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Pathways to Viksit Bharat 2047

BOOK OF ABSTRACTS

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ABSTRACTS

Each abstract is presented on a separate page.

Reimagining Skill Development: Aligning Academic Curriculum With Industry 4.0 Requirements

Author(s): Dr. M. Bala Koteswari

ABSTRACT

The advent of Industry 4.0 has fundamentally transformed the global economic and technological landscape, demanding a workforce equipped with advanced digital, cognitive, and interpersonal skills. Traditional academic curricula, however, often lag behind these rapidly evolving industry requirements, resulting in a persistent skills gap among graduates. This paper explores the need to reimagine skill development by aligning academic curricula with Industry 4.0 competencies. It examines the core components of Industry 4.0, including automation, artificial intelligence, big data, and the Internet of Things, and their implications for higher education. The study adopts a conceptual and analytical approach, drawing insights from existing literature, policy frameworks, and industry reports. It identifies key gaps in current educational practices, such as outdated syllabi, lack of experiential learning, and insufficient industry-academia collaboration. The paper proposes a comprehensive framework for curriculum redesign that integrates technical skills, soft skills, and digital literacy through interdisciplinary learning, project-based pedagogy, and continuous curriculum updates. Furthermore, it emphasizes the role of stakeholders, including educational institutions, industry partners, and policymakers, in fostering a responsive and inclusive skill ecosystem. The findings highlight that a proactive transformation in education systems is essential to enhance employability, innovation, and economic growth. This study contributes to the discourse on future-ready education by offering practical strategies to bridge the gap between academic preparation and industry expectations in the era of Industry 4.0.

Impact of NEP 2020 on Higher Education and Skill Development in India

Author(s): Prof. Rushikesh Bahire

ABSTRACT

The National Education Policy (NEP) 2020 of India is widely considered one of the most important and discussed educational reforms in the last few decades. The publication was published just after the pandemic had raised new questions about what and how we give or value education. Whilst much of the tentative commentary about NEP 2020 was celebratory in tone, this paper is taking a more critical look at whether the new policy will actually work in practice by examining the secondary sources of data such as government reports, academic papers and industry data that relate to the restructuring of higher education and skills development under NEP 2020 including; Academic Bank of Credit, pathways for entry and exit, integration of vocational education and suggested regulatory reforms. The evidence shows that NEP 2020 presents a clash between a vision of the future for higher education and a reality of implementation that is under-resourced and poorly executed. There are not just isolated problems with NEP 2020; there are numerous problems associated with NEP 2020, such as a shortage of educational instructors, inequitable access to technology, reluctance from states to participate, and continually low levels of funding available to implement NEP 2020

Adoption of RBI's Digital Rupee (CBDC): An Analysis of Awareness, Perception, and Willingness Among Adults in Mumbai Suburbs

Author(s): Dr. Falguni Gilroy Mathews

ABSTRACT

The Reserve Bank of India (RBI) has introduced the Digital Rupee as a Central Bank Digital Currency (CBDC) to modernize India's payment ecosystem and complement the country's growing digital economy. Despite the rapid expansion of digital payment systems, particularly the Unified Payments Interface (UPI), the success of CBDC largely depends on public awareness, perception, and willingness to adopt this new form of sovereign digital currency. This study examines these factors among adults in the Mumbai Suburbs region. A descriptive research design was adopted, and primary data were collected through a structured questionnaire distributed via Google Forms. The study surveyed 112 respondents aged between 21 and 50 years using convenience sampling. The findings reveal that UPI remains the dominant digital payment method due to its ease of use, speed, and zero transaction cost. However, awareness of CBDC is relatively low, with a majority of respondents unfamiliar with the concept of the Digital Rupee. Among those aware, actual usage remains minimal, largely due to limited accessibility and lack of clear advantages over existing systems. Nevertheless, a significant proportion of respondents expressed willingness to adopt CBDC if provided with proper information, incentives, and stronger security assurances. The study highlights the importance of awareness campaigns, improved digital literacy, merchant integration, and trust-building measures to enhance CBDC adoption. The research provides insights for Reserve Bank of India, banks, and fintech institutions to develop effective strategies for the successful implementation of India's Digital Rupee.

