of the human eye and how it relates to ocular drug delivery. It also provides a thorough analysis of recent developments in ocular drug delivery technology and ongoing efforts by the pharmaceutical industry and independent research organizations to enhance ocular drug delivery for both the anterior and posterior segments of the eye.

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A study of q-Difference Equations for the q-Generalized Tangent-Euler Polynomials

Hibah Islahi[1] and Jayantika Pal[2]
[1]Assistant Professor, Institute of Applied Sciences, Mangalayatan University, Aligarh, Uttar Pradesh, India
[2]Associate Professor, Faculty of Engineering and Applied Science, Usha Martin University, Ranchi, Jharkhand
Email: hibah.islahi@mangalayatan.edu.in

ABSTRACT

The q-recurrence relations and q-difference equations of the q-Euler and hybrid type q-Euler polynomials are helpful in finding the solutions of the problems originating in certain branches of science and engineering. This article, intends to investigate the q-recurrence relations and a new classes of q-difference equation for the q-generalized tangent-Euler polynomials by using different analytical means.

2020 Mathematics Subject Classifications: 05A30, 11B68, 11B83, 33E20

Keywords: q-calculus, q-generalized tangent-Appell polynomials, Generating function, q-difference equation

1 Introduction

The subject of q-calculus has established its importance in quantum mechanics, fluid mechanics, and combinatorics. It has a deep connection with Lie algebra and commutativity relations (see, for details, [5-8]). The q-standard notations and definitions reviewed here are taken from [2].

The q-analogue of a number $n \in \mathbb{C}$ and factorial function are specified as

$$[n]_q = \frac{1-q^n}{1-q}, q \in \mathbb{C}\backslash\{1\}, \tag{1.1}$$

$$[n]_q! = \prod_{m=1}^{n} [m]_q = [1]_q[2]_q[3]_q \cdots [n]_q, \ [0]_q! = 1, \ n \in \mathbb{N}, \ 0 < q < 1. \tag{1.2}$$

The q-binomial coefficient nk_q is specified as

$$nk_q = \frac{[n]_q!}{[k]_q![n-k]_q!}, \ k = 0,1,2,\cdots,n; \ n \in \mathbb{N}_0. \tag{1.3}$$

The q-exponential functions are specified by

$$e_q(u) = \sum_{k=0}^{\infty} \frac{u^k}{[k]_q!}, \ 0 < |q| < 1, \ |u| < |1-q|^{-1}, \tag{1.4}$$

$$E_q(u) = \sum_{k=0}^{\infty} q^{k(k-1)/2} \frac{u^k}{[k]_q!}, \ 0 < |q| < 1, \ u \in \mathbb{C} \tag{1.5}$$

and satisfy the following relation

$$e_q(t)E_q(-t) = E_q(t)e_q(-t) = 1. \tag{1.6}$$

The q-derivative D_q of functions $e_q(u)$ and $E_q(u)$ are given by

$$D_q e_q(ut) = te_q(ut), \ D_q E_q(ut) = tE_q(qut). \tag{1.7}$$

For any two arbitrary functions $f(u)$ and $g(u)$, the q-derivative operator D_q satisfies the following product and quotient relations:

$$D_q(f(u)g(u)) = f(qu)D_q g(u) + g(u)D_q f(u) = f(u)D_q g(u) + g(qu)D_q f(u), \tag{1.8}$$

$$D_q\left(\frac{f(u)}{g(u)}\right) = \frac{g(qu)D_q f(u) - f(qu)D_q g(u)}{g(u)g(qu)} = \frac{g(u)D_q f(u) - f(u)D_q g(u)}{g(u)g(qu)}. \tag{1.9}$$

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Screening of Potent Natural BACE1 Inhibitors for Alzheimer's Disease Treatment based on In-Silico Docking Study

Brijesh Sharma[1], Ram Babu Tripathi[2], Rupsa Seth[3], Abhishek Pandey[4], Pratikcha Rai[5]

[1]Professor, Department of Pharmacy, Mangalayatan University, Aligarh, Uttar Pradesh, India
[2] Professor, Amity Institute of Pharmacy, Amity University, Gwalior, Madhya Pradesh, India.
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: brijesh.sharma1961@mangalayatan.edu.in

ABSTRACT

Alzheimer's disease is a neurodegenerative condition in which patients experience memory loss (dementia) and changes their thinking, planning, speaking, and seeing process and affect with their day-to-day life activities. In recent studies, it has been proposed that Alzheimer's disease results from an accumulation or production of a protein called beta- amyloid protein in the brain that results in nerve cell death. This is known as the "amyloid cascade hypothesis." To address this, novel inhibitors targeting BACE1 are a promising approach to treat Alzheimer's disease (AD). Natural compounds are effective and safer options. Therefore, the present study was conducted with the objective to examine the binding pattern of seven natural ligands, such as Atabecestat, Genistein, Lupenone, Lupeol, Melatonin, Nicotine, Resveratrol and 2, 2', 4'-Trihydroxychalcone (TDC) in comparison to synthetic ligand Atabecestat against their target proteins such as (BACE1)-secretase (PDBID:2WJO) through molecular docking analysis. The findings of the molecular docking study indicated that binding energy of test compounds ranged from –6.38 to −9.43 Kcal/mol compared to −7.2 Kcal/mol of Atabecestat. Lupeol was found to be the best with −9.43 Kcal/mol binding affinity. The binding pattern of the aforesaid ligands will be further valuable in the design of novel lead compounds that are better therapeutic agents for treating Alzheimer's disease (AD) using pharmacophore-based drug design.

Keywords: Alzheimer's disease, beta- amyloid protein, amyloid cascade, molecular docking, BACE1 inhibitors, neurodegenerative.

1. INTRODUCTION:

Alzheimer's disease is a rapidly increasing global health issue that has a huge impact on the people affected and society as a whole. The World Health Organization (WHO) reports that Alzheimer's disease (AD) is a global public health problem and an estimated 35.6 million individuals worldwide have been suffering from dementia. This figure is predicted to reach 65.7 million by 2030. In the United States of America (USA), the total annual payments for health care, long-term care and hospital care for people with AD or other dementias are projected to rise from $259 billion in 2017 to higher than $1.1 trillion up to 2050. According to Alzheimer's and Related Disorders Society of India report, there were around 3.7 million Indians with dementia in 2010 with the number projected to rise to 7.6 million by 2030[1-3]. Currently there are only few FDA-approved medications on the market, including AChEi inhibitors (Galantamine, Rivastigmine, Tacrine, Donepezil) and NMDA-receptor antagonists (Memantine), which only provide symptomatic relief and are not Alzheimer's disease specific[4].

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Public Relations Research: Present Situation and Future Prospects

Mayank Kumar Jain[1], Deepmala Gupta[2], Rupa Kumari[3], Dipongpou[4]

[1,2]Department of Journalism and Mass Communication, Mangalayatan University, Aligarh, U.P.
[3]Faculty of Journalism and Mass Communication, Usha Martin University, Ranchi, Jharkhand
[4]Department of Political Science, Himalayan University, Itanagar, Arunachal Pradesh
Email: mayank.jain@mangalayatan.edu.in

ABSTRACT

Advancements in Public Relations study have brought to light the conflicts that have emerged between the academic and professional spheres of this field. It is clearly far from being

Professionals in this field mostly focus on research, with a particular interest in short-term research. They specifically study the impact of communication and its influence on marketing. Often, this is done to acknowledge the value of the investment in PR, with the intention of demonstrating that these efforts provide more profits compared to advertising.

While academics have more importance than professionals, they must also acknowledge the need of their study having practical implications for professional endeavors. However, if researchers fail to engage in theoretical thinking prior to conducting measurements, they will not get findings that are relevant or valid.

Within the realm of organizations, Public Relations is acknowledged for its significant contribution to the overall efficacy of the organization. It is clear that research has enabled us to create a comprehensive theory of Public Relations Excellence that can be universally applied across all cultures.

Keywords: publics, organizations, public relations and research, excellence, and globalization.

Summary. Research in public relations: current state and new directions

Introduction

For a long time, it was difficult to define public relations. Marston (1963) described public relations as "a brotherhood of some 100,000 whose common bond is their profession and whose common woe is that no two of them can."

Ever fully agree on what that vocation is?"

Over the last century, the discipline has become a defined area of

Throughout practice and study, several definitions have been presented. Ivy Lee, a pioneer in public relations, did not advocate for a precise definition, instead emphasizing honesty, understanding, and compromise in order to achieve a "proper adjustment of the interrelations" between the public and business. In 1966, Hiebert identified himself as both an information supplier and a lawyer, representing clients in the court of public opinion. Edward Bernays, a key figure in the history of public relations, also emphasized the importance of adjustment in gaining public support for an activity, cause, movement, or institution (Bernays, 1955).

Harlow (1977) describes the primary subject in public relations throughout the first two or three decades of the 20th century as "using communication to build and hold goodwill". By the 1940s, other definitions were offered, including "a guide to social conduct," "social and political engineering," "developer of goodwill," "builder of

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A Comparative Analysis of Metformin Hydrochloride Tablets, Both Branded and Generic

Shubham Sharma[1], Sunil Gupta[2], Bhavana Bhardwaj[3], Archana Sahu[4]

[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Professor, Mangalayatan Institute of Pharmaceutical Education and Research, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Assistant Professor, Institute of Technology and Management, Aligarh, Uttar Pradesh
[4]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
Email: shubham.sharma@mangalayatan.edu.in

Abstract

The oral anti-diabetic medication metformin hydrochloride is primarily used to treat type II diabetes mellitus. It comes in a variety of brands, making it challenging to choose the one that is safe, efficient, and affordable. The aim of this research project was to examine, compare, and assess the quality standards of various brands of metformin hydrochloride tablets that are available in the local market. According to the official method, four different brands of 500 mg Metformin HCl tablets were chosen and comparatively assessed for their physical and chemical parameters. Through evaluation of both official and non-official standards like the uniformity of weight, friability, hardness, disintegration, and dissolution rate, the physiochemical equivalence of all the tablet brands was determined.

Key Words- Tablet, Generic, Branded etc.

INTRODUCTION

Manufacturers' top priority is to preserve the quality of pharmaceutical products because there are more of them on the market (both branded and generic due to the expansion of the pharmaceutical industry). In general, the active ingredient is the same kind and quantity in both generic and branded products. Different pharmaceutical firms may produce the same generic medication, which may appear similar to or different from the original and be marketed and priced differently. The active component is typically present in the same type and quantity in both generic and branded products. As a result, a generic medication must be bioequivalent to a brand-name medication in terms of dosage form, safety, potency, administration method, quality, and other performance-related factors as well as intended use.

However, because of pharmaceutical corporations' ignorance, negligence, and desire for personal gain, inferior pharmaceuticals are also entering the market. These drugs differ from the original product in many ways, including concentration, quality, and so on. Therefore, pharmaceutical businesses should uphold the pharmacopoeial standards as set forth by pharmaceutical regulatory bodies during the manufacturing of the pharmaceuticals in order to assure the safety and dependability of any pharmaceutical dosage form in terms of quality.

Therefore, during manufacturing as well as on the finished product, quality control tests should be carried out in accordance with official compendia such as IP, USP, BP, etc. The research demonstrates that in many nations, people suffer not from illnesses but rather from their incapacity to pay for the expense of their illnesses' medications. Therefore, the current study attempts to dispel the widespread misconception that branded medications exhibit better therapeutic performance than generic drugs.

If all the quality control parameter are need to met, generic medications are also bioequivalent to ethical medications. To ensure the efficacy of any drug, pharmaceutical standards state that variables like weight fluctuation, hardness, friability, disintegration, dissolution, and content consistency should be examined. (1)

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A Recent Update of Hypertension Treatment

Akash Upadhyay[1], Anamika Saxena[2], Aditya Dev Rajora[3], Barun Ranjan Sarkar[4], Tashi Choden Lepcha[5]
[1]School of Pharmacy, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Associate Professor, Department of Pharmacy, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: akash.upadhyay@mangalayatan.edu.in

Abstract

The most prevalent modifiable risk factor for mortality and disability, along with stroke, heart failure, accelerated coronary and systemic atherosclerosis, chronic kidney disease, lowering blood pressure with antihypertensive medications, and lowering the prevalence of cardiovascular disease events, is hypertension. The World Health Organization Guidelines Hypertension, also known as high or raised blood pressure, is *a* condition in which the blood vessels have persistently raised pressure, state that hypertension is defined as a systolic blood pressure measurement of 130 mmHg or a diastolic blood pressure measurement of 80 mmHg. Patients with CHD, CHF, diabetes mellitus, stroke, and after renal transplantation should have blood pressure that is less than 130/80 mmHg. Restricting the amount of sodium in the diet, losing weight if the patient is overweight, exercising frequently, consuming moderate amounts of alcohol, and eating more foods high in potassium were among the suggested lifestyle changes. The first antihypertensive medication should typically come from one of the four classes listed below: ACE inhibitors, ARBs, calcium channel blockers, and thiazide diuretics. These drugs have been demonstrated to lower cardiovascular events. In clinical practice, there are two interventional strategies used to treat various treatment-resistant hypertensions: baroreflex activation therapy and renal denervation. AVF implantation and carotid body ablation are two additional interventional techniques, but none of them can stop the progression of cardiovascular disease or a hypertensive patient's death.

Keywords:
Target blood pressure, renal denervation, rotatorid body ablation therapy, and antihypertensive medication therapy.

Introduction.

Hypertension, defined as an increase in either the diastolic or systolic blood pressure above normal levels, is prevalent in both developed and developing nations and increases in age increases. According to WHO Guideline adopted a lower threshold, defining hypertension as a systolic blood pressure of 130 mmHg or more or a diastolic blood pressure of 80 mmHg or more, the definition of hypertension has been defined as a blood pressure of 140/90 mmHg or more in recent years [1]. Under the previous definition (blood pressure, ≥140/90 mmHg), the overall prevalence of hypertension among adults in the United States was 31.9%; however, the who definition (BP ≥ 130/80 mmHg) puts that number at 45.6% [2]. Comparably, among patients receiving treatment, the rate of hypertension control was 61.0% at a target of less than 140/90 mmHg, but only 46.6% at a target of less than 130/80 mmHg. [2]. Globally, the most significant and modifiable risk factor for adult mortality and CV events is hypertension [3] [4]. 69% of adults with their first MI [4], 77% of adults with their first stroke [4], 74% of adults with HF [4], and 60% of older adults with PAD [5] all have hypertension. Additionally, dissecting aortic aneurysms, angina pectoris, LVH, thoracic and abdominal aortic aneurysms, CKD, atrial fibrillation, diabetes mellitus, vascular dementia, and ophthalmologic diseases are all significantly increased risk factors for the development of hypertension [6]. Therapy with antihypertensive medications, which lower blood pressure and associated target organ damage, can significantly lower the increased risk linked to elevated blood pressure. In the US, 69 medications across 15 classes—many of which are also offered in single-pill combinations—have been approved for the treatment of hypertension. Despite these treatment options, 10% to 15% of general RH is defined as uncontrolled blood pressure on ≥3 antihypertensive medications of different classes, at optimal doses, or requiring ≥4 medications to control blood pressure [7] [8]. Hyperaldosteronism, vascular disease, Cushing syndrome, and phenochromocytoma are the main causes of RH. Refractory hypertension, which is defined as uncontrolled blood pressure on at least five medications, affects approximately 0.5% of hypertensive patients [9]. 25% to 65% of patients with apparent TRH did not adhere to BP-lowering therapy, according to recent drug monitoring studies [10] [11] [12] [13]. Blood or urine samples from 24% to 34.5% of these patients, who were prescribed three to five antihypertensive medications, showed no evidence of antihypertensive medication. There

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Digital Finance: A Gateway to Environmental Sustainability

Dr. Ashish Mohan

Assistant Professor, Amity University Jharkhand

Email: mohan.ashish76@gmail.com

Neha Kumari

Assistant Professor, Usha Martin University, Ranchi

Email:neha.tiwari90492@gmail.com

ABSTRACT

In recent years, digital finance has become a widely discussed public policy due to the innovative nature of new technology. The financial industry, like other industries, typically adopts new and upgraded technology to make tasks more efficient. Digital finance is an example of such technology that is currently in demand. The use of digital payments has been on the rise in recent years, driving the digitization of the financial sector and economy. Digital channels such as UPI, E-Wallets, and m-banking are expected to provide more cost-effective services and better coverage to unbanked rural populations in India. India's JAM Trinity - Jan Dhan, Aadhaar, and Mobile - has enabled the country's digital payment revolution and laid the foundations for a Digital India. This has made government services more accessible to citizens without intermediaries. In addition to financial inclusion, digital finance has the potential to promote sustainability by reducing the environmental impact of financial transactions. Paperless banking and digital payments can significantly reduce the use of paper, thereby reducing the carbon footprint of financial transactions. Digital finance can also promote responsible investment and help to achieve the United Nations Sustainable Development Goals by enabling greater transparency and accountability in financial transactions. This research paper explores the contribution of digital finance to sustainable development through digital financing technology,

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RESEARCH PAPERS

Drying Kinetics and Performance Analysis of Thermal Storage-Based Hybrid Greenhouse Dryer for Uniform Drying of Tomato Flakes

Asim Ahmad, Om Prakash, Anil Kumar, Md Shahnawaz Hussain

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Author and Article Information

Asim Ahmad
Department of Mechanical Engineering, Birla Institute of Technology, Ranchi 835102, Jharkhand, India;
Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi 835103, Jharkhand, India

Om Prakash
Department of Mechanical Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India

Anil Kumar
Department of Mechanical Engineering, Delhi Technological University, Delhi 110042, India

Md Shahnawaz Hussain
Department of Electronics, and Communications Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India

Email: phdme10005.17@bitmesra.ac.in

[1]Corresponding author. Email: omprakash@bitmesra.ac.in

[1]Corresponding author. Email: anilkumar76@dtu.ac.in

Email: shahnawaz.hussain@ieee.org

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sustainability

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Article

Thermal and CFD Analyses of Sustainable Heat Storage-Based Passive Greenhouse Dryer Operating in No-Load Condition

Asim Ahmad [1], Om Prakash [2], Shailesh Kumar Sarangi [3], Prashant Singh Chauhan [4], Rajeshwari Chatterjee [5], Shubham Sharma [6,7,*], Raman Kumar [8], Sayed M. Tag [9], Abhinav Kumar [10], Bashir Salah [11] and Syed Sajid Ullah [12,*]

1 Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi 835103, India
2 Department of Mechanical Engineering, Birla Institute of Technology, Ranchi 835215, India
3 Department of Mechanical Engineering, Srinath University, Jamshedpur 831013, India
4 Department of Mechanical Engineering, Gaya College of Engineering, Gaya 823003, India
5 Department of Chemical Engineering, Birla Institute of Technology, Ranchi 835215, India
6 Mechanical Engineering Department, University Centre for Research and Development, Chandigarh University, Mohali 140413, India
7 School of Mechanical and Automotive Engineering, Qingdao University of Technology, Qingdao 266520, China
8 Department of Mechanical and Production Engineering, Guru Nanak Dev Engineering College, Ludhiana 141006, India
9 Faculty of Engineering, Future University in Egypt, New Cairo 11835, Egypt
10 Department of Nuclear and Renewable Energy, Ural Federal University Named after the First President of Russia, Boris Yeltsin, 19 Mira Street, 620002 Ekaterinburg, Russia
11 Industrial Engineering Department, College of Engineering, King Saud University, P.O. Box 800, Riyadh 11421, Saudi Arabia
12 Department of Information and Communication Technology, University of Agder (UiA), N-4898 Grimstad, Norway
* Correspondence: shubham543sharma@gmail.com or shubhamsharmacsirclri@gmail.com (S.S.); syed.s.ullah@uia.no (S.S.U.)

Abstract: This article presents a comprehensive study on thermal and computational fluid dynamics (CFD) analysis of an innovative greenhouse dryer designed for passive operation under a no-load condition. The dryer incorporates hybrid thermal storage at the floor and a reflective mirror with thermocoal as the north wall, transforming a classical even-span greenhouse dryer into an efficient and effective system. The experimentation was conducted under clear sky conditions, with variations in global solar radiation (GSR) ranging from 166.6 to 1209 W/m^2, resulting in an average value of 875.9 W/m^2. The variations in GSR influenced other ambient parameters, including ambient temperature (28.7 °C to 35.6 °C), ambient relative humidity (33.2% to 45.7%), and ambient wind speed (0.1 to 1.02 m/s). Indoor parameters of the proposed dryer, such as inside temperature (31 °C to 47.35 °C), inside relative humidity (31.1% to 39.1%), ground temperature (44.2 °C to 70.6 °C), and outlet temperature (29 °C to 45.35 °C), were measured hourly. The average values of these parameters were 41.25 °C, 35.31%, 61.65 °C, and 39.25 °C, respectively. Quantitative parameters, including heat loss, overall heat transfer coefficient, coefficient of diffusion, and instantaneous efficiency, were calculated to evaluate the dryer's performance. The proposed dryer exhibited an improved range of overall heat transfer coefficients (3.87 to 5.03 W/m^2 K) compared to the modified greenhouse dryer under passive mode and the conventional greenhouse under passive mode. CFD analysis provided temperature distribution plots showing a progressively increasing range of temperatures near the trays, ranging from 310 K to 335 K, suitable for natural convection drying. The findings highlight the superior performance of the innovative dryer compared to contemporary systems. This research contributes to the advancement of drying technology and holds potential for applications in the agriculture and food processing industries.

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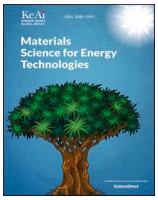

Parabolic trough solar collectors: A sustainable and efficient energy source

Asim Ahmad [a], Om Prakash [b], Rukaiya Kausher [c], Gaurav Kumar [a,*], Shatrudhan Pandey [d,*], S.M. Mozammil Hasnain [a,*]

[a] Faculty of Engineering and Applied Science, Usha Martin University, Ranchi 835103, India
[b] Department of Mechanical Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
[c] Department of Civil and Environmental Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
[d] Department of Production and Industrial Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India

ARTICLE INFO

Keywords:
Solar energy
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Renewable energy
Parabolic type collector

ABSTRACT

Fossil fuels are a finite resource that is becoming increasingly expensive. Solar energy is a renewable resource that has the potential to provide a lifetime supply of energy. Parabolic trough solar collectors are a type of solar thermal collector that can be used to generate electricity. This paper discusses the potential advantages and challenges of using parabolic trough solar collectors. One of the main advantages of parabolic trough solar collectors is their scalability. They can be used to generate electricity on a small scale, such as for a home or business, or on a large scale, such as for a power plant. Parabolic trough solar collectors are also reliable and have a long lifespan. They are not as susceptible to weather damage as other types of solar collectors, such as photovoltaic panels. However, there are some challenges associated with using parabolic trough solar collectors. One challenge is that they require large land areas. Another challenge is that they can be expensive to maintain. Despite the potential, further research is essential to address these issues. Future prospects lie in optimizing land use, enhancing maintenance strategies, and advancing collector technology to harness the full potential of parabolic trough solar collectors. Overall, parabolic trough solar collectors are a promising technology for generating electricity from solar energy. However, more research is needed to address the challenges associated with this technology.

1. Introduction

The energy crisis is a widely discussed topic in the field of energy. In simple terms, the energy crisis can be defined as the shortage of the supply of energy when demand faces a sudden increment. At our present time, energy requirements are primarily met by fossil fuels like coal, oil, and gas, but their supply is limited, and there is also a risk of the negative impacts caused by carbon dioxide emissions on the global climate. This situation has changed little over a long period of time, resulting in a falling supply. Though advances in technology have helped us locate newer oil and gas fields, they are not sufficient to meet increasing demands. At the same time, unconventional sources like tar sands and shale gas are being experimented on to find a solution to the energy crisis [1–3].

A comparative study between fossil fuels and solar energy reveals significant disparities across various dimensions. Fossil fuels, while historically central to energy production, come with substantial environmental drawbacks. Combustion of fossil fuels emits greenhouse gases and pollutants, contributing to air pollution and climate change. Additionally, extraction and transportation processes can lead to habitat destruction, water pollution, and oil spills. Their non-renewable nature raises concerns about resource depletion. On the other hand, solar energy offers a greener alternative. Solar technologies produce electricity without emitting greenhouse gases during operation, resulting in reduced environmental impact. Solar's renewable and abundant nature minimizes concerns about resource scarcity and depletion [4,5].

In terms of energy security, fossil fuels often originate from geopolitically unstable regions, introducing vulnerabilities. Supply disruptions due to conflicts, market fluctuations, and transportation issues can cause significant challenges. Solar energy mitigates these concerns by being a distributed and widely available resource, reducing dependency on specific regions. It enhances energy security through diversification and reduced reliance on imported fuels [6].

Economically, fossil fuels experience price volatility due to global

* Corresponding authors.
E-mail addresses: engr.gauravkr@gmail.com (G. Kumar), er.shatrudhanp@gmail.com (S. Pandey), smmh.429@gmail.com (S.M.M. Hasnain).

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RESEARCH ARTICLE | SEPTEMBER 05 2023

Environomical analysis of green building having various window-to-wall ratio

Asim Ahmad; Om Prakash; Pranav Nayan; Anil Kumar; Bharath Bhushan; Rajeshwari C

Asim Ahmad a)

1 Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi-835103, India

a) Corresponding author: asimlife91@gmail.com

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a) Correspondir

b) omprakas

c) nayanprar

d) anilkumar

e) bhushanb

f) rajchmimi@gmail.com

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The building industry is one of the most energy-intensive in developed countries. To reduce climate change emissions across a building's entire life cycle, in addition to minimizing energy consumption during the operational phase, consideration should be given to the embodied energy and CO_2 emissions of the building itself. Window-to-wall ratio (WWR) is a building parameter that plays a vital role in inside lighting and temperature. Light is a significant asset with characteristics of both radiometry and photometry. In the present work, environomical analysis of the various green buildings has been analyzed.

Topics

Energy consumption, **Embodied energy**, **Sustainable architecture**, **Climate change**, **Photometry**, **Radiometry**, **Industry**

RESEARCH ARTICLE | SEPTEMBER 05 2023

Environomical analysis of sensible heat storage-based greenhouse dryer

Asim Ahmad ✉; Om Prakash; Anil Kumar; Md Shahnawaz Hussain

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Asim Ahmad [a)]

[1]Department of Mechanical Engineering, Usha Martin University, Ranchi-835103, India

a) Corresponding author: asimlife91@gmail.com

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The deman ent in the past few ye renewable energy. Sola ergy and the solar dry energy. Solar drying method not only reduces the consumption of fossil fuel but also saves the crops from post-harvest loss. In the present study, various environomical parameters have been analyzed such as energy analysis, embodied analysis, and CO_2 emission rate for the proposed system. The embodied analysis for the proposed setup of the given system is found to be 530.4976 kWh.

Topics

Energy analysis, **Fossil fuels**, **Renewable energy**, **Solar energy**, **Greenhouse effect**

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Nano indentation studies on ceramic thinfilms coatings deposited using sputtering process for energy applications

Vijaya G.[a], Muralidhar Singh M.[b], Manish Kumar[b], Amit Kumar[c], Ashok Kumar M.S.[a], Dheeraj Kumar[d], Shatrudhan Pandey[e,*], S.M. Mozammil Hasnain[f,*], Abhishek Kumar Singh[e], Gaurav Kumar[f,*]

[a] Department of Mechanical Engineering, Dayananda Sagar College of Engineering, Bangalore 560078, India
[b] Department of Mechanical Engineering, RV Institute of Technology and Management, Chaithanya Layout, 8th Phase, J. P. Nagar, Bengaluru 560076, India
[c] Department of Mechanical Engineering, Sri Eshwar College of Engineering, Coimbatore 641202, India
[d] Department of Mechanical Engineering, National Institute of Technology, Durgapur 713209, India
[e] Department of Production and Industrial Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
[f] Faculty of Engineering and Applied Science, Usha Martin University, Ranchi 835103, India

ARTICLE INFO

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ABSTRACT

Nanoindentation technique is generally used for measuring thinfilm mechanical properties such as hardness, modulus and stiffness. Nanoindentation of ceramic thinfilms of SiO_2, Si_3N_4 and Al_2O_3 was deposited by radio-frequency (RF) magnetron sputtering on the stainless steel (SS304) substrates using a nanoindenter. Under varied sputtering conditions, the "as-deposited" film was amorphous. The as-deposited thin film had a thickness of 200 nm. The amorphous film was loaded/unloaded only once while operating in load control mode. Hardness and Young's modulus, two mechanical properties of the ceramic thinfilms, were also measured. When SiO_2, Si_3N_4, and Al_2O_3 thinfilms are deposited onto stainless steel substrates using an RF magnetron sputtering, the roughness of the ceramic thinfilms is in the range of 8 to 12 nm. The nanoindentation results were compared, the hardness of the coatings is in the range of 6 to 9 GPa, and these ceramic coatings can be used as an adhesive layer for multilayer thin film coating.

1. Introduction

It is well established that indenting the specimen to different depths may be used to calculate the hardness and elastic moduli. In recent times, a lot of work has gone into creating nanoindentation tools and methods for examining thin films and materials mechanical characteristics at the sub-micron and nanoscales [1–4]. By calculating the elastic moduli from the slope of the nanoindentation unloading curve in the, which often remains nonlinear, and offering a physically sound method for figuring out the depth that should be applied together with the indenter shape role to find the contact area at peak load. Oliver and Pharr [5] proposed the most commonly used method to find the elastic moduli and hardness by nanoindentation. It has long been a challenge to isolate inherent film characteristics from the data acquired from the indentation affected by thin film and the substrate. In cases when the thin film's thickness is adequate enough to be handled as a bulk material, Oliver and Pharr's (1992) study is commonly applied [3]. However, at least at the microscale, several intriguing characteristics of crystalline materials mechanical behaviour have begun to occur. With relation to amorphous nanostructured materials, one of these is how the tightly packed arrangement of the nanoparticles enables a homogenous stress distribution inside the material. Because the thin film is so thin that the substrate significantly influences the indentation findings at all actual depths, it is necessary to precisely simulate the substrate effect in order to extract the thin film unique features. The Oliver and Pharr analytical technique is used to find hardness and Young's modulus. The approach suggested by Joslin and Oliver [2] is utilised in order to avoid the computation of contact area, which might occasionally lead to some mistakes in the findings owing to sink-in or pile-up [6]. The self-healing nanocomposite epoxy's mechanical characteristics and morphology using healing microcapsules and provided actual findings. They used the nanoindentation test to examine the mechanical characteristics of microcapsules under three distinct loads both before and after the healing process, and they used AFM to track the topography of the softened

* Corresponding authors.
E-mail addresses: er.shatrudhanp@gmail.com (S. Pandey), smmh.429@gmail.com (S.M.M. Hasnain), engr.gauravkr@gmail.com (G. Kumar).

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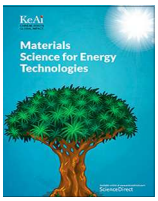

Perovskite solar cell's efficiency, stability and scalability: A review

Sidra Khatoon [a], Satish Kumar Yadav [b], Vishwadeep Chakravorty [a], Jyotsna Singh [a,*], Rajendra Bahadur Singh [a], Md Saquib Hasnain [c,*], S.M. Mozammil Hasnain [d]

[a] Department of Physics, University of Lucknow, Lucknow, Uttar Pradesh 226007, India
[b] Centre of Excellence in Renewable Energy Education and Research, Faculty of Science, University of Lucknow, Lucknow, Uttar Pradesh 226021, India
[c] Department of Pharmacy, Palamau Institute of Pharmacy, Daltonganj, Jharkhand, India
[d] Faculty of Applied Science and Engineering, Usha Martin University, Ranchi, India

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ABSTRACT

In just a few years, the worldwide scientific community has worked diligently to increase the photovoltaic conversion efficiency of perovskite solar cells from 3.8% to 25.7%. Due to its low stability and poor scalability, it still lags in commercial performance concerning the crystalline silicon solar cell. Most of the high-efficiency perovskite solar cells (PSC) reported in the literature are on a 0.01 cm^2 area, and the efficiency of PSC decreases with an increase in area. The maximum said stability to date is 10,000 h which is relatively low compared to crystalline silicon technology. This work discussed the causes of instability, degradation mechanism, scalable fabrication methods, and high-stability perovskite solar cell. It emphasised the need for setting up testing protocols for universal stability testing of perovskite solar cell technology. The study found that trap states in the absorber layer, hole transport layer (HTL), and electron transport layer (ETL) are the reason for lower stability. The lower dimension perovskite solar cell shows better stability compared to its 3D counterparts.
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1. Introduction

The accelerated energy demand calls for extensive research on renewable sources of energy. Among renewable sources, solar energy has the highest potential to convert a vast amount of solar radiation into electricity. The different types of solar cells available for a commercial applications are silicon, GaAs, CdTe, etc., from which silicon-based technology has an 85% share in the market [1]. Solar photovoltaic technology is traditionally divided into three generations. The crystalline silicon-based technology, known as I-generation solar cells, is a high-cost and high-efficiency solar cell. The problem of the high cost was overcome by II generations solar cells or thin-film technology in which cost decreases with a decrease in efficiency. The III-generation solar cells are cheaper and with higher efficiency. The third-generation solar cells, which mainly utilise organic materials, also called organic photovoltaic (OPV), are- DSSC (Dye Sensitised Solar Cell), and Perovskite Solar Cell (PSC). These solar cells (SCs) require low-temperature solution processing from organic semiconductors, inorganic nanoparticles, or hybrids with excellent potential for large-scale solar electricity generation [2]. DSSC uses light-absorbing organic dye sandwiched between the electron transport material and the hole transport material. The advantages of DSSC are cheap fabrication and high efficiency even under weak illumination.

Perovskite photovoltaic is the new phase of photovoltaic because, in just a decade, its efficiency increases from 3.8% to 25.7% [1]. It is also attracted to tandem applications with thin films or crystalline silicon solar cells [2]. The most widely investigated perovskite material for solar cell application is the hybrid organic–inorganic methylammonium lead halides $CH_3NH_3Pb(I; Cl; Br)_3$. The advantages of these hybrid metal halide perovskites are tunable bandgap, large absorption coefficient, long diffusion length, simple processability, small exciton binding energy, compatible with large-scale solution processing such as roll-to-roll printing, and abundance of ingredients [3–6]. Perovskite is a mineral composed of calcium titanate and calcium titanium oxide (CaTiO3). Its name is also applied to a group of compounds with identical crystal structures to CaTiO3. This class is known as perovskites [7]. Perovskite compounds have a general chemical formula ABX_3, where "A" and "B" are cations of different sizes and "X" is an anion. A is usually an organic, or inorganic cation such as $CH_3NH_3^+$, $CH_2(NH_2)_2^+$, Cs^+, Rb^+ of larger radius, B is a metal cation such as Pb^{2+}, Sn^{2+} and X is a halide anion such as Cl^-, Br^- or I^- or the mixed composition containing with different anions and

* Corresponding authors.
E-mail addresses: singhjyotsnalu@gmail.com (J. Singh), msaquibhasnain@gmail.com (M.S. Hasnain).

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Article

Designing, Modeling, and Fabrication of a Novel Solar-Concentrating Spittoon against COVID-19 for Antibacterial Sustainable Atmosphere

Abhimannyu Sharma [1], Dheeraj Kumar [1], Amit Kumar [2], Nadeem Faisal [1], Naresh Kumar [3], Shatrudhan Pandey [4,*], S. M. Mozammil Hasnain [5,*], Tahani Mohamed Al-Hazani [6], Abdullah A. AlKahtane [7], Saad Alkahtani [7] and Rajeshwari Chatterjee [8]

1 Department of Mechanical Engineering, National Institute of Technology, Durgapur 713209, India
2 Department of Mechanical Engineering, Sri Eshwar College of Engineering, Coimbatore 641202, India
3 Department of Mechanical Engineering, National Institute of Technology, Patna 800005, India
4 Department of Production and Industrial Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
5 Faculty of Engineering and Applied Science, Usha Martin University, Ranchi 835103, India
6 Department of Biology, College of Science and Humanities, Prince Sattam Bin Abdulaziz University, P.O. Box 83, Al-Kharj 11940, Saudi Arabia
7 Department of Zoology, College of Science, King Saud University, P.O. Box 2455, Riyadh 11451, Saudi Arabia
8 Department of Chemical Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
* Correspondence: er.shatrudhanp@gmail.com (S.P.); smmh.429@gmail.com (S.M.M.H.)

Abstract: Spreading infectious illnesses such as viral meningitis, hepatitis, and cytomegalovirus among people is facilitated by spitting in public. India is more prone to transferring infectious illnesses. Recent research discovered that the new Coronavirus may also be transmitted via an infected person's saliva. Self-collected saliva from 91.7% of patients contains COVID-19. Numerous nations have prioritized preventing individuals from spitting in open or public areas such as hospitals, parks, airports, train stations, etc. The UVC range has a greater damaging effect on microbial cells because microorganisms' intracellular components, such as RNA, DNA, and proteins, are sensitive to UVC photon absorption. In this article, the design and construction of a solar-concentrating spittoon is attempted. At its receiver, it can create a temperature of 390 K and 176 W of heat. At this temperature, most viruses (including Coronavirus), bacteria, and pathogens are inactivated. Daily, from 8:00 a.m. until 5:00 p.m., the solar-concentrating spittoon is functional. The solar-concentrating spittoon performance was best for nine hours. The receiver thermal efficiency was 80% and 20% of heat was lost to the surroundings. The overall efficiency was found to be 70%. During this time, most people spend their time outside, where this solar-powered spittoon can incinerate human cough and spit within one minute. The installation of this solar-concentrated spittoon will aid in preventing the spread of fatal dangerous diseases and cleaning the city.

Keywords: COVID-19; solar-concentrating spittoon; saliva; convective heat transfer; thermal efficiency; overall efficiency

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1. Introduction

In India, smokeless tobacco is popular, despite its relationship with deadly illnesses such as mouth cancer and infectious respiratory infections [1]. According to a health specialist, chewing tobacco products causes the mouth to produce more saliva and is accompanied by a strong need to spit. Thus, tobacco users get used to spitting often. Spittoons have been employed to avoid frequent spitting in public locations. Saliva contains many bacteria, viruses, fungus, and other diseases. There are several health concerns linked to an infected person's saliva [2]. Spitting increases the fast spread of sputum germs, especially in crowded areas such as parks, railway stations, and stadiums. Since December

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Emission Reduction and Performance Enhancement of CI Engine Propelled by Neem Biodiesel-Neem Oil-Decanol-Diesel Blends at High Injection Pressure

Md Modassir Khan [1], Arun Kumar Kadian [1], Rabindra Prasad Sharma [1], S M Mozammil Hasnain [2,*], Ahmed Mohamed [3], Adham E. Ragab [4], Ali Zare [5] and Shatrudhan Pandey [6,*]

1 Department of Mechanical Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
2 Faculty of Engineering and Applied Science, Usha Martin University, Ranchi 835103, India
3 Department of Structural Engineering and Construction Management, Future University, New Cairo City 11835, Egypt
4 Department of Industrial Engineering, College of Engineering, King Saud University, Post Box 800, Riyadh 11421, Saudi Arabia
5 School of Engineering, Deakin University, 75 Pigdons Road, Waurn Ponds, VIC 3220, Australia
6 Department of Production and Industrial Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
* Correspondence: smmh.429@gmail.com (S.M.M.H.); er.shatrudhanp@gmail.com (S.P.)

Abstract: Diesel emissions have resulted in air pollution, which is harmful to the sustaining of life. The concerns of energy security and poor air quality have propelled researchers to seek alternate and environment-friendly fuels for the transport sector, keeping diesel engines at the core. Thus, a quaternary blend (diesel-biodiesel-vegetable oil-alcohol) proves to be a promising key to address the above problems. This experimental work focuses aims on investigating the performance and emissions of a diesel engine powered with quaternary blends by changing the fuel injection pressure. The quaternary blend comprised of diesel, neem biodiesel, pure neem oil, and decanol was used to prepare quaternary blends of varied volumetric proportions. This study involves the testing of quaternary blends at varied fuel injection pressure (IP) ranging from 400–500 bar. The engine load varied from 10 Nm to 20 Nm, and the shaft speed was constant at 2000 rpm. It was evident from the outcomes that the least DBODec45 resulted in minimum carbon monoxide (CO) and un-burnt hydrocarbon (UHC) emissions, which were obtained to be 83.33% and 54.5% less than diesel at 500 bar and at a load of 10 Nm and 20 Nm, respectively. Moreover, the blend containing 45% of decanol led to the lowest NO_x and smoke concentrations. The lowest brake-specific fuel consumption (BSFC) was achieved at 500 bar and 20 Nm for the same blend and was found to be 3.22% higher than diesel. Moreover, at the same IP and load, DBODec45 led to highest BTE, which was 3.26% lower than pure diesel.

Keywords: diesel engine; quaternary blends; alcohol; performance; vegetable oil

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1. Introduction

The intensive use of diesel fuel in the transport sector has culminated in the exhaustion of petroleum reserves [1]. The rising energy demand of developed and developing countries has further accelerated the consumption of fossil fuel by diesel engines. This has further stressed the budgets of many crude-oil-importing countries; consequently, fuel prices are increasing at an unprecedented rate [2]. Besides the non-renewable nature of diesel fuel, it poses environmental threats due to the air pollution caused by engine exhaust. The use of clean fuels that result in low emissions can be a key factor in addressing the environmental concerns [3]. The exhaust gases of CI engines greatly contribute to increases in greenhouse gas emissions and climate change. Many respiratory health hazards are

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Article

Performance, Emission, and Spectroscopic Analysis of Diesel Engine Fuelled with Ternary Biofuel Blends

S M Mozammil Hasnain [1], Rajeshwari Chatterjee [2], Prabhat Ranjan [3], Gaurav Kumar [1], Shubham Sharma [4,5,*], Abhinav Kumar [6], Bashir Salah [7] and Syed Sajid Ullah [8,*]

1 Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi 835103, Jharkhand, India
2 Department of Chemical Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, Jharkhand, India
3 Department of Mechanical Engineering, Padmabhooshan Vasantdada Patil Institute of Technology, Pune 411021, Maharashtra, India
4 Mechanical Engineering Department, University Centre for Research and Development, Chandigarh University, Mohali 140413, Punjab, India
5 School of Mechanical and Automotive Engineering, Qingdao University of Technology, Qingdao 266520, China
6 Department of Nuclear and Renewable Energy, Ural Federal University Named after the First President of Russia, Boris Yeltsin, 19 Mira Street, 620002 Ekaterinburg, Russia
7 Industrial Engineering Department, College of Engineering, King Saud University, P.O. Box 800, Riyadh 11421, Saudi Arabia
8 Department of Information and Communication Technology, University of Agder (UiA), N-4898 Grimstad, Norway
* Correspondence: shubham543sharma@gmail.com or shubhamsharmacsirclri@gmail.com (S.S.); syed.s.ullah@uia.no (S.S.U.)

Abstract: The demand for sustainable alternative-fuels in the transportation and agriculture domains is essential due to the quick depletion of petroleum supplies and the growing environmental challenges. The ternary-blends (diesel, biodiesel, and Methyl oleate) have the ability to report the existing challenges in this area because they offer significant promise for reducing exhaust emissions and improving engine performance. In the current work, soy methyl ester is blended with methyl oleate and diesel. The emissions and performance of blended biodiesel was conducted in common rail direct injection engine (CRDI). The characterization and physical properties were also evaluated by utilizing various methods like Fourier-Transform Infrared Spectroscopy (FTIR), UV-vis Spectroscopy (UV-vis), and Nuclear Magnetic Resonance. FTIR spectra showed the existence of the strong C=O, indicating the presence of FAME at 1745 cm^{-1}. Again, UV-vis has reported the appearance of conjugated dienes in the oxidized biodiesel. The results indicated all blended samples retained the properties of diesel. The addition of methyl oleate improved brake specific fuel consumption of blended biodiesel almost near to diesel. D50::S80:M20 produced a mean reduction in hydrocarbon 42.64% compared to diesel. The average carbon monoxide emission reduction for D50::S80:M20 was 49.36% as against diesel.

Keywords: soy methyl ester; FTIR; NMR; brake specific fuel consumption; brake power

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1. Introduction

The rapid use of fossil fuels and the effects of exhaust emissions are putting a strain on the transportation sector and other industries. In such a situation, the use of biodiesel as a substitute fuel is crucial. They are created through the trans-esterification process from a variety of edible and inedible materials, including cooking oil, and meat tallow. Mono, poly, and unsaturated and saturated fatty-acid methyl-ester make up biodiesel's composition. Some examples of fatty acid methyl esters (FAME) are methyl linoleate, methyl stearate, methyl linoleate, methyl oleate, etc. [1–3]. The Rapid Compression-Expansion Machine (RCEM) can be used to evaluate the benefits of biodiesel. Due to the varying fatty acid methyl ester compositions, biodiesels have different physio-chemical characteristics. In

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Article

Enhanced Onsite Treatment of Domestic Wastewater Using an Integrated Settler-Based Biofilm Reactor with Efficient Biogas Generation

Surya Pratap Singh [1,2], Meena Kumari Sharma [1], Shatrudhan Pandey [3,*], S. M. Mozammil Hasnain [4,*], Fahad M. Alqahtani [5] and Faisal M. Alessa [5]

[1] Department of Civil Engineering, Manipal University Jaipur, Jaipur 303007, India
[2] Department of Civil Engineering, Srinath University, Jamshedpur 831013, India
[3] Department of Production and Industrial Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
[4] Faculty of Engineering and Applied Science, Usha Martin University, Ranchi 835103, India
[5] Department of Industrial Engineering, College of Engineering, King Saud University, P.O. Box 800, Riyadh 11421, Saudi Arabia
* Correspondence: er.shatrudhanp@gmail.com (S.P.); smmh.429@gmail.com (S.M.M.H.)

Abstract: The growing population and increasing urbanization have led to a surge in domestic wastewater generation, posing significant challenges for effective and sustainable treatment. The present study demonstrates a novel and sustainable approach for the onsite treatment of domestic wastewater using an integrated settler-based biofilm reactor (ISBR) with efficient biogas generation. The ISBR provides an optimized environment for the growth of biofilm, facilitating the removal of organic pollutants and pathogens. Moreover, the ISBR enables the recovery of a valuable resource in the form of biogas, thus enhancing the overall utility of the treatment process. The performance of the ISBR was comprehensively evaluated at laboratory scale through treating the actual domestic wastewater generated from the hostel of Manipal University Jaipur. The ISBR system was operated under an ambient environment at a hydraulic retention time (HRT) of 24 h. The results demonstrated remarkable efficiency in terms of chemical oxygen demand (COD), total suspended solids (TSS), and coliforms removal, with average removal efficiency being more than 90%. According to the COD mass balance analysis, 48.2% of the influent COD was recovered as bioenergy. The chromatogram revealed a high percentage of methane gas in the collected biogas sample. The field emission scanning electron microscope (FESEM) analysis of the accumulated sludge in the ISBR system depicted the morphology of methanogenic bacteria. Both the experimental and theoretical results confirmed the feasibility and sustainability of the ISBR system at the onsite level.

Keywords: anaerobic treatment; bioenergy; domestic wastewater; gas chromatography; mass balance

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1. Introduction

Adequate sanitation facilities are a basic human right and a crucial component of sustainable development [1]. However, about 8% (616 million) of the global population still does not have access to improved sanitation. Improved sanitation includes 54% safely managed facilities, 24% basic facilities, and 7% limited facilities. Basic and limited facilities (septic tanks, pit latrines, flush latrines, etc.) have low pollutant removal efficiency, leading to the degradation of the surrounding environment and water bodies. Therefore, there is a need for innovative and sustainable approaches that can be applied in a variety of situations [2]. Onsite treatment systems have evolved as a viable and practical alternative, providing domestic wastewater management solutions tailored to specific local requirements [3].

Onsite treatment means the management of domestic wastewater close to its source of generation, aimed at alleviating the challenges of establishing and maintaining effective

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Full length article

A hybrid model based on convolution neural network and long short-term memory for qualitative assessment of permeable and porous concrete

Manish Kumar [a], Manish Kumar [b,*], Shatakshi Singh [c], Sunggon Kim [a,*], Ashutosh Anand [d], Shatrudhan Pandey [e], S M Mozammil Hasnain [f,*], Adham E. Ragab [g], Ahmed Farouk Deifalla [h]

[a] Department of Computer Science & Engineering, Seoul National University of Science & Technology, Seoul 01181, South Korea
[b] Department of Civil Engineering, School of Engineering & Sciences, GD Goenka University, Gurugram 122103, India
[c] Data Engineer, Lowes Inc., Bengaluru 560045, India
[d] Department of Electronics & Communication Engineering, Presidency University, Bengaluru 560064, India
[e] Department of Production and Industrial Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
[f] Faculty of Engineering and Applied Science, Usha Martin University, Ranchi 835103, India
[g] Department of Industrial Engineering, College of Engineering, King Saud University, Post Box 800, Riyadh 11421, Saudi Arabia
[h] Department of Structural Engineering and Construction Management, Future University in Egypt, New Cairo City 11835, Egypt

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ABSTRACT

Estimating design factors like concrete strength and durability is complicated by the cement industry's practice of producing multiple grades of cement for different uses, necessitating substantial labor hours and monetary investment. The experimental findings of accelerated carbonation-induced corrosion and associated durability characteristics of concrete built with high-volume Class F Fly Ash (FA), including AC impendence, half-cell potential, water permeability, and volume of permeable voids. FA was added to ordinary portland cement at varied replacement amounts (0–70%) to create concrete specimens. The concrete specimen has been prepared by varying different proportions of water cement ratio (0.45, 0.40, and 0.35). To predict the compressive strength and carbonation level of concrete, this study presents a simulation environment based on Artificial Intelligence (AI) that makes use of input parameters such as water/cement ratio, fly-ash percentage, and time duration. Here, One-Dimensional Convolution Neural Network based Long Short-Term Memory (1D-CNN-LSTM) has been proposed for estimating the carbonation depth and compressive strength of concrete. The developed model will be compared with other state-of-the-art techniques, including DL and ML-based techniques. The obtained R^2 values from the proposed 1D-CNN-LSTM regression network deliver accuracy of 80% for estimating carbonation depth and 96% for predicting compressive strength. The proposed methodology demonstrates the use of modern AI-based techniques in the actual design model and illustrates the development of DL methods such as LSTM and CNN.

* Corresponding authors.
E-mail addresses: manishk4india@gmail.com (M. Kumar), sunggonkim@seoultech.ac.kr (S. Kim), smmh.429@gmail.com (S.M.M. Hasnain).

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PAPER

Computational modeling of sigmoid functionally graded material (SFGM) plate

Jai Kumar Sharma[1], **Sateesh Kumar**[1], **Nishant Kumar**[1], **S M Mozammil Hasnain**[2,*], **Shatrudhan Pandey**[3,*], **Ahmed Farouk Deifalla**[4] and **Adham E Ragab**[5]

[1] Department of Mechanical Engineering, ITM University, Gwalior 474001, India
[2] Faculty of Engineering and Applied Sciences, Usha Martin University, Ranchi 835103, India
[3] Department of Production and Industrial Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
[4] Department of Structural Engineering and Construction Management, Future University, New Cairo 11835, Egypt
[5] Department of Industrial Engineering, College of Engineering, King Saud University, Post Box 800, Riyadh 11421, Saudi Arabia
[*] Authors to whom any correspondence should be addressed.

E-mail: smmh.429@gmail.com **and** er.shatrudhanp@gmail.com

Keywords: functionally graded piezoelectric material (FGPM), COMSOL, finite element method (FEM), sigmoid law, free vibration

Abstract

The first-order shear deformation theory (FSDT) was used to explore the natural frequency response of functionally graded piezoelectric plates subjected to static electrical and mechanical strain in this present study. A monomorph model for a functionally graded piezoelectric plate with material properties that change according to sigmoid law with respect to plate thickness has been considered. A three-dimensional finite element model with a free tetrahedral element mesh was created using COMSOL 4.2 Multiphysics® software, with each node having three degrees of freedom. Variations in the FGPM plate's free vibration boundary conditions, composition, and geometry have all been investigated. In free vibration analysis, non-dimensional natural frequency of FGPM plate initially decreasing considerably and then remaining almost constant with the increase in volume fraction index when material property graded by power law. When material properties are varied by sigmoid law, with an increase in volume fraction index, the non-dimensional natural frequency of FGPM plates remains virtually constant. FGPM plates have a lower non-dimensional natural frequency if the thickness to width ratio is greater. Non-dimensional natural frequencies of Clamped-Clamped FGPM plates (C–C–C–C) are greater compared to Clamped-Free FGPM (C–F–C–F) and Simply Supported Free FGPM (S–F–S–F).

1. Introduction

In addition to their great mechanical and electrical capabilities, Electrical energy may be converted to mechanical energy by anisotropic materials such as piezoelectric materials, as well. Due to this their use in applications, such as various sensors and actuators, micro-electromechanical systems (MEMS), active vibration control, precision position control, etc have grown tremendously. For these applications, generally larger displacements or deflections are desired for which multilayer stacking method is mostly approached. Due to excessive stress concentration at the interlayer interfaces, bonding strength deteriorates, and at low temperatures or at high temperatures, splits or peels off. FGM (functionally graded material) in conjunction with piezoelectric materials to offset these undesirable effects. These materials are referred to as functionally graded piezoelectric materials (FGPMs) [1]. These materials have properties varied by some mathematical functions specifically power law, sigmoid law and exponential law which provide continuous and smooth property transition between layers of the FGPM material. This reduced the stresses at the interfaces and increased the reliability and longevity of the FGPM material [2–6]. FGPM plates can be used in vibration control systems to suppress unwanted vibrations in structures. The piezoelectric properties of the FGPM allow it to convert mechanical vibrations into electrical energy, which can be harvested and utilized for various purposes, such as powering sensors or other

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PAPER

Monitoring of thermo-cycles in fibre laser welding of duplex stainless steel 2205 sheets and its correlation with microstructures and mechanical properties

Gulshad Nawaz Ahmad[1], Nirmal Kumar Singh[2,*], Brajendra Nath Tripathi[1], Syed Sadique Anwer Askari[3], Shatrudhan Pandey[4,*], Ali Zare[5] and S M Mozammil Hasnain[6,*]

[1] Department of Mechanical Engineering, Sandip University, Madhubani 847235, India
[2] Department of Mechanical Engineering, Indian Institute of Technology (ISM), Dhanbad 826004, India
[3] Department of Electronics and Communication Engineering, Indian Institute of Information Technology, Ranchi, 834010, India
[4] Department of Production and Industrial Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
[5] School of Engineering, Deakin University, 75 Pigdons Road, Waurn Ponds, VIC 3220, Australia
[6] Faculty of Engineering and Applied Science, Usha Martin University, Ranchi 835103, India
[*] Authors to whom any correspondence should be addressed.

E-mail: nirmal@iitism.ac.in, er.shatrudhanp@gmail.com and smmh.429@gmail.com

Keywords: laser beam welding, DSS 2205, cooling rate, microstructure, tensile strength

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Abstract

The study reports the influence of change in the heat supplied (43 J mm^{-1} to 18.5 J mm^{-1}) on the microstructures as well as mechanical properties of weld joints obtained by welding of Duplex stainless steel 2205 using fibre laser. In-process thermal monitoring of the molten weld pool was carried out using IR pyrometer. Cooling rates (i.e. solidification and solid) were calculated from the thermo-profiles of weld pool, and it increases with the decrease in heat input. From the optical images, it is observed that columnar grains originated from the fusion zone walls and merged at the center. Since, solidification front velocity is comparable on both sides' leads to a central edge. Ferrite phase content observed in fusion zone microstructure, increases with the increase in solid cooling rate. The result suggests that the joints fabricated at lowest heat input displayed highest tensile strength. The maximum tensile strength been reported to be 872.5 ± 10.8 MPa, and failure occurred at parent metal. Tensile strength of weld joints of DSS 2205 was found to have improved with increasing cooling rate. Higher cooling rate results in the formation of fine dendritic grains as well as higher ferrite content in the weld metal.

1. Introduction

The Duplex stainless steel 2205 (DSS 2205) have nearly equal proportion of austenite and ferrite phase and it is cheap in comparison of austenitic stainless steel due to addition of lower amounts of Ni. The equal phase combinations in DSS 2205 facilitate excellent mechanical properties and good corrosion resistance. It is commonly used in fabrication of heat exchangers, offshore structural components, water treatment plant devices [1, 2]. Despite being readily weldable, heat input is the key factor in welding of DSS 2205 to achieve desired microstructure and avoid formation of deleterious phases. Various welding methodologies such as shielded metal arc (SMA), Gas tungsten arc (GTA), Gas metal arc (GMA), and Friction Stir welding (FSW) have been used to study the joining of DSS 2205 alloy [3]. McPherson *et al* carried out welding of 2205 DSS using sub-merged arc welding. The weld zone was observed to have ferrite structures and acicular austenite. Precipitation in the weld metal of DSS was scarce and occasional amount of chi-phase was witnessed in the HAZ [4]. Production of intermetallic phases and embrittlement, constitute a significant risk, markedly reducing both corrosion resistance and toughness of the weld joint [5]. For example, the sigma phase (Cr-rich phase) can cause considerable reduction in plasticity and impairment in corrosion resistance [6, 7]. Taban carried out welding of DSS using plasma arc welding in the key-hole mode by using direct current and without any filler. Heat input

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PAPER

Study of thermal and mechanical behavior by analyzing reinforcement effect of graphene nanoplatelets on polyamide-66 composite system developed via melt-mixing technique

Ranjan Kumar[1], Sujeet Kumar Mishra[1], S M Mozammil Hasnain[2,*], Shatrudhan Pandey[3,*], Ahmed Farouk Deifalla[4] and Sudeepan Jayapalan[5,*]

[1] Department of Mechanical Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
[2] Faculty of Engineering and Applied Science, Usha Martin University, Ranchi 835103, India
[3] Department of Production and Industrial Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
[4] Department of Structural Engineering and Construction Management, Future University in Egypt, New Cairo City 11835, Egypt
[5] Department of Chemical Engineering, Birla Institute of Technology, Mesra, Ranchi 835215, India
[*] Authors to whom any correspondence should be addressed.

E-mail: smmh.429@gmail.com, er.shatrudhanp@gmail.com and sudeepan@bitmesra.ac.in

Keywords: melt-mixing technique, twin-screw extrusion, GNP/PA-66 composite, mechanical analysis, impact strength analysis, flexural analysis, crystallinity behavior

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Abstract

In the present study, graphene nanoplatelets (GNP) reinforced polyamide 6,6 (PA-66) composite was studied to investigate the thermal and mechanical properties of PA-66/GNP composite. The composites were developed by varying wt% (1, 3, 5, and 10 wt%) of GNP loading using a co-rotating, intermeshing, twin-screw extruder via melt-mixing and injection molding process. In order to understand the thermal and mechanical behavior of PA-66/GNP composite, various thermal (TGA and DSC) and mechanical (tensile, impact, and flexural) tests were carried out. The FTIR spectral analysis was done to identify the presence of different functional groups in the PA-66/GNP composite, indicating the strong enough Vander-Waals interaction between the PA-66 matrix and GNP filler contents. The TGA result shows a significant enhancement in the thermal stability of the composite by increasing wt% of GNP. The DSC analysis exhibits a significant reduction in enthalpy of fusion (ΔH_m) and a decrease in the degree of crystallinity with increasing wt% of GNP, reflecting a depressed form of α-crystalline structure. Further, the significant growth in tensile modulus and tensile strength were identified under the mechanical performance of the PA-66/GNP composite. An increasing trend in tensile modulus and tensile strength characteristics was observed, and tensile modulus exhibited an enhancement of ~96% than pure PA-66 at 10 wt% of GNP. Also, the tensile strength is found to be ~16% higher than that of pure PA-66 matrix. Similarly, the impact test result shows a decreasing trend in impact strength on increasing wt% of GNP reinforcements, indicating the restriction to the molecular mobility due to improved brittle behavior. Further, the flexural modulus is found to be increased by ~28% at 10 wt%, and the flexural strength is found to have an enhancement of ~9% at 3 wt% than pure PA-66 polymer matrix of GNP loadings, respectively. The influence of GNP filler content reinforced PA-66 composite on the thermal and mechanical properties is found to be noteworthy.

1. Introduction

The reinforcement of nanoscale or microscale fillers to enhance the specific material properties has triggered the development of composite materials and has suggested the path for enormous research opportunities in science and engineering [1]. Nanoscale fillers such as carbon nanotubes (CNT), nano-clays, nanodiamonds, and graphene have been recognized as ideal multi-functional filler materials [2, 3], but the transfer of their potential

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UNDERSTANDING DRUG ADDICTION: CAUSES, EFFECTS AND TREATMENT STRATEGIES

Kavita Sharma[1], Archana Sahu[2], Firuza Begum[3]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP

[2]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh

E-mail: kavita.sharma@mangalayatan.edu.in

ABSTRACT:

Drug addiction is a complex phenomenon characterized by compulsive drug-seeking and use despite adverse consequences. This paper provides a comprehensive overview of drug addiction, exploring its causes, effects, and various treatment strategies. Drawing upon a range of research studies, this paper examines the biological, psychological, and social factors contributing to addiction, as well as the neurobiological mechanisms underlying addictive behaviors. Furthermore, it explores the devastating effects of drug addiction on individuals, families, and communities, emphasizing the need for effective prevention and intervention measures. Finally, this paper reviews current treatment approaches, including pharmacotherapy, behavioral therapies, and holistic treatment modalities, highlighting their efficacy and limitations. By understanding the multifaceted nature of drug addiction and adopting a comprehensive approach to treatment, society can work towards mitigating its impact and supporting individuals on their journey to recovery.

Keywords: drug addiction, substance abuse, causes, effects, treatment strategies

INTRODUCTION:

Drug addiction refers to a chronic, relapsing disorder characterized by compulsive drug-seeking, continued use despite harmful consequences, and long-lasting changes in the brain. It is considered a complex brain disorder because drugs alter the brain's structure and function, leading to intense cravings and a loss of control over drug use.

Individuals with drug addiction often prioritize obtaining and using drugs over other activities and responsibilities, such as work, relationships, and health. Addiction can develop with the use of a variety of substances, including but not limited to alcohol, nicotine, opioids, cocaine, and methamphetamine.

TYPES OF DRUG ADDICTION

Drug addiction can encompass various substances and behaviors. Here are some common types of drug addiction:

Alcohol Addiction: Excessive and compulsive consumption of alcoholic beverages leading to physical and psychological dependence.

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ANALYZING THE IMPLEMENTATION CHALLENGES AND OPPORTUNITIES OF THE RIGHT TO EDUCATION ACT (RTE) IN LIGHT OF THE NATIONAL EDUCATION POLICY 2020: A COMPARATIVE STUDY

Yatendra Pal [1], Ranjana Singh[2], Shimpi Kumari Chaturvedi[3], Vinay Tripathi[4], Vipul Jain[5], Ashutosh Saxena[6]

[1]Associate Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP, India

[2]Research Scholar, Institute of Education and Research, Mangalayatan University, Aligarh, UP, India

[3]Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of English, Himalayan University, Itanagar, Arunachal Pradesh

[5]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

[6]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

Email: yatendra.pal@mangalayatan.edu.in

Abstract:

The Right to Education Act (RTE) of 2009 and the National Education Policy (NEP) 2020 are two landmark policy frameworks in India aimed at transforming the education landscape and ensuring universal access to quality education. This comparative study seeks to analyze the implementation challenges and opportunities of the RTE Act within the context of the NEP 2020.

Drawing on a multidisciplinary approach that integrates education policy analysis, legal studies, and socio-economic perspectives, this study examines the extent to which the NEP 2020 aligns with the objectives and provisions of the RTE Act. It evaluates the NEP's strategies for promoting equity, inclusion, and quality education, and assesses their compatibility with the inclusive principles enshrined in the RTE Act.

Through a comparative analysis of policy documents, legislative frameworks, and empirical data, this study identifies key challenges hindering the effective implementation of the RTE Act, such as inadequate infrastructure, resource constraints, and disparities in access and quality. It also explores the opportunities presented by the NEP 2020, including its emphasis on holistic and multidisciplinary education, innovative pedagogical approaches, and technology-enabled learning solutions.

Furthermore, this study examines governance mechanisms, accountability frameworks, and monitoring systems outlined in the NEP 2020, analyzing their potential to address governance gaps and enhance transparency and accountability in the education sector. It also investigates the role of stakeholders, including policymakers, educators, civil society organizations, and communities, in facilitating the successful implementation of education policies and safeguarding the right to education for all children.

By synthesizing findings from comparative studies, case analyses, and policy recommendations, this study aims to contribute to evidence-based policymaking and advocacy efforts aimed at strengthening the implementation of the RTE Act and advancing the goals of the NEP 2020. Ultimately, it seeks to inform transformative strategies for realizing the right to education and fostering inclusive, equitable, and quality education systems in India.

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AN ORGANIZATION THEORY PERSPECTIVE ON THE CORPORATE DECISION TO OPPOSE FASB STANDARDS

Ankur Kumar Agrawal [1], Md. Saifullah Khalid[2], Nyarik Geyi[3], Jai Anand Shukul[4], Vipul Jain[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[2]Associate Professor, Associate Professor, Faculty of Business Management & Commerce UshaMartinUniversity,Jharkhand

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[5]Associate Professor, Department of Management,Sikkim Professional University, Gangtok, Sikkim

EmailID: ankur.agarwal@mangalayatan.edu.in

Abstract:

In order to identify the circumstances in which companies are most likely to oppose the financial reporting requirements put forth by the Financial Accounting requirements Board (FASB), this study proposes a theoretical framework. Three levels of study are used to identify factors that influence corporate resistance to FASB standards: the standard, the corporation, and the industry in which the corporation operates. Summaries of the determinants' impacts at each of these three levels are proposed as propositions, and recommendations for testing the claims are provided. There is additional discussion of the implications for accounting regulation theory and practice. The paper's main objective is to improve our knowledge of the factors that influence business opposition to FASB standards so that accounting regulators can more skilfully oversee the adoption of accounting standards.

Introduction:

A significant quantity of scholarly literature has been written about the Financial Accounting Standards Board (FASB) since its establishment in 1973. For example, Kelly-Newton (1980) and Miller, Redding, and Bahnson (1998) provided operational details of the Financial Accounting Standards Board (FASB) and highlighted its political role as an arbiter of the competing interests of its stakeholders, which include financial statement users and preparers, as well as the Securities and Exchange Commission and the US Congress. Meyer and Rowan (1977) and other academics have taken an institutional approach when examining the FASB. They have documented the FASB's pursuit of legitimacy (Fogarty, 1992) and the creation of specific financial reporting difficulties as institutionalized agenda items for the FASB (Young, 1994).

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A COMPREHENSIVE ANALYSIS OF DNA FINGERPRINTING TECHNIQUES AND RELATED PRESENT-DAY ADVANCES AND USES

Sanjay Pal [1], Tulshi Shringi[2], Balwinder Kaur[3]
[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, U.P.
[2]Assistant Professor, Department of Physiotherapy and Paramedical Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
Email: sanjay.pal@mangalayatan.edu.in

Abstract:
DNA fingerprinting, also known as DNA profiling or genetic fingerprinting, has revolutionized various fields of science and technology since its inception. This review article comprehensively discusses the evolution, principles, methodologies, advancements, and applications of DNA fingerprinting techniques. Initially developed by Sir Alec Jeffreys in the 1980s, DNA fingerprinting involves the analysis of unique DNA patterns to identify individuals, determine relationships, and solve forensic, medical, agricultural, and anthropological mysteries. The methodology primarily includes DNA extraction, amplification using techniques like PCR (Polymerase Chain Reaction), fragment analysis through gel electrophoresis or capillary electrophoresis, and data interpretation. Recent advancements in DNA fingerprinting encompass high-throughput sequencing, microarray-based techniques, Next-Generation Sequencing (NGS), and the utilization of bioinformatics tools for data analysis. Moreover, emerging technologies such as CRISPR-based genome editing and single-cell DNA profiling are pushing the boundaries of DNA fingerprinting applications further. This review also delves into the diverse applications of DNA fingerprinting across various sectors, including forensics for criminal investigations and identification of missing persons, paternity testing, genetic disease diagnosis, wildlife conservation, biodiversity studies, and agricultural breeding programs. Furthermore, the challenges and ethical considerations associated with DNA fingerprinting, such as privacy concerns and potential misuse, are addressed. Overall, DNA fingerprinting continues to be a powerful tool with wide-ranging implications in science, medicine, and society.

Keywords: DNA fingerprinting, DNA profiling, genetic markers, forensic science, paternity testing, genetic diseases, agriculture, biodiversity, CRISPR, Next-Generation Sequencing.

1. Introduction

DNA fingerprinting, also known as DNA profiling or genetic fingerprinting, revolutionized forensic science and has become an indispensable tool in various fields including criminal justice, paternity testing, and medical research. Developed in the 1980s by Sir Alec Jeffreys, DNA fingerprinting utilizes the unique genetic characteristics present in an individual's DNA to identify or distinguish them from others.

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EMBRACING THE ESSENCE OF BRAHMA MUHURTA: THE MAGICAL HOUR BEFORE DAWN

Dhanya. T [1], Shivansh Chandra Sharma[2], Shimpi Kumari Chaturvedi[3]
[1]Assistant Professor, Department of Samhita and Siddhanta, Mangalayatan Ayurveda Medical College and Research Centre, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Assistant Professor, Department of KriyaSharir, Mangalayatan Ayurveda Medical College and Research Centre, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
Email: drdhanyatnairapril1985@gmail.com

Abstract: Ayurveda mainly gives importance to "SwasthasyaSwasthyarakshanam", that is to maintain the health of a healthy person by preventing ailments,for that some daily regimens 'dinacharya' and seasonal regimens are advised by Acharya VruddhaVagbhata inAshtangasangraha and LaghuVagbhata inAshtangahridaya. In daily regimen begins with waking up in Brahma muhurta or time of creator. There isa difference ofopinion regarding the exact time of Brahma muhurta. Most of the animals and birds living in harmony with nature wake up early morning which shows that waking up early morning is beneficial. From the modern physiological view also, there are a lot of benefits to waking up in Brahma muhurta. It is auspicious to practice yoga, dhyan, atmagyana, paramatmagyana, pranayama, vyayam, etc.In ancient days the sages had a blissful long life span as they woke up in Brahmamuhurta. In the present day due to busy schedules or lack of knowledge, very few people practice this. Early to bed early to rise is a saying that we hear in our childhood

Keywords: Brahma muhurta, time of creator, Ayurveda

Introduction:

Brahma muhurtais a Sanskrit word which means a time of Brahma, sacred time, time of divinity, or creator's time.It is an ancient term rooted in Vedic tradition and holds profound significance in Hindu culture. It is referred to as ambrosial hour named after Lord Brahma,the creator in Hindu mythology.This time is believed to be a time when cosmic energies are its peak.

A day is divided into 8yama, each yama consisting of 3 hours. Both day and night, are constituted by 3 yamas each. Each of the other two yamas constitutes two sandhyas, namely dusk and dawn. ArunDatta, Indu and Hemadri opine that each of them consists of fifteen muhurtas. Hence a muhurta is 48 minutes. Brahma muhurta begins at dawn; it is the penultimate muhurta of night. Thus, the healthy individual may get up two muhurtas ie.96 minutes (almost 1 anda half hours) before sunrise. This regimen does not applyto those who are unhealthy.[1] Brahma muhurta is the second half of the fourth yama and one should wake up at that time. Acharya

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COMPARATIVE ANALYSIS OF APPROACHES, METHODS, PROCESSES, TECHNIQUES, STYLES AND STRATEGIES IN EDUCATION

Ram Kumar Pathak[1], Ashok Kumar Upadhyay[2], Prakash Mishra[3], Sumit Gupta[4], Amandeep Kaur[5], Reena Thapa[6]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[2]Librarian and Associate Professor, DLIS, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Department of Management, Mangalayatan University, Jabalpur, MP
[4]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi
[5]Assistant Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[6]Assistant Professor, College of Nursing, Sikkim Professional University, Gangtok, Sikkim
Email: ram.pathak@mangalayatan.edu.in

Abstract:
This article attempts to describe to the distinctions between various terms commonly used in educational discourse, namely approaches, methods, processes, techniques, styles, and strategies. Language teachers do not often use terms like teaching methods, teaching strategies, teaching techniques and teaching approaches much. Some people refer to them when talking about educational issues and seem to use them interchangeably as having similar meanings, through a systematic review of literature and theoretical analysis, the study provides a comprehensive framework for understanding these concepts, their interrelationships, and their implications for educational practice. This paper attempts to differentiate the different meanings of each term so that one can clearly differentiate between their usages as well as establish the relationships that exist between these academic terms. By clarifying terminological confusions, educators can enhance their pedagogical knowledge and optimize instructional design and delivery.

KEYWORDS: Teaching approaches, teaching methods, procedures, teaching styles, strategies and techniques.

Introduction

Before we tackle the key terms, let's start by defining their different components: pedagogy, methods, techniques, approaches and strategies. A teaching approach is a set of principles, beliefs, or ideas about the nature of learning that are translated into the classroom. Teaching approach is an enlightened approach towards teaching. It provides philosophy to the entire process of teaching. As presented by the diagram, method and technique are only part of the approach. The approach gives holistic knowledge, it provides direction, and sets expectations for the entire spectrum of the learning process. Furthermore, the approach sets out general rules or general principles to make learning possible.achieve greater teaching and learning output, thus saving time, efforts and even money on the part of both the teacher and the learner. It directs and guides the teacher and the students in undertaking any class lesson or activity.

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ENHANCING SECONDARY LEVEL STUDENTS' LEARNING THROUGH ICT: A COMPREHENSIVE REVIEW AND FUTURE DIRECTIONS

Yatendra Pal[1], Ashok Kumar Upadhyay[2], Vinay Singh[3], Nyarik Geyi[4], Ankit Khare[5]

[1]Associate Professor, Institute of Education and Research, Mangalayatan University, Aligarh, Uttar Pradesh

[2]Librarian and Associate Professor, DLIS, Mangalayatan University, Aligarh, Uttar Pradesh

[3]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

Email: yatendra.pal@mangalayatan.edu.in

Abstract:

Information and Communication Technology (ICT) has transformed education, offering innovative tools and resources for teaching and learning. This research paper aims to explore the effectiveness of ICT in enhancing the learning experiences of secondary level students. By synthesizing existing literature, this paper examines various ICT tools, strategies, and approaches employed in secondary education settings. It investigates how ICT influences student engagement, motivation, academic achievement, and overall learning outcomes. Additionally, the paper explores challenges and limitations associated with integrating ICT in secondary education and proposes future directions for research and practice. Through this comprehensive review, educators, policymakers, and researchers can gain insights into leveraging ICT effectively to optimize learning experiences for secondary level students.

This research paper delves into the efficacy of Information and Communication Technology (ICT) in augmenting the educational journey of secondary level students. It conducts a thorough examination of existing literature to scrutinize the various ICT tools, methodologies, and implementations within secondary education contexts. The paper scrutinizes how ICT influences student engagement, motivation, academic progression, and overall learning outcomes. Furthermore, it investigates the hurdles and constraints associated with integrating ICT into secondary education and provides a roadmap for future research and implementation strategies. By presenting this comprehensive review, stakeholders in education can gain valuable insights into leveraging ICT optimally to enrich the learning experiences of secondary level students.

Keywords: Secondary education, Learning, Information and Communication Technology (ICT), Student engagement, Teaching strategies, Digital learning resources.

Introduction:

The integration of Information and Communication Technology (ICT) in education has significantly transformed teaching and learning practices across various educational levels. Particularly in secondary education, where students are in a critical stage of cognitive development and academic preparation, the use of ICT holds immense potential to enhance

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DISPARITIES BETWEEN GENDERS IN INVESTING APPROACHES: AN INFORMATION PROCESSING VIEWPOINT

Ankur Kumar Agrawal [1], Md Saifullah Khalid [2], Nyarik Geyi [3], Jai Anand Shukul[4], Vipul Jain[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[2]Associate Professor, Associate Professor, Faculty of Business Management & Commerce UshaMartinUniversity,Jharkhand

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[5]Associate Professor, Department of Management,Sikkim Professional University, Gangtok, Sikkim

EmailID: ankur.agarwal@mangalayatan.edu.in

Abstract:
Cites prior studies on the disparities between genders and investment strategies, highlighting two key findings: under similar conditions, female investors seem to be less confident in their investment choices and more risk averse than their male counterparts. Surprisingly little research has been done on the underlying causes of these gender discrepancies, despite the relative consistency of these findings and the possible long-term financial ramifications of these different investment methods. suggests that the tendency toward lower confidence levels and a propensity toward lower risk-taking among female investors may be explained by gender variations in information processing techniques. There is discussion on the implications for financial services industry marketing tactics.

Introduction:

A field that is now gaining a lot of attention is called behavioral finance. The psychological underpinnings of popular investing activities are the main focus of behavioral finance. "To ensure that the psychological aspect of this business gets greater emphasis," stated Judy Lau, the Institute of Certified Financial Planners' president at the time (Eldon, 1997, p. 44). Nevertheless, few research have concentrated on the underlying elements that may cause gender inequalities in investment strategies, despite the present level of interest in this field. Although previous research indicates significant gender disparities in investing risk-taking and confidence, little investigation has been done into the causes of these variances.

The percentage of women working in the financial industry in professions involving professional investments, such as securities analysts and institutional investors, has dramatically increased in

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ADDRESSING THE PRESERVATION OF FOOD, STRATEGIES FOR THE DEVELOPMENT OF BIOPROTECTIVE CULTURES

Lopamudra Satapathy[1], Sanjay Pal[2], Priyanka Dubey[3], Techi Yatchi[4]

[1]Associate Professor, Faculty of Agriculture, Usha Martin University, Ranchi, Jharkhand

[2]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, Uttar Pradesh

[3]Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur, Madhya Pradesh

[4]Assistant Professor, Department of Agriculture, Himalayan University, Itanagar, Arunachal Pradesh

Email: lopamudra@umu.ac.in

Abstract:

In recent years, there has been a growing interest in utilizing bioprotective cultures as an alternative method for food preservation. Bioprotective cultures, composed of beneficial microorganisms, offer the potential to inhibit the growth of spoilage and pathogenic bacteria in food products, thereby extending shelf life and enhancing safety. This research article explores various strategies for the development of bioprotective cultures in food preservation. It examines the selection criteria for effective bioprotective strains, the mechanisms underlying their antimicrobial activity, and the challenges associated with their application in different food matrices. Additionally, this article discusses innovative approaches such as genetic engineering and encapsulation techniques to enhance the efficacy and stability of bioprotective cultures. Furthermore, it highlights the importance of regulatory considerations and consumer acceptance in the successful implementation of bioprotective cultures in the food industry. Overall, this article provides valuable insights into the development and application of bioprotective cultures for improved food safety and quality.

Keywords: Bioprotective cultures, Food preservation, antimicrobial activity, Genetic engineering, Encapsulation, Regulatory considerations.

1.Introduction:

Food preservation is essential for maintaining the safety and quality of perishable food products throughout their shelf life. Traditional methods such as thermal processing, refrigeration, and chemical preservatives have been widely employed for this purpose. However, increasing consumer demand for natural and minimally processed foods has led to a growing interest in alternative preservation techniques. Bioprotective cultures, consisting of beneficial microorganisms such as lactic acid bacteria (LAB) and bacteriocin-producing strains, offer a promising solution to this challenge. These cultures exert antimicrobial activity against spoilage and pathogenic bacteria through various mechanisms, including competition for nutrients, production of organic acids, and

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ENHANCING TRANSPORTATION EFFICIENCY AND SAFETY THROUGH INTERNET OF THINGS (IOT) TECHNOLOGIES: A COMPREHENSIVE REVIEW

Love Kumar [1], Md.AmirKhusruAkhtar[2], Sandip Kulkarni[3], Sumit Singh Sonkar[4]
[1]Assistant Professor,Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, U.P.
[2]Associate Professor, Faculty of Computing & Information Technology Usha Martin University, Ranchi India
[3]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, M.P.
Email: love.mittal@mangalayatan.edu.in

Abstract: The integration of Internet of Things (IoT) technologies into transportation systems has the potential to revolutionize the efficiency, safety, and sustainability of urban and interurban mobility. This paper presents a comprehensive review of recent advancements, challenges, and opportunities in the realm of transportation IoT. It examines various applications of IoT in transportation, ranging from smart traffic management systems and connected vehicles to intelligent infrastructure and fleet management solutions. Additionally, the paper discusses key technological enablers such as sensors, actuators, communication protocols, and data analytics techniques that underpin the deployment of IoT in transportation. Furthermore, it addresses the critical issues surrounding data privacy, security, and interoperability, which must be addressed to ensure the successful adoption of IoT in transportation systems. By synthesizing insights from existing research and industry practices, this paper aims to provide valuable guidance for researchers, practitioners, and policymakers seeking to leverage IoT technologies for enhancing transportation efficiency and safety.

Keywords: Internet of Things (IoT), transportation, smart cities, connected vehicles, traffic management, data analytics, sensor networks, safety, efficiency, sustainability.

Background: Transportation plays a pivotal role in modern society, facilitating economic activities, social interactions, and access to essential services (1) . However, with rapid urbanization and population growth, transportation systems face unprecedented challenges, including traffic congestion, pollution, accidents, and inefficient resource utilization. Addressing these challenges requires innovative solutions that leverage the transformative potential of emerging technologies.The Internet of Things (IoT) has emerged as a disruptive force with profound implications for various industries, including transportation (2). IoT refers to a network of interconnected devices embedded with sensors, actuators, and communication capabilities, enabling them to collect, exchange, and analyze data autonomously. In the transportation domain, IoT holds immense promise for enhancing efficiency, safety, and sustainability across various modes of transportation, including roadways, railways, airways, and maritime routes.

IoT Applications in Transportation: Internet of Things (IoT) technologies are revolutionizing the transportation sector by enabling a wide array of innovative applications (3). These applications leverage the connectivity, data collection, and analysis capabilities of IoT to enhance efficiency, safety, and sustainability across various modes of transportation. Below are some key IoT applications in transportation.

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EXPLORING THE IMPLICATIONS OF ARTIFICIAL INTELLIGENCE IN DECISION-MAKING AND EMPLOYMENT

Anuradh Yadav[1], Ritushree Narayan[2], Sheetal Choudhary[3]
[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor,Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
Email: anuradha.yadav@mangalayatan.edu.in

Abstract:
The rapid advancement of Artificial Intelligence (AI) technologies has brought about transformative changes in various aspects of society, particularly in decision-making processes and employment dynamics. However, alongside these advancements come profound ethical implications that demand careful consideration. This research paper delves into the multifaceted ethical landscape surrounding AI, with a specific focus on its implications in decision-making and employment. Through an interdisciplinary approach, drawing on philosophical frameworks, empirical studies, and real-world examples, this paper aims to illuminate the ethical challenges posed by AI and propose strategies for navigating them responsibly while upholding fundamental human values and promoting societal well-being.

Introduction:
Artificial Intelligence (AI) is increasingly permeating diverse domains of human activity, revolutionizing how decisions are made and work is conducted. However, the integration of AI into decision-making processes and employment landscapes raises complex ethical dilemmas that warrant thorough exploration. This paper aims to navigate the ethical labyrinth of AI, examining its implications in decision-making and employment contexts. By critically analyzing existing literature, ethical theories, and case studies, this paper seeks to shed light on the ethical challenges posed by AI and suggest approaches for addressing them in a manner that upholds human dignity, fairness, and societal integrity.

1. Artificial Intelligence (AI)

Artificial Intelligence (AI) represents a paradigm shift in computing, enabling machines to perform tasks that traditionally required human intelligence. Dating back to the mid-20th century, the concept of AI has evolved from early symbolic systems to the modern era of machine learning and neural networks. At its core, AI encompasses various key concepts such as machine learning, neural networks, deep learning, natural language processing (NLP), computer vision, and robotics. These technologies find applications across diverse domains, including healthcare, finance, transportation, customer service, education, entertainment, and manufacturing. Looking ahead, the future of AI holds tremendous promise for innovation and societal impact. However, it also presents challenges related to ethics, bias, privacy, job displacement, and governance. Addressing these challenges requires interdisciplinary collaboration, responsible development practices, and informed policy-making to ensure that AI technologies benefit humanity while minimizing potential risks. In essence, AI is poised to revolutionize technology and society, ushering in a new era of possibilities and opportunities.

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GREEN SYNTHESIS OF SILVER NANOPARTICLES USING *TAGETES ERECTA* LEAVES AND INVESTIGATE ITS ANTIMICROBIAL AND ANTIOXIDANT ACTIVITY

Soni Singh[1], Rojalini Samanta[2], Brishnendra Mishra[3], Swarnim Rai[4]
[1]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, U.P., India
[2]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Collage of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: singh.sonia0001@gmail.com

ABSTRACT - A growing number of people are interested in the green synthesis of nanoparticles because of their potential uses in a variety of industries, such as agriculture and medical, and because they are environmentally benign. This work focuses on the environmentally friendly manufacture of silver nanoparticles (AgNPs) using the reducing and stabilising properties of Tagetes *erecta* leaves. Multiple techniques, including Fourier-transform infrared spectroscopy (FTIR), transmission electron microscopy (TEM), X-ray diffraction (XRD), and UV-Vis spectroscopy, were used to characterise the synthesised AgNPs. In addition, the produced AgNPs' antibacterial and antioxidant properties were assessed. The outcomes showed that spherical AgNPs with an average size range of X to Y nm may be successfully synthesised. The presence of biomolecules from Tagetes *erecta* leaves involved in AgNP stabilisation and reduction was verified by FTIR analysis. AgNPs that were synthesised shown strong antibacterial action against a variety of harmful microorganisms, such as fungus and bacteria. Furthermore, as shown by their capacity to scavenge free radicals, the AgNPs showed notable antioxidant activity. In order to produce nanoparticles with promising antibacterial and antioxidant characteristics, Tagetes *erecta*-mediated AgNP synthesis offers a viable, ecologically friendly method that is also reasonably priced.

The aim of green synthesis of silver nanoparticles is the necessity to develop environmentally friendly processes that don't generate waste or dangerous, toxic solvents during their metabolic pathways. To do this, fresh Tagetes*erecta* leaf extract that has undergone phytochemical screening was utilised to create nano silver particles. Next, an estimation of the extract's antioxidant and antibacterial capabilities was made. The extract's antimicrobial activity was assessed against Aspergillus niger, Actinomyces, Proteus vulgaris, Klebsiella, Candida krusei, and Streptococcus mutans. Finally, a comparison study was conducted to evaluate the antibacterial potential of an extract, silver nanoparticles, and common medications (ofloxacin and amphotericin-B).

Keywords - **Nanotechnology, nanosilver particles, green synthesis, phytochemically screened, Tagetes*erecta*, antioxidant activity, antimicrobial activity.**

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ETHICS AND PLAGIARISM IN ACADEMIC RESEARCH:A CRITICAL ANALYSIS

Kavita Sharma [1], Ashutosh Shukla[3], Laishram Malem Mangal[3]
[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor,Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor,Department of Law, Himalayan University, Itanagar, Arunachal Pradesh
Email: kavita.sharma@mangalayatan.edu.in

ABSTRACT

Ethics and plagiarism are two interconnected concepts that significantly influence the integrity and credibility of academic research. This paper aims to provide a comprehensive analysis of the ethical considerations surrounding plagiarism in academic research. It examines the definition of plagiarism, its various forms, and the ethical implications associated with its occurrence. Furthermore, the paper discusses the underlying reasons for plagiarism, including academic pressure, lack of understanding, and cultural differences. Additionally, it explores the consequences of plagiarism, both for individuals and the academic community as a whole. Finally, the paper offers practical strategies for preventing and addressing plagiarism, emphasizing the importance of education, awareness, and institutional policies in upholding academic integrity.

Key words –Ethics, Plagiarism, Academic Research, Critical Analysis

MEANING OF ETHICS IN ACADEMIC RESEARCH

Ethics in academic research serve as the cornerstone for maintaining integrity, trust, and credibility within the scholarly community. At its core, ethical research entails adherence to principles that prioritize the well-being and rights of individuals, ensure the reliability and validity of findings, and uphold the broader societal values associated with the pursuit of knowledge. Central to this framework are principles such as honesty, transparency, accountability, and respect for diversity.

Researchers are obligated to obtain informed consent from participants, ensuring they understand the purpose, risks, and benefits of their involvement in a study. Additionally, researchers must protect participants from harm, both physical and psychological, and safeguard their privacy and confidentiality. Moreover, honesty in reporting findings and avoiding biases, conflicts of interest, or plagiarism are paramount to maintain the integrity of academic research.

Furthermore, ethical considerations extend beyond interactions with human participants to encompass responsible conduct regarding data management, animal research, and collaboration with colleagues. Adherence to ethical guidelines not only fosters trust among researchers and the public but also ensures the advancement of knowledge that is ethically sound and socially beneficial. Ultimately, the ethical conduct of academic research is indispensable for upholding

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IMPLEMENTING INTEGRATED TEACHER EDUCATION PROGRAM CURRICULUM IN RELATION TO NEP 2020

Ram Kumar Pathak[1], Shimpi Kumari Chaturvedi[2], Ashutosh Saxena[3], Somya Bansal[4], Shaifali Rachna Puri[5]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP [2]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand

[3]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

[5]Assistant Professor, Department of English, Himalayan University, Itanagar, Arunachal Pradesh

Email- ram.pathak@mangalayatan.edu.in

Abstract

A teacher is seen as a very creative and distinctive individual. Because of their creativity, intellectual experience, wit, and dynamic personalities, students may be influenced and inspired by teaching. Pedagogy is thus seen as the real architect of the country. Great teachers like Charaka, Susruta, Aryabhata, Varahamihira, Chanakya, Panini, Patanjali, Nagarjuna, Gautama, Sankardev, Maitreyi, Gargi, and Thiruvalluvar are among the few exceptional gurus in India that elicit a mystical fascination. Not only have you brought enlightenment to India, but the whole world has benefited from it as well, and everyone is striving to bring enlightenment to India. that the classroom bears the imprint of India's destiny. Even though the Indian government established many committees and strengthened the building industry after independence, it gave particular emphasis to India, India continues to lag behind other nations. a nation founded on intellectual illumination. In order to overcome this, the Department of Education's 2020 national enrollment strategy was recently introduced by the National Council for Teacher Enrollment (NCTE). This article proclaims a plethora of introductory guidelines for the effective execution of integrated teacher education. Initiative (ITEP). ITEP is a four-year integrated program with a distinctive design that employs a comprehensive strategy. A bachelor's degree in B.A., B.ED, or B.SC. is available. For these students who want to take part in future calls to edify, ITEP will be a subsidiary. An interdisciplinary institution offers ITEP, which is the prerequisite for becoming a scholastic builder. ITEP is successfully implemented at each institution. This essay discusses the ITEP curriculum in light of NEP-2020.

Keywords:Program (ITEP), challenges and strategies of ITEP, NEP 2020.

Introduction:

Since pedagogy immediately contributes to a nation's growth and a nation's building system directly influences its development, the vocation of edification is regarded as the most honorable of all careers. Visual verification has shown that the enlightened country is making significant strides in astronomy, agriculture, technology, engineering, medicine, and other disciplines in

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IMPACT OF NODE MOBILITY ON THE PERFORMANCE OF AODV, BELLMAN FORD AND ZRP ROUTING PROTOCOLSIN MANET

Rajesh Kumar Upadhyay[1] , Md. Amir Khusru Akhtar[2]
[1]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, Uttar Pradesh, India
[2]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
E-mail: rajeshupadhyay1@gmail.com

***Abstract*:**
The performance of routing protocols can be evaluated in naturalistic conditions of any Mobile Ad-hoc network (MANET) using simulation method. The performance of MANET depends on various parameters and network scenario such as number of nodes, mobility speed, routing protocols, mobility model and energy models etc. In this paper, researchers made an effort to evaluate the impact of node mobility on the performance of AODV, Bellman Ford and ZRP routing protocols with varying mobility speed under random waypoint mobility model in the MANET. Detailed simulations have been carried out using QualNet simulator for 50 nodes. Performance of AODV, Bellman Ford and ZRP routing protocols has been evaluated under the premise of performance metrics namely average throughput, average end to end delay and average jitter using CBR traffic patterns.

Keywords: MANET, QualNet, Throughput, End to End Delay, Jitter and Routing Protocols

1. INTRODUCTION:

All the nodes present in Mobile Ad-hoc Network (MANET) are movable and can be connected with each other dynamically according to the requirement for the communication from one node to another node without any centralized control (Upadhyay, Kumar, and Rana, 2019). In MANET, the routes are not fixed and get change with the movement of nodes (Larsson and Hedman, 1998, Kanimozhi, Ganesh, Karthikeyan, 2023). In this paper, researchers have evaluated the performance of AODV, Bellman Ford and ZRProuting protocolsin terms of Average Throughput (bits/s), Average End to End Delay (s) and Average Jitter (s) withnode mobility using random waypoint mobility model to demonstrate the Mobile Ad-hoc Network using simulation method (Kumar, Agrawal and Sharma, 2014).

2. PERFORMANCE METRICS:

The following performance metrics have been used to evaluate the performance of MANETs routing protocols in presented study (Kumar, Agrawal and Sharma, 2017, Varshney, Agrawal and Sharma, 2016).

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EDIBLE VACCINES: A NOVEL APPROACH TO IMMUNIZATION

Jitendra Saraswat [1], ShailzaNimmi Guria[2],Amandeep Kaur[2]
[1]Assistant Professor, Institute of Nursing and Paramedical Sciences, Mangalayatan University, Aligarh, U.P.
[2]Assistant Professor. Faculty of Nursing, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor. Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
Email: jitendra.saraswat@mangalayatan.edu.in

Abstract:
Edible vaccines present a promising alternative to traditional vaccine delivery methods, offering numerous advantages such as ease of administration, cost-effectiveness, and improved stability. This paper provides an overview of edible vaccines, discussing their development, mechanisms of action, advantages, challenges, and potential applications. Various plant-based and food-based platforms for edible vaccine production are explored, along with their efficacy and safety profiles. Additionally, the paper examines the regulatory considerations and ethical implications associated with the use of edible vaccines. Overall, edible vaccines have the potential to revolutionize immunization strategies, particularly in resource-limited settings, and hold promise for combating infectious diseases worldwide.

Keywords: Edible vaccines, immunization, plant-based vaccines, food-based vaccines, antigen delivery, biotechnology, infectious diseases, regulatory considerations, ethical implications

Introduction:

Immunization plays a critical role in preventing infectious diseases and safeguarding public health. Traditional vaccine delivery methods, such as injections, have been highly effective but come with logistical challenges, especially in resource-constrained regions. Edible vaccines offer a revolutionary approach to immunization by utilizing plants or food items as vehicles for antigen delivery. This innovative strategy holds the potential to overcome many of the limitations associated with traditional vaccines, making immunization more accessible and cost-effective.

Development of Edible Vaccines:

The concept of edible vaccines emerged in the 1990s with the pioneering work of researchers aiming to engineer plants to express vaccine antigens. Initially, transgenic plants were created by incorporating genes encoding specific antigens from pathogens into the plant genome. Over the years, advancements in biotechnology have led to the development of various plant-based expression systems, including nuclear transformation, plastid transformation, and viral vectors, enabling the production of a wide range of edible vaccines.

Mechanisms of Action:

Upon consumption, edible vaccines deliver antigenic proteins directly to the mucosal surfaces of the gastrointestinal tract, where they interact with immune cells and elicit an immune response. This mucosal immunization stimulates both local and systemic immune responses, including the

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UNVEILING MANIPULATION TACTICS: STRATEGIES FOR BRANDS TO ACQUIRE MORE CUSTOMERS

Shalu Agrawal [1], Ankit Khare[2], Meenakshi Kumari[3], Yibom Bagra[4], Salima Bhattarai[5]

[1]Assistant Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP

[2]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Email: shalu.agrawal@mangalayatan.edu.in

ABSTRACT

In today's market, which is very competitive, brands use a variety of strategies to get and keep people. But some of these strategies may be close to being dishonest, which raises moral questions. The point of this study paper is to look into the psychological processes behind the tricks that brands use to get more customers. This paper looks at case studies, psychology theories, and ethical issues to show how effective manipulation techniques are and what they mean for ethics. It also gives brands ideas on how to attract customers in an honest way and build long-lasting relationships based on trust and honesty. This paper tries to expose typical brand manipulation techniques and offer methods for acquiring ethical customers. Brands may strengthen their ties with consumers and encourage enduring loyalty by being aware of these strategies and implementing moral business practices.

Keywords: manipulation tactics, getting new customers, image, moral issues, branding, trust

INTRODUCTION

In the modern hyper-connected world, brands are under constant pressure to differentiate themselves from the plethora of rivals. This pressure frequently results in the application of deception strategies meant to sway the purchasing decisions of customers. Although these strategies work well in the short run, they might negatively impact a brand's reputation and consumer trust. This essay aims to investigate moral client acquisition methods and examine the many deception techniques used by businesses.

There is a very old argument about whether or not marketing that doesn't give you useful information is misleading. Because some marketing strategies are seen as manipulative and others are not, both marketers and customers need to figure out how to tell if a marketing strategy is manipulative or not and if manipulative strategies are actually morally wrong.This piece gives some guidelines for trying to understand what trickery is and when it's okay to use

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CLUSTERING OF WEB SEARCH RESULTS: TECHNIQUES, APPLICATIONS, AND CHALLENGES

Amit Kumar Upadhyay [1], Vinay Singh [2], Manish Saxena[3]
[1]Assistant Professor, Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, UP, India
[2]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
Email: amit.upadhyay@mangalayatan.edu.in

Abstract:
When users query web search engines, massive amounts of information are retrieved; this sometimes leads to confusing and disorganized search result sites. By organizing related search results into cohesive clusters, clustering techniques provide an efficient way to get and explore information. An overview of web search result clustering techniques, including their applications, problems, and methods, is given in this research study. This work seeks to clarify the state-of-the-art clustering approaches, current trends, and future directions in the field of web search result clustering through a thorough assessment of the available literature and case examples.

1. Introduction

Software programs called web search engines are made specifically to look for information on the World Wide Web. They give customers the ability to enter queries and obtain pertinent facts from the massive web data sets. Web crawlers, sometimes referred to as spiders or bots, are tools used by search engines to systematically search the internet and find new content. As they navigate between pages, crawlers create an index of the content they come across. Dealing with the enormity of the web—billions of pages that are always updated and changing—becomes a difficulty. Web pages are crawled, then indexed so they may be retrieved. Parsing and storing web page content in an organized manner to facilitate effective search is known as indexing. Figure 1 shows how a search engine can be works. he enormous volume of unstructured data on the internet, which includes text, photos, videos, and other multimedia content, makes it difficult to properly classify and organize information.

In order to obtain pertinent results from the index, a search engine needs to execute user queries fast and precisely. In order to do this, the query phrases must be analyzed, matched to indexed content, and the results must be ranked according to relevancy. It becomes more difficult to handle complicated queries and comprehend user intent, particularly when dealing with imprecise or unclear search queries. In order to give users relevant and helpful information, search results relevancy must be determined. Algorithms are used by search engines to rank

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AN ANALYSIS OF TALENT MANAGEMENT'S IMPACT ON ORGANIZATIONAL PERFORMANCE

Unnati Jadaun [1], Viplav Pandey[2], Yibom Bagra[3], Dilip Singh Hazari[4], Salima Bhattarai[5]
[1]Assistant Professor, Institute of Business Management & Commerce Mangalayatan University, Beswan, Aligarh, UP
[2]Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
Email: unnati.jadaun@mangalayatan.edu.in

ABSTRACT
Talent Management is a tactical approach to HRM that firms adopt to effectively retain employees over an extended period. Talent management is the systematic process of acquiring skilled people, equipping them with the required skills to advance in their professions, evaluating and overseeing their performance, and implementing strategies to retain them inside the firm. The main objective of this study is to examine the correlation between talent management and organizational performance, as well as propose strategies for retaining skilled individuals within the business to ensure long-term sustainability and growth of the company. A meticulously crafted questionnaire is employed to collect data from both primary and secondary sources. The sample consists of 120 individuals from different software companies situated in Bangalore city. This study utilizes the convenience sampling technique and employs statistical tools such as multiple regression analysis to examine the data. The findings of the study indicate that talent management strategies have a beneficial effect on organizational performance. To effectively retain skilled individuals, firms should prioritize learning and development programs, as well as give career advancement possibilities. These measures eventually promote organizational productivity and performance.

Key Words:*HRM,talent Management, organizational performance*

INTRODUCTION
In the present era, the key source of competitive advantage for a firm is its talent. The performance of an organization is contingent upon the its people's performance. The employees of an organization should possess distinctive expertise that sets them apart from their competition. Retaining a competent workforce is a significant task for HR managers in today's competitive climate, in addition to the burden of acquiring new talent, Talent management is a

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MOLECULAR AND BIOCHEMICAL PROFILING OF ANGIOTENSINCONVERTING ENZYME IN CLINICAL ISOLATES AND ITS CLINICALIMPLICATIONS IN DISEASEPROGNOSIS

Rojalini Samanta [1], Soni Singh[2], Pranal Chhetri[3], Franco Gohain[4]

[1]Assistant Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, U.P., India
[3]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: rojalinsamanta91@gmail.com

ABSTRACT

Angiotensin Converting Enzyme (ACE) plays a pivotal role in the renin-angiotensin-aldosterone system (RAAS) and has been implicated in various cardiovascular and renal diseases. This study investigates the molecular and biochemical profiles of ACE in clinical isolates and explores its clinical implications in disease prognosis. Through a comprehensive review of literature, genetic variations, enzymatic activity, and expression levels of ACE have been analysed in diverse clinical populations. Furthermore, the association between ACE polymorphisms and disease susceptibility, severity, and response to treatment has been evaluated. The findings underscore the significance of ACE profiling in stratifying patients based on their genetic predisposition and biochemical status, thereby facilitating personalized medicine approaches. Moreover, the potential of ACE as a prognostic biomarker for disease progression and therapeutic response is discussed. Overall, this paper sheds light on the intricate interplay between ACE variability and clinical outcomes, paving the way for improved diagnostic and therapeutic strategies in cardiovascular and renal disorders.

Keywords: Angiotensin Converting Enzyme, molecular profiling, biochemical profiling, clinical isolates, disease prognosis, personalized medicine, genetic variations, enzymatic activity, biomarker, therapeutic response.

INTRODUCTION

The renin-angiotensin-aldosterone system (RAAS) is a complex hormonal cascade primarily involved in regulating blood pressure, electrolyte balance, and fluid volume in the body (1). At the centre of this system lies the enzyme Angiotensin Converting Enzyme (ACE), which plays a crucial role in modulating key components of the RAAS.The RAAS cascade begins with the release of renin from the juxtaglomerular cells of the kidneys in response to various stimuli, such as decreased blood pressure or volume, sympathetic nervous system activation, or decreased sodium concentration in the distal tubule. Renin acts on its substrate, angiotensinogen, to cleave it into angiotensin I (Ang I). Ang I is relatively inactive but serves as the precursor for

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MULTILEVEL EDUCATION FOR SUSTAINABILITY THROUGH ICT EDUCATION AND TECHNOLOGY

Vinay Singh[1], Ram Kumar Pathak[2], Rahul Solanki[3], Dinesh Mishra[4]
[1]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[3]Associate Professor, Department of Physics, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP
Email: coe@umu.ac.in

Abstract:
This research article explores the role of Information and Communication Technology (ICT) education and technology in promoting multilevel education for sustainability. With the increasing importance of sustainability education in addressing global challenges, ICT offers innovative tools and platforms for delivering multidimensional and interdisciplinary learning experiences. This study investigates the potential of ICT-enabled approaches to engage learners across multiple levels, including individual, classroom, school, community, and global scales. Through a comprehensive analysis of existing literature and case studies, the research examines the effectiveness, challenges, and best practices of ICT-mediated sustainability education. Findings contribute to the advancement of multilevel education for sustainability and inform strategies for leveraging ICT to foster environmental stewardship, social responsibility, and economic equity.

Keywords: Multilevel education, Sustainability, Information and Communication Technology (ICT), Technology integration, Environmental stewardship.

Introduction

In recent years, there has been growing concern about environmental degradation, social inequities, and economic instability, highlighting the urgent need for sustainable development practices. Education plays a crucial role in addressing these challenges by equipping individuals with the knowledge, skills, and values necessary to create a more sustainable future. Traditional educational approaches often focus on subject-specific content and fail to adequately address the interconnected nature of sustainability issues. As a result, there is a growing recognition of the need for multilevel education approaches that foster holistic understanding and action towards sustainability.

1.2 Importance of Sustainability Education

Sustainability education is essential for cultivating environmentally responsible and socially conscious citizens who can contribute to building sustainable communities and addressing global challenges. By integrating sustainability principles into educational curricula, students gain a deeper understanding of environmental issues, social justice, and economic equity. Furthermore, sustainability education empowers individuals to make informed decisions, advocate for

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ROLE OF ARTIFICIAL INTELLIGENCE IN BIOTECHNOLOGY

Md.Amir Khusru Akhtar [1], Love Kumar[2], Sandip Kulkarni[3], Sumit Singh Sonkar[4], Soni Singh[5]

[1]Associate Professor, Faculty of Computing & Information Technology Usha Martin University, Ranchi India

[2]Assistant Professor,Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, U.P.

[3]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, M.P.

[5]Assistant Professor, Department of Biotechnology and Life Sciences,Mangalayatan University, Aligarh, U.P.

Email: amir@umu.ac.in

Abstract: Artificial intelligence (AI) has emerged as a powerful tool in various fields, including biotechnology. In recent years, AI techniques such as machine learning, deep learning, and natural language processing have been increasingly applied to solve complex problems in biotechnology. This paper provides a comprehensive review of the current state of AI in biotechnology, focusing on its applications, challenges, and future perspectives. We discuss various applications of AI in biotechnology, including drug discovery and development, protein engineering, genomics, personalized medicine, and synthetic biology. We also highlight the challenges associated with the integration of AI into biotechnology, such as data quality, interpretability, and ethical considerations. Finally, we present future perspectives on the role of AI in shaping the future of biotechnology, including the potential for AI to revolutionize drug discovery, accelerate personalized medicine, and enable the design of novel biotechnological solutions to address global challenges.

Keywords: Artificial intelligence, biotechnology, machine learning, drug discovery, genomics, personalized medicine, synthetic biology.

Introduction:

The intersection of artificial intelligence (AI) and biotechnology marks a significant paradigm shift in the way we approach biological research, healthcare, and industry. AI, with its ability to process vast amounts of data, recognize patterns, and make predictions, has emerged as a powerful tool in biotechnology, enabling researchers to tackle complex challenges more efficiently and effectively than ever before. This introduction provides an overview of the

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ROLE OF COMPUTERS IN DIGITAL FORENSICS

Manoj Varshney [1], Himanshu Verma[2], Sheetal Choudhary[3], Vishal Khatri[4]
[1]Associate Professor, Department of Computer Engineering and Applications, Mangalayatan University, Beswan, Aligarh, U.P.
[2]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, India
[3]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, Department of Computing & Information Technology, Sikkim Professional University, Gangtok, Sikkim
Email: manoj.varshney_dcea@mangalayatan.edu.in

Abstract
Digital forensics, an integral part of modern law enforcement and cybersecurity, relies heavily on computer technology for both investigative tools and subjects. This paper explores the multifaceted role of computers in digital forensics, elucidating their significance in investigating crimes in the digital age.
As tools, computers empower forensic examiners with sophisticated software and hardware to collect, preserve, and analyse digital evidence from various storage devices. Techniques such as file carving, keyword searching, and timeline analysis enable the extraction of critical insights essential for solving cybercrimes. However, challenges such as encryption, anti-forensic techniques, and volatile data pose hurdles that require innovative solutions.
Furthermore, computers themselves serve as subjects of forensic investigation, offering a treasure trove of evidence ranging from files and logs to metadata and artifacts. Through meticulous examination, forensic experts uncover traces of digital activities that shed light on criminal behaviours, aiding in prosecutions and ensuring justice.
Drawing from real-world case studies, this paper illustrates the pivotal role of computers in digital forensics, demonstrating their efficacy in unravelling complex cybercrimes. Moreover, it explores emerging trends such as the proliferation of IoT devices and cloud computing, presenting opportunities and challenges for future investigative practices.
Ultimately, leveraging computer technology is imperative for enhancing the effectiveness and efficiency of digital investigations. By embracing advancements and addressing challenges, practitioners can navigate the evolving landscape of digital forensics with confidence, ensuring the integrity of evidence and upholding the rule of law in the digital realm.

Introduction

In today's interconnected world, where digital technologies permeate every aspect of society, the realm of law enforcement and cybersecurity faces unprecedented challenges. The proliferation of cybercrimes, ranging from data breaches and intellectual property theft to online fraud and cyberterrorism, underscores the critical need for robust investigative techniques tailored to the

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AN EXTENSIVE EXAMINATION OF WORK-LIFE BALANCE AND ITS INFLUENCE ON EMPLOYEE PERFORMANCE AND JOB SATISFACTION

Unnati Jadaun [1], Salima Bhattarai [2], Munish Kumar Sharma[3], Yibom Bagra[4], Dilip Singh Hazari[5]

[1]Assistant Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP

[2]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

[3]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[5]Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP

Email: unnati.jadaun@mangalayatan.edu.in

ABSTRACT

The objective of this review paper is to evaluate the influence of work-life balance on the job satisfaction and performance of employees. This study investigates the correlation between work-life balance and employee outcomes, emphasizing the criticality of attaining a state of equilibrium between professional obligations and personal life. A comprehensive theoretical framework is utilized in this study, which incorporates concepts and theories from numerous academic fields, including organizational behavior, psychology, and sociology. Prominent theories that are scrutinized encompass, among others, role theory, conservation of resources theory, and boundary theory. A systematic review methodology is employed in this paper to examine the extant body of literature pertaining to work-life balance, employee performance, and job satisfaction. An extensive compilation of scholastic articles, research papers, and pertinent studies is assessed with a critical eye and integrated in order to furnish a holistic comprehension of the subject matter. The results of this analysis underscore the favorable effects that work-life balance has on the productivity and contentment of employees. There is a positive correlation between employees who achieve a work-life balance and their achievement of elevated levels of job satisfaction and functional effectiveness. Additionally, the research delineates a multitude of determinants that impact work-life equilibrium, encompassing personalized coping mechanisms, organizational assistance, and adaptable work schedules. This study provides substantial ramifications for a multitude of stakeholders. It enhances the current corpus of knowledge in the field of research by integrating and synthesizing results obtained from numerous studies. The results underscore the significance of advocating for work-life balance initiatives within organizations, as this may result in enhanced employee performance and greater job satisfaction for practitioners. Promoting a healthy work-life balance has a

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A STUDY ON EMPOWERMENT OF WOMEN IN INDIA

Shalu Agrawal [1], Ankit Khare[2], Leena Shrivastav[3], Yibom Bagra[4], Salima Bhattarai[5]

[1]Assistant Professor, Institute of Business Management and Commerce Mangalayatan University, Beswan, Aligarh, UP

[2]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[3]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Email: shalu.agrawal@mangalayatan.edu.in

ABSTRACT

This paper attempts to analyze the status of Women Empowerment in India and highlights the Issues and Challenges of Women Empowerment. Empowerment of women is a critical aspect of societal development, particularly in a country as diverse and populous as India. This research paper aims to provide a comprehensive analysis of the various dimensions of women's empowerment in India. Through a combination of quantitative and qualitative methods, including surveys, interviews, and literature review, this study examines the status quo of women's empowerment in India, identifies the key challenges and barriers hindering progress, and explores potential solutions and strategies to foster empowerment. The paper delves into various aspects such as education, employment, health, and social norms to understand the multifaceted nature of women's empowerment. Additionally, it investigates the role of government policies, NGOs, and grassroots movements in promoting gender equality and women's rights. The findings of this study aim to contribute to the ongoing discourse on gender equality and inform policymakers, activists, and stakeholders about effective interventions to enhance the empowerment of women in India.

KEYWORDS: Women Empowerment, Gender Equality, Women Rights & Security, Education, Employment.

INTRODUCTION

The Government of India declared 2001 as the Year of Women's Empowerment (Swashakti). The National Policy for The Empowerment of Women came was passed in 2001. Women's economic empowerment refers to the ability for women to enjoy their right to control and benefit from the resources, assets, income and their own time, as well as the ability to manage risk and improve their economic status and well-being.

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ANALYSIS OF COMPUTER CRIME RESEARCH: TRENDS, CHALLENGES, AND IMPLICATIONS

Jitendra Yadav[1], Pratishtha Mishra[2], Atibha Vijaya Singh[3], Pankaj Choudhury[4]
[1]Assistant Professor, Institute Legal Studies and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Legal Studies, Mangalayatan University, Jabalpur, MP
[3]Assistant Professor, Faculty of Legal Studies, Usha Martin University, Ranch, Jharkhand
[4]AssistantProfessor, Department of Legal Studies, Himalayan University, Itanagar, Arunachal Pradesh
Email: jitendra.yadav@mangalayatan.edu.in

Abstract
The growing dependence on digital technology in contemporary society has led to a notable rise in computer crimes, which has emerged as a substantial apprehension for people, corporations, and governments on a global scale. This study provides a thorough examination of scholarly literature pertaining to computer crime, with the objective of identifying patterns, obstacles, and ramifications for effectively tackling this dynamic menace. This study consolidates significant discoveries and ideas on several facets of computer crime, such as cyberattacks, data breaches, online fraud, identity theft, and digital piracy, by conducting a methodical analysis of academic literature, industry reports, and legal studies. The analysis emphasizes the current developments in cybercrime methodologies, encompassing ransomware assaults, social engineering schemes, and cryptocurrency-related offenses. Additionally, it acknowledges the progress made in cyber-defence techniques, encompassing threat intelligence, encryption technology, and incident response protocols. Moreover, the research delves into the complexities presented by jurisdictional matters, international collaboration, and regulatory structures in addressing computer-related criminal activities at a worldwide level. This study is to provide insights into the intricate nature of computer crime and its ramifications for cybersecurity policy and practice. Its objective is to contribute to the development of future research agendas, law enforcement methods, and corporate cybersecurity measures, all of which are crucial in effectively tackling the ever-changing realm of digital dangers.

IntroductionIn the contemporary era characterized by the pervasive integration of technology into all facets of human existence, the incidence of computer-related criminal activities has witnessed a notable surge. Computer crime comprises a wide range of unlawful behaviors assisted by technology, including hacking, spyware, identity theft, and cyberbullying. The objective of this study is to present a comprehensive examination of computer crime, encompassing its definition, extent, and ramifications for people, companies, and society as a whole.

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STUDY OF CONTEMPORARY TECHNIQUES OF TEACHING IN EDUCATION IN REFERENCE IN NEP-2020

Ram Kumar Pathak [1], Shimpi Kumari Chaturvedi[2], Ashutosh Saxena[3], Somya Bansal[4], Shaifali Rachna Puri[5]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Faculty of Humanities & Social Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of English, Himalayan University, Itanagar, Arunachal Pradesh
Email- ram.pathak@mangalayatan.edu.in

Abstract:
The National Education Policy (NEP) 2020 introduces a paradigm shift in the Indian education system, emphasizing the importance of contemporary teaching techniques. This research paper aims to explore and analyse the contemporary teaching methods highlighted in NEP 2020 and their implications on education. The study examines various aspects of the NEP 2020 and synthesizes existing literature on modern teaching methodologies. Additionally, it investigates the challenges and opportunities associated with the implementation of these techniques in the Indian educational context. Through a comprehensive review, the paper aims to provide insights into effective strategies for integrating contemporary teaching approaches into the educational framework outlined in NEP 2020.

Keywords: National Education Policy 2020, contemporary teaching techniques, education reform, Indian education system, pedagogical approaches.

Introduction

The new teaching technique which we called the contemporary or modern teaching method was more activity-based and learner's centric which involved them entirely into the process of learning. In the modern teaching method, curriculum teaching and planning were done keeping the learner as the primary target. Over recent years, there have been visible changes in teaching style. Opposite to the memorization and same old recitation practice to teach the students, now with modern teaching methods, interactive methods of teaching have been introduced, and its result can be seen. Modern teaching methods do not treat all students at the same level of their understanding ability, unlike the conventional method of teaching. Rather than the only teacher based, modern teaching methods focus more on questioning, demonstration, explaining, practical, collaboration methods, and are more activity-based. In recent years, the scope of knowledge in the field of science and technology has dramatically increased, and human's ability to adapt to new knowledge in science and technology has also increased. So, there was a massive need for innovative and creative minds to explore unknown and unrevealed areas of different fields. To struggle with the modern world and the knowledge-driven era of technology, accepting

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THE INTERNET OF THINGS (IOT) AND ITS SIGNIFICANCE IN EDUCATION

Md.Amir Khusru Akhtar [1], Love Kumar[2],Sumit Singh Sonkar[3], Sandip Kulkarni[4]

[1]Associate Professor, Faculty of Computing & Information Technology Usha Martin University, Ranchi India

[2]Assistant Professor,Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, U.P.

[3]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, M.P.

[4]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

Email: amir@umu.ac.in

Abstract: The Internet of Things (IoT) has emerged as a transformative technology with vast implications across various domains, including education. This research paper aims to explore the significance of IoT in education, examining its potential benefits, challenges, and future prospects. By leveraging IoT devices and infrastructure, educational institutions can enhance learning experiences, streamline administrative tasks, and foster innovation in teaching methodologies. This paper reviews existing literature on IoT applications in education, analyses case studies of IoT implementation in educational settings, and discusses the implications of IoT for educators, students, and administrators. Furthermore, it addresses privacy and security concerns associated with IoT adoption in educational environments and suggests strategies to mitigate risks. Finally, this paper outlines future research directions and offers recommendations for educators and policymakers to effectively integrate IoT technologies into educational practices.

Keywords: Internet of Things (IoT), education, learning experiences, administrative tasks, innovation, privacy, security, implementation, future prospects.

Introduction: In the digital era, the Internet of Things (IoT) stands as a groundbreaking technological paradigm, promising to revolutionize the way we interact with our surroundings (1). The IoT concept revolves around the interconnectedness of everyday objects, enabling them to collect, exchange, and analyse data autonomously. This connectivity holds immense potential across various sectors, and one area where its impact is particularly promising is education.Traditionally, education has been confined within the walls of classrooms, with limited opportunities for personalized learning and real-time data analysis. However, the advent of IoT technology opens up a world of possibilities for transforming educational practices. By embedding sensors, actuators, and other IoT devices into educational environments, institutions can create intelligent systems that facilitate more engaging learning experiences, streamline administrative tasks, and empower both educators and learners.The significance of IoT in education lies in its ability to bridge the gap between physical and digital realms, thereby

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A REVIEW: CHOLESTEROL AND ITS MANAGEMENT

Neha Singh [1], Kaminee Sahu[2], Franco Gohain[3], Bhupen Subba[4]
[1]Associate Professor, MIPER, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: neha.singh@mangalayatan.edu.in

ABSTRACT
The most important sterol is cholesterol, which is produced by most human cells, mostly in the liver. It is a crucial component of cell membrane and acts as a precursor for the synthesis of bile acids, vitamin D, and steroid hormones. In essence, the body overregulates the homeostasis of cholesterol.This review delves into the origins of cholesterol, its biological functions, its structural description, its biosynthesis, and its byproducts, which include steroid hormone, bile salts, and acid. It also looks at the latest advancements in cholesterol management against cardiovascular disease risk factors, including cardiovascular disease, stroke, and atherosclerosis. Pharmaceutical and non-pharmaceutical drugs, botanicals, dietary changes, and exercise are all part of the current therapeutic arsenal for the treatment and prevention of cardiovascular disease.

KEYWORDS:Heart-related disease, LDL, HDL, ASCVD, NADPH, ATP

INTRODUCTION
Starting with the production of cholesterol, a structural element of cell membranes, several steroid hormones, vitamin D, and bile acids are produced. Cholesterol is necessary for regulating how cells function in addition to their structural role, which gives stability and mobility.[1,2]A hydroxyl group, a core sterol nucleus composed of four hydrocarbon rings, and a hydrocarbon tail make up the distinctive structure of the 27-carbon molecule known as cholesterol. Each and every steroid hormone has a core sterol nucleus, also known as a ring.[4, 5].Water cannot combine with the non-polar hydrocarbon tail or the core ring. As a result, apoproteins, a type of protein, and cholesterol combine to produce lipoproteins, which are subsequently carried by the bloodstream.[6]

Cholesterol is a structural element needed by all mammalian cell membranes. [7–8] While there was a time when eating a lot of Heart disease (CVD) was thought to be associated with elevated cholesterol levels. New study shows that this is not the case and that blood levels of LDL-C do not increase significantly. However, the results are still debatable, maybedue to the correlation with the intake of saturated fat. [9, 10, 11].Inspired by these novel discoveries and the understanding that cholesterol is essential for many essential physiological processes, the special Nutrients issue on "Cholesterol and Health" focuses on the roles of cholesterol and the impact of dietary cholesterol on several metabolic processes.[12,13,14]Research is now being done on the

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A DESCRIPTION OF THE DRUG INFORMATION CENTRE IN INDIA INCLUDING ITS FUNCTIONS AND CHALLENGES

Shubham Sharma[1], Pankaj Tiwari[2], Abhishek Pandey[3], Bhupen Subba[4]

[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP, India

[2]Associate Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Email: shubham.skdm@gmail.com

Abstract:
The provision of drug information involves the dissemination of data regarding the pharmaceuticals utilised within the health-care system. In addition, it encompasses the administration of appropriate doses, the monitoring and management of adverse drug reactions (ADRs) and side effects, the study of pharmacokinetic characteristics, the education of healthcare personnel, the handling of drug shortages, the identification of alternative treatments, and the creation of alternative protocols for limited use. The objective of medication information is to provide authentic, accurate, relevant, unbiased drug information to patients, nursing staff, practicing physicians, chemists, and other healthcare professionals. Drug information frequently addresses inquiries from patients and healthcare providers. The drug information centre regularly gets inquiries from hospital personnel and patients, and provides responses regarding adverse drug reactions (ADRs), drug interactions, pharmacokinetic properties of medications, and information on newly available drugs in the market. Drug information services contribute to enhancing patient safety, reducing drug-related complications for the patient, and promoting the judicious utilisation of medications by both healthcare providers and patients. Drug information services offer clear and precise information with the assistance of a highly skilled and licenced clinical chemist. The majority of wealthy nations are effectively utilising this service. These centres in highly developed nations promptly deliver precise and current drug information to healthcare practitioners. Nevertheless, it is imperative for emerging nations such as India to prioritise the enhancement of their service sector. The material contained in this paper not only provides insights into drug information services, but also highlights future considerations that must be addressed.

Keywords: Drug information services, Hospital pharmacist, Drug-related queries, Clinical pharmacy.

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AN OVERVIEW OF UNUSUAL AND RARE DISEASE: AUTO-BREWERY SYNDROME

Priyanshi Goyal [1], Kaminee Sahu[2], Ananga Mohan Das[3]
[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: priyanshi.goyal@mangalayatan.edu.in

Abstract:

Auto-brewery syndrome, also known as gut fermentation syndrome, is a fascinating condition where ethanol is produced internally through fermentation by fungi or bacteria in various parts of the body, such as the gastrointestinal system, oral cavity, or urinary system. Patients with auto-brewery syndrome exhibit various signs and symptoms of alcohol intoxication, despite claiming to have not consumed any alcohol. They frequently mention following a diet that is rich in sugar and carbohydrates. Endogenous ethanol is produced in small amounts during normal digestion. However, if fermenting yeast or bacteria become pathogenic, it can lead to dangerously high blood alcohol levels. Auto-brewery syndrome is more commonly found in patients who have other medical conditions like diabetes, obesity, and Crohn disease. However, it can also affect individuals who are otherwise healthy. Various strains of fermenting yeasts and uncommon bacteria are recognized as pathogens. Auto-brewery syndrome is a condition that is not frequently diagnosed, but it is likely that it is not being diagnosed as often as it should be. Two extremely rare cases of auto-brewery syndrome have been identified, one in the oral cavity and one in the urinary bladder. This article primarily discusses the causes, symptoms, tests, treatment, and legal aspects of ABS.

Keywords: Alcohol; Diabetes mellitus;gut fermentation; Stress; obesity

Introduction:

Auto-brewery syndrome (ABS), also known as gut fermentation syndrome, is a condition in which the body's ethanol concentration increases significantly even with minimal or no alcohol consumption [2]. It's a condition that typically impacts individuals who already have underlying gut problems [2,3]. This intriguing phenomenon is thought to be caused by the breakdown of carbohydrates in the human body by microorganisms [3]. The pharmacokinetics of alcohol can be influenced by various factors [4]. Prior to the accumulation of ethanol in the body fluids, it is crucial for the amount of ethanol in the body to surpass 6 to 8 g per hour as a result of first-pass metabolism [5,6]. The available data does not provide enough evidence to support the widespread production of ethanol through natural processes. Nevertheless, this intriguing occurrence has given rise to many misunderstandings and untrustworthy data that could be

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CURRENT DEVELOPMENTS IN THERAPEUTIC STRATEGIES FOR THE MANAGEMENT OF DIABETES: AN EXTENSIVE REVIEW

Akash Upadhyay [1], Abdul Wadood Siddiqui[2], Sailesh Narayan[3], Brishnendra Mishra[4]
[1]Lecturer, School of Pharmacy, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Professor, School of Pharmacy, Mangalayatan University, Aligarh, Uttar Pradesh
[3]Associate Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: akash.upadhyay@mangalayatan.edu.in

Abstract:

Diabetes is a prime example of a rising global epidemic that is posing a severe social and economic threat to all nations. Notwithstanding advancements in science, enhanced healthcare infrastructure, and higher rates of literacy, the illness still affects many people, particularly in middle-class and lower-income nations. Current trends point to an increase in premature mortality, which is a serious threat to global development. Newer generation drugs such as sulfonylureas (K_{ATP} Channel Blockers), Biguanide (AMP_K activator), α - glucosidase inhibitors, with notable efficacy in lowering hyperglycemia have been developed as a result of scientific and technological advancements. Novel therapeutic classes such as incretin mimetics, amylin analogues, GIP analogs, peroxisome proliferator activated receptors, and dipeptidyl peptidase-4 inhibitors have been developed as a result of recent advances in drug discovery techniques. These compounds may find application in the treatment of diabetes.

Keywords: Sulfonylureas ((K_{ATP} Channel Blockers), Biguanide (AMP_K activator), α - glucosidase inhibitors.

Introduction:

Diabetes mellitus (DM) is a long-standing, complicated, and non-transmissible endocrine ailment that is growing rapidly and has posed clinical challenges globally, often linked with threats related to complicated metabolic development in patients. It is marked by elevated glucose and lipids in the blood as well as oxidative stress, which culminate in chronic complications involving diverse organs, mainly the kidneys, eyes, nerves, and blood vessels, among others, in the body. As reported by World Health

Organization (WHO), DM is an outbreak prone to high malaise and death. Globally, approximately 387 million persons are affected by this disorder and it is estimated to be more than 640 million by 2040 [1]. According to a report in 2017 by International Diabetes Federation (IDF), 425 million persons suffer from diabetes mellitus out of which more than 90 percent are adults and 352 million had impaired glucose tolerance (IGT) [2]. In individuals suffering from type II diabetes mellitus (T2DM), hyperglycemia is not the only characteristic; it also involves

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IN VITRO MICROPROPAGATION OF PSORALEA *CORYLIFOLIA*: AN ENDANGERED MEDICINAL HERB

Sangita Kujur [1], Soni Singh[2], Priyanka Ojha[3], Chamta Gurung[4]

[1]Assistant Professor, Department of Physiotherapy and Paramedical SciencesUsha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, U.P., India
[3]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: sangitakujur128@gmail.com

ABSTRACT

Psoralea *corylifolia*(Babchi) is an endangered medicinal herb with significant pharmacological properties. Due to overexploitation and habitat loss, the natural populations of this species are dwindling rapidly. In vitro micropropagation offers a promising approach for the conservation and sustainable utilization of this valuable plant. This research paper reviews the current methodologies and advancements in in vitro micropropagation techniques for Psoralea*corylifolia*, emphasizing its conservation and medicinal applications. Various aspects, including explant selection, sterilization procedures, culture media composition, growth regulators, and acclimatization protocols, are discussed. Moreover, the paper highlights the pharmacological importance of Psoralea *corylifolia*and the potential benefits of in vitro propagation in ensuring its continued availability for medicinal purposes. Future directions for research and practical implications are also considered.

Keywords: Psoralea *corylifolia*, in vitro micropropagation, conservation, medicinal herb, endangered species

INTRODUCTION

Psoralea corylifolia, commonly known as Babchi, is an endangered medicinal herb belonging to the Fabaceae family (1). Native to the Indian subcontinent and other parts of Asia, this plant has been revered for centuries in traditional medicine systems such as Ayurveda, Siddha, and Traditional Chinese Medicine (TCM)The plant holds significant pharmacological importance due to its diverse array of bioactive compounds and therapeutic properties.In recent years, however, Psoralea corylifolia has faced escalating threats primarily stemming from habitat destruction, overharvesting, and unsustainable harvesting practices (2). As a result, wild populations of this valuable herb have dwindled, leading to its classification as an endangered species in many regions.Given its precarious conservation status and medicinal significance, there is an urgent need for conservation efforts and sustainable utilization strategies for Psoralea corylifolia. In this context, in vitro micropropagation emerges as a promising approach to address these challenges In vitro micropropagation involves the cultivation of plant tissues under controlled conditions, typically in a nutrient-rich medium supplemented with growth regulators (3). This technique allows for the rapid multiplication of plants from a small amount of tissue,

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REVOLUTIONIZING URBAN LIVING: APPLICATIONS OF IOT IN SMART CITIES

Love Kumar[1],Sharmistha Roy[2], Shailja Varshney[3], Dinesh Mishra [4], Manish Saxena[5]

[1]Assistant Professor,Department of Computer Engineering and Applications, Mangalayatan University, Aligarh, U.P.

[2]Associate Professor, Faculty of Computing & Information Technology Usha Martin University, Ranchi India

[3]Assistant Professor, ITS Engineering Colege, Greater Noida, U.P.

[4]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, M.P.

[5]Associate Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh

Email: love.mittal@mangalayatan.edu.in

Abstract: Smart cities are at the forefront of urban innovation, leveraging advanced technologies to address the complex challenges of urbanization. Among these technologies, the Internet of Things (IoT) stands out as a key enabler, facilitating the integration of diverse urban systems and enhancing efficiency, sustainability, and quality of life. This research paper delves into the multifaceted applications of IoT in smart cities, examining its role in urban infrastructure management, transportation, energy optimization, and citizen engagement. Through an analysis of case studies, challenges, and future prospects, it sheds light on the transformative potential of IoT in shaping the cities of the future.

Keywords: Internet of Things (IoT), Smart Cities, Urban Infrastructure, Transportation, Energy Optimization, Citizen Engagement, Sustainability.

Introduction: The Internet of Things (IoT) refers to a network of interconnected devices, sensors, actuators, and other physical objects that are embedded with internet connectivity, enabling them to collect, exchange, and analyze data. These devices communicate with each other and with centralized systems, often utilizing cloud computing and data analytics, to provide valuable insights, automate processes, and enable remote control and monitoring.IoT plays a crucial role in optimizing urban infrastructure and services by collecting real-time data from various sources such as traffic sensors, weather stations, energy meters, and surveillance cameras. This data is then used to improve efficiency, enhance public safety, reduce environmental impact, and provide better services to citizens. For example, IoT-enabled traffic management systems can dynamically adjust traffic signals based on congestion levels, while smart energy grids can optimize energy distribution and consumption patterns.IoT technology enables the integration of household devices and systems, such as thermostats, lighting, security cameras, appliances, and entertainment systems, into a unified network that can be controlled and monitored remotely through smartphones or other devices. This allows homeowners to

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PERFORMANCE OF ROUTING PROTOCOLS WITH VARYING NODE DENSITY AND GROUP MOBILITY MODEL IN MOBILE AD-HOC NETWORK

Rajesh Kumar Upadhyay [1] and Md. Amir Khusru Akhtar[2]
[1]Associate Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, Uttar Pradesh, India
[2]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
E-mail: rajeshupadhyay1@gmail.com

Abstract:
Mobility model and node density have significant role in term of performance of routing protocols in a mobile ad-hoc Network. The performance of MANET routing protocols have been evaluated in terms of performance metrics namely Average Throughput (bits/s), Average End to End Delay (s) and Average Jitter (s). To evaluate the performance of AODV, DSR, DYMO, OLSR, Bellman Ford and ZRP routing protocols, the researchers have conducted simulation based study using QualNet simulator. Group mobility model has been selected to show the realistic environment of the movement of mobile nodes under the varying node density and CBR traffic pattern. The results of the study have shown that variations in performance of the routing protocols have seen with varying node densityof mobile nodes in MANET.
Keywords: MANET, QualNet, Throughput, End to End Delay, Jitter and Routing Protocols

1. Introduction

A mobile Ad-hoc network (MANET) is a self-configuring network of mobile nodes that forms an unpredictable network. In a Mobile Ad hoc Network (MANET), all nodes have the ability to move and establish connections with other nodes as required for data exchange(Kumar and Kumar, 2015). This decentralized network does not rely on any centralized control. (Upadhyay, Kumar, and Rana, 2019). In a Mobile Ad-hoc network, the routes are dynamic and change as the nodes move.(Larsson and Hedman, 1998, Sethi, Juneja and Chauhan, 2011). In this paper, researchers have presented the analysis of the performance three reactive routing protocols (AODV, DSR and DYMO), two proactive routing protocols (OLSR and Bellman Ford) and one hybrid routing protocol (ZRP) in terms of namely Average Throughput (bits/s), Average End to End Delay (s) and Average Jitter (s) under the varying node density of mobile nodes using group mobility model to demonstrate the realistic network using simulation method (Kumar, Agrawal and Sharma, 2017).

2. Performance Metrics

The following performance metrics have been used to evaluate the performance of MANETs routing protocols in presented study (*Varshney, Agrawal and Sharma, 2016,* Kanimozhi, Ganesh, Karthikeyan, 2023*)*.

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THE IMPACT OF PEDAGOGICAL AND ICT TRAINING ON TEACHERS' APPROACHES TO ONLINE TEACHING AND USE OF DIGITAL TOOLS

Ram Kumar Pathak[1], Rohit Kumar [2],Nirdesh Kumar[3], Dinesh Mishra[4]

[1,]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, UP

[2]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Department of Physics, Sikkim Professional University, Gangtok, Sikkim

[4]Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur, MP

Email: ram.pathak@mangalayatan.edu.in

Abstract

The purpose of this study was to examine the transformative impact of pedagogical and ICT (Information and Communication Technology) training on teachers' approaches to online teaching and digital tool utilization. It begins by highlighting the critical importance of pedagogical training in fostering effective instructional practices and the significance of ICT training in empowering educators to leverage technology for enhanced learning experiences. Through an exploration of theoretical frameworks such as constructivism and connectivism, the paper emphasizes the integration of pedagogical and technological perspectives to optimize online teaching practices.

The study examines how pedagogical training influences teachers' instructional approaches, including learner-centered strategies, collaborative learning activities, and formative assessment practices. It analyzes how ICT training impacts teachers' utilization of digital tools for content delivery, interaction, assessment, and feedback in online teaching.

the paper presents case studies showcasing real-world examples of the impact of comprehensive training initiatives on teachers' pedagogical practices and digital tool integration. These case studies demonstrate the transformative potential of pedagogical and ICT training in enhancing student engagement, fostering collaboration, and promoting active learning in online environments. The paper underscores the importance of ongoing professional development, collaboration among educators, and alignment of training initiatives with educational goals and priorities. It advocates for investment in pedagogical and ICT training initiatives to empower educators with the knowledge, skills, and confidence to effectively navigate online teaching environments and create engaging and meaningful learning experiences for students in the digital age.

pedagogical training, ICT training, approaches to online teaching, digital tools in teaching, higher educatio

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DEVELOPMENT AND ASSESSMENT OF A GEL CONTAINING MOXIFLOXACIN HYDROCHLORIDE ENCAPSULATED IN CUBOSOMES FOR TARGETED DELIVERY TO THE EYE

Shubham Sharma[1], Pankaj Tiwari[2], Abhishek Pandey[3], Bhupen Subba 4

[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP, India

[2]Associate Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim

Email: shubham.skdm@gmail.com

Abstract

The objective of this study was to create and assess a sustained-release cubogel formulation of moxifloxacin hydrochloride (MX) for the treatment of conjunctivitis. A cubosome carrying the antibiotic MX was created utilising a top-down method by utilising different quantities of glycerol monooleate and poloxamer 407. In addition, MX cubogels were created by scattering optimised cubosomes in a cold in-situ gelling method. According to Higuchi's release kinetic model, formulations MA4, MA8, MA11, and MA14 released 95.84%, 95.77%, 97.45%, and 97.68% of MX after a duration of 12 hours. The in-vitro corneal permeation investigation shown that the goat cornea absorbed 81% more MX cubogel compared to traditional formulations. Based on the findings of antibacterial and histological tests, it can be concluded that the chosen formulations are suitable for safe administration in the eyes. The study determined that MX cubogel exhibits enhanced permeability and prolonged release properties, making it a potential substitute for traditional eye drops.

Keywords*:* Conjunctivitis**,** Cubosome, Glycerol monooleate, Poloxamer 40, Moxifloxacin HCL

Introduction:

The eye serves as a portal to the essence of the human spirit due to its intricate and unique nature within the human anatomy. The division primarily consists of the anterior and posterior segments of the human eye. Each of these primary constituents is linked to a certain ocular condition. Conjunctivitis, glaucoma, blepharitis, and cataracts are some examples of disorders that can impact the front part of the eye, known as the anterior segment. Conjunctivitis is the inflammation of the conjunctiva caused by a bacterial or viral infection. Ophthalmic drug delivery systems can be categorised into traditional and advanced systems (1,2).

Moxifloxacin hydrochloride, a fourth-generation broad-spectrum fluoroquinolone antibiotic, is mainly prescribed for the treatment of bacterial keratitis and conjunctivitis. Various ophthalmic formulations of moxifloxacin, including ointments, eye drop solutions, gels, and ocular inserts,

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Author

Ms. D. Regina Rebello

Principle cum Professor, School of Nursing, Usha Martin University, Ranchi- Jharkhand.

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ESSENTIALS OF NURSING PRACTICE: FOUNDATIONS AND CORE CONCEPTS

Ms. D. Regina Rebello
Principle cum Professor,
School of Nursing
Usha Martin University,
Ranchi- Jharkhand

Mr. Senthil T
Assistant Professor
Institute of Nursing & Paramedical Sciences
Mangalayatan University,
Aligarh-Uttar Pradesh

Dr. J. Rukumani
Associate Professor
Faculty of Nursing
Himalayan University,
Itanagar- Arunachal Pradesh

Hishey Lamu Bhutia
Principal-in-Charge
College of Nursing
Sikkim Professional University,
Gangtok-Sikkim

Abstract

The paper "Essentials of Nursing Practice: Foundations and Core Concepts" offers a thorough examination of the underlying assumptions and central ideas that guide nursing practice. It explores how the application of fundamental nursing principles affects patients' outcomes. Examine whether following these principles results in better patient satisfaction, health outcomes, and overall care quality. This essay also looks into the value of clear communication in nursing practice. To guarantee coordinated and patient-centered care, examine the ways in which nurses interact with patients, families, and interdisciplinary healthcare teams. The abstract emphasizes the value of upholding these fundamental nursing principles by demonstrating how they affect patient outcomes, satisfaction, and overall quality of care. Learn

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MEDICAL-SURGICAL NURSING: CARE ACROSS THE LIFESPAN

Mr. Bikram Mazumdar
Associate Professor,
School of Nursing
Usha Martin University,
Ranchi- Jharkhand

Mr. Shivnarayan Goswami
Assistant Professor
Institute of Nursing & Paramedical Sciences
Mangalayatan University,
Aligarh-Uttar Pradesh

Dr. Balwinder Kaur
Professor
Faculty of Nursing
Himalayan University,
Itanagar- Arunachal Pradesh

Ms.Pema Wangden Bhutia
Associate Professor
College of Nursing
Sikkim Professional University,
Gangtok-Sikkim

Abstract

The broad field of adult nursing care is explored in depth in this study, with a special emphasis on the vital components of palliative care and effective communication in palliative care settings. With a focus on finding any misunderstandings or misconceptions that may exist between palliative care and hospice care, the study intends to learn how medical-surgical nurses perceive palliative care for hospitalized patients. The study aims to reveal the nuanced details of nurses' opinions through qualitative examination, highlighting any potential understanding and knowledge gaps in this critical area of care.

Keywords: *Medical-surgical nursing, Lifespan care, Adult nursing, Acute-care settings, Health promotion, Disease prevention*

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NURSING ASSESSMENT AND DIAGNOSIS: A HOLISTIC APPROACH

Ms.Shilza Nimmi Guria
Assistant Professor,
School of Nursing
Usha Martin University,
Ranchi- Jharkhand

Mr. Nitin Kant Kulshrestha
Assistant Professor
Institute of Nursing & Paramedical Sciences
Mangalayatan University,
Aligarh-Uttar Pradesh

Dr. Amandeep Kaur
Assistant Professor
Faculty of Nursing
Himalayan University,
Itanagar- Arunachal Pradesh

Ms. Srijana Mishra
Assistant Professor
College of Nursing
Sikkim Professional University,
Gangtok-Sikkim

Abstract

Nursing diagnosis is taken into account as a direction, a framework for goal-setting, and the foundation for nursing interventions. The current study's objective is to evaluate nurses' understanding of nursing diagnosis. This essay explores the incorporation of a holistic perspective into the activities of healthcare professionals as it pertains to nursing assessment and diagnosis. The purpose of the study is to ascertain the relationship between sociodemographic information and nursing evaluation and diagnosis knowledge. In order to determine how well a holistic approach is included into the process, it also tries to evaluate the present methods used by healthcare practitioners. The results emphasize the necessity for specialized training and education to improve healthcare workers' holistic understanding, which

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NURSING ETHICS AND LEGAL ISSUES: A PRACTICAL GUIDE

Ms. Shradha Alka Soreng
Assistant Professor,
School of Nursing
Usha Martin University,
Ranchi- Jharkhand

Ms Neha Kushwaha
Assistant Professor
Institute of Nursing & Paramedical Sciences
Mangalayatan University,
Aligarh-Uttar Pradesh

Ms. Mihin Rinu
Assistant Professor
Faculty of Nursing
Himalayan University,
Itanagar- Arunachal Pradesh

Ms. Reena Thapa
Assistant Professor
College of Nursing
Sikkim Professional University,
Gangtok-Sikkim

Abstract

The review utilized a cross-sectional spellbinding plan. Using the purposive example approach, 144 medical caretakers were incorporated. A self-controlled organized survey was utilized to accumulate the information. Segment information was uncovered utilizing unmistakable insights. The Kruskal Wallis and Mann Whitney tests were performed to decide the connection between a couple of segment qualities and nursing's moral and legitimate contemplations. The majority of participants were between the ages of 20 and 29. More than half of nurses held bachelor's degrees in full and had worked for less than ten years. The majority of participants said that up until this point, they had not run into any legal problems in their working lives. Similar to this, the majority of participants had average knowledge and practice levels. Years of experience and educational level had no impact on knowledge level or current practice in relation to nursing's ethical and legal aspects. Level of knowledge and current practice had no meaningful correlation. On ethical and legal issues, nurses are generally knowledgeable and

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Ms. Regina Kujur

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NURSING INFORMATICS: LEVERAGING TECHNOLOGY FOR BETTER PATIENT OUTCOMES

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NURSING INFORMATICS: LEVERAGING TECHNOLOGY FOR BETTER PATIENT OUTCOMES

Ms. Regina Kujur
Associate Professor,
School of Nursing
Usha Martin University,
Ranchi- Jharkhand

Dipa Chetry
Assistant Professor
Institute of Nursing
Sikkim Professional University,
Gangtok-Sikkim

Ms. Taba Ampu
Assistant Professor
Faculty of Nursing
Himalayan University,
Itanagar- Arunachal Pradesh

Muna Subba
Assistant Professor
College of Nursing
Sikkim Professional University,
Gangtok-Sikkim

Abstract

IMIA-NISIG, which represents the Worldwide Clinical Informatics Affiliation Nursing Informatics Specific vested party, was the association that was accountable for doing the review. We determined future National Institutes of Health research priorities using the data from a cross-sectional analysis. In order to reach respondents from both academics and practice, we utilized the snowball sampling approach. In 2015, the data were gathered in the months of August and September. The survey received a total of 375 responses from 44 different countries. Large information science, normalized phrasings (clinical assessment/execution), schooling and skills, clinical choice help, versatile wellbeing, convenience, patient security, information trade and interoperability, patient commitment, and clinical quality measures were distinguished as the main ten NI patterns. It is possible that recognizing these research goals would increase the effective future development of NI in order to provide improved assistance for doctors and to promote health worldwide.

A REVIEW PAPER ON EMPLOYEE ENGAGEMENT

Dinesh Pandey1, Unnati Jadon2, Prakash Divakaran3, Prakash Mishra4

Keywords: Employee engagement, Human Resources Strategies etc.

Abstract

Employees are the fundamental cornerstone of any industry. The key to the success of any industry is a highly motivated and committed workforce. Employee engagement is determined by the quality of the interaction between a firm and its employees. It is crucial in attaining the objectives of the company. Employee engagement fosters a sense of inclusion, which eventually results in happiness. Contemporary organizations expect their employees to possess enthusiasm, excitement, and initiative in the workplace. They desire their employees to take responsibility for their own growth, strive for excellence and productivity, and demonstrate resilience and dedication in their work. In essence, companies require their employees to be fully engaged. Engagement is attained when individuals see that their organization values their work, their labor contributes to the advancement of the organization, and most importantly, their own aspirations for progress, rewards, and compensation are fulfilled. Therefore, it is imperative to create diverse HR strategies that provide assistance to each employee and foster a sense of value. This paper aims to analyze the many aspects of employee engagement by doing a literature review. The study focuses on analyzing literature related to the subject of Employee Engagement and Human Resources Strategies. This study relies on secondary data obtained from academic journals, books, and websites.

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IMPACT ON DIGITAL MARKETING IN RURAL AND URBAN AREAS: OPPORTUNITIES, CHALLENGES, AND STRATEGIES

Kumari Jyotsana1, Shalu Agrawa2, Yibom Bagra3, Ankit Khare4, Salima Bhattarai5

Keywords: Digital marketing, Rural areas, Urban areas, Consumer behavior, Marketing strategies.

Abstract

India is now known to have one of the world's most potential and fastest-growing economies. The Indian market is also growing very quickly. It is moving from a standard business to a digital one. In this digital age, marketers have to deal with new problems and chances. The main goal of this study is to look into the digital marketing scene in India and compare the spread of digital media in cities and rural areas. This study is based on secondary sources. This research paper aims to conduct an analytical study on digital marketing practices in both rural and urban areas, examining the opportunities, challenges, and strategies involved. Through a comprehensive literature review and empirical analysis, this paper explores the differences in digital marketing adoption, consumer behavior, and the effectiveness of various digital marketing channels between rural and urban environments. Results of this study shows that, reach of digital marketing is increasing in rural and urban area. However, there is large gap in digital marketing reach in rural and urban area.

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DEVELOPMENT AND ASSESSMENT OF EFFERVESCENT GRANULES CONTAINING IBUPROFEN

Shubham Sharma[1], Vivek Chaurasia[2], Sandeep Kumar Kurmi[3], Suraj Sharma[4]

[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: shubham.skdm@gmail.com

Abstract:
The aim of this study was to develop and assess effervescent granules containing ibuprofen in order to enhance its dissolving rate and achieve fast pain relief and fever reduction. The wet granulation process was used to manufacture five formulae (F1-F5) of effervescent ibuprofen granules. The manufacture of effervescent granules involved the use of croscarmellose sodium, banana powder, and other components. Assessment studies were conducted for each of the five formulae, encompassing a compatibility study, flowability study, percentage of drug content, effervescent time, and in vitro dissolution research. The results indicate that the formed granules possess favourable flow characteristics and an appropriate bulk density for the prescribed dosage. An FTIR investigation indicates that there is no pharmacological interaction observed between the active substances and other components in the mix. All five formulations exhibit an effervescent duration of less than 3 minutes. Formula 5 has the most optimal drug release with a value of 99.1±1 and an effervescent time of approximately 80 seconds. The formulation and evaluation of effervescent granules containing ibuprofen were accomplished successfully through the utilisation of a blend of croscarmellose sodium and banana powder.
Keywords: Ibuprofen, Effervescent, Wet granulation, Granules.

Introduction:

Effervescent granulates are widely used in oral medication, particularly for analgesics, antacids, and cough formulations. Effervescent granules are easily dissolved in water, have a rapid dissolution rate, and offer a pleasant flavour that can mask the unpleasant bitterness of medications. The dose formulations are both convenient and stable [1].

When effervescent granules are added to a cup containing exactly 250 ml of water before being taken by the patient, the granules will quickly scatter in the water and dissolve by releasing carbon dioxide gas. This phenomenon arises from the chemical reaction between acidic components and alkaline bicarbonates in the presence of water. The carbon dioxide libration will increase the drug's solubility and conceal the drug's unpleasant taste [2]. Ibuprofen is a compound that belongs to the class of propionic acid derivatives. It is a non-steroidal anti-inflammatory drug (NSAID) that is utilised to treat rheumatoid arthritis and osteoarthritis. Ibuprofen is classified as an insoluble compound in water, with a concentration

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EVALUATION OF ANTIDIABETIC EFFECT OF *RICINUS COMMUNIS* LEAVES

Suneel Kumar[1], Reetesh Yadav[2], Ananga Mohan Das[3]
[1]Assistant professor, MIPER, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Associate Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: suneel.ksingh@mangalayatan.edu.in

Abstract

The most prevalent endocrine condition, diabetes mellitus, disrupts glucose homeostasis and causes serious consequences such as retinopathy, angiopathy, nephropathy, and neuropathy, which disrupts glucose utilisation and results in neurological diseases. The disease develops if the pancreases does not make enough insulin or the cells in the muscles, liver and fat do not use insulin properly, or both. Over the passage of time, high blood glucose, also called hyperglycemia, damages nerve and blood vessels, which can lead to complications such as heart disease, stroke, kidney disease, blindness, nerve problems, gum infection and amputation. A large number of plant preparations have been reported to possess antidiabetic activity over last several decades. Of all the plants, *Ricinus communis*, also known as castor, has the highest traditional and therapeutic value for preserving a healthy, disease-free life. Although the plant has many medicinal benefits, it is traditionally used as a laxative, purgative, fertiliser, fungicide, and other such applications. Additionally, the plant has anti-oxidant, antihistamic, antinociceptive, antiasthmatic, antiulcer, immunomodulatory, antidiabetic, hepatoprotective, antifertility, anti-inflammatory, antimicrobial, central nervous system stimulant, lipolytic, wound healing, insecticidal, and larvicidal qualities. The presence of significant phytochemical elements such as flavonoids, saponins, glycosides, alkaloids, and steroids among others accounts for this plant's effectiveness.In the current work, wistar rat models were given alloxan monohydrate to induce diabetes. Traditional medicine has asserted that *Ricinus communis* Linn. hasantidiabetic qualities. The goal of this study was to evaluate the hypoglycemic potential of a 50% ethanolic extract of *Ricinus communis* leaves. At 200 and 400 mg/kg of the 50% ethanolic extract, there was a noticeable dose-dependent drop in blood glucose levels. In addition, compared to diabetes control, it reduced lipid markers including total cholesterol, LDL, HDL, VLDL, and TG. Higher doses of extract were observed to decrease other biochemical markers like urea and creatinine, which were found to be dosage dependent.Blood sugar levels, body weights, and several biochemical indicators were also measured and recorded at predetermined intervals. The pancreas was histologically examined. The statistical data showed that blood glucose, serum triglycerides, total cholesterol, and body weight had all significantly increased. The use of extract dramatically raised the amount of HDL cholesterol. Histologically, the diabetic rat pancreas showed signs of localised necrosis, which were less pronounced in the treated groups. The RCLE helps rats given alloxan by lowering their blood glucose levels, body weight fluctuations, and lipid profiles.

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SPIRULINA: AN *EXCELLENT NUTRITIONAL SUPPLEMENT GOOD FORHEALTH BENEFITS*

Rakesh Kumar Sharma[1], Reetesh Yadav[2], Balwinder Kaur[3]
[1]Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
Email: rakesh.sharma_ibmer@mangalayatan.edu.in

Abstract
The nutrient-dense blue-green algae spirulina has recently come into the spotlight as a possible dietary supplement for better health. Supplementing with spirulina has several health advantages, and this review compiles the latest studies on the subject. Protein, vitamins, minerals, and antioxidants are abundant in spirulina, according to studies. Numerous health advantages have been linked to its use, including as bolstering the immune system, increasing antioxidant activity, promoting cardiovascular health, controlling blood sugar, and enhancing muscle strength. Additionally, the chlorophyll concentration of spirulina gives it detoxifying qualities, which may add to its health-promoting effects generally. Because of its effects on metabolic processes and its ability to make people feel full for longer, spirulina may also be useful for weight management, according to research. Nevertheless, further research is needed to clarify how spirulina helps the body and what dosage is best for certain health problems. In conclusion, spirulina is an intriguing dietary supplement with the potential to greatly benefit health and wellbeing.

Keywords: Spirulina, blue-green algae, nutritional supplement, health benefits, antioxidants, anti-inflammatory, immune modulation.

Introduction

Various tribes throughout the globe have been consuming spirulina, a kind of cyanobacteria or blue-green algae, for generations. Its possible health advantages and nutrient-rich profile have led to its rising popularity as a dietary supplement in recent years. Because of its favorable pH and high light requirements, spirulina is a widespread aquatic plant in many freshwater bodies of water, including rivers, ponds, and lakes. For human consumption, it is gathered and transformed into powder, pills, and capsules, among other forms.

Cultivating spirulina

To cultivate spirulina, one must provide the blue-green algae with an environment that is conducive to its development and reproduction. The following is a rundown of the fundamental procedures for growing spirulina:

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IMPACT OF PLATELET-RICH PLASMA INJECTIONS ON PATIENTS WITH OSTEOARTHRITIS

Vivek Chaurasia[1], Shubham Sharma[2], Sandeep Kumar Kurmi[3], Suraj Sharma[4]

[1]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP, India
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: shubham.skdm@gmail.com

Abstract:

There are several therapeutic options for knee osteoarthritis, including medical treatment using NSAIDs, conservative management using platelet-rich plasma (PRP), and corticosteroids. This prospective study was conducted to investigate the utilisation and safety of platelet-rich plasma (PRP) injections in individuals with knee osteoarthritis (KOA). This study aims to assess the clinical and functional result of platelet-rich plasma (PRP) in knee osteoarthritis (KOA) by analysing existing literature.

This study was conducted with a cohort of 96 participants who were diagnosed with knee osteoarthritis. Both genders are encompassed. An intra-articular injection of platelet-rich plasma (PRP) was administered under sterile settings, and the clinical and functional outcomes were evaluated using the Western Ontario and McMaster University Arthritis Index (WOMAC), Visual Analogue Scale (VAS), and Knee Society score (KSS). This investigation was conducted at a tertiary care institute throughout the designated study period. The majority of patients were females over the age of 40 with knee osteoarthritis. The administration of platelet-rich plasma (PRP) injections resulted in notable improvements in WOMAC scores, Visual Analogue Scale (VAS), and Knee Society score (KSS) at three, six, and twelve months of follow-up. No adverse events were detected during the follow-up period.

The results validate the effectiveness of PRP injections for treating Knee osteoarthritis. They indicate that a reduction in pain was achieved one month after the injection, with the most favourable outcomes reported after 12 months. However, a larger study population is needed to further investigate this. Continued monitoring is necessary over an extended duration to evaluate the effectiveness of PRP injection.

Keywords: Knee osteoarthritis, Knee injection, Platelet-rich plasma (PRP), Cartilage, Biologic therapy

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NUCLEAR MEDICINE AND ARTIFICIAL INTELLIGENCE: A BOON FOR CANCER PATIENTS

Priyanshi Goyal[1], Pankaj Tiwari[2], Ananga Mohan Das[3]

[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: priyanshi.goyal@mangalayatan.edu.in

Abstract:
Artificial intelligence is becoming more prominent in diverse areas of medicine. The field of nuclear medicine is on the verge of a revolution with the imminent integration of artificial intelligence technologies, which will greatly enhance the clinical workflow. Research findings suggest an increasing dependence on artificial intelligence in the domain of nuclear medicine, particularly in the automation of specialised jobs. Artificial intelligence has greatly contributed to the progress of imaging-related activities in nuclear medicine, such as optimising dosage, correcting images, and reconstructing images.

Keywords: Cancer; PET; Quality control; Deep learning; genomics

Introduction:

Artificial intelligence (AI) is a swiftly progressing power that has the capacity to transform multiple facets of human existence [1]. Precision medicine, like pharmacology, emphasises the development of individualised diagnostic and treatment approaches for every patient. Integrating artificial intelligence (AI) is essential for attaining accuracy in precision medicine within the domain of nuclear medicine (NM) and molecular imaging [2]. Artificial intelligence (AI) is widely employed in the domains of molecular imaging and nuclear medicine (NM) to accomplish a multitude of objectives. These encompass image planning, acquisition, processing, interpretation, diagnosis, prognosis, and therapy response prediction [3]. By examining previous research conducted on the same patient [4], AI can evaluate the reasoning behind a requested operation, identifying potential issues based on the patient's allergy history and prescription interactions, and preventing unnecessary duplication. It is critical to conduct daily quality control (QC) on NM scanners to guarantee their optimal performance. This feature allows for prompt service requests to be initiated in the event of an error, thereby ensuring the excellence and integrity of the images. The duration of quality control for NM/PET scanners might vary, ranging from 30 minutes to 3 to 4 hours. Furthermore, there can be situations where imaging services are not easily accessible. The QC data is efficiently gathered using a sophisticated AI-powered scanner during non-working hours and readily saved in the acquisition terminal. This enables the technician to conveniently examine and approve the information, thereby conserving crucial time. Quality control solutions powered by artificial intelligence can substantially increase the productivity

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POLYPHARMACY AMONG THE ELDERLY POPULATION: A COMPREHENSIVE REVIEW STUDY

Yadvendra Singh Thenuan[1], Rojalini Samanta[2], Ananga Mohan Das[3], Pranal Chhetri[4]
[1]Assistant Professor, MIPER, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: yadvendra.thenuan@mangalayatan.edu.in

Abstract:
The senior population, consisting of individuals aged 65 years and older, is on the rise. As a result, the occurrence of multiple health conditions in this age group has also increased, giving rise to a phenomenon called polypharmacy. This term refers to the act of taking multiple medications at the same time, sometimes more than what is medically required. This practice is quite common, but it presents several concerns and difficulties, especially when it comes to the elderly. This article explores the topic of polypharmacy in the geriatric population, including its causes, consequences, and potential ways to address it, with a particular emphasis on the Indian context.

Introduction:
The consumption of five or more medications per day is generally referred to as polypharmacy. Nevertheless, this definition does not have unanimous acceptance, as different thresholds are employed in different studies. The concept only considers the number of medications, without considering the clinical indications and conditions experienced by the patients [1]. The intricacy of overseeing various prescriptions heightens the likelihood of unfavorable drug occurrences and medication interactions, especially among the elderly demographic. Polypharmacy may arise from a multitude of factors, encompassing the management of many chronic ailments, the utilization of non-prescription drugs, and the prescription of superfluous or redundant prescriptions.
The susceptibility of older people to polypharmacy is heightened by the elevated occurrence of chronic illnesses and age-related alterations in drug metabolism and clearance. With advancing age, the liver and kidneys may see a loss in function, which can impact the body's capacity to process and excrete medications. Furthermore, it is worth noting that older individuals may encounter the challenge of having several healthcare professionals who may prescribe prescriptions without possessing a comprehensive awareness of the patient's entire pharmaceutical regimen. These characteristics are influential in the heightened susceptibility to polypharmacy among the elderly demographic.

Global Polypharmacy Scenario:
Due to the growing number of older people, polypharmacy has become more common around the world. Studies have shown that older adults typically take between two and nine medications each day [2]. The Journal of the American Geriatrics Society published a study that reveals that over 39% of elderly individuals in the United States consume five or more

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CHITOSAN/POLYMERS-IMPREGNATED MUCOADHESIVE FILM FOR EXTENDED DRUG RELEASE OF 5-FLUOROURACIL: *IN VITRO* STUDIES

Rahul Kumar Singh[1], Sailesh Narayan[2], Brishnendra Mishra[3], Swarnim Rai[4], Reena Singh[5]
[1]Associate Professor, Department of Pharmacy, IBMER, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Associate Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Pharmacy, Shri Babulal College of Pharmacy, Goverdhan, Mathura
Email: rahul.singh1918@mangalayatan.edu.in

ABSTRACT:

When we deal with carcinoma with 5-fluoro Uracil's chemotherapy, there are two major problems faced by patients, first is to deal with uncountable side effects, out of which some are life-threatening and generally based on the drug concentration, second is patients non-compliances especially in the case of pediatric patients, most of the conventional formulation is not specialized to deal with these type of problems. That's why nowadays great demand for dosage form which not only able to reduce the side effect based on toxicity but should be on a path of patients' satisfaction. To reduce dose-related toxicity and side effects we generate a mucoadhesive film to modify the drug release pattern for the reduction in dosing frequency and dose-related side effects. In this study total, six-film was prepared, characterized and evaluated on the basis of different parameter which is based on different concentration of Hydroxypropyl methylcellulose (HPMC), Chitosan and polyethylene glycol 4000 (PEG-4000). Out of which formulation F-1 selected as the best formulation on the basis of % drug content (96.326± 1.0), % Swelling index (34.33± 0.62), residential time (402.666±5.55), in-vitro mucoadhesion (2000.8±16.168), and in-vitro drug release (97%). In the end, one can conclude that film is a better option in the case of cancer treatment as it is able to provide continuous drug release in a sustained manner which helps in the reduction of dose-related side effects and toxicity with patients' compliance.

KEYWORDS:5-fluoro Uracil,Mucoadhesive film, Sustained release, Hydroxy propyl methyl cellulose (HPMC)

1. INTRODUCTION:

The 5-Fluorouracil drug belongs to the antimetabolite family of the drug, this drug mainly works against blocking the enzyme name thymidylate synthase because of which conversion

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SOCIOLOGICAL ASPECTS OF CRIME: UNDERSTANDING CAUSES, CONSEQUENCES, AND RESPONSES

Vikas Sharma[1], Shiv Prakash Singh[2], Pankaj Choudhury[3], Aishwarya Sharma[4]
[1]Assistant ProfessorInstitute of Legal Studies and Research, Mangalayatan University, Aligarh, U.P.
[2]Associate Professor, Faculty of Legal Studies, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Law, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor,Department of Legal Studies, Mangalayatan University, Jabalpur, M.P.
Email: vikas.sharma@mangalayatan.edu.in

Abstract:

For millennia, crime has been a complex social phenomenon that has captivated scientists, legislators, and society as a whole. This research paper explores the sociological dimensions of crime, with the goal of offering a thorough comprehension of its origins, outcomes, and society reactions. This article utilizes a comprehensive approach that incorporates several fields such as sociology, criminology, psychology, and public policy. It combines current research and theoretical frameworks to provide insight into the intricate relationship between social conditions and criminal behaviours. This article examines the influence of social structures, cultural norms, socialization processes, and institutional elements on crime and deviance patterns by analysing sociological theories, empirical research, and case examples. This article explores the many repercussions of crime on individuals, societies, and communities, with a particular focus on the psychological, economic, and social implications. This article provides an analysis of sociological viewpoints about crime prevention and control. It explores various techniques such as social intervention programs, community policing tactics, restorative justice approaches, and structural interventions that seek to tackle fundamental social disparities. This research article is to provide policymakers, practitioners, and researchers with a comprehensive understanding of the sociological aspects of crime. Its objective is to assist them in comprehending, tackling, and reducing the effects of crime on individuals and communities.

1. Introduction

The discipline of sociology pertaining to crime comprises a wide range of research that aims to comprehend the intricate dynamics between people, social institutions, and societal norms in influencing criminal conduct. In contrast to conventional methodologies that frequently concentrate exclusively on human attributes or legal delineations of criminal behaviour, sociological viewpoints provide a more comprehensive framework for analysing the intricate

THE IMPACT OF SOCIAL MEDIA ON CONSUMER BUYING DECISIONS

Md Saifullah Khalid1, Shalu Agrawal2, Nyarik Geyi3, Jai Anand Shukul4, Vipul Jain5

Keywords: Social Media, Consumer Behavior, Buying Choices and Influence Marketing Strategies

Abstract

Social media has become a vital element of everyday life, impacting communication, entertainment, and, most importantly, consumer behavior. This article intends to investigate the multidimensional impact of social media on consumer purchasing decisions. This study examines the methods by which social media platforms influence consumer decision-making processes. Furthermore, it addresses the obstacles and opportunities presented by social media marketing methods, as well as the implications for firms seeking to effectively exploit these platforms.

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ENZYME-LINKED IMMUNOSORBENT ASSAY (ELISA): PRINCIPLES, METHODS, AND APPLICATIONS

Rakesh Kumar Sharma[1], Reetesh Yadav[2], Balwinder Kaur[3]
[1]Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
Email: rakesh.sharma_ibmer@mangalayatan.edu.in

Abstract:
Enzyme-Linked Immunosorbent Assay (ELISA) is a widely used biochemical technique for the detection and quantification of proteins, peptides, antibodies, hormones, and other molecules. This article provides a comprehensive review of the principles, methods, and applications of ELISA in biomedical research, diagnostics, and pharmaceutical development. It discusses the underlying principles of ELISA, including antigen-antibody interactions, enzyme amplification, and colorimetric detection. Furthermore, various ELISA formats, such as direct, indirect, sandwich, and competitive ELISA, are described along with their advantages and limitations. The article also covers the experimental procedures involved in performing ELISA, including antigen/antibody coating, blocking, incubation, washing, and detection. Moreover, recent advancements and modifications in ELISA techniques, such as multiplex ELISA and microarray-based ELISA, are discussed. Finally, the applications of ELISA in areas such as clinical diagnostics, infectious disease surveillance, drug development, and environmental monitoring are highlighted, emphasizing its importance and versatility in biomedical research and healthcare.
Keywords: ELISA, enzyme-linked immunosorbent assay, principles, methods, applications, biomedical research, diagnostics, pharmaceutical development.

1. Introduction

Enzyme-Linked Immunosorbent Assay (ELISA) is a highly sensitive and specific biochemical technique that utilizes the principles of antigen-antibody interactions for the detection and quantification of target molecules in biological samples. First developed by Engvall and Perlmann in 1971, ELISA has since become one of the most widely used immunoassay methods in research laboratories, clinical diagnostics, and pharmaceutical industries due to its simplicity, versatility, and high throughput capabilities.

2. Principles of ELISA

Antigen-Antibody Interaction:

ELISA relies on the highly specific binding between an antigen and its corresponding antibody.

The antigen of interest is immobilized onto a solid surface, typically the wells of a microplate.

Upon addition of the sample containing the target antigen, the antigen binds to the immobilized antibody, forming an antigen-antibody complex.

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REVOLUTIONIZING PHARMA AND HEALTHCARE: THE POWER OF ARTIFICIAL INTELLIGENCE

Yadvendra Singh Thenuan[1], Rojalini Samanta[2], Ananga Mohan Das[3], Pranal Chhetri[4]
[1]Assistant Professor, MIPER, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: yadvendra.thenuan@mangalayatan.edu.in

Abstract
Clinical trials are being transformed by advancements in artificial intelligence (AI). This can also assist scientists in the discovery and development of drugs for diagnosing diseases. The potential of artificial intelligence to revolutionize the pharmaceutical and healthcare industries is immense. The significance of AI in clinical research and drug development cannot be overstated. Artificial intelligence has the potential to greatly benefit healthcare professionals by enabling them to make better decisions, enhance patient outcomes, and alleviate the administrative workload. Artificial intelligence enables healthcare professionals to prioritize personalized care and foster stronger patient-doctor relationships. The potential of AI to revolutionize research, medicine development, and patient care lies in its remarkable ability to analyze extensive data, detect patterns, and make accurate predictions. It is important to acknowledge the challenges and issues that come with implementing AI, such as ethics, data protection, and integration with existing healthcare systems.
Keywords: artificial intelligence, clinical trials, drug development, disease diagnosis, and ethics.

INTRODUCTION

Artificial intelligence (AI) has revolutionized numerous industries, including the fields of pharma and healthcare. The pharmaceutical industry has been greatly impacted by the revolutionary advancements of artificial intelligence (AI) in the drug discovery and development process [1]. The potential to revolutionize the industry is enormous, creating an exhilarating time for researchers, doctors, and patients alike. The use of AI algorithms enables the analysis of large volumes of data, the detection of patterns, and the prediction of outcomes. This, in turn, helps to speed up the drug development process and lower expenses [2]. AI can enhance drug delivery dosage form designs and testing, resulting in improved efficiency and effectiveness in drug development [3]. The FDA acknowledges the significant potential of AI in drug development and actively promotes its integration throughout the drug development life cycle [4]. The application of AI in drug discovery and development has the potential to revolutionize the pharmaceutical industry, resulting in accelerated and streamlined drug development processes and enhanced patient outcomes.

AI has made significant contributions to personalized medicine and treatment [5]. Through

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RECENT OPPORTUNITIES AND BIOMEDICAL APPLICATIONS OF 3D PRINTING IN HEALTHCARE

Pankaj Tiwari[1], Priyanshi Goyal[2], Franco Gohain[3]

[1]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: pankaj21757@gmail.com, priyanshi.goyal@mangalayatan.edu.in

Abstract:
The industrial age has introduced novel advancements, including 3D printer technology. For numerous years, it has been a part of our existence. It is booming and is utilised in numerous industries, including the aviation and defence sectors. Recently, there has been a notable trend towards favouring this miraculous manufacturing technique for medical applications. Several methods of 3D printing are discussed, along with the biomedical applications of this technology, which are all introduced in this study. A comparison has been made between this novel approach and conventional methods currently employed in the biomedical field, with an emphasis on the utilisation of 3D printing in surgery, the pharmaceutical industry, disease modelling, the development of customised implants and prostheses, organ printing, veterinary medicine, and tissue engineering. Furthermore, forthcoming prospects that are anticipated to attain extensive development are incorporated into this study.

Keywords: MRI, CT Scan, Bioprinting, Biomedicine, 2-D Printing

Introduction:

Presently, 3D printing technology offers substantial potential to assist pharmaceutical and medical enterprises in the development of more targeted medications, expedite the manufacturing of medical implants, and revolutionise the approach taken by physicians and surgeons in devising surgical procedures [1]. This technology possesses a wide range of applications, with the most rapidly expanding advancement in the medical domain being the introduction of 3D printing [2]. There are five technical stages involved in the completion of a printed model. The procedures encompass the following: determining the anatomical target region, establishing the three-dimensional geometry by analysing medical images obtained from a CT or MRI scan, optimising the file for physical printing, and choosing the most suitable 3D printer and materials (Figure 1). This file serves as the printing instructions by "slicing" the digital design model into cross-sectional sections. The 3D printer then constructs the object by constructing a series of layers on top of the base layer, "sliced" design, until the object is entirely composed of the basic materials required for its construction. Finally, a patient-specific model with anatomical fidelity is derived from an imaging dataset. By leveraging this technology, 3D printing could substantially enhance the expertise and knowledge of upcoming surgeons in the field of research, foster a closer relationship between patients and physicians [3], deepen comprehension of the underlying diseases, enable the

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SIMULTANEOUS SACCHARIFICATION AND CO-FERMENTATION OF PADDY STRAW USING CELLULOLYTIC ENZYMES AND THERMOTOLERANT YEAST

Soni Singh[1], Rojalini Samanta[2], Brishnendra Mishra[3], Swarnim Rai[4]
[1]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, U.P., India
[2]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Collage of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: singh.sonia0001@gmail.com

ABSTRACT
Paddy straw, an abundant agricultural residue, holds significant potential as a feedstock for bioethanol production due to its high cellulose content. Simultaneous saccharification and co-fermentation (SSCF) is an efficient strategy for bioethanol production, wherein cellulose hydrolysis and fermentation occur simultaneously. In this study, we investigate the SSCF of paddy straw utilizing cellulolytic enzymes and a thermotolerant yeast strain. The enzymatic hydrolysis of cellulose is carried out by commercial cellulase enzymes, while fermentation is conducted by a robust thermotolerant yeast strain capable of withstanding high temperatures. Optimization of process parameters such as enzyme loading, temperature, pH, and yeast inoculum size is crucial for enhancing ethanol yield and productivity. Additionally, the effect of various pretreatment methods on saccharification efficiency is evaluated to improve the accessibility of cellulose to enzymatic action. The performance of the SSCF process is assessed in terms of ethanol yield, fermentation efficiency, and overall process economics. The findings of this study contribute to the development of sustainable bioethanol production from agricultural residues, thereby addressing both environmental concerns and energy security.
Keywords: Simultaneous saccharification and co-fermentation, paddy straw, cellulolytic enzymes, thermotolerant yeast, bioethanol production, pretreatment, process optimization

INTRODUCTION

Lignocellulosic biomass refers to the complex structural components found in plant cell walls, primarily composed of cellulose, hemicellulose, and lignin. It is abundant and widely available from various sources including agricultural residues (such as crop residues like paddy straw, corn stover, and wheat straw), forestry residues, dedicated energy crops (like switchgrass and miscanthus), and municipal solid waste.

The utilization of lignocellulosic biomass as a feedstock for bioethanol production holds great promise due to several key advantages:

Abundance: Lignocellulosic biomass is a renewable resource that is abundantly available worldwide. Its widespread availability reduces competition with food crops, alleviating concerns about food security and land-use conflicts.

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GREEN HRM - AN EMERGING TREND IN HR PRACTICES

Arvind Hans[1], Unnati Jadon[2], Prakash Divakaran[3], Prakash Mishra[4]
[1]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
Email: arvind@umu.ac.in

ABSTRACT

Green HRM refers to the implementation of Human Resource Management strategies that aim to encourage the responsible and efficient utilization of resources in commercial organizations. Additionally, it supports the broader objective of environmental sustainability. The purpose of the study is to investigate the implementation of Green Human Resource Management practices in organizations and advocate for the importance of aligning human resource management principles with the objectives of green management in an organization. This strategy is descriptive and relies on the analysis of both primary and secondary data. Green HRM refers to the comprehensive set of activities that assist an organization in implementing its environmental management agenda, specifically in reducing its carbon footprint. These activities focus on various aspects of human resource management, including the recruitment and onboarding of employees, their orientation and training, performance evaluation and management, as well as compensation and reward systems. Effective implementation of green HRM is the only way to achieve this within the organization. Implementing these strategies would lead to enhancing employee attitudes and behaviors inside the organization.

Key Words:Green HRM, compensation and reward systems, environmental sustainability

INTRODUCTION

Corporate entities have increasingly focused on environmentalism on a worldwide scale, prompted by international treaties and the environmental damage caused by notable industrial mishaps that have resulted in loss of life and injury, as well as efforts to combat climate change. Due to the detrimental effects of industrial pollution and waste materials, such as toxic chemicals, governments and non-governmental organizations worldwide have implemented regulations and policies to mitigate and potentially reverse the depletion of natural resources and its adverse impact on humanity and society as a whole (Christmann & Taylor, 2002; Shrivastava & Berger, 2010). Within the subject of management, there is an

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EVALUATING ASSISTIVE TECHNOLOGY FOR PEOPLE WITH VARIOUS DISABILITIES: A SYSTEMATIC ANALYSIS

Sanjay Pal[1], Sangita Kujur[2], Laxmi Rana[3], PemaWangden Bhutia[4]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, U.P.
[2]Assistant Professor, Department of Physiotherapy and Paramedical Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, Department of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, Collage of Nursing, Sikkim Professional University, Gangtok, Sikkim
Email: sanjay.pal@mangalayatan.edu.in

Abstract
Assistive technology (AT) has emerged as a pivotal tool in promoting independence, inclusion, and quality of life for individuals across the disability spectrum. This review aims to provide a comprehensive overview of assistive technology solutions tailored to meet the diverse needs of individuals with disabilities. Drawing upon a wide range of research articles, reviews, and case studies, this paper examines the effectiveness, usability, and impact of various assistive technology interventions across different disability categories, including physical, sensory, cognitive, and developmental disabilities. Key themes explored include accessibility features in mainstream technologies, specialized assistive devices, communication aids, mobility aids, environmental control systems, and cognitive support technologies. Additionally, the review discusses emerging trends such as wearable technologies, robotics, and artificial intelligence in the field of assistive technology. Through synthesizing existing literature, this review aims to inform practitioners, researchers, and policymakers about the current state of assistive technology solutions and identify areas for future research and development.

Keywords: Assistive technology, Disability, Accessibility, Inclusion, Usability, Communication aids, Mobility aids, Cognitive support, Wearable technologies, Artificial intelligence.

Categories of Assistive Technology:

Assistive technology (AT) encompasses a diverse range of tools, devices, and systems designed to enhance the functional abilities and independence of individuals across the disability spectrum. This comprehensive review categorizes assistive technology solutions based on the specific needs of individuals with various types of disabilities, including physical, sensory, cognitive, and developmental disabilities. By organizing AT solutions into distinct categories, this review aims to provide a structured overview of the diverse range of technologies available to support individuals with disabilities in different aspects of their lives.

1. Physical Disabilities:

Physical disabilities refer to impairments that affect a person's mobility, dexterity, stamina, or physical functioning. These disabilities can result from various factors, including congenital conditions, injuries, illnesses, or age-related changes. Physical disabilities can range from mild to severe and may be temporary or permanent. Some common types of physical disabilities include:

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ARTIFICIAL NEURAL NETWORK-SUPERVISED CONTROL OF AN INVERTED PENDULUM SYSTEM WITH CHANGING SYSTEM PARAMETERS AS WELL AS EXTERNAL DISTURBANCE

Dheeresh Upadhyay [1] and Lokesh Kumar[2]
[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
Email: dheeresh.upadhyay@mangalayatan.edu.in, lokesh@umu.ac.in

Abstract—This study presents the application of an artificial neural network (ANN) as an artificial intelligence (AI) approach to regulating a non-linear inverted pendulum (IP) system. The ANN controller is built using the following specifications: The network type is a three-layered feed-forward network (FFN) with input, hidden, and output layers. Training is carried out using the "Trainlm" network function, which changes the weight and bias states using the Levenberg-Marquardt (LM) back-propagation technique. The topic of "parameter variations" is the main focus of the research. When specific uncertainties are added to the nonlinear IP model in this way, the experimental results demonstrate how effectively the system handles such uncertainties.

Keywords: Artificial Neural Network (ANN), Feed-Forword Network (FFN), Levenberg Marquardt (LM), Inverted Pendulum (IP), Artificial Intelligence (AI).

1. Introduction

The inverted pendulum is a well-known example of an unstable nonlinear dynamic system. Therefore, there has been significant focus on improving its solution and addressing other control challenges of a similar nature. The vast increase in research articles produced in the field of process control engineering demonstrates the growing importance that nonlinear system control now holds. Artificial neural networks have proven to be effective tools for handling a variety of difficult controls, mapping issues, pattern recognition, signal processing, and image processing, among other uses. Neural networks have effectively recognized and managed dynamic systems due to their ability to learn and handle noisy or inaccurate input [1]. Because of its universal approximation capabilities, the multilayer perceptron is a popular choice for modeling nonlinear systems and constructing general-purpose nonlinear controllers. As suggested in [2], we gather training data using a traditional controller to create a neural network controller for an inverted pendulum system. A multilayer neural network has one or more hidden layers, one or more layers for inputs and outputs, and one or more neurons per layer.The linking weights are modified by

the algorithm for back propagation. With a short learning curve, it can operate a variety of systems with flawless performance. Ni's (1996) suggested technique for the identification and control of nonlinear dynamic systems used a recurrent model as the identifier [3]. A back-

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ARTIFICIAL NEURAL NETWORKS: A REVIEW STUDY

Dheeresh Upadhyay[1] and Lokesh Kumar[2]

[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
Email: dheeresh.upadhyay@mangalayatan.edu.in, lokesh@umu.ac.in

1. INTRODUCTION

Non-linear mapping structures called artificial neural networks (ANNs) are modelled after the way the human brain operates. They are effective modelling tools, particularly in situations where the underlying data link is unclear. Correlated patterns between input data sets and matching target values can be found and learned by ANNs. ANNs may be used to forecast the results of fresh, independent input data after they have been trained. Artificial neural networks (ANNs) can analyze issues involving non-linear and complicated data, even if the data are noisy and inaccurate, by mimicking the learning process of the human brain. As a result, they are perfect for modelling agricultural data, which is known to be intricate and frequently non-linear. Artificial neural networks (ANNs) have significant potential in predictive modelling. This means that once trained ANNs are given all the characteristics characterizing an unknown condition, agriculture system prediction is assured. An ANN is a type of computational structure that draws inspiration from processes seen in biological neurons in natural networks found in the brain. It is made up of closely linked neurons, which are basic computing units. The simplicity with which they can handle complex issues and their broad variety of applications have drawn a lot of attention to artificial neural networks (ANNs). ANNs are models of parallel computing made up of highly linked adaptive processing units. These networks are parallel, fine-grained applications of dynamic or nonlinear static systems. These networks' adaptive nature, which substitutes "learning by example" for "programming" in problem resolution, is a crucial component. Such computational models are highly attractive in application areas where training data is easily accessible, but one has little or no understanding of the problem to be solved because of this property. While regression models and other comparable statistical approaches have historically been used in the field of classification and prediction, ANNs are presently gaining more and more recognition in this domain. The backpropagation algorithm is the ANN learning algorithm that is most frequently employed. ANNs come in a variety of forms, including Kohonen, radial basis functions, and multilayeredperceptrons. These networks are referred to as "neural" in the sense that, while they may not be exact replicas of actual brain or cognitive processes, they may have been motivated by neuroscience. In actuality, the bulk of the network bears a closer resemblance to classical mathematics and/or statistical models than to models of neurobiology. Examples of these

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EVALUATION OF ALGORITHMS TO IMPROVE BLOOD GLUCOSE LEVEL CONTROL

Lokesh Kumar [1] and Dheeresh Upadhyay[2]
[1]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
Email: dheeresh.upadhyay@mangalayatan.edu.in, lokesh@umu.ac.in

ABSTRACT-In this study; we examine recently suggested sophisticated strategies based on a variety of approaches to enhance blood glucose regulation in type 1 diabetic patients without raising their risk of hypo- or hyperglycemia. We present an overview of research advancements based on predictive control, statistical procedures, filters, and machine learning, as well as type 1 diabetes and the artificial pancreas. Blood glucose levels can be successfully managed using conventional techniques, but novel strategies based on machine learning algorithms show promise.

Index Terms-Artificial pancreas, model predictive control, PID controls, neural networks, machine learning, Kalman filter, continuous glucose monitoring, type 1 diabetes.

I. INTRODUCTION

An autoimmune condition known as type 1 diabetes mellitus (T1DM) results in the death of pancreatic β-cells, which are in charge of producing the hormone insulin peptide, which is necessary to regulate blood glucose (BG) levels. Because they are unable to produce insulin internally, patients with type 1 diabetes need to be given it externally. External administration is not without risk, though. Exercise and insulin treatment, for instance, can cause hazardous hypoglycaemia. Insulin should generally be used with caution as it might result in hypoglycaemia (BG < 70 mg/dL), which can cause a patient to potentially go into a coma, have a seizure, or possibly pass away. Persistent hyperglycemia (BG > 180 mg/dL) brought on by under dosing may potentially result in long-term consequences such neuropathies, nephropathy, or cardiovascular disorders [1].

The artificial pancreas (AP) is essentially a closed-loop glucose controller that consists of a wearable insulin pump that distributes insulin in response to BG levels measured by a Continuous Glucose Monitoring (CGM) system. The CGM device, which detects the blood glucose levels, is in communication with a continuous subcutaneous insulin infusion (CSII) pump [2]. The pump uses a control algorithm to determine the right dose of insulin and then releases it into the patient's bloodstream.

Studies have indicated that AP may be able to better regulate blood glucose levels and lower the risk of hypoglycemia than open-loop control, the traditional insulin treatment. However, there are a lot of obstacles to take into account while creating AP algorithms.

A number of variables, including dietary modifications, unexpected physical activity, alcohol intake, circadian rhythm, long-term metabolic fluctuations, menstrual cycle, and insulin sensitivity, might interfere with the metabolic glucose process [3]. Moreover, unknown analytical relationships between changed parameters and measured values, security concerns,

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IMPACT OF ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT

Anurag Shakya[1], Anupama Verma[2], Somya Bansal[3], Chiya Mihu[4], Prakash Mishra[5]

[1]Professor, Institute of Business Management and Commerce Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
Email: anurag.shakya@mangalayatan.edu.in

ABSTRACT

A major factor propelling innovation in today's fast-paced digital scene is the use of AI across several businesses. Artificial intelligence (AI) is having a significant effect on human resources (HR). Organizations may boost productivity, decision-making abilities, and HR procedures by using AI technology. This essay delves at the impact of AI on human resources and how it may shape the workforce of the future.

Defining human resources (HR) is a prerequisite to exploring how AI will affect HR. A company's strategy for managing and optimizing its staff is known as human capital management. Recruitment, onboarding, development and training, performance management, pay and benefits, employee relations, and workforce planning are all parts of it. Maximizing the value of individuals as assets to enhance corporate productivity and competitiveness is the core purpose of human resources.

Keywords:
Artificial intelligence, Human resources, Recruitment, Decision-making

Introduction:

The goal of artificial intelligence (AI) research in computer science is to program computers to mimic human intellect in order to do hitherto human-only jobs. Among these activities are the following: learning, thinking, seeing, interpreting language, and making decisions. Machine learning systems may be programmed to do tasks normally performed by people or to work in tandem with them.

Artificial intelligence comes in several forms, such as:

Narrow AI, often called Weak AI, is purpose-built and -trained to do a single, specific job. Software for picture categorization, voice recognition, and recommendation engines are a few examples.

Machines that can reason and reason like humans are called general artificial intelligence (AI), strong AI, or artificial general intelligence (AGI). In theory, a general artificial intelligence system might learn and comprehend whatever a person could.

A hypothetical degree of artificial intelligence that outperforms humans in every possible way is known as superintelligent AI. When people talk about AI's future, this is something that comes up often.

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IMPACT AND CHALLENGES OF IMPLEMENTATION OF GST ON E-COMMERCE SECTOR

Arvind Hans[1], Anuarg Shakya[2], Somya Bansal[3], Chiging Yamang[3], Shivangi Dwivedi[5]
[1]Associate Professor, Faculty of Business Management & Commerce, Usha Marti University, Ranchi, Jharkhand
[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP\
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
Email: arvind@umu.ac.in, anurag.shakya@mangalayatan.edu.in

ABSTRACT

The Goods and Service Tax (GST), recognized for its potential to significantly impact the Indian economy, is poised to bring about a transformative transformation. Overall, it is widely recognized that it is advantageous for both consumers and businesses.
The term "government" refers to the system or group of individuals that have the authority to make and enforce laws and regulations within a particular country or region.</text India imposes several indirect taxes on products and services, which are levied by both the national and state governments. The purpose of GST is to consolidate all these taxes into a single tax, allowing for smooth input tax credit, and applying to both goods and services. Therefore, excise duty, special extra duty, service tax, and VAT, among others, would be abolished and incorporated into the GST. The Goods and Services Tax (GST) will consist of three components: Central Goods and Services Tax (CGST), State Goods and Services Tax (SGST), and Integrated Goods and Services Tax (IGST). The national taxes, such as excise duty, will be included into the national Goods and Services Tax (CGST), while state taxes, such as Value Added Tax (VAT), would be incorporated into the State Goods and Services Tax (SGST). All transactions of goods and services will be subject to a single tax, namely the Goods and Services Tax (GST), which includes both the Central Goods and Services Tax (CGST) and the State Goods and Services Tax (SGST). Interstate transactions would be subject to the application of IGST instead of SGST. The credit for these taxes may be used to offset the corresponding outputs.
E-commerce refers to any kind of commercial activity that takes place via internet transactions. E-commerce offers customers several advantages, including the availability of items at reduced prices, a broader range of choices, and time savings. E-commerce may be divided into two main categories: Electronic merchandise: Electronic finance. E-commerce is the practice of doing business utilizing contemporary communication tools such as telephone, fax, e-payment, money transfer systems, e-data interchange, and the Internet. Industries such as financial services, tourism, entertainment, and grocery are expected to have significant

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INVESTMENT LANDSCAPE IN INDIA: OPPORTUNITIES, CHALLENGES, AND FUTURE PROSPECTS

Leena Shrivastav[1], Ankur Kumar Agrawal[2], Nyarik Geyi[3], Jai Anand Shukul[4], Vipul Jain[5]

[1]Associate Professor, Associate Professor, Faculty of Business Management & Commerce UshaMartinUniversity,Jharkhand

[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[5]Associate Professor, Department of Management,Sikkim Professional University, Gangtok, Sikkim

EmailID: leena.shrivastav@rediffmail.com

Abstract

India, as one of the fastest-growing economies in the world, has emerged as an attractive destination for investment. This research paper explores the investment landscape in India, delving into its opportunities, challenges, and future prospects. Through comprehensive analysis, it aims to provide insights into the dynamics of investment in India, elucidating key objectives to enhance understanding and facilitate informed decision-making for investors. It also evaluates the impact of investment on economic growth, employment generation, and sustainable development. By offering insights into key sectors, investment patterns, and policy recommendations, this paper serves as a valuable resource for policymakers, investors, and researchers interested in understanding and navigating the complexities of the Indian investment environment.

Keywords: Investment, India, Opportunities, Challenges, Future Prospects

Introduction

Investment plays a crucial role in the economic development of a nation. As a rapidly evolving economy, India presents a myriad of investment opportunities across various sectors. This section provides an overview of the significance of investment in India and outlines the objectives of the research paper. Investment plays a pivotal role in driving economic growth, fostering innovation, and creating employment opportunities. India, with its vast market potential, demographic dividend, and policy reforms, has emerged as an attractive destination for both domestic and foreign investment. This section provides an overview of the significance of investment in India and outlines the objectives and structure of the research paper.

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FINANCIAL MANAGEMENT STRATEGIES FOR SUSTAINABLE GROWTH AND VALUE CREATION

Leena Shrivastav[1],Ankur Kumar Agrawal[2], Nyarik Geyi[3], Jai Anand Shukul[4]
[1]Associate Professor, Associate Professor, Faculty of Business Management & Commerce UshaMartinUniversity,Jharkhand
[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
EmailID: leena.shrivastav@rediffmail.com

Abstract:
Financial management is a critical function within organizations, encompassing planning, controlling, and monitoring financial resources to achieve organizational goals effectively. This research paper delves into various aspects of financial management, exploring strategies for sustainable growth, risk management, capital allocation, and value creation. Through empirical analysis, case studies, and theoretical insights, it aims to provide valuable guidance for businesses in navigating the complexities of financial decision-making and maximizing shareholder value.
Keywords: Financial Management, Sustainable Growth, Risk Management, Capital Allocation, Value Creation

Introduction

Financial management plays a central role in the success and longevity of organizations. This section introduces the importance of financial management in achieving sustainable growth and value creation. It outlines the objectives and structure of the research paper.

Theoretical Foundations of Financial Management

This section provides an overview of the theoretical frameworks and principles that underpin financial management. It covers topics such as the time value of money, risk-return trade-off, capital budgeting, cost of capital, and financial markets.

Financial Planning and Forecasting

Financial planning is a fundamental aspect of financial management, involving the formulation of budgets, forecasts, and financial strategies to achieve organizational objectives. This section explores the process of financial planning, including budgeting techniques, forecasting methods, and scenario analysis.

Risk Management and Financial Stability

Risk management is integral to financial management, as it involves identifying, assessing, and mitigating risks that may impact organizational performance and stability. This section examines various types of financial risks, such as market risk, credit risk, liquidity risk, and operational risk, along with strategies for risk mitigation.

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HYBRID VEHICLE DESIGN USING MATLAB/SIMULINK

Abhishek Pandey[1] and Shivam Upadhyay[2]

[1]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
Email: abhishek@umu.ac.in, shivam.upadhyay@mangalayatan.edu.in,

Abstract

This research will study the history, evolution, and current situation of hybrid and electric vehicles (HEV). The overuse of number will look at The origin, development, and current state of hybrid and electric vehicles and will be examined in this study (HEV). HEVs have proven to be the most practical solution due to the excessive use of fossil fuels and deteriorating atmospheric conditions. Future innovations that can be implemented into Electric vehicles to make the world greener are also discussed in the paper. Due to advancements in power electronics and motors, as well as fast charging and slow draining, long-lasting batteries, Hybrid vehicles became more cost-effective and efficient. CO2 emissions from automobiles are a significant cause of pollutants in the country. The automotive industry has enormous challenges in reducing greenhouse gas emissions.

I. INTRODUCTION

Hybrid vehicles are automobiles that utilize a combination of two or more distinct power sources to propel the vehicle. The most common type of hybrid vehicle combines an internal combustion engine (typically gasoline-powered) with an electric motor and a battery pack. These hybrids are known as "hybrid electric vehicles" (HEVs). PHEVs(Plug-In Hybrid Electric Vehicles) are similar to conventional hybrids but with larger battery packs that can be charged by plugging into an external power source. This allows for extended electric-only driving range before the internal combustion engine kicks in. The Mitsubishi Outlander PHEV is an example of a plug-in hybrid.[1][2]

There was a desire for fuel-efficient and environmentally friendly transportation vehicles due to a variety of reasons, including global petroleum crises and environmental concerns [3]. Electric Automobiles (EV) & Electric Transport System (ETS) have gotten a lot of attention, and they're expected to be the most popular means of transportation in the coming years because of their benefits over conventional vehicles [4]. In this arena, ongoing study efforts are focused on extending the battery bank's life [5], which delivers the benefits of a low-power rated converter and an optimal load profiles for the battery bank. Clegg (1996) [6] suggested that employing regenerative braking of motors (tractive motor) [7] could improve

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HEART DISEASE PREDICTION USING MACHINE LEARNING ALGORITHMS

Shivam Upadhyay[1], Vinay Singh[2], Roma Singh[3]

[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
[2]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
Email: shivam.upadhyay@mangalayatan.edu.in,

Abstract—Heart plays significant role in living organisms. Diagnosis and prediction of heart related diseases requires more precision, perfection and correctness because a little mistake can cause fatigue problem or death of the person, there are numerous death cases related to heart and their counting is increasing exponentially day by day. To deal with the problem there is essential need of prediction system for awareness about diseases. Machine learning is the branch of Artificial Intelligence(AI), it provides prestigious support in predicting any kind of event which take training from natural events. In this paper, we calculate accuracy of machine learning algorithms for predicting heart disease, for this algorithm are k-nearest neighbour, decision tree, linear regression and support vector machine(SVM) by using UCI repository dataset for training and testing. For implementation of Python programming Anaconda(jupytor) notebook is best tool, which have many type of library, header file, that make the work more accurate and precise.

Keywords—supervised; unsupervised; reinforced; linear regression; decision tree; python programming; jupyter Notebook; confusion matrix;

I. INTRODUCTION

Heart is one of the most extensive and vital organ of human body so the care of heart is essential. Most of diseases are related to heart so the prediction about heart diseases is necessary and for this purpose comparative study needed in this field, today most of patient are died because their diseases are recognized at last stage due to lack of accuracy of instrument so there is need to know about the more efficient algorithms for diseases prediction. Machine Learning is one of the efficient technology for the testing, which is based on training and testing. It is the branch of Artificial Intelligence(AI) which is one of broad area of learning where machines emulating human abilities, machine learning is a specific branch of AI. On the other hand machines learning systems are trained to learn how to process and make use of data hence the combination of both technology is also called as Machine Intelligence. As the definition of machine learning, it learns from the natural phenomenon, natural things so in this project we uses the biological parameter as testing data such as cholesterol, Blood pressure, sex, age, etc. and on the basis of these, comparison is

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HUMAN FACE RECOGNITION USING IMAGE PROCESSING

Shivam Upadhyay[1], Vinay Singh[2], Syed Umer[3]
[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
[2]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
Email: shivam.upadhyay@mangalayatan.edu.in,

Abstract
Image compression is a relatively recent technique based on the representation of an image by a contractive transform, on the space of images, for which the fixed point is close to the original image. The aim is to discover which techniques are the most efficient and best applies to the project undertaken. It is a computer application for automatically identifying or verifying a person from digital image or a video frame from a video source. This paper presents a real-time image processing of human face identification for home service robot (HSR). This vision system is set up by two individual sub-systems. The first one is face detection and tracking subsystem based on adaptive skin detector, condensation filter with parallel computing particles, and Haar-like classifier. And a simple and fast motion predictor is also proposed for face tracking.

I. INTRODUCTION

Image processing refers to the manipulation and analysis of digital images using various techniques and algorithms. It is a broad field that encompasses tasks such as image enhancement, restoration, segmentation, feature extraction, pattern recognition, and more. Image processing finds applications in various domains including medical imaging, remote sensing, surveillance, robotics, and computer vision.Image processing can be implemented using various programming languages such as Python (with libraries like OpenCV, scikit-image, and TensorFlow), MATLAB, Java, and C/C++. These languages provide extensive libraries and tools for image processing tasks, making it easier for developers and researchers to work with digital images.

Face recognition using image processing involves identifying and verifying individuals by analyzing patterns based on their facial features.Face recognition systems are evaluated based on their accuracy, speed, robustness to variations in lighting, pose, expression, and occlusions. Techniques such as cross-validation or ROC curves are commonly used to assess the performance of face recognition algorithms. It's important to note that face recognition systems must also address privacy and ethical considerations, including data security, consent, and potential biases in the training data or algorithms. Additionally, compliance with regulations such as GDPR (General Data Protection Regulation) should be ensured when developing and deploying face recognition systems.

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EMPLOYEE WELL-BEING AND JOB SATISFACTION IN PRIVATE SECTOR BANKS

Niyati Sharma[1], Md. Saifullah Khalid[2], Nyarik Geyi[3], Shivangi Dwivedi[4], Amit Srivastav[5]

[1]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P., India.

[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP

[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Email: niyati.sharma@mangalayatan.edu.in

ABSTRACT

The structural developments in the banking sector over the past 20 years have resulted in a significant change in the process of vetting bank workers' competency. Bank personnel are working under extreme pressure to satisfy organizational targets and maintain customer satisfaction while providing prompt service. Improving working circumstances, professional advancement, work climate, interpersonal relationships, etc., all depend heavily on the quality of one's work life. The study's conclusion emphasizes the need for banks to enhance their work-life policies for staff members in order to boost their dedication, job happiness, and productivity.

Keywords: Privatesector banks,Qualityofworklife,Jobsatisfaction, PerformanceofEmployees.

Overview

The definition of quality of work life is when employees are able to fulfill a range of demands while performing their duties at work through facilities, activities, and results. Given that it incorporates a number of elements from various areas, including family, social, and financial life, this concept seems integrated. The happy relationship that exists between workers and their entire work environment is known as quality of work life. Additionally, it addresses subjective wellbeing directly. Employee perceptions of safety and suitability in relation to the physical and psychological work environment differ in relation to this issue. As a result, various perspectives exist for analyzing the quality of work life. Workplace quality is critical to banking business outcomes because it strives to achieve two goals: (i) increase productivity; and (ii) raise employee satisfaction. The goal of the current study is to evaluate the work-life quality and job satisfaction of bank employees in the private sector. It

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A SURVEY OF THE IMPACT OF DIGITAL MARKETING ON CONSUMER BEHAVIOUR

Leena Shrivastav[1], Niyati Sharma[2], Prakash Divakaran[3], Ankit Khare[4]
[1]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P., India.
[3]Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Departmentof Management, Mangalayatan University, Jabalpur, MP
Email: leena.shrivastav@rediffmail.com

ABSTRACT: This study conducts a comprehensive review of recently published research pertaining to the influence of digital marketing on consumer behaviour across three distinct domains: electronic word-of-mouth, mobile applications, and social media platforms. The primary objective of this research is to provide insight into the impact of digital marketing on consumer behaviour, concentrating on the tourism industry. This research will contribute to the existing literature and provide valuable insights for informing future advancements in digital marketing within the tourism industry. Extensive evidence from the reviewed literature demonstrated the significance of digital communication in relation to eWOM, tourism competitiveness, visitor behaviour, and their utilisation of mobile applications and social media. Furthermore, this study will make an academic contribution by identifying certain deficiencies in current research and furnishing decision-makers with potential avenues for future investigation as well as road maps.

Keywords: Mobileapps,Digitalmarketing,Consumerbehavior,eWOM,Socialmedia.

INTRODUCTION

Significant advancements in global communications have occurred as a result of the Internet's rapid dissemination of information and technology via various channels, including smartphones, social media platforms, and electronic word-of-mouth (Al-Maroof & Al-Emran, 2018; Al-Qaysi & Al-Emran, 2017; Alshurideh, Salloum, Al Kurdi, & Al-Emran, 2019). The global community appears to have shrunk to the size of a village due to the ability of these communication media to facilitate consumer access and interaction (Alghizzawi, Salloum, & Habes, 2018; Malik & Al-Emran, 2018; S. A. Salloum, Al-Emran, Shaalan, & Tarhini, 2019). Digital communication channels are utilised by consumers to locate product information and services. It has permeated the daily lives of individuals (Stephen, 2016). Global internet usage has now surpassed 4.1 billion individuals, with 92% of this population accessing the web via mobile devices. Concurrently, 3.56 billion individuals are active consumers of social media platforms (dazeinfo, 2018). As information and data consumers who also engage in discourse regarding their experiences with the products they purchase, the majority of individuals make extensive use of social media and digital marketing through their roles as consumers of goods and services (S. A. S. Salloum

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JOB SATISFACTION A TOOL FOR PERFORMANCE MANAGEMENT– A STUDY OF BANKING SECTOR

Meenakshi Kumari [1], Niyati Sharma[2], Ishwer Singh[3], Ankit Khare[4]
[1]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P., India.
[3]Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Departmentof Management, Mangalayatan University, Jabalpur, MP
Email: meenakshi270209@gmail.com

Abstract:
The culmination of various factors, including psychological, physiological, and environmental ones, determines an individual's level of job satisfaction or discontent. The ratio of what one has to what one wants might be used to gauge one's level of satisfaction. Since the values of the job may align with one's requirements, job satisfaction may also be seen as the positive emotional state that arises from one's impression of their employment. Performance management include measures that guarantee objectives are continuously achieved in a productive and efficient way. In addition to many other areas, performance management can concentrate on the operations of a department, an organization, an individual, or even the steps involved in creating a service or product. Since banks are a crucial component of our financial system, their performance has a significant impact on increasing industrial effectiveness. The purpose of this study is to examine the HR procedures currently in use in the Indian banking industry, assess how they affect employee performance, and determine employee satisfaction levels. The results of the study will help bank administrators create a more positive work environment, which will boost employee happiness and lead to better performance. The correlation technique is a statistical tool that the researcher would use to assess the data.

INTRODUCTION

Employee job happiness is a widespread topic worldwide. Job happiness is another motivating element for people to pursue employment in addition to income. People also switch employment or work environments for this purpose. While some workers find tedious tasks uninteresting, others love performing the same thing over and over again and will not look for new duties. People differ in what they require from one another because each person has a unique personality. Entrepreneurs are frequently concerned about issues like as high employee turnover, low productivity, and absenteeism in the workplace. The goal of the current study is to examine how current management methods relate to employee job satisfaction and how that affects output. The study's other main goal is to identify the cause of organizational productivity problems.

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A COMPARATIVE STUDY OF WORK-LIFE BALANCE AND JOB SATISFACTION AMONG WORKING WOMEN IN THE BANKING AND EDUCATION SECTORS

Niyati Sharma[1], Md. Saifullah Khalid[2], Amit Srivastav[3],Nyarik Geyi[4]
[1]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P., India.
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: niyati.sharma@mangalayatan.edu.in

Abstract
Work-life balance is very greatly desired for female employees, and it might provide challenges for working women if they lack consistency in their lives or job happiness. In order to minimize conflict between work and home life, work-life balance necessitates striking a balance between professional and personal responsibilities. Employee performance, which is based on a variety of criteria, ultimately determines the performance of any firm. These elements may have to do with family, work, or both. Working women from national institutes and government colleges in Bhopal, as well as nationalized banks operating in the city of Bhopal, Madhya Pradesh, are the subjects of a comparative research. The aim of this study is to investigate the work environment and the perceptions of women working in the banking and education sectors on work-life balance and job satisfaction. Studying the effects of work-life balance on job satisfaction, as well as the steps businesses take to achieve effective work-life balance and how it relates to job satisfaction, is another important goal. In this research, the standard deviation is used to verify the accuracy of the data provided by the respondents from both sectors. The results indicate that work-life balance (WLB) can be attained through elements that contribute to job satisfaction, including fair compensation, employee-focused policies, cognitively stimulating work, supporting coworkers, and supportive working environments.

INTRODUCTION

achievement of a company. Regarding the human environment, it concentrates on the features of people that have an impact on an employee's productivity and contentment at work. The degree to which workers have a good and productive attitude toward their employment by the company is known as job satisfaction. A person's work defines their value and position in society, as well as their psychological identity and sense of wellbeing. The word "work" Refers to employment or paid labor.

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IMPACT OF SOCIAL MEDIA MARKETING ON INDIAN BUSINESSES

Anuarg Shakya[1], Anupama Verma[2], Chiging Yamang[3], Somya Bansal[4], Shivangi Dwivedi[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[2]Associate Professor, Faculty of Business Management & Commerce, Usha Marti University, Ranchi, Jharkhand

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

[5]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP

Email: anurag.shakya@mangalayatan.edu.in

ABSTRACT

Over the last hundred years, the field of marketing has seen unprecedented transformation. It is hard to fathom the degree to which marketing strategies, methods, and technologies have evolved. In the old economic model, a market could only exist in a physical location with a large number of
constraints of location, duration, and practicality. Because of the ease with which we can now reach any market in the world, the world's market has shrunk to the size of a human palm in this age of globalization. From its humble beginnings as a medium for people to connect with one another, social media has evolved into a powerful tool for advertising, brand positioning, and other areas of marketing strategy. It is critical for any company to be abreast of the latest developments in marketing and marketing technologies. One of the most important marketing trends is attempted to be presented in this article.

Keywords:
Social media marketing, Facebook, LinkedIn, Instagram, Snapchat.

Introduction:

Gaining "website traffic or attention Through social media sites" is what social media marketing is all about. In order to take advantage of the "one normal opportunity," Indian marketers are acting swiftly. Everyone is using social media now. because it's a once-in-a-lifetime chance for marketers to cut out the middlemen and connect with consumers on a personal level.

The term "social media marketing" (SMM) refers to an online marketing strategy that makes use of various social media applications.

Through these social media channels, companies may communicate with their target demographic in order to get people talking about your brand, buy more stuff, visit your website, and become a part of your community so they can share and connect with your content.

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DETERMINANTS OF PERSONAL FINANCIAL MANAGEMENT BEHAVIOR: THE MODERATING ROLE OF FINANCIAL LITERACY IN THE RELATIONSHIP

Ankur Kumar Agrawal [1], Anupama Verma[2], Nyarik Geyi[3], Jai Anand Shukul[4], VipulJain[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[2]Associate Professor, Associate Professor, Faculty of Business Management & Commerce UshaMartinUniversity,Jharkhand

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[5]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

EmailID: ankur.agarwal@mangalayatan.edu.in

Abstract:
With financial literacy acting as a moderator, the purpose of this study is to ascertain how one's inclination to plan and subjective norms affect one's own financial management behavior. Since this study uses a quantitative methodology, questionnaires were used to collect data. There were 235 students in the Economics Education (Accounting) Department at one Indonesian university who made up the study's population. In this research, we performed a composite index-path modeling using partial least squares to measure probable constituents. Version 7.0 of the WarpPLS program was utilized to investigate the relationships found in the model. Subjective norms and the inclination to plan have a favorable impact on individual financial management behavior, according to the results of the structural equation model. Furthermore, the impact of subjective norms on an individual's behavior related to personal financial management was found to be mitigated by financial literacy. On the propensity to plan, moderating effects do not materialize. This study suggests that psychological factors may influence an individual's behavior when managing their finances.

Introduction:

The findings of the PricewaterhouseCoopers (PwC) Global Consumer Insights 2020 survey, "Before and After the Covid-19 Outbreak," show that 64% of Indonesian consumers are optimistic about spending the majority of their household income, while 65% of Indonesian consumers have seen a decline in their household income. Continuous innovation also contributes to accessibility. In the realm of financial technology, innovation refers to a technology that offers financial services that are easy, practical, inexpensive, efficient, and convenient [1]. Then there's the ease of using online retailers like Tokopedia, Shopee, and Bukalapak to fulfill necessities. The three websites offer a wide range of extremely complicated needs, including those for food, furnishings, household necessities, and much more. Another major factor in people's increased consumption is the availability of internet access. Inadequate production and negative effects on personal finances can arise from these capabilities if literacy and behavioral control are not balanced.
As young individuals, students must possess the ability to positively impact their surroundings. However, first things first, students need to work on improving their own behaviors, one of which is personal money management [2]. In reality, managing funds is not simple, and few students know how to handle their own finances in the best possible way.

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GENETIC ENGINEERING IN AGRICULTURE: APPLICATIONS AND ETHICAL CONSIDERATIONS

[1]Dr. Alisha Kumari, [2]Dr. Vikas Yadav, [3]Ms. Techi Yatchi, [4]Dr. Iti Gontia

Abstract
This paper presents a face to face a showdown between two almost contradicting sees on the utilization of genetic engineering in agriculture and food creation. Two researchers, one who has glaring misgivings of the utilization of GMOs in Agriculture and one who considers GMOs to be a significant device for quantitatively and subjectively further developing food creation, were posed seven inquiries about the expected advantages of the use of genetic engineering in agriculture and the likely unfriendly effects on the climate and human wellbeing. Many large companies in the US are attempting to make new sorts of genetically altered crops that are impervious to herbicides, bugs, dry spell, and even have healthful advantages. Soybean, maize and cotton that have been genetically changed have seen critical expansions in established real esatate, and this pattern is supposed to go on later on years. Genetic engineering research has been intensely supported for the reasons for sickness obstruction, further developed nourishment, and drug substance creation.
Keywords: Genetic Engineering, Agriculture, Applications, Ethical Considerations.

1. Introduction

The advanced logical improvement of genetic engineering has opened up thrilling new open doors in the farming area. Improving wanted characteristics, making extraordinary qualities, and resolving basic issues in horticultural efficiency and manageability are potential on account of genetic adjustment. This momentous strategy, be that as it may, isn't absent any trace of moral different kinds of feedback. An energetic exchange has developed around the ethical ramifications of changing the fundamental genetic organization of animals that structure the premise of our food frameworks as mankind thinks about the advantages and dangers of genetically modified crops.

The many purposes of genetic engineering in agriculture are analyzed in this article, from further developed crop yield and dietary benefit to protection from vermin and illnesses. From natural repercussions and likely wellbeing implications to financial decency and the safeguarding of biodiversity, we will likewise arrange the intricate trap of ethical issues that entwine with these turns of events.

As we go out on this experience into the universes of logical disclosure and moral reflection, it is critical that we track down a center ground between the enormous commitment of genetic engineering in agriculture and the profound ethical commitments that accompany it. The advantages of genetic engineering can be used to create a supportable and fair farming future in the event that we develop a top to bottom comprehension of both the notable purposes and the critical ethical ramifications.

To communicate wanted qualities in plants, creatures, and different animals, geneticists have made genetic recombination methods. Specialists and researchers are teaming up to study the DNA successions of various animals, growing the expected applications of genetic engineering. Whenever qualities are ordered, researchers can adjust them to make helpful species like vermin safe harvests, fuel-and plastic-delivering microorganisms, and meat-

[1] Assistant Professor, Department of Agriculture, Usha Martin University, Ranchi- Jharkhand.
[2] Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh-Uttar Pradesh.
[3] Associate Professor, Department of Agriculture, Himalayan University, Itanagar- Arunachal Pradesh.
[4] Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur-Madhya Pradesh.

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THE ROLE OF EMOTIONAL INTELLIGENCE IN TEACHING EFFECTIVENESS AND CLASSROOM MANAGEMENT

Prof. B. Phalachandra, Professor, Department of Education, Usha Martin University, Ranchi- Jharkhand.
Dr. Abhiram Kulshestra, Professor, Department of Education, Mangalayatan University, Aligarh-Uttar Pradesh.
Dr. Deepshikha Saxena, Associate Professor, Department of Education, Himalayan University, Itanagar- Arunachal Pradesh.

Abstract
The term "emotional intelligence" may be relatively new, but it is now more commonly used. Peter Salovey and John Mayor originally used the term "emotional intelligence" in the 1990s. In order to make wise decisions, we must be able to understand and control our own and other people's emotions. This essay explores the varied contributions that emotional intelligence makes to improving classroom management and teaching effectiveness. The study's two main goals are to examine how emotional intelligence affects crucial teaching qualities like teachers' interpersonal abilities, communication with students, and the development of strong teacher-student relationships, and to assess the relationship between teachers' emotional intelligence and their capacity to adapt to unforeseen classroom situations, foster resilience, and maintain a healthy outlook. This study advances knowledge on how effective classroom management techniques and teaching practices can be influenced by emotional intelligence.
Keywords: Emotional Intelligence, Teaching Effectiveness, Classroom Management, Teacher-Student Relationships, Interpersonal Skills, Communication Skills.

1. Introduction

Since it endures forever, the emotional bond between the teacher and the pupil is crucial. A teacher's ability to communicate emotionally with students is limited by time constraints and syllabi. However, a teacher can raise future citizens with a happy attitude on life with little work and consideration for their emotional needs. Since emotions are a deciding factor in how someone will react and behave, knowing them in the workplace is becoming more and more crucial for teachers. In terms of workload, faculty members will have a lot of obligations, work longer hours under pressure, and as a result, their performance may be impacted. The prevalent consensus is that people with higher levels of emotional intelligence are likely to perform better. Emotional intelligence as a predictor for job performance. Since emotion is at the core of the teaching profession, teaching itself is a sort of emotional exercise. To improve performance, there has been an increasing desire for a stronger emphasis on teachers' emotional intelligence. However, there is a dearth of research specifically addressing the connection between teachers' work effectiveness and emotional intelligence.

The Latin word "emovere"—which means "to stir up" or "to exite"—is the source of the English word "emotion." Therefore, emotions can be thought of as an agitated or stimulated condition of our body and mind. According to Woodworth, emotion is a condition of feeling that has been stirred up because that is how it seems to the individual. Early in the 1990s, the idea of emotional intelligence started to emerge; Daniel Goleman's 1995 book, Emotional Intelligence, popularized it. Emotional intelligence, according to Salovey and Mayer (1990), is a type of intelligence that includes the capacity to keep track of one's own and other people's feelings and emotions, to distinguish between them, and to use this knowledge to inform one's decisions and actions. The capacity to recognize emotions, integrate them,

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THE INFLUENCE OF TEACHER PROFESSIONAL DEVELOPMENT ON INSTRUCTIONAL PRACTICES AND STUDENT ACHIEVEMENT

Prof. (Dr.) Neerja Dhankar, Professor, Department of Education, Usha Martin University, Ranchi- Jharkhand.
Dr. Abhiram Kulshestra, Professor, Department of Education, Mangalayatan University, Aligarh-Uttar Pradesh.
Dr. Deepshikha Saxena, Associate Professor, Department of Education, Himalayan University, Itanagar- Arunachal Pradesh.

Abstract
In industrialized nations, teacher professional development is a common practice. Given the constant demand on educators to raise student achievement, school systems that are dedicated to this goal must ensure that teachers receive ongoing professional development. This research paper's goal is to examine the connection between teachers' involvement in professional development programs and changes in the instructional strategies they employ in the classroom. Examining how teachers' experiences and attitudes match up with observable impacts can help us gauge how teachers perceive the influence of professional development on their teaching practices and student outcomes. The purpose of this study is to further knowledge in the field of education and assist in the creation of more focused and effective teacher professional development initiatives.
Keywords: Teacher Professional Development, Instructional Practices, Student Achievement, Educational Improvement, Teacher Training, Professional Learning.

1. Introduction

In recent years, the field of education has witnessed a growing emphasis on continuous professional development for teachers. The recognition that effective teaching strategies are not static, but evolve in response to changing educational landscapes and student needs, has prompted educators to engage in ongoing learning and skill enhancement. The pivotal role of teachers in shaping the educational experience and student outcomes cannot be overstated. As a result, there is a pressing need to understand the extent to which teacher professional development influences instructional practices and, ultimately, student achievement.

1.1. Leadership and the professional development of teachers

The idea of "Leadership and the professional development of teachers" is a crucial and complex component of the educational system. It acknowledges the crucial role that leadership plays in helping teachers develop and become competent, which has a direct bearing on the standard of instruction that children get.

Leadership in education is important in this situation. The landscape of teacher professional development is shaped by the responsibilities of educational policymakers, administrators, and school leaders. The success of teacher professional development programs is largely impacted by their choices, encouragement, and vision.

The core of this subject is teacher professional development. It includes a wide range of tactics, plans, and approaches intended to improve the abilities, expertise, and general efficacy of teachers. Giving educators the resources they need to flourish in their positions and deliver high-quality instruction is the aim.

In this conversation, instructional leadership is a crucial factor. It investigates the impact of school administrators on curriculum design, instructional methods, and the general learning environment. Effective instructional leadership assists in coordinating teachers' professional

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THE IMPACT OF TECHNOLOGY INTEGRATION IN THE CLASSROOM: A META-ANALYSIS OF STUDENT LEARNING OUTCOMES

Prof. S. Choudhary, Professor, Department of Education, Usha Martin University, Ranchi-Jharkhand.
Dr. Abhiram Kulshestra, Professor, Department of Education, Mangalayatan University, Aligarh-Uttar Pradesh.
Dr. Deepshikha Saxena, Associate Professor, Department of Education, Himalayan University, Itanagar- Arunachal Pradesh.

Abstract
In-depth analysis of the impact of technology integration in the classroom on several areas of student learning outcomes is presented in this study. The study examines the effects of technology on students' levels of engagement, motivation, and active participation in the learning process, as well as its possible impacts on academic performance, with a focus on two main goals. The analysis provides insights into how technology usage correlates with improved student engagement, motivation, and participation through a thorough examination of the body of existing literature. The research also examines whether the use of technology in educational settings has a measurable impact on students' academic progress, which includes grades, test scores, and all-around academic success. The research adds to the conversation on how technology may be used in education effectively by illuminating its wide-ranging effects on both student involvement and academic performance.
Keywords: Technology Integration, Classroom, Meta-Analysis, Student Learning Outcomes, Engagement.

1. Introduction

A laid out objective of instructors is to customize schooling by changing learning open doors and guidance to explicit capacities and attitudes. In many schools all over the planet, personalization is a typical practice. For example, while moving around a classroom, instructors regularly redo their guidance by giving more assistance to the people who are experiencing issues while pushing the individuals who are gaining ground to a higher level. Therefore, the concept of personalized learning is not new. However, there are significant differences between how personalization actually takes place.

The creative instructive methods of reasoning of John Dewey, William Kirkpatrick, and others in the mid twentieth century may be considered as trailblazers of tweaked learning. Additionally, there has been broad examination on the job of innovation in working with customized learning. The capacity of instructive innovation (otherwise called "EdTech") to adjust the learning experience in view old enough, fulfillment level, earlier information, and individual importance has been hypothesized all the more as of late. Personalized technology might, for example, alter the rate of learning in a way that gives students more control over when and how they learn. In order to represent learners' preferences and cultural context, it may also facilitate various forms of material. It can also automatically detect and respond to students' learning patterns.

The utilization of instructive innovation (EdTech) has been recognized as a reasonable method for resolving instructive issues in low-and center pay nations (LMICs). Especially, customized and versatile learning frameworks can advance both self-drove and different kinds of learning (making the last more congenial, viable, and engaging).1 It has been recommended that utilizing innovation to help customized learning will extend student admittance to training both inside and beyond the classroom, empower guidance at the "right"

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PROMOTING CRITICAL THINKING IN EDUCATION: APPROACHES, CHALLENGES, AND BEST PRACTICES

Prof. B Phalachandra, Professor, Department of Education, Usha Martin University, Ranchi-Jharkhand.
Dr. Jadab Dutta, Associate Professor, Department of Education, Mangalayatan University, Aligarh-Uttar Pradesh.
Dr. Kavita Sharma, Assistant Professor, Department of Education, Himalayan University, Itanagar- Arunachal Pradesh.

Abstract
The study examines the complex process of encouraging critical thinking abilities in learning environments. The main goals of this investigation are two. It first looks into the significant effects that encouraging critical thinking has on pupils' cognitive growth and problem-solving skills. The research gives insights into the ways that such efforts can improve students' cognitive capacities, enabling them to engage in more complex problem-solving processes by looking at the results of treatments focused at promoting critical thinking. The study also examines teacher education and professional development initiatives, evaluating their success in providing educators with the resources required to promote critical thinking in pupils. The research assesses the differing degrees of success in strengthening instructors' abilities to foster critical thinking by examining the various training approaches used. By focusing on these goals, the research aims to add to the ongoing discussion on critical thinking in education by providing insightful information about the effects of these interventions and offering suggestions for practical methods for fostering critical thinking abilities in both students and teachers.
Keywords: Critical thinking, Education, Promoting, Approaches, Challenges, Best practices, Cognitive development, Problem-solving abilities.

1. Introduction

Critical thinking alludes to the ability to figure as per the laws of rationale and probability as well as the ability to apply these abilities to genuine problems that are not content-free. It will increment innovativeness and further develop how you use and deal with your time. You can grasp yourself all the more profoundly by utilizing critical thinking. It will give you the opportunity to be unprejudiced, not so much nostalgic, but rather more receptive while valuing the contemplations and assessments of others. By preparing, you will have the confidence to share novel perspectives and new experiences into major problems.

1.1. Thinking

The major cognitive movement or interaction that makes people not the same as different creatures is thinking. It includes the control and examination of information accumulated from the rest of the world. Such control and examination include abstracting, thinking, imagining, solving problems, judging, and simply deciding. While the cerebrum's cognitive capabilities are engaged with handling data when we build ideas, partake in problem-solving, use rationale, and arrive at resolutions, the psyche is the ticket. Research on thinking has a set of experiences that is subject to when individuals initially acknowledged they were thinking. One quality that separates people from other living things is thinking. The demonstration of thinking is the forming or changing of an interior portrayal. She guarantees that when we start to think, we utilize our data to achieve some objective. Since everybody in our general public has associations with others and no one lives alone, thinking ability should be visible as the

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EDUCATIONAL POLICIES AND STUDENT OUTCOMES: AN EXAMINATION OF GLOBAL EDUCATION SYSTEMS

Prof. (Dr.) Neerja Dhankar, Professor, Department of Education, Usha Martin University, Ranchi- Jharkhand.
Dr. Hage Sela, Associate Professor, Department of Education, Mangalayatan University, Aligarh-Uttar Pradesh.
Dr. Sanjay Pal, Assistant Professor, Department of Education, Himalayan University, Itanagar- Arunachal Pradesh.

Abstract
Development and improvement in a general public can be credited to a great extent to the job that education plays. More people with more elevated levels of education make positive commitments to society. To comprehend one's freedoms as well as certain limitations to one's nation and society, education is the instrument that outfits its residents with the previous. The motivation behind this examination is to analyze what changes to auxiliary education have meant for the interest for and supply of Financial matters classes, as well as the scholastic execution of students, school organization, and school the executives. Information assortment for this review will be led utilizing an overview plan and will remember interviews with secondary school Financial matters teachers for the provinces of Mumbai and Delhi. The information was assessed utilizing a couple test t-test and distinct measurements. Interviews were directed to assemble extra data for investigation. The consequences of this review demonstrated that pre-college changes further developed instructor readiness, execution of educating and learning, school the executives, educator responsibility, and student accomplishment. Nonetheless, interest for financial matters courses at this level has not been impressively impacted by changes in pre-college education.
Keywords: Educational Policies, Student Outcomes, Examination, Global Education Systems.

1. Introduction

Education is vital in the present globalized and cutthroat society since it influences the existences of individuals all over the place. The educational policies of a nation are the general thoughts that decide the organization, educational plan, and techniques used to teach its residents. The objectives of these guidelines range from raising student accomplishment and extending admittance to education to guaranteeing that all kids get the opportunity to learn and growing balanced people who can make positive commitments to society. Subsequently, teachers, legislators, and scientists are progressively intrigued by the association between educational policies and student outcomes for of better grasping what different arrangement approaches mean for the educational way and achievements of students all over the planet.

Scholastic execution, mental turn of events, social-profound development, and long haul achievement are only a portion of the outcomes that can be influenced by dissecting the connection between educational policies and their execution. This multi-layered examination requires a top to bottom examination of different educational systems, including yet not restricted to, varieties in educational program development, assessment techniques, educator arrangement, monetary help, and actual offices.

We should consider the inborn snags and potential open doors presented by global education systems as we connect on this journey to understand the multifaceted connections between educational policies and student outcomes. From government sanctioned testing to project-based evaluation, from eye to eye study hall guidance to on the web and crossover learning

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THE EFFECT OF EARLY CHILDHOOD EDUCATION ON COGNITIVE AND SOCIAL DEVELOPMENT

Prof. S. Choudhary, Professor, Department of Education, Usha Martin University, Ranchi-Jharkhand.
Dr. Jadab Dutta, Associate Professor, Department of Education, Mangalayatan University, Aligarh-Uttar Pradesh.

Dr. Anuradha Yadav, Assistant Professor, Department of Education, Himalayan University, Itanagar- Arunachal Pradesh.

Abstract
The expression "early childhood development" incorporates a kid's development and maturation from earliest stages through the early long stretches of primary school. This development happens in different spots (houses, homerooms, medical clinics, public venues) and through various undertakings (from youngster care to nutrition classes to studios for guardians). Public, private, and non-benefit organizations are legitimate specialist co-ops. The acquisition, organization, and application of information in reasoning and critical thinking are parts of cognitive development. The outcomes show that both the control and trial gatherings' kids' cognitive development further developed in the wake of getting either treatment, with post-test mean scores being higher for consistent reasoning, representative reasoning, and critical thinking. In addition, the worth of the addition score shows that the exploratory gathering is prevalent than the control bunch. T-test results demonstrate that the exploratory class helped more from consolidating logical request with interactive media instruction than the control bunch.
Keywords: Early Childhood Education, Cognitive, Social Development, Cognitive development.

1. Introduction

Children from low-pay families frequently have a really difficult time scholastically. They are less ready for school than their more advantaged friends, and they frequently fall more behind in later grades too. From that point forward, a few nations have carried out early education and care projects, and researchers all over the planet affect children's maturation and learning. Through advancing continual validation and refinement of existing measures and development of new measures, this extraordinary issue expects to propel the field concerned with estimating children's social and emotional development. This goal originates from a rising familiarity with the relationship of the different features of a person's social and emotional development, as well as the significance of estimating their constituent parts. To all the more likely comprehend how early childhood social and emotional capabilities connect with school availability and how they contribute to children's development all through center childhood and beyond, better appraisal is fundamental.

Youngster Patterns and the Government Interagency Gathering on Kid and Family Insights (the Discussion) teamed up on this review, however their endeavors here go beyond the first level headed of that drive. Understanding and breaking down the different features of small kids' social and emotional development are examined in this unique issue.

Children today are supposed to have the social development to follow school schedules and the cognitive capacities essential for early proficiency and science when they go to class. Some of them come to school currently outfitted with these capacities and anxious to utilize them. Nonetheless, many individuals don't. The nature of children's preschool encounters

A REVIEW PAPER ON EMPLOYEE ENGAGEMENT

Dinesh Pandey1, Unnati Jadon2, Prakash Divakaran3, Prakash Mishra4

Keywords: Employee engagement, Human Resources Strategies etc.

Abstract

Employees are the fundamental cornerstone of any industry. The key to the success of any industry is a highly motivated and committed workforce. Employee engagement is determined by the quality of the interaction between a firm and its employees. It is crucial in attaining the objectives of the company. Employee engagement fosters a sense of inclusion, which eventually results in happiness. Contemporary organizations expect their employees to possess enthusiasm, excitement, and initiative in the workplace. They desire their employees to take responsibility for their own growth, strive for excellence and productivity, and demonstrate resilience and dedication in their work. In essence, companies require their employees to be fully engaged. Engagement is attained when individuals see that their organization values their work, their labor contributes to the advancement of the organization, and most importantly, their own aspirations for progress, rewards, and compensation are fulfilled. Therefore, it is imperative to create diverse HR strategies that provide assistance to each employee and foster a sense of value. This paper aims to analyze the many aspects of employee engagement by doing a literature review. The study focuses on analyzing literature related to the subject of Employee Engagement and Human Resources Strategies. This study relies on secondary data obtained from academic journals, books, and websites.

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IMPACT ON DIGITAL MARKETING IN RURAL AND URBAN AREAS: OPPORTUNITIES, CHALLENGES, AND STRATEGIES

Kumari Jyotsana1, Shalu Agrawa2, Yibom Bagra3, Ankit Khare4, Salima Bhattarai5

Keywords: Digital marketing, Rural areas, Urban areas, Consumer behavior, Marketing strategies.

Abstract

India is now known to have one of the world's most potential and fastest-growing economies. The Indian market is also growing very quickly. It is moving from a standard business to a digital one. In this digital age, marketers have to deal with new problems and chances. The main goal of this study is to look into the digital marketing scene in India and compare the spread of digital media in cities and rural areas. This study is based on secondary sources. This research paper aims to conduct an analytical study on digital marketing practices in both rural and urban areas, examining the opportunities, challenges, and strategies involved. Through a comprehensive literature review and empirical analysis, this paper explores the differences in digital marketing adoption, consumer behavior, and the effectiveness of various digital marketing channels between rural and urban environments. Results of this study shows that, reach of digital marketing is increasing in rural and urban area. However, there is large gap in digital marketing reach in rural and urban area.

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DEVELOPMENT AND ASSESSMENT OF EFFERVESCENT GRANULES CONTAINING IBUPROFEN

Shubham Sharma[1], Vivek Chaurasia[2], Sandeep Kumar Kurmi[3], Suraj Sharma[4]

[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: shubham.skdm@gmail.com

Abstract:
The aim of this study was to develop and assess effervescent granules containing ibuprofen in order to enhance its dissolving rate and achieve fast pain relief and fever reduction. The wet granulation process was used to manufacture five formulae (F1-F5) of effervescent ibuprofen granules. The manufacture of effervescent granules involved the use of croscarmellose sodium, banana powder, and other components. Assessment studies were conducted for each of the five formulae, encompassing a compatibility study, flowability study, percentage of drug content, effervescent time, and in vitro dissolution research. The results indicate that the formed granules possess favourable flow characteristics and an appropriate bulk density for the prescribed dosage. An FTIR investigation indicates that there is no pharmacological interaction observed between the active substances and other components in the mix. All five formulations exhibit an effervescent duration of less than 3 minutes. Formula 5 has the most optimal drug release with a value of 99.1±1 and an effervescent time of approximately 80 seconds. The formulation and evaluation of effervescent granules containing ibuprofen were accomplished successfully through the utilisation of a blend of croscarmellose sodium and banana powder.
Keywords: Ibuprofen, Effervescent, Wet granulation, Granules.

Introduction:

Effervescent granulates are widely used in oral medication, particularly for analgesics, antacids, and cough formulations. Effervescent granules are easily dissolved in water, have a rapid dissolution rate, and offer a pleasant flavour that can mask the unpleasant bitterness of medications. The dose formulations are both convenient and stable [1].

When effervescent granules are added to a cup containing exactly 250 ml of water before being taken by the patient, the granules will quickly scatter in the water and dissolve by releasing carbon dioxide gas. This phenomenon arises from the chemical reaction between acidic components and alkaline bicarbonates in the presence of water. The carbon dioxide libration will increase the drug's solubility and conceal the drug's unpleasant taste [2]. Ibuprofen is a compound that belongs to the class of propionic acid derivatives. It is a non-steroidal anti-inflammatory drug (NSAID) that is utilised to treat rheumatoid arthritis and osteoarthritis. Ibuprofen is classified as an insoluble compound in water, with a concentration

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EVALUATION OF ANTIDIABETIC EFFECT OF *RICINUS COMMUNIS* LEAVES

Suneel Kumar[1], Reetesh Yadav[2], Ananga Mohan Das[3]
[1]Assistant professor, MIPER, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Associate Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: suneel.ksingh@mangalayatan.edu.in

Abstract

The most prevalent endocrine condition, diabetes mellitus, disrupts glucose homeostasis and causes serious consequences such as retinopathy, angiopathy, nephropathy, and neuropathy, which disrupts glucose utilisation and results in neurological diseases. The disease develops if the pancreases does not make enough insulin or the cells in the muscles, liver and fat do not use insulin properly, or both. Over the passage of time, high blood glucose, also called hyperglycemia, damages nerve and blood vessels, which can lead to complications such as heart disease, stroke, kidney disease, blindness, nerve problems, gum infection and amputation. A large number of plant preparations have been reported to possess antidiabetic activity over last several decades. Of all the plants, *Ricinus communis*, also known as castor, has the highest traditional and therapeutic value for preserving a healthy, disease-free life. Although the plant has many medicinal benefits, it is traditionally used as a laxative, purgative, fertiliser, fungicide, and other such applications. Additionally, the plant has anti-oxidant, antihistamic, antinociceptive, antiasthmatic, antiulcer, immunomodulatory, antidiabetic, hepatoprotective, antifertility, anti-inflammatory, antimicrobial, central nervous system stimulant, lipolytic, wound healing, insecticidal, and larvicidal qualities. The presence of significant phytochemical elements such as flavonoids, saponins, glycosides, alkaloids, and steroids among others accounts for this plant's effectiveness.In the current work, wistar rat models were given alloxan monohydrate to induce diabetes. Traditional medicine has asserted that *Ricinus communis* Linn. hasantidiabetic qualities. The goal of this study was to evaluate the hypoglycemic potential of a 50% ethanolic extract of *Ricinus communis* leaves. At 200 and 400 mg/kg of the 50% ethanolic extract, there was a noticeable dose-dependent drop in blood glucose levels. In addition, compared to diabetes control, it reduced lipid markers including total cholesterol, LDL, HDL, VLDL, and TG. Higher doses of extract were observed to decrease other biochemical markers like urea and creatinine, which were found to be dosage dependent.Blood sugar levels, body weights, and several biochemical indicators were also measured and recorded at predetermined intervals. The pancreas was histologically examined. The statistical data showed that blood glucose, serum triglycerides, total cholesterol, and body weight had all significantly increased. The use of extract dramatically raised the amount of HDL cholesterol. Histologically, the diabetic rat pancreas showed signs of localised necrosis, which were less pronounced in the treated groups. The RCLE helps rats given alloxan by lowering their blood glucose levels, body weight fluctuations, and lipid profiles.

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SPIRULINA: AN *EXCELLENT NUTRITIONAL SUPPLEMENT GOOD FORHEALTH BENEFITS*

Rakesh Kumar Sharma[1], Reetesh Yadav[2], Balwinder Kaur[3]
[1]Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
Email: rakesh.sharma_ibmer@mangalayatan.edu.in

Abstract
The nutrient-dense blue-green algae spirulina has recently come into the spotlight as a possible dietary supplement for better health. Supplementing with spirulina has several health advantages, and this review compiles the latest studies on the subject. Protein, vitamins, minerals, and antioxidants are abundant in spirulina, according to studies. Numerous health advantages have been linked to its use, including as bolstering the immune system, increasing antioxidant activity, promoting cardiovascular health, controlling blood sugar, and enhancing muscle strength. Additionally, the chlorophyll concentration of spirulina gives it detoxifying qualities, which may add to its health-promoting effects generally. Because of its effects on metabolic processes and its ability to make people feel full for longer, spirulina may also be useful for weight management, according to research. Nevertheless, further research is needed to clarify how spirulina helps the body and what dosage is best for certain health problems. In conclusion, spirulina is an intriguing dietary supplement with the potential to greatly benefit health and wellbeing.

Keywords: Spirulina, blue-green algae, nutritional supplement, health benefits, antioxidants, anti-inflammatory, immune modulation.

Introduction

Various tribes throughout the globe have been consuming spirulina, a kind of cyanobacteria or blue-green algae, for generations. Its possible health advantages and nutrient-rich profile have led to its rising popularity as a dietary supplement in recent years. Because of its favorable pH and high light requirements, spirulina is a widespread aquatic plant in many freshwater bodies of water, including rivers, ponds, and lakes. For human consumption, it is gathered and transformed into powder, pills, and capsules, among other forms.

Cultivating spirulina

To cultivate spirulina, one must provide the blue-green algae with an environment that is conducive to its development and reproduction. The following is a rundown of the fundamental procedures for growing spirulina:

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IMPACT OF PLATELET-RICH PLASMA INJECTIONS ON PATIENTS WITH OSTEOARTHRITIS

Vivek Chaurasia[1], Shubham Sharma[2], Sandeep Kumar Kurmi[3], Suraj Sharma[4]

[1]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP, India
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: shubham.skdm@gmail.com

Abstract:

There are several therapeutic options for knee osteoarthritis, including medical treatment using NSAIDs, conservative management using platelet-rich plasma (PRP), and corticosteroids. This prospective study was conducted to investigate the utilisation and safety of platelet-rich plasma (PRP) injections in individuals with knee osteoarthritis (KOA). This study aims to assess the clinical and functional result of platelet-rich plasma (PRP) in knee osteoarthritis (KOA) by analysing existing literature.

This study was conducted with a cohort of 96 participants who were diagnosed with knee osteoarthritis. Both genders are encompassed. An intra-articular injection of platelet-rich plasma (PRP) was administered under sterile settings, and the clinical and functional outcomes were evaluated using the Western Ontario and McMaster University Arthritis Index (WOMAC), Visual Analogue Scale (VAS), and Knee Society score (KSS). This investigation was conducted at a tertiary care institute throughout the designated study period. The majority of patients were females over the age of 40 with knee osteoarthritis. The administration of platelet-rich plasma (PRP) injections resulted in notable improvements in WOMAC scores, Visual Analogue Scale (VAS), and Knee Society score (KSS) at three, six, and twelve months of follow-up. No adverse events were detected during the follow-up period.

The results validate the effectiveness of PRP injections for treating Knee osteoarthritis. They indicate that a reduction in pain was achieved one month after the injection, with the most favourable outcomes reported after 12 months. However, a larger study population is needed to further investigate this. Continued monitoring is necessary over an extended duration to evaluate the effectiveness of PRP injection.

Keywords: Knee osteoarthritis, Knee injection, Platelet-rich plasma (PRP), Cartilage, Biologic therapy

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NUCLEAR MEDICINE AND ARTIFICIAL INTELLIGENCE: A BOON FOR CANCER PATIENTS

Priyanshi Goyal[1], Pankaj Tiwari[2], Ananga Mohan Das[3]

[1]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: priyanshi.goyal@mangalayatan.edu.in

Abstract:
Artificial intelligence is becoming more prominent in diverse areas of medicine. The field of nuclear medicine is on the verge of a revolution with the imminent integration of artificial intelligence technologies, which will greatly enhance the clinical workflow. Research findings suggest an increasing dependence on artificial intelligence in the domain of nuclear medicine, particularly in the automation of specialised jobs. Artificial intelligence has greatly contributed to the progress of imaging-related activities in nuclear medicine, such as optimising dosage, correcting images, and reconstructing images.

Keywords: Cancer; PET; Quality control; Deep learning; genomics

Introduction:

Artificial intelligence (AI) is a swiftly progressing power that has the capacity to transform multiple facets of human existence [1]. Precision medicine, like pharmacology, emphasises the development of individualised diagnostic and treatment approaches for every patient. Integrating artificial intelligence (AI) is essential for attaining accuracy in precision medicine within the domain of nuclear medicine (NM) and molecular imaging [2]. Artificial intelligence (AI) is widely employed in the domains of molecular imaging and nuclear medicine (NM) to accomplish a multitude of objectives. These encompass image planning, acquisition, processing, interpretation, diagnosis, prognosis, and therapy response prediction [3]. By examining previous research conducted on the same patient [4], AI can evaluate the reasoning behind a requested operation, identifying potential issues based on the patient's allergy history and prescription interactions, and preventing unnecessary duplication. It is critical to conduct daily quality control (QC) on NM scanners to guarantee their optimal performance. This feature allows for prompt service requests to be initiated in the event of an error, thereby ensuring the excellence and integrity of the images. The duration of quality control for NM/PET scanners might vary, ranging from 30 minutes to 3 to 4 hours. Furthermore, there can be situations where imaging services are not easily accessible. The QC data is efficiently gathered using a sophisticated AI-powered scanner during non-working hours and readily saved in the acquisition terminal. This enables the technician to conveniently examine and approve the information, thereby conserving crucial time. Quality control solutions powered by artificial intelligence can substantially increase the productivity

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POLYPHARMACY AMONG THE ELDERLY POPULATION: A COMPREHENSIVE REVIEW STUDY

Yadvendra Singh Thenuan[1], Rojalini Samanta[2], Ananga Mohan Das[3], Pranal Chhetri[4]
[1]Assistant Professor, MIPER, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: yadvendra.thenuan@mangalayatan.edu.in

Abstract:
The senior population, consisting of individuals aged 65 years and older, is on the rise. As a result, the occurrence of multiple health conditions in this age group has also increased, giving rise to a phenomenon called polypharmacy. This term refers to the act of taking multiple medications at the same time, sometimes more than what is medically required. This practice is quite common, but it presents several concerns and difficulties, especially when it comes to the elderly. This article explores the topic of polypharmacy in the geriatric population, including its causes, consequences, and potential ways to address it, with a particular emphasis on the Indian context.

Introduction:
The consumption of five or more medications per day is generally referred to as polypharmacy. Nevertheless, this definition does not have unanimous acceptance, as different thresholds are employed in different studies. The concept only considers the number of medications, without considering the clinical indications and conditions experienced by the patients [1]. The intricacy of overseeing various prescriptions heightens the likelihood of unfavorable drug occurrences and medication interactions, especially among the elderly demographic. Polypharmacy may arise from a multitude of factors, encompassing the management of many chronic ailments, the utilization of non-prescription drugs, and the prescription of superfluous or redundant prescriptions.
The susceptibility of older people to polypharmacy is heightened by the elevated occurrence of chronic illnesses and age-related alterations in drug metabolism and clearance. With advancing age, the liver and kidneys may see a loss in function, which can impact the body's capacity to process and excrete medications. Furthermore, it is worth noting that older individuals may encounter the challenge of having several healthcare professionals who may prescribe prescriptions without possessing a comprehensive awareness of the patient's entire pharmaceutical regimen. These characteristics are influential in the heightened susceptibility to polypharmacy among the elderly demographic.

Global Polypharmacy Scenario:
Due to the growing number of older people, polypharmacy has become more common around the world. Studies have shown that older adults typically take between two and nine medications each day [2]. The Journal of the American Geriatrics Society published a study that reveals that over 39% of elderly individuals in the United States consume five or more

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CHITOSAN/POLYMERS-IMPREGNATED MUCOADHESIVE FILM FOR EXTENDED DRUG RELEASE OF 5-FLUOROURACIL: *IN VITRO* STUDIES

Rahul Kumar Singh[1], Sailesh Narayan[2], Brishnendra Mishra[3], Swarnim Rai[4], Reena Singh[5]
[1]Associate Professor, Department of Pharmacy, IBMER, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Associate Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
[5]Assistant Professor, Department of Pharmacy, Shri Babulal College of Pharmacy, Goverdhan, Mathura
Email: rahul.singh1918@mangalayatan.edu.in

ABSTRACT:

When we deal with carcinoma with 5-fluoro Uracil's chemotherapy, there are two major problems faced by patients, first is to deal with uncountable side effects, out of which some are life-threatening and generally based on the drug concentration, second is patients non-compliances especially in the case of pediatric patients, most of the conventional formulation is not specialized to deal with these type of problems. That's why nowadays great demand for dosage form which not only able to reduce the side effect based on toxicity but should be on a path of patients' satisfaction. To reduce dose-related toxicity and side effects we generate a mucoadhesive film to modify the drug release pattern for the reduction in dosing frequency and dose-related side effects. In this study total, six-film was prepared, characterized and evaluated on the basis of different parameter which is based on different concentration of Hydroxypropyl methylcellulose (HPMC), Chitosan and polyethylene glycol 4000 (PEG-4000). Out of which formulation F-1 selected as the best formulation on the basis of % drug content (96.326± 1.0), % Swelling index (34.33± 0.62), residential time (402.666±5.55), in-vitro mucoadhesion (2000.8±16.168), and in-vitro drug release (97%). In the end, one can conclude that film is a better option in the case of cancer treatment as it is able to provide continuous drug release in a sustained manner which helps in the reduction of dose-related side effects and toxicity with patients' compliance.

KEYWORDS:5-fluoro Uracil,Mucoadhesive film, Sustained release, Hydroxy propyl methyl cellulose (HPMC)

1. INTRODUCTION:

The 5-Fluorouracil drug belongs to the antimetabolite family of the drug, this drug mainly works against blocking the enzyme name thymidylate synthase because of which conversion

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SOCIOLOGICAL ASPECTS OF CRIME: UNDERSTANDING CAUSES, CONSEQUENCES, AND RESPONSES

Vikas Sharma[1], Shiv Prakash Singh[2], Pankaj Choudhury[3], Aishwarya Sharma[4]
[1]Assistant ProfessorInstitute of Legal Studies and Research, Mangalayatan University, Aligarh, U.P.
[2]Associate Professor, Faculty of Legal Studies, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Law, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor,Department of Legal Studies, Mangalayatan University, Jabalpur, M.P.
Email: vikas.sharma@mangalayatan.edu.in

Abstract:

For millennia, crime has been a complex social phenomenon that has captivated scientists, legislators, and society as a whole. This research paper explores the sociological dimensions of crime, with the goal of offering a thorough comprehension of its origins, outcomes, and society reactions. This article utilizes a comprehensive approach that incorporates several fields such as sociology, criminology, psychology, and public policy. It combines current research and theoretical frameworks to provide insight into the intricate relationship between social conditions and criminal behaviours. This article examines the influence of social structures, cultural norms, socialization processes, and institutional elements on crime and deviance patterns by analysing sociological theories, empirical research, and case examples. This article explores the many repercussions of crime on individuals, societies, and communities, with a particular focus on the psychological, economic, and social implications. This article provides an analysis of sociological viewpoints about crime prevention and control. It explores various techniques such as social intervention programs, community policing tactics, restorative justice approaches, and structural interventions that seek to tackle fundamental social disparities. This research article is to provide policymakers, practitioners, and researchers with a comprehensive understanding of the sociological aspects of crime. Its objective is to assist them in comprehending, tackling, and reducing the effects of crime on individuals and communities.

1. Introduction

The discipline of sociology pertaining to crime comprises a wide range of research that aims to comprehend the intricate dynamics between people, social institutions, and societal norms in influencing criminal conduct. In contrast to conventional methodologies that frequently concentrate exclusively on human attributes or legal delineations of criminal behaviour, sociological viewpoints provide a more comprehensive framework for analysing the intricate

THE IMPACT OF SOCIAL MEDIA ON CONSUMER BUYING DECISIONS

Md Saifullah Khalid1, Shalu Agrawal2, Nyarik Geyi3, Jai Anand Shukul4, Vipul Jain5

Keywords: Social Media, Consumer Behavior, Buying Choices and Influence Marketing Strategies

Abstract

Social media has become a vital element of everyday life, impacting communication, entertainment, and, most importantly, consumer behavior. This article intends to investigate the multidimensional impact of social media on consumer purchasing decisions. This study examines the methods by which social media platforms influence consumer decision-making processes. Furthermore, it addresses the obstacles and opportunities presented by social media marketing methods, as well as the implications for firms seeking to effectively exploit these platforms.

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ENZYME-LINKED IMMUNOSORBENT ASSAY (ELISA): PRINCIPLES, METHODS, AND APPLICATIONS

Rakesh Kumar Sharma[1], Reetesh Yadav[2], Balwinder Kaur[3]
[1]Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, UP
[2]Associate Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Professor, Faculty of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
Email: rakesh.sharma_ibmer@mangalayatan.edu.in

Abstract:
Enzyme-Linked Immunosorbent Assay (ELISA) is a widely used biochemical technique for the detection and quantification of proteins, peptides, antibodies, hormones, and other molecules. This article provides a comprehensive review of the principles, methods, and applications of ELISA in biomedical research, diagnostics, and pharmaceutical development. It discusses the underlying principles of ELISA, including antigen-antibody interactions, enzyme amplification, and colorimetric detection. Furthermore, various ELISA formats, such as direct, indirect, sandwich, and competitive ELISA, are described along with their advantages and limitations. The article also covers the experimental procedures involved in performing ELISA, including antigen/antibody coating, blocking, incubation, washing, and detection. Moreover, recent advancements and modifications in ELISA techniques, such as multiplex ELISA and microarray-based ELISA, are discussed. Finally, the applications of ELISA in areas such as clinical diagnostics, infectious disease surveillance, drug development, and environmental monitoring are highlighted, emphasizing its importance and versatility in biomedical research and healthcare.
Keywords: ELISA, enzyme-linked immunosorbent assay, principles, methods, applications, biomedical research, diagnostics, pharmaceutical development.

1. Introduction

Enzyme-Linked Immunosorbent Assay (ELISA) is a highly sensitive and specific biochemical technique that utilizes the principles of antigen-antibody interactions for the detection and quantification of target molecules in biological samples. First developed by Engvall and Perlmann in 1971, ELISA has since become one of the most widely used immunoassay methods in research laboratories, clinical diagnostics, and pharmaceutical industries due to its simplicity, versatility, and high throughput capabilities.

2. Principles of ELISA

Antigen-Antibody Interaction:

ELISA relies on the highly specific binding between an antigen and its corresponding antibody.

The antigen of interest is immobilized onto a solid surface, typically the wells of a microplate.

Upon addition of the sample containing the target antigen, the antigen binds to the immobilized antibody, forming an antigen-antibody complex.

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REVOLUTIONIZING PHARMA AND HEALTHCARE: THE POWER OF ARTIFICIAL INTELLIGENCE

Yadvendra Singh Thenuan[1], Rojalini Samanta[2], Ananga Mohan Das[3], Pranal Chhetri[4]
[1]Assistant Professor, MIPER, Mangalayatan University, Aligarh, Uttar Pradesh
[2]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, College of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: yadvendra.thenuan@mangalayatan.edu.in

Abstract
Clinical trials are being transformed by advancements in artificial intelligence (AI). This can also assist scientists in the discovery and development of drugs for diagnosing diseases. The potential of artificial intelligence to revolutionize the pharmaceutical and healthcare industries is immense. The significance of AI in clinical research and drug development cannot be overstated. Artificial intelligence has the potential to greatly benefit healthcare professionals by enabling them to make better decisions, enhance patient outcomes, and alleviate the administrative workload. Artificial intelligence enables healthcare professionals to prioritize personalized care and foster stronger patient-doctor relationships. The potential of AI to revolutionize research, medicine development, and patient care lies in its remarkable ability to analyze extensive data, detect patterns, and make accurate predictions. It is important to acknowledge the challenges and issues that come with implementing AI, such as ethics, data protection, and integration with existing healthcare systems.
Keywords: artificial intelligence, clinical trials, drug development, disease diagnosis, and ethics.

INTRODUCTION

Artificial intelligence (AI) has revolutionized numerous industries, including the fields of pharma and healthcare. The pharmaceutical industry has been greatly impacted by the revolutionary advancements of artificial intelligence (AI) in the drug discovery and development process [1]. The potential to revolutionize the industry is enormous, creating an exhilarating time for researchers, doctors, and patients alike. The use of AI algorithms enables the analysis of large volumes of data, the detection of patterns, and the prediction of outcomes. This, in turn, helps to speed up the drug development process and lower expenses [2]. AI can enhance drug delivery dosage form designs and testing, resulting in improved efficiency and effectiveness in drug development [3]. The FDA acknowledges the significant potential of AI in drug development and actively promotes its integration throughout the drug development life cycle [4]. The application of AI in drug discovery and development has the potential to revolutionize the pharmaceutical industry, resulting in accelerated and streamlined drug development processes and enhanced patient outcomes.

AI has made significant contributions to personalized medicine and treatment [5]. Through

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RECENT OPPORTUNITIES AND BIOMEDICAL APPLICATIONS OF 3D PRINTING IN HEALTHCARE

Pankaj Tiwari[1], Priyanshi Goyal[2], Franco Gohain[3]

[1]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, School of Pharmacy, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
Email: pankaj21757@gmail.com, priyanshi.goyal@mangalayatan.edu.in

Abstract:
The industrial age has introduced novel advancements, including 3D printer technology. For numerous years, it has been a part of our existence. It is booming and is utilised in numerous industries, including the aviation and defence sectors. Recently, there has been a notable trend towards favouring this miraculous manufacturing technique for medical applications. Several methods of 3D printing are discussed, along with the biomedical applications of this technology, which are all introduced in this study. A comparison has been made between this novel approach and conventional methods currently employed in the biomedical field, with an emphasis on the utilisation of 3D printing in surgery, the pharmaceutical industry, disease modelling, the development of customised implants and prostheses, organ printing, veterinary medicine, and tissue engineering. Furthermore, forthcoming prospects that are anticipated to attain extensive development are incorporated into this study.

Keywords: MRI, CT Scan, Bioprinting, Biomedicine, 2-D Printing

Introduction:

Presently, 3D printing technology offers substantial potential to assist pharmaceutical and medical enterprises in the development of more targeted medications, expedite the manufacturing of medical implants, and revolutionise the approach taken by physicians and surgeons in devising surgical procedures [1]. This technology possesses a wide range of applications, with the most rapidly expanding advancement in the medical domain being the introduction of 3D printing [2]. There are five technical stages involved in the completion of a printed model. The procedures encompass the following: determining the anatomical target region, establishing the three-dimensional geometry by analysing medical images obtained from a CT or MRI scan, optimising the file for physical printing, and choosing the most suitable 3D printer and materials (Figure 1). This file serves as the printing instructions by "slicing" the digital design model into cross-sectional sections. The 3D printer then constructs the object by constructing a series of layers on top of the base layer, "sliced" design, until the object is entirely composed of the basic materials required for its construction. Finally, a patient-specific model with anatomical fidelity is derived from an imaging dataset. By leveraging this technology, 3D printing could substantially enhance the expertise and knowledge of upcoming surgeons in the field of research, foster a closer relationship between patients and physicians [3], deepen comprehension of the underlying diseases, enable the

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SIMULTANEOUS SACCHARIFICATION AND CO-FERMENTATION OF PADDY STRAW USING CELLULOLYTIC ENZYMES AND THERMOTOLERANT YEAST

Soni Singh[1], Rojalini Samanta[2], Brishnendra Mishra[3], Swarnim Rai[4]
[1]Assistant Professor, Department of Biotechnology and Life Sciences, Mangalayatan University, Aligarh, U.P., India
[2]Assistant Professor, Department of Pharmacy, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Faculty of Pharmacy, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Collage of Pharmacy, Sikkim Professional University, Gangtok, Sikkim
Email: singh.sonia0001@gmail.com

ABSTRACT
Paddy straw, an abundant agricultural residue, holds significant potential as a feedstock for bioethanol production due to its high cellulose content. Simultaneous saccharification and co-fermentation (SSCF) is an efficient strategy for bioethanol production, wherein cellulose hydrolysis and fermentation occur simultaneously. In this study, we investigate the SSCF of paddy straw utilizing cellulolytic enzymes and a thermotolerant yeast strain. The enzymatic hydrolysis of cellulose is carried out by commercial cellulase enzymes, while fermentation is conducted by a robust thermotolerant yeast strain capable of withstanding high temperatures. Optimization of process parameters such as enzyme loading, temperature, pH, and yeast inoculum size is crucial for enhancing ethanol yield and productivity. Additionally, the effect of various pretreatment methods on saccharification efficiency is evaluated to improve the accessibility of cellulose to enzymatic action. The performance of the SSCF process is assessed in terms of ethanol yield, fermentation efficiency, and overall process economics. The findings of this study contribute to the development of sustainable bioethanol production from agricultural residues, thereby addressing both environmental concerns and energy security.
Keywords: Simultaneous saccharification and co-fermentation, paddy straw, cellulolytic enzymes, thermotolerant yeast, bioethanol production, pretreatment, process optimization

INTRODUCTION

Lignocellulosic biomass refers to the complex structural components found in plant cell walls, primarily composed of cellulose, hemicellulose, and lignin. It is abundant and widely available from various sources including agricultural residues (such as crop residues like paddy straw, corn stover, and wheat straw), forestry residues, dedicated energy crops (like switchgrass and miscanthus), and municipal solid waste.

The utilization of lignocellulosic biomass as a feedstock for bioethanol production holds great promise due to several key advantages:

Abundance: Lignocellulosic biomass is a renewable resource that is abundantly available worldwide. Its widespread availability reduces competition with food crops, alleviating concerns about food security and land-use conflicts.

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GREEN HRM - AN EMERGING TREND IN HR PRACTICES

Arvind Hans[1], Unnati Jadon[2], Prakash Divakaran[3], Prakash Mishra[4]
[1]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
Email: arvind@umu.ac.in

ABSTRACT

Green HRM refers to the implementation of Human Resource Management strategies that aim to encourage the responsible and efficient utilization of resources in commercial organizations. Additionally, it supports the broader objective of environmental sustainability. The purpose of the study is to investigate the implementation of Green Human Resource Management practices in organizations and advocate for the importance of aligning human resource management principles with the objectives of green management in an organization. This strategy is descriptive and relies on the analysis of both primary and secondary data. Green HRM refers to the comprehensive set of activities that assist an organization in implementing its environmental management agenda, specifically in reducing its carbon footprint. These activities focus on various aspects of human resource management, including the recruitment and onboarding of employees, their orientation and training, performance evaluation and management, as well as compensation and reward systems. Effective implementation of green HRM is the only way to achieve this within the organization. Implementing these strategies would lead to enhancing employee attitudes and behaviors inside the organization.

Key Words:Green HRM, compensation and reward systems, environmental sustainability

INTRODUCTION

Corporate entities have increasingly focused on environmentalism on a worldwide scale, prompted by international treaties and the environmental damage caused by notable industrial mishaps that have resulted in loss of life and injury, as well as efforts to combat climate change. Due to the detrimental effects of industrial pollution and waste materials, such as toxic chemicals, governments and non-governmental organizations worldwide have implemented regulations and policies to mitigate and potentially reverse the depletion of natural resources and its adverse impact on humanity and society as a whole (Christmann & Taylor, 2002; Shrivastava & Berger, 2010). Within the subject of management, there is an

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EVALUATING ASSISTIVE TECHNOLOGY FOR PEOPLE WITH VARIOUS DISABILITIES: A SYSTEMATIC ANALYSIS

Sanjay Pal[1], Sangita Kujur[2], Laxmi Rana[3], PemaWangden Bhutia[4]

[1]Assistant Professor, Institute of Education and Research, Mangalayatan University, Aligarh, U.P.
[2]Assistant Professor, Department of Physiotherapy and Paramedical Sciences, Usha Martin University, Ranchi, Jharkhand
[3]Associate Professor, Department of Nursing, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, Collage of Nursing, Sikkim Professional University, Gangtok, Sikkim
Email: sanjay.pal@mangalayatan.edu.in

Abstract
Assistive technology (AT) has emerged as a pivotal tool in promoting independence, inclusion, and quality of life for individuals across the disability spectrum. This review aims to provide a comprehensive overview of assistive technology solutions tailored to meet the diverse needs of individuals with disabilities. Drawing upon a wide range of research articles, reviews, and case studies, this paper examines the effectiveness, usability, and impact of various assistive technology interventions across different disability categories, including physical, sensory, cognitive, and developmental disabilities. Key themes explored include accessibility features in mainstream technologies, specialized assistive devices, communication aids, mobility aids, environmental control systems, and cognitive support technologies. Additionally, the review discusses emerging trends such as wearable technologies, robotics, and artificial intelligence in the field of assistive technology. Through synthesizing existing literature, this review aims to inform practitioners, researchers, and policymakers about the current state of assistive technology solutions and identify areas for future research and development.

Keywords: Assistive technology, Disability, Accessibility, Inclusion, Usability, Communication aids, Mobility aids, Cognitive support, Wearable technologies, Artificial intelligence.

Categories of Assistive Technology:

Assistive technology (AT) encompasses a diverse range of tools, devices, and systems designed to enhance the functional abilities and independence of individuals across the disability spectrum. This comprehensive review categorizes assistive technology solutions based on the specific needs of individuals with various types of disabilities, including physical, sensory, cognitive, and developmental disabilities. By organizing AT solutions into distinct categories, this review aims to provide a structured overview of the diverse range of technologies available to support individuals with disabilities in different aspects of their lives.

1. Physical Disabilities:

Physical disabilities refer to impairments that affect a person's mobility, dexterity, stamina, or physical functioning. These disabilities can result from various factors, including congenital conditions, injuries, illnesses, or age-related changes. Physical disabilities can range from mild to severe and may be temporary or permanent. Some common types of physical disabilities include:

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ARTIFICIAL NEURAL NETWORK-SUPERVISED CONTROL OF AN INVERTED PENDULUM SYSTEM WITH CHANGING SYSTEM PARAMETERS AS WELL AS EXTERNAL DISTURBANCE

Dheeresh Upadhyay [1] and Lokesh Kumar[2]
[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
Email: dheeresh.upadhyay@mangalayatan.edu.in, lokesh@umu.ac.in

Abstract—This study presents the application of an artificial neural network (ANN) as an artificial intelligence (AI) approach to regulating a non-linear inverted pendulum (IP) system. The ANN controller is built using the following specifications: The network type is a three-layered feed-forward network (FFN) with input, hidden, and output layers. Training is carried out using the "Trainlm" network function, which changes the weight and bias states using the Levenberg-Marquardt (LM) back-propagation technique. The topic of "parameter variations" is the main focus of the research. When specific uncertainties are added to the nonlinear IP model in this way, the experimental results demonstrate how effectively the system handles such uncertainties.

Keywords: Artificial Neural Network (ANN), Feed-Forword Network (FFN), Levenberg Marquardt (LM), Inverted Pendulum (IP), Artificial Intelligence (AI).

1. Introduction

The inverted pendulum is a well-known example of an unstable nonlinear dynamic system. Therefore, there has been significant focus on improving its solution and addressing other control challenges of a similar nature. The vast increase in research articles produced in the field of process control engineering demonstrates the growing importance that nonlinear system control now holds. Artificial neural networks have proven to be effective tools for handling a variety of difficult controls, mapping issues, pattern recognition, signal processing, and image processing, among other uses. Neural networks have effectively recognized and managed dynamic systems due to their ability to learn and handle noisy or inaccurate input [1]. Because of its universal approximation capabilities, the multilayer perceptron is a popular choice for modeling nonlinear systems and constructing general-purpose nonlinear controllers. As suggested in [2], we gather training data using a traditional controller to create a neural network controller for an inverted pendulum system. A multilayer neural network has one or more hidden layers, one or more layers for inputs and outputs, and one or more neurons per layer.The linking weights are modified by

the algorithm for back propagation. With a short learning curve, it can operate a variety of systems with flawless performance. Ni's (1996) suggested technique for the identification and control of nonlinear dynamic systems used a recurrent model as the identifier [3]. A back-

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ARTIFICIAL NEURAL NETWORKS: A REVIEW STUDY

Dheeresh Upadhyay[1] and Lokesh Kumar[2]

[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
[2]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
Email: dheeresh.upadhyay@mangalayatan.edu.in, lokesh@umu.ac.in

1. INTRODUCTION

Non-linear mapping structures called artificial neural networks (ANNs) are modelled after the way the human brain operates. They are effective modelling tools, particularly in situations where the underlying data link is unclear. Correlated patterns between input data sets and matching target values can be found and learned by ANNs. ANNs may be used to forecast the results of fresh, independent input data after they have been trained. Artificial neural networks (ANNs) can analyze issues involving non-linear and complicated data, even if the data are noisy and inaccurate, by mimicking the learning process of the human brain. As a result, they are perfect for modelling agricultural data, which is known to be intricate and frequently non-linear. Artificial neural networks (ANNs) have significant potential in predictive modelling. This means that once trained ANNs are given all the characteristics characterizing an unknown condition, agriculture system prediction is assured. An ANN is a type of computational structure that draws inspiration from processes seen in biological neurons in natural networks found in the brain. It is made up of closely linked neurons, which are basic computing units. The simplicity with which they can handle complex issues and their broad variety of applications have drawn a lot of attention to artificial neural networks (ANNs). ANNs are models of parallel computing made up of highly linked adaptive processing units. These networks are parallel, fine-grained applications of dynamic or nonlinear static systems. These networks' adaptive nature, which substitutes "learning by example" for "programming" in problem resolution, is a crucial component. Such computational models are highly attractive in application areas where training data is easily accessible, but one has little or no understanding of the problem to be solved because of this property. While regression models and other comparable statistical approaches have historically been used in the field of classification and prediction, ANNs are presently gaining more and more recognition in this domain. The backpropagation algorithm is the ANN learning algorithm that is most frequently employed. ANNs come in a variety of forms, including Kohonen, radial basis functions, and multilayeredperceptrons. These networks are referred to as "neural" in the sense that, while they may not be exact replicas of actual brain or cognitive processes, they may have been motivated by neuroscience. In actuality, the bulk of the network bears a closer resemblance to classical mathematics and/or statistical models than to models of neurobiology. Examples of these

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EVALUATION OF ALGORITHMS TO IMPROVE BLOOD GLUCOSE LEVEL CONTROL

Lokesh Kumar [1] and Dheeresh Upadhyay[2]
[1]Assistant Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
Email: dheeresh.upadhyay@mangalayatan.edu.in, lokesh@umu.ac.in

ABSTRACT-In this study; we examine recently suggested sophisticated strategies based on a variety of approaches to enhance blood glucose regulation in type 1 diabetic patients without raising their risk of hypo- or hyperglycemia. We present an overview of research advancements based on predictive control, statistical procedures, filters, and machine learning, as well as type 1 diabetes and the artificial pancreas. Blood glucose levels can be successfully managed using conventional techniques, but novel strategies based on machine learning algorithms show promise.

Index Terms-Artificial pancreas, model predictive control, PID controls, neural networks, machine learning, Kalman filter, continuous glucose monitoring, type 1 diabetes.

I. INTRODUCTION

An autoimmune condition known as type 1 diabetes mellitus (T1DM) results in the death of pancreatic β-cells, which are in charge of producing the hormone insulin peptide, which is necessary to regulate blood glucose (BG) levels. Because they are unable to produce insulin internally, patients with type 1 diabetes need to be given it externally. External administration is not without risk, though. Exercise and insulin treatment, for instance, can cause hazardous hypoglycaemia. Insulin should generally be used with caution as it might result in hypoglycaemia (BG < 70 mg/dL), which can cause a patient to potentially go into a coma, have a seizure, or possibly pass away. Persistent hyperglycemia (BG > 180 mg/dL) brought on by under dosing may potentially result in long-term consequences such neuropathies, nephropathy, or cardiovascular disorders [1].

The artificial pancreas (AP) is essentially a closed-loop glucose controller that consists of a wearable insulin pump that distributes insulin in response to BG levels measured by a Continuous Glucose Monitoring (CGM) system. The CGM device, which detects the blood glucose levels, is in communication with a continuous subcutaneous insulin infusion (CSII) pump [2]. The pump uses a control algorithm to determine the right dose of insulin and then releases it into the patient's bloodstream.

Studies have indicated that AP may be able to better regulate blood glucose levels and lower the risk of hypoglycemia than open-loop control, the traditional insulin treatment. However, there are a lot of obstacles to take into account while creating AP algorithms.

A number of variables, including dietary modifications, unexpected physical activity, alcohol intake, circadian rhythm, long-term metabolic fluctuations, menstrual cycle, and insulin sensitivity, might interfere with the metabolic glucose process [3]. Moreover, unknown analytical relationships between changed parameters and measured values, security concerns,

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IMPACT OF ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT

Anurag Shakya[1], Anupama Verma[2], Somya Bansal[3], Chiya Mihu[4], Prakash Mishra[5]

[1]Professor, Institute of Business Management and Commerce Mangalayatan University, Aligarh, UP
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Management, Mangalayatan University, Jabalpur, MP
Email: anurag.shakya@mangalayatan.edu.in

ABSTRACT

A major factor propelling innovation in today's fast-paced digital scene is the use of AI across several businesses. Artificial intelligence (AI) is having a significant effect on human resources (HR). Organizations may boost productivity, decision-making abilities, and HR procedures by using AI technology. This essay delves at the impact of AI on human resources and how it may shape the workforce of the future.

Defining human resources (HR) is a prerequisite to exploring how AI will affect HR. A company's strategy for managing and optimizing its staff is known as human capital management. Recruitment, onboarding, development and training, performance management, pay and benefits, employee relations, and workforce planning are all parts of it. Maximizing the value of individuals as assets to enhance corporate productivity and competitiveness is the core purpose of human resources.

Keywords:
Artificial intelligence, Human resources, Recruitment, Decision-making

Introduction:

The goal of artificial intelligence (AI) research in computer science is to program computers to mimic human intellect in order to do hitherto human-only jobs. Among these activities are the following: learning, thinking, seeing, interpreting language, and making decisions. Machine learning systems may be programmed to do tasks normally performed by people or to work in tandem with them.

Artificial intelligence comes in several forms, such as:

Narrow AI, often called Weak AI, is purpose-built and -trained to do a single, specific job. Software for picture categorization, voice recognition, and recommendation engines are a few examples.

Machines that can reason and reason like humans are called general artificial intelligence (AI), strong AI, or artificial general intelligence (AGI). In theory, a general artificial intelligence system might learn and comprehend whatever a person could.

A hypothetical degree of artificial intelligence that outperforms humans in every possible way is known as superintelligent AI. When people talk about AI's future, this is something that comes up often.

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IMPACT AND CHALLENGES OF IMPLEMENTATION OF GST ON E-COMMERCE SECTOR

Arvind Hans[1], Anuarg Shakya[2], Somya Bansal[3], Chiging Yamang[3], Shivangi Dwivedi[5]
[1]Associate Professor, Faculty of Business Management & Commerce, Usha Marti University, Ranchi, Jharkhand
[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP\
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[5]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP
Email: arvind@umu.ac.in, anurag.shakya@mangalayatan.edu.in

ABSTRACT

The Goods and Service Tax (GST), recognized for its potential to significantly impact the Indian economy, is poised to bring about a transformative transformation. Overall, it is widely recognized that it is advantageous for both consumers and businesses.
The term "government" refers to the system or group of individuals that have the authority to make and enforce laws and regulations within a particular country or region.</text India imposes several indirect taxes on products and services, which are levied by both the national and state governments. The purpose of GST is to consolidate all these taxes into a single tax, allowing for smooth input tax credit, and applying to both goods and services. Therefore, excise duty, special extra duty, service tax, and VAT, among others, would be abolished and incorporated into the GST. The Goods and Services Tax (GST) will consist of three components: Central Goods and Services Tax (CGST), State Goods and Services Tax (SGST), and Integrated Goods and Services Tax (IGST). The national taxes, such as excise duty, will be included into the national Goods and Services Tax (CGST), while state taxes, such as Value Added Tax (VAT), would be incorporated into the State Goods and Services Tax (SGST). All transactions of goods and services will be subject to a single tax, namely the Goods and Services Tax (GST), which includes both the Central Goods and Services Tax (CGST) and the State Goods and Services Tax (SGST). Interstate transactions would be subject to the application of IGST instead of SGST. The credit for these taxes may be used to offset the corresponding outputs.
E-commerce refers to any kind of commercial activity that takes place via internet transactions. E-commerce offers customers several advantages, including the availability of items at reduced prices, a broader range of choices, and time savings. E-commerce may be divided into two main categories: Electronic merchandise: Electronic finance. E-commerce is the practice of doing business utilizing contemporary communication tools such as telephone, fax, e-payment, money transfer systems, e-data interchange, and the Internet. Industries such as financial services, tourism, entertainment, and grocery are expected to have significant

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INVESTMENT LANDSCAPE IN INDIA: OPPORTUNITIES, CHALLENGES, AND FUTURE PROSPECTS

Leena Shrivastav[1], Ankur Kumar Agrawal[2], Nyarik Geyi[3], Jai Anand Shukul[4], Vipul Jain[5]

[1]Associate Professor, Associate Professor, Faculty of Business Management & Commerce UshaMartinUniversity,Jharkhand

[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[5]Associate Professor, Department of Management,Sikkim Professional University, Gangtok, Sikkim

EmailID: leena.shrivastav@rediffmail.com

Abstract

India, as one of the fastest-growing economies in the world, has emerged as an attractive destination for investment. This research paper explores the investment landscape in India, delving into its opportunities, challenges, and future prospects. Through comprehensive analysis, it aims to provide insights into the dynamics of investment in India, elucidating key objectives to enhance understanding and facilitate informed decision-making for investors. It also evaluates the impact of investment on economic growth, employment generation, and sustainable development. By offering insights into key sectors, investment patterns, and policy recommendations, this paper serves as a valuable resource for policymakers, investors, and researchers interested in understanding and navigating the complexities of the Indian investment environment.

Keywords: Investment, India, Opportunities, Challenges, Future Prospects

Introduction

Investment plays a crucial role in the economic development of a nation. As a rapidly evolving economy, India presents a myriad of investment opportunities across various sectors. This section provides an overview of the significance of investment in India and outlines the objectives of the research paper. Investment plays a pivotal role in driving economic growth, fostering innovation, and creating employment opportunities. India, with its vast market potential, demographic dividend, and policy reforms, has emerged as an attractive destination for both domestic and foreign investment. This section provides an overview of the significance of investment in India and outlines the objectives and structure of the research paper.

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FINANCIAL MANAGEMENT STRATEGIES FOR SUSTAINABLE GROWTH AND VALUE CREATION

Leena Shrivastav[1],Ankur Kumar Agrawal[2], Nyarik Geyi[3], Jai Anand Shukul[4]
[1]Associate Professor, Associate Professor, Faculty of Business Management & Commerce UshaMartinUniversity,Jharkhand
[2]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP
[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP
EmailID: leena.shrivastav@rediffmail.com

Abstract:
Financial management is a critical function within organizations, encompassing planning, controlling, and monitoring financial resources to achieve organizational goals effectively. This research paper delves into various aspects of financial management, exploring strategies for sustainable growth, risk management, capital allocation, and value creation. Through empirical analysis, case studies, and theoretical insights, it aims to provide valuable guidance for businesses in navigating the complexities of financial decision-making and maximizing shareholder value.
Keywords: Financial Management, Sustainable Growth, Risk Management, Capital Allocation, Value Creation

Introduction

Financial management plays a central role in the success and longevity of organizations. This section introduces the importance of financial management in achieving sustainable growth and value creation. It outlines the objectives and structure of the research paper.

Theoretical Foundations of Financial Management

This section provides an overview of the theoretical frameworks and principles that underpin financial management. It covers topics such as the time value of money, risk-return trade-off, capital budgeting, cost of capital, and financial markets.

Financial Planning and Forecasting

Financial planning is a fundamental aspect of financial management, involving the formulation of budgets, forecasts, and financial strategies to achieve organizational objectives. This section explores the process of financial planning, including budgeting techniques, forecasting methods, and scenario analysis.

Risk Management and Financial Stability

Risk management is integral to financial management, as it involves identifying, assessing, and mitigating risks that may impact organizational performance and stability. This section examines various types of financial risks, such as market risk, credit risk, liquidity risk, and operational risk, along with strategies for risk mitigation.

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HYBRID VEHICLE DESIGN USING MATLAB/SIMULINK

Abhishek Pandey[1] and Shivam Upadhyay[2]

[1]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
Email: abhishek@umu.ac.in, shivam.upadhyay@mangalayatan.edu.in,

Abstract

This research will study the history, evolution, and current situation of hybrid and electric vehicles (HEV). The overuse of number will look at The origin, development, and current state of hybrid and electric vehicles and will be examined in this study (HEV). HEVs have proven to be the most practical solution due to the excessive use of fossil fuels and deteriorating atmospheric conditions. Future innovations that can be implemented into Electric vehicles to make the world greener are also discussed in the paper. Due to advancements in power electronics and motors, as well as fast charging and slow draining, long-lasting batteries, Hybrid vehicles became more cost-effective and efficient. CO2 emissions from automobiles are a significant cause of pollutants in the country. The automotive industry has enormous challenges in reducing greenhouse gas emissions.

I. INTRODUCTION

Hybrid vehicles are automobiles that utilize a combination of two or more distinct power sources to propel the vehicle. The most common type of hybrid vehicle combines an internal combustion engine (typically gasoline-powered) with an electric motor and a battery pack. These hybrids are known as "hybrid electric vehicles" (HEVs). PHEVs(Plug-In Hybrid Electric Vehicles) are similar to conventional hybrids but with larger battery packs that can be charged by plugging into an external power source. This allows for extended electric-only driving range before the internal combustion engine kicks in. The Mitsubishi Outlander PHEV is an example of a plug-in hybrid.[1][2]

There was a desire for fuel-efficient and environmentally friendly transportation vehicles due to a variety of reasons, including global petroleum crises and environmental concerns [3]. Electric Automobiles (EV) & Electric Transport System (ETS) have gotten a lot of attention, and they're expected to be the most popular means of transportation in the coming years because of their benefits over conventional vehicles [4]. In this arena, ongoing study efforts are focused on extending the battery bank's life [5], which delivers the benefits of a low-power rated converter and an optimal load profiles for the battery bank. Clegg (1996) [6] suggested that employing regenerative braking of motors (tractive motor) [7] could improve

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HEART DISEASE PREDICTION USING MACHINE LEARNING ALGORITHMS

Shivam Upadhyay[1], Vinay Singh[2], Roma Singh[3]

[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
[2]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
Email: shivam.upadhyay@mangalayatan.edu.in,

Abstract—Heart plays significant role in living organisms. Diagnosis and prediction of heart related diseases requires more precision, perfection and correctness because a little mistake can cause fatigue problem or death of the person, there are numerous death cases related to heart and their counting is increasing exponentially day by day. To deal with the problem there is essential need of prediction system for awareness about diseases. Machine learning is the branch of Artificial Intelligence(AI), it provides prestigious support in predicting any kind of event which take training from natural events. In this paper, we calculate accuracy of machine learning algorithms for predicting heart disease, for this algorithm are k-nearest neighbour, decision tree, linear regression and support vector machine(SVM) by using UCI repository dataset for training and testing. For implementation of Python programming Anaconda(jupytor) notebook is best tool, which have many type of library, header file, that make the work more accurate and precise.

Keywords—supervised; unsupervised; reinforced; linear regression; decision tree; python programming; jupyter Notebook; confusion matrix;

I. INTRODUCTION

Heart is one of the most extensive and vital organ of human body so the care of heart is essential. Most of diseases are related to heart so the prediction about heart diseases is necessary and for this purpose comparative study needed in this field, today most of patient are died because their diseases are recognized at last stage due to lack of accuracy of instrument so there is need to know about the more efficient algorithms for diseases prediction. Machine Learning is one of the efficient technology for the testing, which is based on training and testing. It is the branch of Artificial Intelligence(AI) which is one of broad area of learning where machines emulating human abilities, machine learning is a specific branch of AI. On the other hand machines learning systems are trained to learn how to process and make use of data hence the combination of both technology is also called as Machine Intelligence. As the definition of machine learning, it learns from the natural phenomenon, natural things so in this project we uses the biological parameter as testing data such as cholesterol, Blood pressure, sex, age, etc. and on the basis of these, comparison is

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HUMAN FACE RECOGNITION USING IMAGE PROCESSING

Shivam Upadhyay[1], Vinay Singh[2], Syed Umer[3]
[1]Assistant Professor, Department of Electrical and Electronics Engineering, Mangalayatan University, Aligarh, UP, India
[2]Associate Professor, Faculty of Computing & Information Technology, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Computer Science, Himalayan University, Itanagar, Arunachal Pradesh
Email: shivam.upadhyay@mangalayatan.edu.in,

Abstract
Image compression is a relatively recent technique based on the representation of an image by a contractive transform, on the space of images, for which the fixed point is close to the original image. The aim is to discover which techniques are the most efficient and best applies to the project undertaken. It is a computer application for automatically identifying or verifying a person from digital image or a video frame from a video source. This paper presents a real-time image processing of human face identification for home service robot (HSR). This vision system is set up by two individual sub-systems. The first one is face detection and tracking subsystem based on adaptive skin detector, condensation filter with parallel computing particles, and Haar-like classifier. And a simple and fast motion predictor is also proposed for face tracking.

I. INTRODUCTION

Image processing refers to the manipulation and analysis of digital images using various techniques and algorithms. It is a broad field that encompasses tasks such as image enhancement, restoration, segmentation, feature extraction, pattern recognition, and more. Image processing finds applications in various domains including medical imaging, remote sensing, surveillance, robotics, and computer vision.Image processing can be implemented using various programming languages such as Python (with libraries like OpenCV, scikit-image, and TensorFlow), MATLAB, Java, and C/C++. These languages provide extensive libraries and tools for image processing tasks, making it easier for developers and researchers to work with digital images.

Face recognition using image processing involves identifying and verifying individuals by analyzing patterns based on their facial features.Face recognition systems are evaluated based on their accuracy, speed, robustness to variations in lighting, pose, expression, and occlusions. Techniques such as cross-validation or ROC curves are commonly used to assess the performance of face recognition algorithms. It's important to note that face recognition systems must also address privacy and ethical considerations, including data security, consent, and potential biases in the training data or algorithms. Additionally, compliance with regulations such as GDPR (General Data Protection Regulation) should be ensured when developing and deploying face recognition systems.

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EMPLOYEE WELL-BEING AND JOB SATISFACTION IN PRIVATE SECTOR BANKS

Niyati Sharma[1], Md. Saifullah Khalid[2], Nyarik Geyi[3], Shivangi Dwivedi[4], Amit Srivastav[5]

[1]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P., India.

[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP

[5]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

Email: niyati.sharma@mangalayatan.edu.in

ABSTRACT

The structural developments in the banking sector over the past 20 years have resulted in a significant change in the process of vetting bank workers' competency. Bank personnel are working under extreme pressure to satisfy organizational targets and maintain customer satisfaction while providing prompt service. Improving working circumstances, professional advancement, work climate, interpersonal relationships, etc., all depend heavily on the quality of one's work life. The study's conclusion emphasizes the need for banks to enhance their work-life policies for staff members in order to boost their dedication, job happiness, and productivity.

Keywords: Privatesector banks,Qualityofworklife,Jobsatisfaction, PerformanceofEmployees.

Overview

The definition of quality of work life is when employees are able to fulfill a range of demands while performing their duties at work through facilities, activities, and results. Given that it incorporates a number of elements from various areas, including family, social, and financial life, this concept seems integrated. The happy relationship that exists between workers and their entire work environment is known as quality of work life. Additionally, it addresses subjective wellbeing directly. Employee perceptions of safety and suitability in relation to the physical and psychological work environment differ in relation to this issue. As a result, various perspectives exist for analyzing the quality of work life. Workplace quality is critical to banking business outcomes because it strives to achieve two goals: (i) increase productivity; and (ii) raise employee satisfaction. The goal of the current study is to evaluate the work-life quality and job satisfaction of bank employees in the private sector. It

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A SURVEY OF THE IMPACT OF DIGITAL MARKETING ON CONSUMER BEHAVIOUR

Leena Shrivastav[1], Niyati Sharma[2], Prakash Divakaran[3], Ankit Khare[4]
[1]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P., India.
[3]Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Departmentof Management, Mangalayatan University, Jabalpur, MP
Email: leena.shrivastav@rediffmail.com

ABSTRACT: This study conducts a comprehensive review of recently published research pertaining to the influence of digital marketing on consumer behaviour across three distinct domains: electronic word-of-mouth, mobile applications, and social media platforms. The primary objective of this research is to provide insight into the impact of digital marketing on consumer behaviour, concentrating on the tourism industry. This research will contribute to the existing literature and provide valuable insights for informing future advancements in digital marketing within the tourism industry. Extensive evidence from the reviewed literature demonstrated the significance of digital communication in relation to eWOM, tourism competitiveness, visitor behaviour, and their utilisation of mobile applications and social media. Furthermore, this study will make an academic contribution by identifying certain deficiencies in current research and furnishing decision-makers with potential avenues for future investigation as well as road maps.

Keywords: Mobileapps,Digitalmarketing,Consumerbehavior,eWOM,Socialmedia.

INTRODUCTION

Significant advancements in global communications have occurred as a result of the Internet's rapid dissemination of information and technology via various channels, including smartphones, social media platforms, and electronic word-of-mouth (Al-Maroof & Al-Emran, 2018; Al-Qaysi & Al-Emran, 2017; Alshurideh, Salloum, Al Kurdi, & Al-Emran, 2019). The global community appears to have shrunk to the size of a village due to the ability of these communication media to facilitate consumer access and interaction (Alghizzawi, Salloum, & Habes, 2018; Malik & Al-Emran, 2018; S. A. Salloum, Al-Emran, Shaalan, & Tarhini, 2019). Digital communication channels are utilised by consumers to locate product information and services. It has permeated the daily lives of individuals (Stephen, 2016). Global internet usage has now surpassed 4.1 billion individuals, with 92% of this population accessing the web via mobile devices. Concurrently, 3.56 billion individuals are active consumers of social media platforms (dazeinfo, 2018). As information and data consumers who also engage in discourse regarding their experiences with the products they purchase, the majority of individuals make extensive use of social media and digital marketing through their roles as consumers of goods and services (S. A. S. Salloum

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JOB SATISFACTION A TOOL FOR PERFORMANCE MANAGEMENT– A STUDY OF BANKING SECTOR

Meenakshi Kumari [1], Niyati Sharma[2], Ishwer Singh[3], Ankit Khare[4]
[1]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[2]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P., India.
[3]Professor, Department of Management, Himalayan University, Itanagar, Arunachal Pradesh
[4]Assistant Professor, Departmentof Management, Mangalayatan University, Jabalpur, MP
Email: meenakshi270209@gmail.com

Abstract:
The culmination of various factors, including psychological, physiological, and environmental ones, determines an individual's level of job satisfaction or discontent. The ratio of what one has to what one wants might be used to gauge one's level of satisfaction. Since the values of the job may align with one's requirements, job satisfaction may also be seen as the positive emotional state that arises from one's impression of their employment. Performance management include measures that guarantee objectives are continuously achieved in a productive and efficient way. In addition to many other areas, performance management can concentrate on the operations of a department, an organization, an individual, or even the steps involved in creating a service or product. Since banks are a crucial component of our financial system, their performance has a significant impact on increasing industrial effectiveness. The purpose of this study is to examine the HR procedures currently in use in the Indian banking industry, assess how they affect employee performance, and determine employee satisfaction levels. The results of the study will help bank administrators create a more positive work environment, which will boost employee happiness and lead to better performance. The correlation technique is a statistical tool that the researcher would use to assess the data.

INTRODUCTION

Employee job happiness is a widespread topic worldwide. Job happiness is another motivating element for people to pursue employment in addition to income. People also switch employment or work environments for this purpose. While some workers find tedious tasks uninteresting, others love performing the same thing over and over again and will not look for new duties. People differ in what they require from one another because each person has a unique personality. Entrepreneurs are frequently concerned about issues like as high employee turnover, low productivity, and absenteeism in the workplace. The goal of the current study is to examine how current management methods relate to employee job satisfaction and how that affects output. The study's other main goal is to identify the cause of organizational productivity problems.

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A COMPARATIVE STUDY OF WORK-LIFE BALANCE AND JOB SATISFACTION AMONG WORKING WOMEN IN THE BANKING AND EDUCATION SECTORS

Niyati Sharma[1], Md. Saifullah Khalid[2], Amit Srivastav[3],Nyarik Geyi[4]
[1]Assistant Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, U.P., India.
[2]Associate Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand
[3]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim
[4]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh
Email: niyati.sharma@mangalayatan.edu.in

Abstract
Work-life balance is very greatly desired for female employees, and it might provide challenges for working women if they lack consistency in their lives or job happiness. In order to minimize conflict between work and home life, work-life balance necessitates striking a balance between professional and personal responsibilities. Employee performance, which is based on a variety of criteria, ultimately determines the performance of any firm. These elements may have to do with family, work, or both. Working women from national institutes and government colleges in Bhopal, as well as nationalized banks operating in the city of Bhopal, Madhya Pradesh, are the subjects of a comparative research. The aim of this study is to investigate the work environment and the perceptions of women working in the banking and education sectors on work-life balance and job satisfaction. Studying the effects of work-life balance on job satisfaction, as well as the steps businesses take to achieve effective work-life balance and how it relates to job satisfaction, is another important goal. In this research, the standard deviation is used to verify the accuracy of the data provided by the respondents from both sectors. The results indicate that work-life balance (WLB) can be attained through elements that contribute to job satisfaction, including fair compensation, employee-focused policies, cognitively stimulating work, supporting coworkers, and supportive working environments.

INTRODUCTION

achievement of a company. Regarding the human environment, it concentrates on the features of people that have an impact on an employee's productivity and contentment at work. The degree to which workers have a good and productive attitude toward their employment by the company is known as job satisfaction. A person's work defines their value and position in society, as well as their psychological identity and sense of wellbeing. The word "work" Refers to employment or paid labor.

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IMPACT OF SOCIAL MEDIA MARKETING ON INDIAN BUSINESSES

Anuarg Shakya[1], Anupama Verma[2], Chiging Yamang[3], Somya Bansal[4], Shivangi Dwivedi[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[2]Associate Professor, Faculty of Business Management & Commerce, Usha Marti University, Ranchi, Jharkhand

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Assistant Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

[5]Assistant Professor, Department of Commerce, Mangalayatan University, Jabalpur, MP

Email: anurag.shakya@mangalayatan.edu.in

ABSTRACT

Over the last hundred years, the field of marketing has seen unprecedented transformation. It is hard to fathom the degree to which marketing strategies, methods, and technologies have evolved. In the old economic model, a market could only exist in a physical location with a large number of
constraints of location, duration, and practicality. Because of the ease with which we can now reach any market in the world, the world's market has shrunk to the size of a human palm in this age of globalization. From its humble beginnings as a medium for people to connect with one another, social media has evolved into a powerful tool for advertising, brand positioning, and other areas of marketing strategy. It is critical for any company to be abreast of the latest developments in marketing and marketing technologies. One of the most important marketing trends is attempted to be presented in this article.

Keywords:
Social media marketing, Facebook, LinkedIn, Instagram, Snapchat.

Introduction:

Gaining "website traffic or attention Through social media sites" is what social media marketing is all about. In order to take advantage of the "one normal opportunity," Indian marketers are acting swiftly. Everyone is using social media now. because it's a once-in-a-lifetime chance for marketers to cut out the middlemen and connect with consumers on a personal level.

The term "social media marketing" (SMM) refers to an online marketing strategy that makes use of various social media applications.

Through these social media channels, companies may communicate with their target demographic in order to get people talking about your brand, buy more stuff, visit your website, and become a part of your community so they can share and connect with your content.

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DETERMINANTS OF PERSONAL FINANCIAL MANAGEMENT BEHAVIOR: THE MODERATING ROLE OF FINANCIAL LITERACY IN THE RELATIONSHIP

Ankur Kumar Agrawal [1], Anupama Verma[2], Nyarik Geyi[3], Jai Anand Shukul[4], VipulJain[5]

[1]Professor, Institute of Business Management and Commerce, Mangalayatan University, Aligarh, UP

[2]Associate Professor, Associate Professor, Faculty of Business Management & Commerce UshaMartinUniversity,Jharkhand

[3]Assistant Professor, Department of Business & Management, Himalayan University, Itanagar, Arunachal Pradesh

[4]Associate Professor, Department of Management, Mangalayatan University, Jabalpur, MP

[5]Associate Professor, Department of Management, Sikkim Professional University, Gangtok, Sikkim

EmailID: ankur.agarwal@mangalayatan.edu.in

Abstract:
With financial literacy acting as a moderator, the purpose of this study is to ascertain how one's inclination to plan and subjective norms affect one's own financial management behavior. Since this study uses a quantitative methodology, questionnaires were used to collect data. There were 235 students in the Economics Education (Accounting) Department at one Indonesian university who made up the study's population. In this research, we performed a composite index-path modeling using partial least squares to measure probable constituents. Version 7.0 of the WarpPLS program was utilized to investigate the relationships found in the model. Subjective norms and the inclination to plan have a favorable impact on individual financial management behavior, according to the results of the structural equation model. Furthermore, the impact of subjective norms on an individual's behavior related to personal financial management was found to be mitigated by financial literacy. On the propensity to plan, moderating effects do not materialize. This study suggests that psychological factors may influence an individual's behavior when managing their finances.

Introduction:

The findings of the PricewaterhouseCoopers (PwC) Global Consumer Insights 2020 survey, "Before and After the Covid-19 Outbreak," show that 64% of Indonesian consumers are optimistic about spending the majority of their household income, while 65% of Indonesian consumers have seen a decline in their household income. Continuous innovation also contributes to accessibility. In the realm of financial technology, innovation refers to a technology that offers financial services that are easy, practical, inexpensive, efficient, and convenient [1]. Then there's the ease of using online retailers like Tokopedia, Shopee, and Bukalapak to fulfill necessities. The three websites offer a wide range of extremely complicated needs, including those for food, furnishings, household necessities, and much more. Another major factor in people's increased consumption is the availability of internet access. Inadequate production and negative effects on personal finances can arise from these capabilities if literacy and behavioral control are not balanced.
As young individuals, students must possess the ability to positively impact their surroundings. However, first things first, students need to work on improving their own behaviors, one of which is personal money management [2]. In reality, managing funds is not simple, and few students know how to handle their own finances in the best possible way.

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GENETIC ENGINEERING IN AGRICULTURE: APPLICATIONS AND ETHICAL CONSIDERATIONS

[1]Dr. Alisha Kumari, [2]Dr. Vikas Yadav, [3]Ms. Techi Yatchi, [4]Dr. Iti Gontia

Abstract
This paper presents a face to face a showdown between two almost contradicting sees on the utilization of genetic engineering in agriculture and food creation. Two researchers, one who has glaring misgivings of the utilization of GMOs in Agriculture and one who considers GMOs to be a significant device for quantitatively and subjectively further developing food creation, were posed seven inquiries about the expected advantages of the use of genetic engineering in agriculture and the likely unfriendly effects on the climate and human wellbeing. Many large companies in the US are attempting to make new sorts of genetically altered crops that are impervious to herbicides, bugs, dry spell, and even have healthful advantages. Soybean, maize and cotton that have been genetically changed have seen critical expansions in established real esatate, and this pattern is supposed to go on later on years. Genetic engineering research has been intensely supported for the reasons for sickness obstruction, further developed nourishment, and drug substance creation.
Keywords: Genetic Engineering, Agriculture, Applications, Ethical Considerations.

1. Introduction

The advanced logical improvement of genetic engineering has opened up thrilling new open doors in the farming area. Improving wanted characteristics, making extraordinary qualities, and resolving basic issues in horticultural efficiency and manageability are potential on account of genetic adjustment. This momentous strategy, be that as it may, isn't absent any trace of moral different kinds of feedback. An energetic exchange has developed around the ethical ramifications of changing the fundamental genetic organization of animals that structure the premise of our food frameworks as mankind thinks about the advantages and dangers of genetically modified crops.

The many purposes of genetic engineering in agriculture are analyzed in this article, from further developed crop yield and dietary benefit to protection from vermin and illnesses. From natural repercussions and likely wellbeing implications to financial decency and the safeguarding of biodiversity, we will likewise arrange the intricate trap of ethical issues that entwine with these turns of events.

As we go out on this experience into the universes of logical disclosure and moral reflection, it is critical that we track down a center ground between the enormous commitment of genetic engineering in agriculture and the profound ethical commitments that accompany it. The advantages of genetic engineering can be used to create a supportable and fair farming future in the event that we develop a top to bottom comprehension of both the notable purposes and the critical ethical ramifications.

To communicate wanted qualities in plants, creatures, and different animals, geneticists have made genetic recombination methods. Specialists and researchers are teaming up to study the DNA successions of various animals, growing the expected applications of genetic engineering. Whenever qualities are ordered, researchers can adjust them to make helpful species like vermin safe harvests, fuel-and plastic-delivering microorganisms, and meat-

[1] Assistant Professor, Department of Agriculture, Usha Martin University, Ranchi- Jharkhand.
[2] Assistant Professor, Department of Agriculture, Mangalayatan University, Aligarh-Uttar Pradesh.
[3] Associate Professor, Department of Agriculture, Himalayan University, Itanagar- Arunachal Pradesh.
[4] Assistant Professor, Department of Agriculture, Mangalayatan University, Jabalpur-Madhya Pradesh.

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THE ROLE OF EMOTIONAL INTELLIGENCE IN TEACHING EFFECTIVENESS AND CLASSROOM MANAGEMENT

Prof. B. Phalachandra, Professor, Department of Education, Usha Martin University, Ranchi- Jharkhand.
Dr. Abhiram Kulshestra, Professor, Department of Education, Mangalayatan University, Aligarh-Uttar Pradesh.
Dr. Deepshikha Saxena, Associate Professor, Department of Education, Himalayan University, Itanagar- Arunachal Pradesh.

Abstract
The term "emotional intelligence" may be relatively new, but it is now more commonly used. Peter Salovey and John Mayor originally used the term "emotional intelligence" in the 1990s. In order to make wise decisions, we must be able to understand and control our own and other people's emotions. This essay explores the varied contributions that emotional intelligence makes to improving classroom management and teaching effectiveness. The study's two main goals are to examine how emotional intelligence affects crucial teaching qualities like teachers' interpersonal abilities, communication with students, and the development of strong teacher-student relationships, and to assess the relationship between teachers' emotional intelligence and their capacity to adapt to unforeseen classroom situations, foster resilience, and maintain a healthy outlook. This study advances knowledge on how effective classroom management techniques and teaching practices can be influenced by emotional intelligence.
Keywords: Emotional Intelligence, Teaching Effectiveness, Classroom Management, Teacher-Student Relationships, Interpersonal Skills, Communication Skills.

1. Introduction

Since it endures forever, the emotional bond between the teacher and the pupil is crucial. A teacher's ability to communicate emotionally with students is limited by time constraints and syllabi. However, a teacher can raise future citizens with a happy attitude on life with little work and consideration for their emotional needs. Since emotions are a deciding factor in how someone will react and behave, knowing them in the workplace is becoming more and more crucial for teachers. In terms of workload, faculty members will have a lot of obligations, work longer hours under pressure, and as a result, their performance may be impacted. The prevalent consensus is that people with higher levels of emotional intelligence are likely to perform better. Emotional intelligence as a predictor for job performance. Since emotion is at the core of the teaching profession, teaching itself is a sort of emotional exercise. To improve performance, there has been an increasing desire for a stronger emphasis on teachers' emotional intelligence. However, there is a dearth of research specifically addressing the connection between teachers' work effectiveness and emotional intelligence.

The Latin word "emovere"—which means "to stir up" or "to exite"—is the source of the English word "emotion." Therefore, emotions can be thought of as an agitated or stimulated condition of our body and mind. According to Woodworth, emotion is a condition of feeling that has been stirred up because that is how it seems to the individual. Early in the 1990s, the idea of emotional intelligence started to emerge; Daniel Goleman's 1995 book, Emotional Intelligence, popularized it. Emotional intelligence, according to Salovey and Mayer (1990), is a type of intelligence that includes the capacity to keep track of one's own and other people's feelings and emotions, to distinguish between them, and to use this knowledge to inform one's decisions and actions. The capacity to recognize emotions, integrate them,

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THE INFLUENCE OF TEACHER PROFESSIONAL DEVELOPMENT ON INSTRUCTIONAL PRACTICES AND STUDENT ACHIEVEMENT

Prof. (Dr.) Neerja Dhankar, Professor, Department of Education, Usha Martin University, Ranchi- Jharkhand.
Dr. Abhiram Kulshestra, Professor, Department of Education, Mangalayatan University, Aligarh-Uttar Pradesh.
Dr. Deepshikha Saxena, Associate Professor, Department of Education, Himalayan University, Itanagar- Arunachal Pradesh.

Abstract
In industrialized nations, teacher professional development is a common practice. Given the constant demand on educators to raise student achievement, school systems that are dedicated to this goal must ensure that teachers receive ongoing professional development. This research paper's goal is to examine the connection between teachers' involvement in professional development programs and changes in the instructional strategies they employ in the classroom. Examining how teachers' experiences and attitudes match up with observable impacts can help us gauge how teachers perceive the influence of professional development on their teaching practices and student outcomes. The purpose of this study is to further knowledge in the field of education and assist in the creation of more focused and effective teacher professional development initiatives.
Keywords: Teacher Professional Development, Instructional Practices, Student Achievement, Educational Improvement, Teacher Training, Professional Learning.

1. Introduction

In recent years, the field of education has witnessed a growing emphasis on continuous professional development for teachers. The recognition that effective teaching strategies are not static, but evolve in response to changing educational landscapes and student needs, has prompted educators to engage in ongoing learning and skill enhancement. The pivotal role of teachers in shaping the educational experience and student outcomes cannot be overstated. As a result, there is a pressing need to understand the extent to which teacher professional development influences instructional practices and, ultimately, student achievement.

1.1. Leadership and the professional development of teachers

The idea of "Leadership and the professional development of teachers" is a crucial and complex component of the educational system. It acknowledges the crucial role that leadership plays in helping teachers develop and become competent, which has a direct bearing on the standard of instruction that children get.

Leadership in education is important in this situation. The landscape of teacher professional development is shaped by the responsibilities of educational policymakers, administrators, and school leaders. The success of teacher professional development programs is largely impacted by their choices, encouragement, and vision.

The core of this subject is teacher professional development. It includes a wide range of tactics, plans, and approaches intended to improve the abilities, expertise, and general efficacy of teachers. Giving educators the resources they need to flourish in their positions and deliver high-quality instruction is the aim.

In this conversation, instructional leadership is a crucial factor. It investigates the impact of school administrators on curriculum design, instructional methods, and the general learning environment. Effective instructional leadership assists in coordinating teachers' professional

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THE IMPACT OF TECHNOLOGY INTEGRATION IN THE CLASSROOM: A META-ANALYSIS OF STUDENT LEARNING OUTCOMES

Prof. S. Choudhary, Professor, Department of Education, Usha Martin University, Ranchi-Jharkhand.
Dr. Abhiram Kulshestra, Professor, Department of Education, Mangalayatan University, Aligarh-Uttar Pradesh.
Dr. Deepshikha Saxena, Associate Professor, Department of Education, Himalayan University, Itanagar- Arunachal Pradesh.

Abstract
In-depth analysis of the impact of technology integration in the classroom on several areas of student learning outcomes is presented in this study. The study examines the effects of technology on students' levels of engagement, motivation, and active participation in the learning process, as well as its possible impacts on academic performance, with a focus on two main goals. The analysis provides insights into how technology usage correlates with improved student engagement, motivation, and participation through a thorough examination of the body of existing literature. The research also examines whether the use of technology in educational settings has a measurable impact on students' academic progress, which includes grades, test scores, and all-around academic success. The research adds to the conversation on how technology may be used in education effectively by illuminating its wide-ranging effects on both student involvement and academic performance.
Keywords: Technology Integration, Classroom, Meta-Analysis, Student Learning Outcomes, Engagement.

1. Introduction

A laid out objective of instructors is to customize schooling by changing learning open doors and guidance to explicit capacities and attitudes. In many schools all over the planet, personalization is a typical practice. For example, while moving around a classroom, instructors regularly redo their guidance by giving more assistance to the people who are experiencing issues while pushing the individuals who are gaining ground to a higher level. Therefore, the concept of personalized learning is not new. However, there are significant differences between how personalization actually takes place.

The creative instructive methods of reasoning of John Dewey, William Kirkpatrick, and others in the mid twentieth century may be considered as trailblazers of tweaked learning. Additionally, there has been broad examination on the job of innovation in working with customized learning. The capacity of instructive innovation (otherwise called "EdTech") to adjust the learning experience in view old enough, fulfillment level, earlier information, and individual importance has been hypothesized all the more as of late. Personalized technology might, for example, alter the rate of learning in a way that gives students more control over when and how they learn. In order to represent learners' preferences and cultural context, it may also facilitate various forms of material. It can also automatically detect and respond to students' learning patterns.

The utilization of instructive innovation (EdTech) has been recognized as a reasonable method for resolving instructive issues in low-and center pay nations (LMICs). Especially, customized and versatile learning frameworks can advance both self-drove and different kinds of learning (making the last more congenial, viable, and engaging).1 It has been recommended that utilizing innovation to help customized learning will extend student admittance to training both inside and beyond the classroom, empower guidance at the "right"

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PROMOTING CRITICAL THINKING IN EDUCATION: APPROACHES, CHALLENGES, AND BEST PRACTICES

Prof. B Phalachandra, Professor, Department of Education, Usha Martin University, Ranchi-Jharkhand.
Dr. Jadab Dutta, Associate Professor, Department of Education, Mangalayatan University, Aligarh-Uttar Pradesh.
Dr. Kavita Sharma, Assistant Professor, Department of Education, Himalayan University, Itanagar- Arunachal Pradesh.

Abstract
The study examines the complex process of encouraging critical thinking abilities in learning environments. The main goals of this investigation are two. It first looks into the significant effects that encouraging critical thinking has on pupils' cognitive growth and problem-solving skills. The research gives insights into the ways that such efforts can improve students' cognitive capacities, enabling them to engage in more complex problem-solving processes by looking at the results of treatments focused at promoting critical thinking. The study also examines teacher education and professional development initiatives, evaluating their success in providing educators with the resources required to promote critical thinking in pupils. The research assesses the differing degrees of success in strengthening instructors' abilities to foster critical thinking by examining the various training approaches used. By focusing on these goals, the research aims to add to the ongoing discussion on critical thinking in education by providing insightful information about the effects of these interventions and offering suggestions for practical methods for fostering critical thinking abilities in both students and teachers.
Keywords: Critical thinking, Education, Promoting, Approaches, Challenges, Best practices, Cognitive development, Problem-solving abilities.

1. Introduction

Critical thinking alludes to the ability to figure as per the laws of rationale and probability as well as the ability to apply these abilities to genuine problems that are not content-free. It will increment innovativeness and further develop how you use and deal with your time. You can grasp yourself all the more profoundly by utilizing critical thinking. It will give you the opportunity to be unprejudiced, not so much nostalgic, but rather more receptive while valuing the contemplations and assessments of others. By preparing, you will have the confidence to share novel perspectives and new experiences into major problems.

1.1. Thinking

The major cognitive movement or interaction that makes people not the same as different creatures is thinking. It includes the control and examination of information accumulated from the rest of the world. Such control and examination include abstracting, thinking, imagining, solving problems, judging, and simply deciding. While the cerebrum's cognitive capabilities are engaged with handling data when we build ideas, partake in problem-solving, use rationale, and arrive at resolutions, the psyche is the ticket. Research on thinking has a set of experiences that is subject to when individuals initially acknowledged they were thinking. One quality that separates people from other living things is thinking. The demonstration of thinking is the forming or changing of an interior portrayal. She guarantees that when we start to think, we utilize our data to achieve some objective. Since everybody in our general public has associations with others and no one lives alone, thinking ability should be visible as the

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EDUCATIONAL POLICIES AND STUDENT OUTCOMES: AN EXAMINATION OF GLOBAL EDUCATION SYSTEMS

Prof. (Dr.) Neerja Dhankar, Professor, Department of Education, Usha Martin University, Ranchi- Jharkhand.
Dr. Hage Sela, Associate Professor, Department of Education, Mangalayatan University, Aligarh-Uttar Pradesh.
Dr. Sanjay Pal, Assistant Professor, Department of Education, Himalayan University, Itanagar- Arunachal Pradesh.

Abstract
Development and improvement in a general public can be credited to a great extent to the job that education plays. More people with more elevated levels of education make positive commitments to society. To comprehend one's freedoms as well as certain limitations to one's nation and society, education is the instrument that outfits its residents with the previous. The motivation behind this examination is to analyze what changes to auxiliary education have meant for the interest for and supply of Financial matters classes, as well as the scholastic execution of students, school organization, and school the executives. Information assortment for this review will be led utilizing an overview plan and will remember interviews with secondary school Financial matters teachers for the provinces of Mumbai and Delhi. The information was assessed utilizing a couple test t-test and distinct measurements. Interviews were directed to assemble extra data for investigation. The consequences of this review demonstrated that pre-college changes further developed instructor readiness, execution of educating and learning, school the executives, educator responsibility, and student accomplishment. Nonetheless, interest for financial matters courses at this level has not been impressively impacted by changes in pre-college education.
Keywords: Educational Policies, Student Outcomes, Examination, Global Education Systems.

1. Introduction

Education is vital in the present globalized and cutthroat society since it influences the existences of individuals all over the place. The educational policies of a nation are the general thoughts that decide the organization, educational plan, and techniques used to teach its residents. The objectives of these guidelines range from raising student accomplishment and extending admittance to education to guaranteeing that all kids get the opportunity to learn and growing balanced people who can make positive commitments to society. Subsequently, teachers, legislators, and scientists are progressively intrigued by the association between educational policies and student outcomes for of better grasping what different arrangement approaches mean for the educational way and achievements of students all over the planet.

Scholastic execution, mental turn of events, social-profound development, and long haul achievement are only a portion of the outcomes that can be influenced by dissecting the connection between educational policies and their execution. This multi-layered examination requires a top to bottom examination of different educational systems, including yet not restricted to, varieties in educational program development, assessment techniques, educator arrangement, monetary help, and actual offices.

We should consider the inborn snags and potential open doors presented by global education systems as we connect on this journey to understand the multifaceted connections between educational policies and student outcomes. From government sanctioned testing to project-based evaluation, from eye to eye study hall guidance to on the web and crossover learning

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THE EFFECT OF EARLY CHILDHOOD EDUCATION ON COGNITIVE AND SOCIAL DEVELOPMENT

Prof. S. Choudhary, Professor, Department of Education, Usha Martin University, Ranchi-Jharkhand.
Dr. Jadab Dutta, Associate Professor, Department of Education, Mangalayatan University, Aligarh-Uttar Pradesh.

Dr. Anuradha Yadav, Assistant Professor, Department of Education, Himalayan University, Itanagar- Arunachal Pradesh.

Abstract
The expression "early childhood development" incorporates a kid's development and maturation from earliest stages through the early long stretches of primary school. This development happens in different spots (houses, homerooms, medical clinics, public venues) and through various undertakings (from youngster care to nutrition classes to studios for guardians). Public, private, and non-benefit organizations are legitimate specialist co-ops. The acquisition, organization, and application of information in reasoning and critical thinking are parts of cognitive development. The outcomes show that both the control and trial gatherings' kids' cognitive development further developed in the wake of getting either treatment, with post-test mean scores being higher for consistent reasoning, representative reasoning, and critical thinking. In addition, the worth of the addition score shows that the exploratory gathering is prevalent than the control bunch. T-test results demonstrate that the exploratory class helped more from consolidating logical request with interactive media instruction than the control bunch.
Keywords: Early Childhood Education, Cognitive, Social Development, Cognitive development.

1. Introduction

Children from low-pay families frequently have a really difficult time scholastically. They are less ready for school than their more advantaged friends, and they frequently fall more behind in later grades too. From that point forward, a few nations have carried out early education and care projects, and researchers all over the planet affect children's maturation and learning. Through advancing continual validation and refinement of existing measures and development of new measures, this extraordinary issue expects to propel the field concerned with estimating children's social and emotional development. This goal originates from a rising familiarity with the relationship of the different features of a person's social and emotional development, as well as the significance of estimating their constituent parts. To all the more likely comprehend how early childhood social and emotional capabilities connect with school availability and how they contribute to children's development all through center childhood and beyond, better appraisal is fundamental.

Youngster Patterns and the Government Interagency Gathering on Kid and Family Insights (the Discussion) teamed up on this review, however their endeavors here go beyond the first level headed of that drive. Understanding and breaking down the different features of small kids' social and emotional development are examined in this unique issue.

Children today are supposed to have the social development to follow school schedules and the cognitive capacities essential for early proficiency and science when they go to class. Some of them come to school currently outfitted with these capacities and anxious to utilize them. Nonetheless, many individuals don't. The nature of children's preschool encounters

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FUNDAMENTALS OF CIVIL ENGINEERING: PRINCIPLES AND APPLICATIONS

Mr. Rahul Kumar Gupta, Assistant Professor, Department of Civil Engineering, Usha Martin University, Ranchi- Jharkhand.
Ms. Meenali Modi, Assistant Professor, Department of Civil Engineering, Himalayan University, Itanagar- Arunachal Pradesh.
Dr. Mahesh Kumar, Professor, Department of Civil Engineering, Mangalayatan University, Aligarh-Uttar Pradesh.

Abstract
The paper "Fundamentals of Civil Engineering: Principles and Applications" is a thorough paper that delves into the fundamental ideas behind civil engineering as well as its many real-world applications. Structure engineering, geotechnical engineering, transportation engineering, environmental engineering, and construction management are some of the subjects that are covered in this course. The work places an emphasis on the integration of theoretical concepts with practical applications and centres its attention on the process of applying theoretical concepts to practical problems. In addition to this, it places a focus on the significance of taking into account environmental and social concerns in the design of civil engineering projects. This is reflective of the modern emphasis placed on ethical and sustainable considerations. Students, teachers, and industry professionals who want to build a solid foundation in the subject and contribute to the progress of sustainable infrastructure solutions in the 21st century need to have access to this invaluable resource in order to be successful.
Keywords: Civil Engineering, Principles, Fundamentals, Applications.

1. Introduction

Students who want to pursue jobs in engineering in the future should take at least one class that provides an introduction to civil engineering materials. Traditional courses, on the other hand, often center on material science, which is not directly applicable to day-to-day operations. Some classes, like as those offered at Carleton University, bring together students from a variety of civil engineering specializations. These students may come from ACS or architectural programmes, and they may not have a background in chemistry. Case-based and experiential learning techniques are employed in order to accommodate this variety as well as the needs of employers for young engineers who are knowledgeable of advanced concepts such as resilience and sustainability. Students are given the opportunity to experience the influence of advanced engineering ideas on building processes and material performance via the use of these approaches, which increases the likelihood that they will reach their maximum potential.

1.1. Civil engineering concept

Modern society's core pillar of civil engineering helps to shape the physical environment in which we live. Civil engineers take on difficult problems to improve the quality of life for communities via creative problem-solving and the use of scientific concepts. They create clever ideas in the field of structural engineering that gently span large bridges and support the weight of tall buildings.

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GEOTECHNICAL ENGINEERING: SOIL MECHANICS AND FOUNDATION DESIGN

Mr. Anurag, Assistant Professor, Department of Civil Engineering, Usha Martin University, Ranchi- Jharkhand.
Mr. Talkeshwar Ray, Assistant Professor, Department of Civil Engineering, Himalayan University, Itanagar- Arunachal Pradesh.
Dr. Harit Priyadarshi, Assistant Professor, Department of Civil Engineering, Mangalayatan University, Aligarh-Uttar Pradesh.

Abstract
Geotechnical engineering is an essential field that ensures the structural integrity and operational capacity of civil infrastructure. This branch of engineering encompasses both soil mechanics and foundation design. The study of how different loads affect the behavior of soils is the focus of the field of soil mechanics, which is an essential part of geotechnical engineering. The creation of dependable structural support systems is the primary emphasis of the geotechnical engineering discipline known as foundation design, which is one of its core components. The abstract looks into the dynamic relationship that exists between Soil Mechanics and Foundation Design, with particular emphasis on the crucial part that precise soil characterization plays in determining how foundation choices are made. In order to solve modern issues such as urbanization, climate change, and sustainability, they investigate geosynthetic reinforcement, soil-structure interaction, and ecologically appropriate foundation solutions.
Keywords: Geotechnical Engineering, Foundation Design, Soil Mechanics.

1. Introduction

Modern civil infrastructure is not complete without geotechnical engineering, which is essential to the stability, security, and durability of constructed environments. Two interconnected pillars, Soil Mechanics and Foundation Design, serve as the foundation of this area. The bedrock upon which the foundations of our world are built is formed by several disciplines, which, although diverse, are intricately interwoven.

Geotechnical engineering is based on soil mechanics, which is the study of soil behavior under varied loads and climatic circumstances. It sheds light on the complicated mechanical reactions of soils to outside influences by shedding light on the complex interactions between soil particles, water, and air.

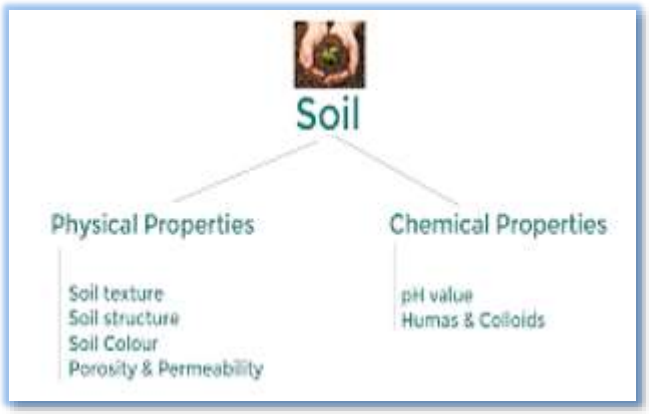

Figure 1: The properties of soils

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INFRASTRUCTURE RESILIENCE IN THE FACE OF NATURAL DISASTERS

Mr. Rahul Kumar Gupta, Assistant Professor, Department of Civil Engineering, USHA Martin University, Ranchi- Jharkhand.
Ms. Kiyum Ori, Assistant Professor, Department of Civil Engineering, Himalayan University, Itanagar- Arunachal Pradesh.
Dr. Mahesh Kumar, Professor, Department of Civil Engineering, Mangalayatan University, Aligarh-Uttar Pradesh.

Abstract
The infrastructure frameworks that help our networks are essential to our lifestyle. The significance of these frameworks in safeguarding individuals from natural and man-made disasters couldn't possibly be more significant. While there are a few meanings of infrastructure resilience, examination and practice presently can't seem to completely coordinate cross-sectoral and interdisciplinary ways to deal with grasping infrastructure resilience. Over the most recent couple of many years, natural disasters have become dramatically more normal and had expansive cultural and monetary outcomes. Endeavours are made to support monetary result while limiting dangers to individuals and property. There has been an open door for further developed infrastructure arranging, plan, and execution in Malawi because of ongoing catastrophes. The review underscores the opportunity to fabricate further developed infrastructure in Malawi during the post-calamity recuperation tasks. Optional information drawn from worldwide examinations was broke down utilizing a work area research procedure and content investigation.
Keywords: Infrastructure Resilience, Face, Natural Disasters.

1. Introduction

The expense of tidy up and reclamation, the quantity of homes and structures lost, and the quantity of individuals killed or harmed are familiar ways of evaluating the impacts of natural disasters. Nonetheless, these strategies seldom consider the mental harm that is finished to survivors. Also, "exact" models for checking both individual framework credits and generalizability are expected to direct asset allotments and tasks in infrastructure resilience arranging. Separating from these standard appraisal measures used to assess cultural effects of interruptions to basic infrastructure administrations during disasters, we propose utilizing emotional prosperity, characterized as "an individual's mental and full of feeling assessments of their life," as a human-driven proportion of infrastructure resilience.

The capacity of human settlements and man-made designs to endure natural disasters has been over and over put under a magnifying glass. Natural disasters can devastatingly affect networks when they cause disturbances in infrastructural administrations. Moreover, the weakness of people and networks to these risks fluctuates broadly, making it challenging to make speculations regarding the damage they produce. There has been a developing group of examination in the calamity field that features the significance of individual and common joy in returning quickly from devastating occasions. These examinations, nonetheless, didn't look at what infrastructure interferences meant for individuals' prosperity in various ways relying upon their socioeconomics at home.

The risk and seriousness of disturbances are ascending because of the rising intricacy of the present basic infrastructure frameworks because of their interdependencies and outer tensions like as rising interest, maturing infrastructure, and environmental change. Decreasing the unbalanced dangers of administration disturbances for the weakest individuals of a local area is one of the essential objectives of local area resilience arranging, which is liable for giving

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MECHANISM AND TOOLS USED FOR RESOURCE ALLOCATION IN CLOUDS

[1]Dr. Dinesh Mishra, [2]Dr. Javed Wasim, [3]Dr. Manish Saxena, [4]Dr. Md. Amir Khusru Akhtar

Abstract
As a result of its flexibility and scalability, cloud computing may meet the requirements of many different programs. This means that in cloud computing, efficient resource allocation and management are essential. In order to optimize usage, provider profit, and end-user delight, cloud data centers allocate resources like CPU, RAM, storage, and network bandwidth among its clients. Security, privacy, fairness, non-fragmentation of resources, utilization of resources, provider profit, user satisfaction, lower energy consumption, load balancing, flexibility, scalability, availability, improvement in the number and time of virtual machine migrations, and the number of overloaded resources is just some of the issues that the resource allocation mechanism must solve. An in-depth analysis of resource allocation is offered, including topics such as the most up-to-date methods in system design, classification schemes, issue solutions, and more. The current resource allocation processes have been established, and the quality of similar survey papers has been assessed.
Keywords: Mechanism, Tools, Resource Allocation, Cloud and Security.

Introduction

Cloud computing refers to the practice of making computing resources, such as data storage and processing power, accessible on-demand without requiring the user to do any administrative tasks themselves. Multiple data centers may be used to do the same task in a large cloud. Cloud computing employs a pay-as-you-go approach and pooled resources to maintain consistency, which may cut down on upfront costs but might also leave customers on the hook for unforeseen operational costs. Allocating resources is putting them to different economic purposes. Markets and central planning are only two of many mechanisms by which an economy's resources might be distributed. In project management, resource allocation or management refers to the process of planning when tasks will be completed and what resources will be needed to do them.

The openness of cloud computing's underlying infrastructure location makes it an attractive alternative for software development and content access. Cloud computing requires a distributed network of data centers, with users only able to use a fraction of the available processing power. An administrator manages the availability of these computing resources, and users make dynamic requests for their share. When compared to more conventional methods, in which software is often deployed on infrastructures sized for peak use and worst-case situations, the use of Clouds as an infrastructure for running software represents a significant departure. Allocation and reallocation in Cloud Computing need to be flexible so that they can scale to meet the unpredictable demands placed on the underlying infrastructure. Another crucial aspect of Cloud Computing's resource allocation techniques is making sure all apps' needs are satisfied.

It has been said that "a resource allocation is defined to be robust against perturbations in specified system parameters if degradation in the performance feature is limited when the

[1] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[2] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[3] Associate Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[4] Associate Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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ROLE OF CLOUD COMPUTING IN INFORMATION TECHNOLOGY FRAMEWORK

[1]Mr. Abhishek Kumar Gupta, [2]Dr. Dinesh Mishra, [3]Dr. Roma Singh, [4]Dr. Ritushree Narayan

Abstract
One of the most prominent computing paradigms in recent years is the idea of Cloud Computing. The widespread use of cloud computing has had far-reaching effects on the IT industry as a whole, not only on web-based service delivery. The concept was developed to achieve economies of scale in the distribution and management of IT initiatives, with the end goal of optimizing the delivery of technology, hardware, and information on demand. Much of the study of cloud computing has focused on the difficulties and risks that underpin its allure. One of the most often mentioned concerns about cloud computing is security, and it has been suggested that addressing this concern will lead to a steady increase in cloud use and popularity. To alleviate some of these difficulties, it is essential to meet security standards. five fundamental characteristics There are three types of service and four types of deployment. The article explains how cloud computing contributes to the information technology industry. For a long time, information systems played a deciding role; this is food for thought for small and medium-sized enterprises (SMEs), whose bread and butter are not technology.
Keywords: Cloud Computing; Information Technology; cloud security; challenges; service availability.

Introduction

Framework for cloud computing is an all-encompassing word. It outlines everything needed to develop, manage, and maintain cloud-based software applications. Software for controlling the back-end operations, manufacturing, and power of several Cloud Applications is among these solutions. The cloud security architecture you choose will be unique to the nature of your company. The overall methodology of the Cloud Computing Framework may be broken down into three main stages. Analysis, appraisal, and a business scenario are the three steps involved. In order to supply Cloud Computing, it is necessary to first determine all of the critical factors, and this is done during the business scenario phase. The model contains the core concepts and terminology used in the reference model. The Cloud services, project scenarios, and requirements can all be readily identified and analyzed using this model. These studies may help point in the direction of a potential answer.

The term "cloud computing" refers to the practice of providing various services through the Internet. Data storage, servers, databases, networking, and software are all examples of tools and applications that fall under this category. The cloud makes it feasible to store data in a distant database as opposed to a local, private hard disk. A computer or other electronic device may run any necessary software and access any necessary data so long as it can connect to the internet. Cost savings, enhanced productivity, speed and efficiency, performance, and security are just few of the many reasons why cloud computing is a popular choice for individuals and organizations alike.

"Cloud computing" describes the practice of providing hosted services across the worldwide

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[3] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[4] Assistant Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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APPLICABILITY OF MODERN MACHINE LEARNING TECHNIQUES IN PRESENT ERA

[1]Mr. Amit Upadhyay, [2]Dr. Sheetal Choudhary, [3]Dr. Dinesh Mishra, [4]Ms. Naghma Khatoon

Abstract
Machine learning is a well-established area of artificial intelligence research that focuses on the application of computational methods to problems of knowledge acquisition and management. Deep learning is a branch of machine learning that has practical implications in areas like big data analytics and artificial intelligence, and this research may help enhance its visibility among the next generation of academics. This article will discuss how machine learning can be put into practice. These examples show how widely applicable machine learning may be in the intelligence community.
Keywords: Applicability, Modern, Machine Learning, Techniques AND artificial intelligence.

Introduction

Machine learning is a branch of computer science that has grown out of and borrowed heavily from AI, pattern recognition, and computational learning theory. Algorithms allow for data to be turned into predictions. Historically rooted in the study of algorithms and optimization theory, the discipline of machine learning has now broadened to include other areas of study, including statistics, information theory, the theory of algorithms, probability, and functional analysis. Due to their shared emphasis on prediction and mathematical optimization, machine learning and computational statistics have many parallels in terms of their respective techniques, theories, and applications. By utilizing algorithms to build models from data for the aim of generating predictions and judgements, machine learning breaks from conventional programming techniques.

It has been challenging to use machine learning in real production from the moment the first models were established to the present day. Data scientists, machine learning engineers, front-end engineers, and production engineers have been attempting to find a way to communicate and exchange information for years to ensure that the models they ship are ready for production. This undertaking is fraught with difficulties, and overcoming them will not be easy. That's why very few ML projects ever come to fruition. In recent years, several tools and strategies have been created with the goal of lowering the frequency with which such problems arise. There were various uses for these devices, which is why they were made. Tasks like data cleaning, model building, training, evaluation, deployment, and monitoring are all good examples. The progress of the AI sector increases the availability of such tools.

MLOps is the systematization and streamlining of MLLC management. Let's take a step back and consider why it's crucial to streamline the machine learning life cycle. At first look, it may seem to be an easy procedure to convert a business problem into a machine learning model. Most well-established businesses have just recently begun using several machine learning models in a production context. It's possible that, until recently, the sheer volume of models was manageable, or that just a fraction of the company cared to investigate their

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Assistant Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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USE OF MACHINE LEARNING APPROACHES FOR ENHANCE LEARNING ENVIRONMENT

[1]Ms. Bhawna Singh, [2]Dr. Sandip Kulkarni, [3]Dr. Sharmistha Roy, [4]Dr. Dinesh Mishra

Abstract
Every person has the fundamental right to an education. The process of gaining knowledge about the world around us. It makes life more balanced overall and helps in the comprehension and resolution of any difficulty. Over the last 20 years, significant shifts have occurred across all levels of schooling. Many of these shifts have occurred as a result of the many technological breakthroughs that have altered how educators instruct and how students learn. The development of AI and ML has been a watershed moment in the history of technological progress. Whether it is commerce, finance, communication, travel, healthcare, or education, these two advanced technologies have affected every facet of human existence. Educators and instructors really cannot be replaced. However, technological advancements will result in significant shifts to the role of a teacher and to current standards of excellence in the classroom. In this article, we will examine the broader topic of machine learning in the classroom.
Keywords: Artificial Intelligence, Machine Learning, Digitalization, Supervised Learning, Unsupervised Learning.

Introduction

Arthur Samuel, an IBM scientist and forefather of computer games and artificial intelligence, created the phrase "Machine Learning" in 1959. The field of artificial intelligence includes machine learning as one of its subfields. Its ultimate goal is to use acquired knowledge to automatically enhance the efficiency of task-specific computer algorithms. Training data, which may be characterized as sample data gathered on previously recorded observations or live feedbacks, provides the experience in machine learning research. Machine learning algorithms may use this data to train mathematical models for use in forecasting and decision-making.

The first step in model learning is to provide the model with training data. These data allow models to rapidly discover useful patterns in the data. Then, important judgments and forecasts are made based on these patterns. If the developer creates a machine learning system that supports continuous training, then the learning process may continue even after deployment. The study and development of techniques that enable computers to "learn"—that is, to use information to perform better at certain tasks—is known as machine learning (ML).

Predictions and choices may be made by machine learning algorithms without being expressly programmed to do so. This is accomplished by having the algorithms construct a model using training data. Machine learning algorithms are utilized in many fields, including some where it is difficult or impossible to design traditional algorithms to fulfill the necessary tasks, such as medical, email filtering, voice recognition, agriculture, and computer vision.

Not all machine learning is statistical learning, but a portion of it is strongly connected to computational statistics, which is concerned with generating predictions using computers. Mathematical optimization provides the field of machine learning with new tools, theoretical

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.
[4] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.

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DEVELOPING AN ACCURATE INTELLIGENT DECISION-MAKING METHOD FOR THE CONSTRUCTION OF PULMONARY TUBERCULOSIS DIAGNOSIS SYSTEM

[1]Dr. Vinay Singh, [2]Dr. Sandip Kulkarni, [3]Dr. Dinesh Mishra, [4]Sharma Sonu Kumar

Abstract
Since tuberculosis (TB) causes more fatalities than any other infectious disease, scientists are working hard to develop a reliable method of detecting the disease in the lungs via the use of intelligent decision-making. Time and effort are required to examine the present system of diagnostic testing. Therefore, further research is needed to create a faster and more reliable diagnostic model and techniques for TB, allowing for higher sensitivity and specificity, and eventually benefitting disease control and prevention. The application of artificial neural networks in contemporary medical diagnostics is widespread. As good decision-support tools, artificial neural networks have numerous potential uses outside of medicine due to their simplicity, accessibility of important resources, and capacity to represent enormous datasets without resorting to linear assumptions.
Keywords: Artificial Neural Network, Fuzzy and Fuzzy Logic, Genetic Algorithm, Pulmonary Tuberculosis, Support Vector Machine.

Introduction

The presence of Mycobacterium TB bacteria in a clinical specimen obtained from a patient is diagnostic of tuberculosis. Even if additional tests provide promising results, they cannot definitively diagnose TB. Evaluation for tuberculosis (TB) should involve taking a patient's medical history, doing a physical exam, ordering a chest X-ray, and conducting a microbiological analysis Surgical biopsy, further imaging and a tuberculin skin test may also be necessary. One of the most well-known uses of ML nowadays is in the healthcare industry. Disease detection, imaging diagnostics, medication discovery, robotic surgical equipment, etc. are only few of the modern healthcare uses of machine learning. Algorithms are mostly utilized in medical diagnostics, where they aid doctors in the early discovery of uncommon and dangerous illnesses and inform educated therapeutic choices.

In their early stages, many illnesses might be misdiagnosed as others since they have comparable classical symptoms such cough, lethargy, weight loss, fever, etc. Misdiagnosis of these illnesses often leads to the unnecessary treatment of a significant number of patients with anti TB medications, which have various unpleasant side effects and put patients at danger. Thus, we have suggested the use of ML algorithms to reliably forecast these illnesses at early stages, thus reducing the medical mistakes and ensuring patients' safety while decreasing the number of clinical tests. About a quarter of the world's population, or over two billion individuals, are thought to be infected with Mycobacterium tuberculosis. There were over 10 million new cases of tuberculosis (TB) in 2018, resulting in about 1.5 million fatalities. Active TB may be treated more effectively and with less spread in the community if detected and treated quickly.

Adult pulmonary tuberculosis diagnosis will be discussed. Clinical symptoms and treatment of tuberculosis in children, as well as concerns connected to their diagnosis, are explored

[1] Associate Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Assistant Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh..

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CONCEPT AND CLASSIFICATION OF GRID COMPUTING SYSTEMS

[1]Hamza Zaki, [2]Dr. Manish Saxena, [3]Dr. Dinesh Mishra, [4]Mr. Ranjan Ganguli

Abstract
Computing with a high throughput and cheap cost is what Grid Computing is all about. It can pool the processing capacity of many dispersed and potentially incompatible computers into a single, cohesive system capable of completing complex calculations. Modern multidimensional and multidomain applications need a wide range of resources with varying capabilities, such as massive amounts of computing power, plenty of storage space, lightning-fast processing, and easy data retrieval. To address the complexity of many real-world issues, multiple Grid Systems have recently developed in the shape of distinct initiatives. In this study, we survey the literature on Grid Systems and classify them according to current best practices for scheduling and candidate selection. Here, we lay out some of the fundamental tenets of the grid. In this section, we give a hierarchy of Grid System classifications based on Application type, Functionality, Scale, and Scope, with short analyses of each. The last section, titled "Concluding Remarks," presents an evaluation of various Grid Systems using data from a variety of resources.
Keywords: Grid Computing, Grid Systems, Layered Architecture, Taxonomy, Application, Functionality, Scale and Scope etc.

Introduction

To simplify a process that might otherwise be too taxing for a single computer, a group of computers may create a "Grid" to work on the problem. The network's computers, all operating under the same protocol, function as a single, virtual supercomputer. Their job might include tasks like the analysis of massive databases or the simulation of complex scenarios, both of which call for a lot of processing power. Each computer in a network provides services such as processing time and data storage.

In Grid Computing, a virtual supercomputer is built out of physical computers linked together through a network and a bus, often Ethernet but sometimes the Internet. Similarly, to how Parallel Computing uses many CPU cores on a single computer, Distributed Computing uses multiple cores in different physical locations. Although grid computing is not a novel idea, it has not yet reached its full potential due to the lack of widely acknowledged rules and conventions.

The term "grid computing" refers to the practice of using several computers working together to complete a single task. One definition of a computing grid is a networked computer system designed to process large, file-based, non-interactive computations. In contrast to traditional high-performance computing systems like cluster computing, grid computing allows each node to focus on a specific job or application. When compared to cluster computers, grid computers are often more diverse and geographically scattered (thus not physically connected). Although a grid might be utilized exclusively for one purpose, it is more typical for it to serve many functions. Grids are often built using off-the-shelf software library components. The sizes of grids may vary greatly.

Grids are a kind of distributed computing in which multiple computers in a network work together to complete substantial tasks. Distributed or grid computing is a subset of parallel

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Associate Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Assistant Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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INTEGRATION OF MACHINE LEARNING ALONG WITH DEEP LEARNING APPLICATIONS IN VARIOUS DOMAINS

[1]Manoj Va, [2]Dr. Roma Singh, [3]Dr. Dinesh Mishra, [4]Dr. Md. Amir Khusru Akhtar

Abstract
Recently, deep learning (DL) has surpassed all other computational methods in the area of machine learning (ML), thanks to its remarkable success in mimicking and outperforming human performance on a wide range of challenging cognitive tasks. The ability to learn from data has led to the widespread use of deep learning technology, which originated in artificial neural networks (ANN). One of the advantages of deep learning is that it can learn from very large data sets. The study of deep learning has expanded rapidly over the last several years, and it has been effectively applied to a broad variety of more conventional subjects. Deep learning has surpassed traditional machine learning methods in several applications; this includes cybersecurity, NLP, bioinformatics, robotics/control, and healthcare data analysis. This article attempts to give a more complete review of the most important aspects of deep learning, including the most recent breakthroughs in the area, so that readers may form a more solid foundation from which to build a thorough grasp of deep learning. This article aims to bridge the gap between academia and business by providing a broad introduction of deep learning modeling. Finally, we present supplementary problems and suggested answers to aid researchers in making sense of the current research voids. In this paper, we examine a number of different methods, deep learning structures, techniques, and applications.
Keywords: Machine Learning (ML); Deep Learning (DL); Recurrent Neural Network (RNN); Convolutional Neural Networks (CNN) Artificial Intelligence (AI).

Introduction

When attempting to explain to a youngster the difference between a sports vehicle and a regular automobile, it is simpler to use examples rather than try to specify what makes a car a sports car explicitly.

Similarly, machine learning (ML) aims to automatically acquire meaningful correlations and patterns from examples and observations (Bishop, 2006) rather than codifying information into computers. Recently, advances in ML have enabled the rise of intelligent systems with human-like cognitive capacity that permeate our business and personal lives and shape the networked interactions on electronic markets in every conceivable way, with businesses augmenting decisionmaking for productivity, engagement, and employee retention (Shrestha et al. 2021).

Such systems' so-called artificial intelligence (AI) is predicated on analytical models that provide predictions, rules, responses, suggestions, and other such outputs in order to solve complex problems. Expert systems for medical diagnosis are an early example of analytical models built using hand-coded rules to represent previously established connections, methods, and decision logic. Analytical models are increasingly being constructed utilizing what is often referred to as ML (Brynjolfsson and McAfee 2017; Goodfellow et al. 2016), fueled by the practicality of new programming frameworks, data availability, and the widespread access to essential processing power. By removing the need for humans to

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Associate Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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ALGORITHMS USED FOR DIGITAL IMAGE SEGMENTATION TECHNIQUES

[1]Umesh Chand Sharma, [2]Dr. Sheetal Choudhary, [3]Dr. Dinesh Mishra, [4]Dr. Ritushree Narayan

Abstract
When designing new segmentation algorithms for image analysis, it is crucial to first assess what has already been accomplished in this area. This research aims to examine existing methods for digital picture segmentation. Computer vision is faced with significant difficulties in the area of digital picture segmentation. Image segmentation might be useful for a variety of computer vision challenges. In this research, we analyze and compare many popular segmentation strategies. Numerous studies have been conducted on the vast field of image segmentation. Most tasks involving object identification, image recognition, feature extraction, and classification rely on the accuracy of the segmentation process, making image segmentation a vital method. In order to improve the efficiency of pattern detection, images are often represented in simplified and straightforward ways via the process of picture segmentation. We go through the overall pattern seen across all algorithms, discussing their potential uses, benefits, and drawbacks. The major goal of this research was to build new algorithms, but it will also help determine when and how image segmentation techniques should be used.
Keywords: Image segmentation; Region-based; Edge detection; Active Contour.

Introduction

There are a number of factors that make digital image processing an essential field. Actually The use of computers for processing digital images is relatively new. Bell Laboratories, the University of Maryland, and a few other institutions in the 1960s began work on various digital image processing approaches. Utilizable in fields as diverse as satellite imaging, converting to medical imaging standards, video conferencing, text recognition, and picture enhancement. However, given the technology available at the time, the processing cost was rather expensive. With the advent of more reasonably priced computers and specialized hardware in the 1970s, the field of image processing exploded. This would allow for instantaneous image processing for specific uses, such as converting between TV formats. General-purpose computers began to replace specialist hardware for all but the most compute-intensive tasks as their speeds increased.

Algorithms on a computer are used to process digital images. Digital image processing offers several benefits over its analog counterpart, including a greater variety of algorithms with which to work and the elimination of unwanted side effects like noise and signal distortion. Now that powerful computers are affordable for signal processing, digital image processing has taken the industry by storm. This allowed signal image processing to become a flexible and cost-effective technique.

In many signal processing methods and their applications, image segmentation plays a crucial role. The goal of the segmentation process is to optimize the location of shape points based on visual cues. Classifier-based algorithms have been extensively used to separate organs in medical imaging. This includes images of the heart and brain. The purpose of the picture

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Assistant Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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FILTERING OF DIGITAL IMAGES BY USING LABVIEW APPROACH

[1]Dr. Javed Wasim, [2]Dr. Sandip Kulkarni, [3]Dr. Dinesh Mishra, [4]Ms. Naghma Khatoon

Abstract
When working with images, digital filters are essential. This article discusses the feasibility of utilizing Labview to create various locally-focused operators. Filtering images is a common use of local operators. The final picture, with its noise reduced and sharpened, is shown. Different two-dimensional convolution kernels are implemented in Labview and then applied to the test picture, and a block diagram of this process is shown. Histograms of the filtered photos are shown to demonstrate the impact.
Keywords: Image Processing, Local Operators, Digital Filters, Convolution Kernel, Convolution Matrix, Labview.

Introduction

To create a digital image, a grid of dots or picture components (pixels) is sampled and mapped. When it comes to research and technology, especially in fields like geographical information systems and medicine, digital photographs play a crucial role.

Types of Image Noise

Applied two types of image noise only are the following:

1. Gaussian Noise:

In amplifiers and detectors, it manifests as a kind of "electronic noise" [1]. Thermal vibration of atoms and the discontinuous character of radiation from heated objects are two examples of the natural origins of the Gaussian noise that are discussed in [2]. The grayscale values of digital photographs are often distorted by Gaussian noise. Because of this, the PDF or normalized histogram of a Gaussian noise model is fundamental to its design and properties. This is given as eq. (1).

$$PDF_{Gaussian} = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(g-\mu)^2}{2\sigma^2}}$$

The mathematical model of Gaussian noise is usually a good representation of the actual world. The probability density function (PDF) for this type of noise has a mean value of zero, a variation of 0.1, and 256 discrete values of gray (as seen in Fig. 1).

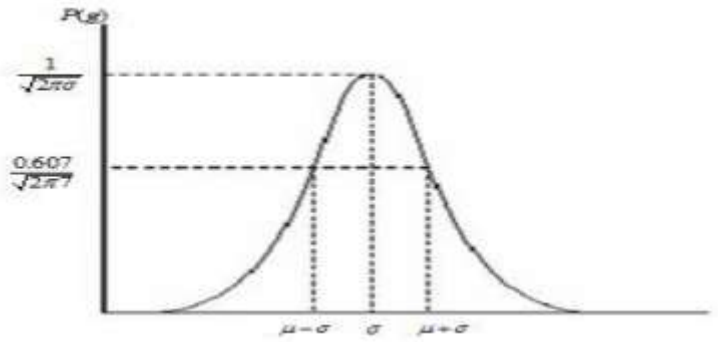

Fig. 1 Gaussian Noise PDF

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Assistant Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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DISCUSSING A POSSIBLE SOLUTION FOR IDENTITY AND ACCESS MANAGEMENT (IAM) TO HELP ENTERPRISE IT ORGANIZATIONS

[1]Mr. Amit Upadhyay, [2]Dr. Roma Singh, [3]Dr. Dinesh Mishra, [4]Dr. Vinay Singh

Abstract
The primary goal of this article is to investigate the many business advantages brought about by identity and access management systems. Corporate identity and access management (IAM) is made easier by the integration of IAM into business processes and IT infrastructure [1]. Assuming an IAM framework has been put in place, IT managers may control who inside the firm has access to sensitive data. Multiple identities and credentials must be managed throughout an organization's IT network, a challenge that many businesses are currently facing. The problem, which had been internal to the data warehouse, has gone external and now impacts businesses of all sizes. Many large organizations still struggle with managing user identities and network access in the context of distributed IT systems. System administrators have gained prominence in recent years as IT departments have established system administration (SA) departments to oversee the growing number of servers, databases, and workstations in use by businesses [1]. Despite the proliferation of SA organizations, regulating membership and participation remains a challenge. Despite this expansion, human resource management and manual processes typically fall short of the requirements for effectively managing a large number of user IDs and associated administrative burdens.
Keywords: Identity and Access Management (IAM), Identity Management strategy, Access Management, IAM Enterprise, IT Systems.

Introduction

Traditionally, businesses have had their software products installed and kept inside their own internal information systems. This makes it possible to establish a "trust area," which is only a specially defined entity controlled by certain rules that are monitored and enforced by the IT department's experts. Typically housed in a data center, a company's internal systems, infrastructure, and services make up the "trust area" [3]. Several traditional technologies are implemented at the network layer and have direct access to the company's digital data.

More internal controls and external evaluations are required to get access due to current rules. Management must determine which specific rights are needed to execute a job since large organizations provide access at the most granular level imaginable. Although the phrase identity and access management (IAM) is gaining popularity in the corporate world, it doesn't mean it isn't being utilized in other ways.

Instead, it's just that diverse user communities, vendor communities, and consultant communities have their own unique takes on what IAM is and how it applies to their businesses, products, and expertise. That being the case, the underlying premise is still the same [5]. With the help of the identity management system, businesses may safeguard their resources by restricting access to just the right personnel. Passwords, biometrics, tokens, and certificates are just few of the many authentication techniques in use. The administrative effort, potential harm, and financial cost associated with protecting identities all rise as a firm becomes larger. In order to properly maintain its employees' identities, every business needs a

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Associate Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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INTRUSION DETECTION AND PREVENTION MECHANISM FOR DETECTING ATTACKS IN COMPUTER SYSTEM

[1]Umesh Chand Sharma, [2]Dr. Sheetal Choudhary, [3]Dr. Dinesh Mishra, [4]Mr. Ranjan Ganguli

Abstract
The proliferation of Internet-connected gadgets has elevated network security to the forefront of modern technology. The widespread occurrence of intrusions in computer environments is a major challenge for any individual, organization, or government that values the secrecy of its data. It's a vital piece of equipment for protecting sensitive data. A Network Intrusion Detection System is a tool for keeping tabs on the security of a network and alerting administrators to any suspicious activity. These days, it's common for computers to be a part of a networked, dispersed system that spans a wide geographical area and connects locations hundreds or thousands of kilometers away. A distributed system's network facilitates information sharing among its many machines. Intruders may also use the network as a means of access. Some frequent assaults on networks will be detected by this technology and countered. For identifying attacks, it uses a technique based on signature identifiers. Network packets are monitored by a signature-based IDS, which then compares them to a database of known dangerous threats' signatures or properties. It's a VC++ implementation. The list of attacks is shown in the attack log so the administrator may take preventative measures. This system serves as a warning mechanism in the case of network-wide assaults.
Keywords: Intruders, Information Security, Real Time IDS, Attacks, Signature.

Introduction

Because of the development of IT and the accessibility of the internet. Open source software, IDEs, manuals, scripts, and online forums all provide easy access to potentially malicious objects and information. Therefore, information kept at a networked computer on the Internet and information in transit are not safe due to the misuse of current technology[1]. When cybercriminals get access to systems and wipe out crucial data, whole communities suffer devastating losses. Many sectors of modern society, including healthcare, banking, electricity companies, water, telecommunications, transportation, defense, education, R&D, and manufacturing, are very Internet-connected. Therefore, they are very susceptible to cyber assaults, which might potentially harm the whole economy and have a profoundly detrimental effect on people's standard of living[2].[3]. It is crucial to provide some type of cyber defense in order to safeguard sensitive data from hostile cyber assaults. Since the timing of cyberattacks is completely random, it is very difficult to prepare for them. Some time analysis of historical data obtained from the environment of the system is also inadequate and insufficient to forecast the next assault in the future. As a result, the analyzed data must be comprehensive and adequate to accurately forecast upcoming cyber threats. The void is filled by soft computing, which builds intelligent systems like intrusion detection systems, ANNs, and AIs.

In computer parlance, an intrusion is any attempt to gain unauthorized access to a computer system. Every day, millions of computers fall prey to this scam, which costs organizations money by leaking sensitive data to their rivals. Users and businesses alike now place a

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Assistant Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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DETECTING HARMFUL MALWARE BY USING MACHINE LEARNING ALGORITHMS

[1]Hamza Zaki, [2]Dr. Manish Saxena, [3]Dr. Dinesh Mishra, [4]Dr. Md. Amir Khusru Akhtar

Abstract
New malware is constantly being developed and disseminated by cybercriminals. When it comes to zero-day malware, typical anti-malware methods, although helpful, fall short. The main aim of the study is Detecting Harmful Malware By Using Machine Learning Algorithms. This study presents a typical machine learning workflow for malware detection and classification, discusses its advantages, and disadvantages, and evaluates the most recent innovations and trends in the field, with an emphasis on deep learning techniques. This research shows that there has been significant academic interest in ML algorithmic approaches to malware detection.
Keywords: Machine, Learning, Detecting, Harmful, Academic, Algorithms.

1. Introduction

New malware is constantly being developed and disseminated by cybercriminals. When it comes to zero-day malware, typical anti-malware methods, although helpful, fall short. As a result, some businesses rely on "default deny" White-listing strategies, which are useful for safeguarding devices but have several accessibility limits that make them more suited for businesses than individual users. Today, one common approach is to use machine learning to train a model on a massive dataset of malware, taking into account a set of attributes that may be used to predict with high accuracy whether a given piece of software is malicious or not. Since 2001, when researchers first highlighted the challenge by noting, "Eight to ten malicious programs are created every day, and most cannot be accurately detected until signatures have been generated for them," many have tried to apply machine learning to the malware detection area. There are, on average, 700,000 new malware strains developed every day, which is a staggering number. Due to the sheer volume of malware, it is essential that detection be automated in order to reduce vulnerability. Fortunately, many scholars are hard at work using Machine learning to discover answers to this problem. Some businesses have introduced anti-malware products that use AI-based technologies. Products such as Endgame (MalwareScore), Cylance, ESET (NOD32), Windows Defender Anti-malware, and others use a wide range of machine learning approaches to identify malware, providing strong proof of concept.

1.2 Understanding Malware

Obtaining domain knowledge is the starting point for each machine learning experiment since it helps in making sense of the data and completing the experiment. Common malware categories, malware analysis methods, and publicly accessible malware datasets will be briefly discussed here. Which will display the significance of the experiment and the progression of ideas, respectively.

1.2.1 Types of Malware

Malware refers to any kind of software that has the potential to cause damage or disruption to the user. The damage can range from merely annoying the user, as in the case of "adware," to

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Associate Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Associate Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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STUDYING PORTFOLIO OPTIMIZATION SYSTEM BY USING NEURO-FUZZY FRAMEWORK FOR MANAGING MANAGE STOCK PORTFOLIO

[1]Sharma Sonu Kumar, [2]Dr. Roma Singh, [3]Dr. Dinesh Mishra, [4]Dr. Sharmistha Roy

Abstract
Because of the tremendous advancements in computer technology, the investment professional management industry has undergone a rapid transformation. The main aim of the study is Studying Portfolio Optimization System By Using Neuro-Fuzzy Framework For Managing Manage Stock Portfolio. Recent research has shown that there is non-linearity present in the data pertaining to the stock market. In this study, we address the issue of portfolio optimization using an extended version of the Neuro Fuzzy system.
Keywords: Neuro, Fuzzy, Managing, Portfolio, Optimization.

1. Introduction

Because of the tremendous advancements in computer technology, the investment professional management industry has undergone a rapid transformation. With the use of a computer, an investor or manager may have access to extensive data and information on all of the firms that are currently operating in any given market area. The fast development of computers and software has made it possible for people to make everyday use of intricate and cutting-edge financial models. This opportunity was made possible as a result of quick technological improvement. Therefore, the necessity of having access to effective tools that have been designed and developed with the use of this new technology and based on the new investment theory is felt intensely. These tools can contribute to the decision-making process of the investor society, investment analysts, and the stock market, all of which have a high level of expertise as well. This is because these tools have been designed and developed with the help of this new technology. The managers and professionals may achieve amazing levels of production with the assistance of these technologies. These tools and approaches may also be used for the manufacture and delivery of new financial goods, as well as for the identification and attraction of clients. To put it another way, it is possible to define the boundary line between success and failure in the route of investment with a profound awareness of the instruments and approaches that are available (Haugen, 1993). In proportion to the degree to which these instruments are more precise and quicker, they can assist the optimized process of investment decision making and the investor managers in improving the manner in which they manage their investments. Security analysis and portfolio management are the two primary components that are covered in investment management. The valuation of each potential benefit of an investment is part of the process of security analysis, while portfolio management include both the evaluation of individual investments and the administration of a collection of assets. Price prediction, which states what kind of decisions should be made (sale and purchase), determines the time of trade, and ultimately the management of the amount of investment are the three primary factors that play a significant role in each profitable and successful investment management strategy. These factors, more than ever before, point to the significance of portfolio optimization. The term "portfolio optimization" refers to the process of choosing the optimal mix of financial assets that results

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Associate Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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ASSESSING SYSTEMS, APPLICATIONS, AND BENEFITS OF MOBILE COMPUTING

[1]Mr. Love Mittal, [2]Dr. Sandip Kulkarni, [3]Dr. Dinesh Mishra, [4]Dr. Ritushree Narayan

Abstract
The term "mobile computing" refers to a kind of computing system in which the computer, along with all the required data and software, is brought out into the field. The main aim of the study is Assessing Systems, Applications and Benefits of Mobile Computing. The constructed prototype follow the standard 3-tier design described by Orfali et al., which consists of a GUI, a business logic layer, and a data storage tier. The information available on-site for today's field service engineers and tradespeople to complete service jobs is quite restricted.
Keywords: Mobile, Computing, Prototype, Information, Assessing, Data.

1. Introduction

The term "mobile computing" refers to a kind of computing system in which the computer, along with all the required data and software, is brought out into the field. Since the year 1990, several varieties of mobile computers have been made available, such as wearable computers, personal digital assistants (PDA), enterprise digital assistants (EDA), smartphones, carputers, and ultra-mobile personal computers (UMPC). Mobile computing may be broken down into three categories: mobile communication, hardware, and software. The first category is mobile communication. The first component tackles communication problems in both ad hoc and infrastructure networks, in addition to communication features, protocols, data formats, and current technology. The hardware, also known as mobile devices or device components, is the subject of the second part of this discussion. The features and prerequisites of mobile apps are the subject of the third part of this topic. In 1972, the department of American Telephone & Telegraph, often known as AT&T, presented a proposal for cellular service to the Federal Communication Commission, also known as the FCC. In 1982, the committee decided to accept the idea. In December of 1972, Motorola kicked up a project to develop the first handheld mobile phone, which they termed the DynaTAC800X. The development of this device lasted until 1983. The analog mobile phones of the first generation, known as 1G phones, were introduced in 1983. They operated on a frequency spectrum that ranged from 824-894 MHz. The width of the speech channel was 30 kilohertz, and each channel had two frequencies: one for transmitting information, and the other for receiving it. These two frequencies were separated by a frequency of 45 megahertz. The second-generation, or 2G, phone improved compression and can handle three to ten times as many channels as the first version. There are three competing technologies for the 2G system: (a) frequency division multiple access (FDMA), in which each cell utilizes a different frequency; (b) time division multiple access (TDMA); and (c) spread spectrum. (b) Time Division Multiple Access, also known as TDMA, which allows each cell to use a certain piece of time on a particular frequency. The Global System for Mobile Communications (GSM) makes use of this technology since it has a capacity that is three times more than the analogue system. The GSM system encrypts data for further safety and

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Assistant Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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AUGMENTED REALITY (AR) AND VIRTUAL REALITY (VR) IN EDUCATION AND TRAINING

[1]Manoj Va, [2]Dr. Roma Singh, [3]Dr. Dinesh Mishra, [4]Ms. Naghma Khatoon

Abstract
The expansion of Smartphones has harmonized with the multiplication of AR and VR applications that use smartphone innovation. There is an absence of observational review comparing the educational effects of various AR/VR advancements, notwithstanding their broad use in the field of education. Numerous researchers, particularly in the fields of education and training, have started utilizing AR/VR to make a more visual, vivid, and intelligent climate for their understudies and students. For this article, I utilized the library. In view of the discoveries, obviously AR and VR are the best vehicles for homeroom use. Augmented reality (AR) is an innovation that adds visual and hear-able subtleties to the world around the client. Virtual reality (VR) then again, creates an original reproduction climate to pass a point on to understudies in an entrancing, intuitive, and experiential way. This research digs into the transparency of teachers to involving AR and VR in the study hall. The discoveries feature the meaning of offering innovation professional development (PD) and help to teachers to propel the execution of AR and VR in education.
Keywords: Virtual reality, Augmented reality, Education,Training, Teaching, Learning.

1. Introduction

Late years have seen critical progressions in both virtual reality (VR) and augmented reality (AR). Despite the fact that it might feel like we are still in the stone period of innovation, it is broadly recognized that virtual reality and augmented reality have energizing possibilities to support education. Many individuals have attempted to execute this innovation into educational settings, with by and large sure outcomes. Education in the fields of history and stargazing are just two instances of the numerous potential purposes for virtual reality innovation. Virtual and augmented reality have applications far past gaming and so forth, and may be utilized in places like exhibition halls, displays, revelation focuses, and live occasions. Virtual reality's utility as a research and teaching device originates from its ability to submerge the client in any climate. The utilization of 3D life systems models in clinical education or expertise move in VR based microsurgery training are two instances of educational applications that have met with just restricted achievement. More research is expected to figure out which characteristics of these projects are generally useful to understudies' scholarly development. Be that as it may, all the more generally, there should be clarity on the characterization of the apparatuses to precisely characterize, for example, capability and plan.

Both augmented and virtual reality have tracked down various purposes in the domains of education and educational program development. Nonetheless, concentrates on that straightforwardly compare the educational advantages of AR and VR are still in their early stages. Using a computerized camera, for example, that found in a cell phone or tablet, clients of augmented reality applications can simultaneously draw in with computerized content and see their actual environmental factors. Conversely, virtual reality (VR) depends exclusively

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Assistant Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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CLOUD COMPUTING: SECURITY, RESOURCE MANAGEMENT, AND COST OPTIMIZATION

[1]Mr. Abhishek Kumar Gupta, [2]Dr. Manish Saxena, [3]Dr. Dinesh Mishra, [4]Dr. Vinay Singh

Abstract
With the approach of Cloud Computing, one's own confidential resources might be gotten to from any PC with Web access. It's an essential style of administration conveyance wherein clients pay more only as costs arise. There is a great deal of shared resources in there. Overseeing resources is a central test across all PC ideal models, including cloud computing. Since numerous business applications and information are being moved to cloud stages, interest in cloud computing has soar. Be that as it may, cloud reception is hampered by genuine and saw insecurity. Looking at security, resource management, and cost optimization as significant parts of cloud computing is fundamental to this examination. Thorough security strategies, including encryption, access controls, and consistence measures, are the focal point of this examination of the techniques and apparatuses used to make them. To guarantee monetary suitability without forfeiting execution, we additionally investigate cost optimization measures, for example, breaking down resource use, right-estimating, and taking full advantage of held occurrences. The rundown gives an outline of these perspectives, giving a compact outline of the main variables to consider and strategies to use to acknowledge cloud computing's maximum capacity.
Keywords: Cloud computing, Security, Resource management, Cost optimization.

1. Introduction

Global standards, ease of use, and data security and control are significant to the turn of events and execution of the present best innovations. With regards to introducing IT compositional arrangements, cloud computing introduces another time by underlining virtualization of information stockpiling, neighbourhood organizations (foundation), and applications. After PCs and the web, cloud computing is some of the time alluded to as the "third transformation" in the data innovation industry. To summarize, cloud computing is the final product of the advancement and improvement of appropriated information base frameworks, equal PC frameworks, lattice computing, and disseminated computing. During the 1960s, John McCarthy anticipated that individuals will approach PCs on a utility premise. Cloud computing can be characterized as a web based stage that offers a wide assortment of administrations that are effectively open through a fitting and-play model. Cloud computing diminishes costs by concentrating and normalizing resources in a single spot. While examining cloud computing, we realize that resource management alludes to the demonstration of sharing equipment parts like servers and organizations among different clients and projects. Thus, another PC worldview known as "cloud computing" has emerged, in which applications share a typical arrangement of equipment and programming resources that are made accessible by means of the web. The overall population, as well as those in the area of innovation, use this word.

Computing utility, as different utilities, is the no frills administration that any local area expects to work. A few computing standards, the latest of which is called Cloud Computing,

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Associate Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Associate Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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EXPLAINABLE RECOMMENDER SYSTEMS FOR PERSONALIZATION

[1]Dr. Javed Wasim, [2]Dr. Manish Saxena, [3]Dr. Dinesh Mishra, [4]Dr. Md. Amir Khusru Akhtar

Abstract
Since they work on our dynamic cycles, recommender systems (RS) have in short order become ordinary. With the ascent of suggestion systems, in any case, comes a more noteworthy requirement for explanations that success over doubtful consumers. Users trust that the proposals will be clear and custom fitted to their particular advantages. The field of study known as "personalized explainable suggestion" has as of late developed. Our review's essential goal is to furnish consumers with the feeling that the ideas they're being given come from individuals they know and trust. We offer a technique that gives a characteristic language clarification of the justification for prescribing a melody to a particular client by forming another difficult issue we term personalized reason age for explainable proposal for tunes in conversational applications. The active clicking factor of our technique is 10.4 rate focuses higher than that of physically picked avocations, as shown by broad web based testing. The assessments show that the reasons we make are both intended for every client and appropriate to the tunes they like, making them bound to be clicked.
Keywords: Recommender systems, Explanations, Explainable Recommender systems, Personalization, Information systems.

1. Introduction

The two scholastics and organizations have checked out the idea of personalized idea lately. Users will be bound to draw in with proposal systems that consider their inclinations. Various examinations have shown that giving explanations is useful to personalized proposal systems. Users are more ready to buy or examination in the event that they are given sensible defenses. Making sense of why a specific idea was made or offering exhortation on the most proficient method to keep correspondence streaming flawlessly during transactions are the two instances of the kinds of purposes that can be served by explanations in recommender systems (RSs). On the other hand, a clarification can be considered a portrayal that assists customers with concluding whether the proposed item is reasonable for their requirements. One more method for putting it is that a vital piece of information is imparted between the selling and purchasing specialists to work on their effectiveness. Throughout the course of recent years, the job of explanations in recommender systems has filled in importance. Users' confidence in Collaborative Filtering (CF) recommender systems was found to develop because of these elements, and they likewise assisted users with making speedier decisions, more sure buys, and more noteworthy confidence in the framework all in all. It was likewise shown that customers would have a more prominent ability to grasp the recommender framework and create a "feeling of pardoning" if they didn't partake in the recently suggested things.

With the ascent in prevalence of online exercises like person to person communication, distance schooling, and web based shopping, recommender systems (RS) have quickly turned into a regular piece of our lives. These RSs furnish users with different applicable choices to pick from, which are by and large alluded to as suggestions. The expanded number of ideas, nonetheless, may make individuals lose confidence in the information being given to them.

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Associate Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Associate Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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EDGE COMPUTING: ADVANTAGES, USE CASES, AND CHALLENGES

[1]Mr. Abhishek Kumar Gupta, [2]Dr. Sheetal Choudhary, [3]Dr. Dinesh Mishra, [4]Dr. Ritushree Narayan

Abstract
Issues with data transfer capacity load, slow reaction speed, unfortunate security, and unfortunate protection in customary distributed computing models have emerged with the fast advancement of the Internet of Everything (IoE), as an ever increasing number of shrewd gadgets are associated with the Internet. Edge computing arrangements have emerged as a reaction to the limits of conventional distributed computing in gathering the fluctuated information handling necessities of the present keen social orders. An inventive way to deal with computing shifts the focal point of calculation to the organization's outskirts. Rather than distributed computing, it puts a superior on being genuinely general to both the user and the actual information. It is lightweight for neighborhood, low-volume information capacity and handling at the organization's edge. Client information are handled at the organization's edge, or "edge computing," which is just about as close as plausible to the starting place. Truth be told, edge computing is altering the IT and business computing enterprises. This paper expects to do exactly that, giving an undeniable level prologue to edge computing and covering its most significant use cases, advantages, and deterrents.
Keywords: Edge computing, Advantages, Use cases, Challenges.

1. Introduction

Insight has saturated numerous areas of the economy and individuals' everyday lives because of the ascent of the savvy society and the continuous development of human needs and needs. The expansion of edge gadgets should be visible in basically every area of current life, from transportation (brilliant homes and independent vehicles) to the visual expressions (cameras, wise creation robots, and so on.). This has prompted a brilliant ascent in the all out number of Internet-empowered devices on the planet.

Numerous new innovations have been offered as potential answers for the continuous hardships of creating savvy stages. To fulfill the needs of the market for on-request, trustworthy, and secure savvy benefits, various examination have been attempted, and different applications have been delivered, to give better framework and interconnected networks.

Obvious proof focuses to the significance of huge information examination in upgrading the nature of these applications and administrations, from the underlying handling of enormous measures of information to the resulting age of examples that can be used for expectation. The cloud is ordinarily used as an information stockpiling and handling center point for investigation arrangements. The basic need to answer a few occasions progressively and make quick moves without sitting tight for the transmission postponement of such an organization, as well as existing specialized limits and organization over-burdening issues of the unified cloud server farm, present tireless challenges for cloud arrangements. One potential innovation that could tackle these issues is edge computing. More specifically, edge computing is a sort of disseminated computing that spots handling and stockpiling of information as close to the first information sources as could really be expected.

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Assistant Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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SOCIAL MEDIA ANALYTICS: MINING AND UNDERSTANDING USER BEHAVIOR

[1]Dr. Javed Wasim, [2]Dr. Sheetal Choudhary, [3]Dr. Dinesh Mishra, [4]Dr. Md. Amir Khusru Akhtar

Abstract
The fame of social media stages keeps on taking off. Much more troubling is the way that unstructured data from numerous areas, like business, government, and wellbeing, have tracked down a home in these organizations. The developing significance of social media highlights the requirement for data mining strategies that can help reformat the generally unstructured data and fit it into a more customary system. To create as a firm, it is pivotal to pay attention to what clients need to say. Organizations presently utilize a wide assortment of strategies to assemble client input. The main problem is whether they really work. There is even more an emphasis on clients in the present market, and organizations are competing to give the most ideal items and administrations. An individual's life is significantly impacted by social media. Clients today are bound to air their genuine sentiments about items on social media than they are to give normal criticism to the creators or venders of those brands. This finding recommends that social media can be utilized to more readily comprehend buyer propensities. By gathering and investigating data from shoppers' social media posts, organizations can get a superior feeling of what their objective socioeconomics' actual assessments of their image are.
Keywords: Social media, Data mining, User behaviour, Machine learning, Natural Language Processing.

1. Introduction

All that from books to passes to installments to government is presently accessible carefully; this is the "Computerized Period." Facebook, Twitter, and YouTube are only a portion of the famous social systems administration locales that individuals use to eliminate time online with recordings, pictures, jokes, and data downloads and transfers. Huge Data alludes to the immense amounts of data and data saved money on the Web; these amounts are estimated in zettabytes or exabytes, separately. The quickly changing and exceptionally liquid nature of social media presents a colossal trouble because of the innately unsound nature of the data they produce. Social media data can be utilized to examine a lot additional captivating points about human way of behaving. Promoters might find conspicuous individuals to help them spread the news about their items without burning through every last dollar by utilizing social media. The in-bunch and out-collective vibes of social media users can be concentrated by sociologists.

The expression "social media" alludes to a general classification of Web based stages that work with the turn of events, dissemination, and utilization of user-produced content. For effortlessness, we will utilize the term'social media' to embrace social systems administration media, yet additionally very simple syndication (RSS) channels, web journals, wikis, and news, all of which frequently produce unstructured text that can be gotten to through the web. The utilization of quantitative techniques and "enormous data" for data mining and

[1] Associate Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Associate Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.

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ROBOTICS AND AUTOMATION IN MANUFACTURING AND SERVICE INDUSTRIES

[1]Mr. Amit Upadhyay, [2]Dr. Sandip Kulkarni, [3]Dr. Dinesh Mishra, [4]Dr. Vinay Singh

Abstract
To smooth out and further develop manufacturing processes, state of the art innovation like robotics, vision, and programming is utilized in manufacturing automation. The utilization of independent robotics to deal with key parts and completed merchandise is only one illustration of the numerous manners by which manufacturing might be robotized. High velocity cameras and simulated intelligence can be utilized to recognize manufacturing deserts. From a solitary robot to a computerized mechanical production system, automation is a typical use for makers. The reason for this exploration is to decide whether and what specialist view of robots mean for the utilization of robotics in modern settings. Workers at manufacturing organizations were reviewed to more deeply study their viewpoints on robots and their receptiveness to teaming up with them. Utilizing a comfort test system, we had the option to get information from 200 assembly line laborers, which we then used to survey factors and dissect their connections to each other. Primary condition demonstrating was used to analyze the gathered data. The discoveries show that specialist perspectives towards robots essentially influence the rate at which robot innovation is taken on in manufacturing conditions. The aftereffects of this study have critical repercussions for manufacturing plants keen on taking on robot innovation.
Keywords: Robotics, Automation, Manufacturing industries, Service industries.

1. Introduction

It was thought somewhat recently of the twentieth century that the construction industry was falling behind others in its utilization of automation and robotics innovation. Despite the adverse consequences on the sector, this present circumstance has persisted. Smaller organizations, in particular, can't afford to put resources into R&D or the additional regulatory expenses associated with carrying out robotics and automation advancements in today's profoundly aggressive market due to razor-dainty profit margins. Numerous studies have demonstrated the construction industry's reluctance to adopt robots and automation advancements, its utilization of lower levels of innovation compared to other industries, and its poor interest in R&D, which contribute to construction costs that are all higher than they need to be. The design and construction sector contributes barely 0.5% of its all out profits into research and development, according to a survey done across the United States by the Civil Engineering Research Foundation (CERF).

Since the construction business is getting more perplexing and confronting new obstructions, apparently research and development in automation and robotics innovation has received greater consideration in recent years. Furthermore, trends examination reveals that the industry has stepped up its degree of R&D to sharpen its cutthroat situation considering the prospective advantages of automation and robotics innovation development. Advantages to society at large, less adverse consequence on the environment, and increased production are only a couple of the numerous upsides to automation and robotics innovation.

[1] Assistant Professor, Department of Computer Science, Mangalayatan University, Aligarh-Uttar Pradesh.
[2] Assistant Professor, Department of Computer Science, Himalayan University, Itanagar- Arunachal Pradesh.
[3] Associate Professor, Department of Computer Science, Mangalayatan University, Jabalpur-Madhya Pradesh.
[4] Associate Professor, Department of Computing & Information Technology, Usha Martin University, Ranchi-Jharkhand.