Only Participation

Author(s): SURABHI

ABSTRACT

Only Participation

Sustainable Indigenous Wine Entrepreneurship in Garo Hills, Meghalaya: A Study of Asame Wine for Cultural Preservation and Green Economic Development.

Author(s): Mr. Arkanza Salrikak A Sangma

ABSTRACT

The Indigenous entrepreneurship concept has proved to be one of the most significant platforms to sustainable development, more so in the regions where the pre-existing knowledge systems and the accessibility of the local resources are critical factor. The study reveals the dynamics of green indigenous wine entrepreneurship of Asame Wine, that is a micro-business in the Tura West Garo Hills, Meghalaya. The primary objective of the study is to identify and assess the role of aboriginal wine industry with regards to culture preservation, creation of livelihood and a green economy. The research type is a qualitative case study that is carried out based on field observation, interviews with the entrepreneur and her employees. From an economic point of view, the business is seasonal in terms of revenue generation, considering that the business makes sales mainly during the major festivals such as Wangala, Me'gong, and A'we festival. It serves as a home based enterprise with minimum labour, the business has been able to establish itself with the institutional support and financial aid by the PRIME Meghalaya and the events during the national and international fairs. The conclusion of the paper is that indigenous wine entrepreneurship can play a great role in facilitating sustainable livelihoods, conservation of cultural heritage and makes economic development in the region.

Role of Employee Ethics and Regulatory Compliance in Strengthening Customer Relationships in Banks

Author(s): Renuka Morani

ABSTRACT

Role of Employee Ethics and Regulatory Compliance in Strengthening Customer Relationships in Banks
Abstract: In the Indian Banking sector, the critical role of employee ethics and regulatory compliance in strengthening customer relationship was investigated under this study. Banking industry faces persistent challenges related to ethical lapses and fraudulent activities that undermine public trust as it is a cornerstone of modern economies. A structured questionnaire administered to a sample of 80 respondents, the research employs regression, correlation and ANOVA to study the impact of internal ethical practices on customer outcome. A significant positive association between ethical variables and customer trust and loyalty was revealed under study. Regulatory compliance exerts a stronger, statistically significant influence on customer satisfaction $\beta = 0.285$, $p = 0.016$ as compared to individual employee ethics was indicated under regression analysis. Customer prioritize formal institutional safeguards and transparent policy adherence over individual behavioural traits was suggested under the study. The findings of the study conclude that while employee integrity is a foundational requirement, banks must prioritize robust compliance branding and compliance frameworks to foster long-term customer retention and institutional stability. In the Indian Banking sector, within high-pressure environment the study highlights, integrating ethical variables is a strategic requirement rather than a mere regulatory necessity. Honesty, fairness and confidentiality which are individual employee ethics are positively associated with customer loyalty and trust, they often function as a baseline expectation for service users. The more dominant driver of customer satisfaction is regulatory compliance as institutional adherence to Reserve Bank of India guideline signals formal safeguards and reduces perceived financial risks.

LPG Supply Disruptions in Bihar: Effects on Informal Economy, Food Prices, and Small Businesses

Author(s): Dr. MANSI MAHI

ABSTRACT

The 2026 LPG supply disruptions in India, driven by geopolitical tensions in West Asia (particularly the U.S.-Israeli conflict with Iran) and shipping disruptions through the Strait of Hormuz, severely affected Bihar. This paper examines the socio-economic impacts on the state's informal economy, focusing on street vendors, dhabas, tea stalls, small eateries, and related food services. Using a mixed-methods approach with secondary data from government reports, oil marketing companies (OMCs), news coverage (March–April 2026), and qualitative accounts from districts such as Patna, Bhagalpur, Gaya, Kaimur, and Darbhanga, the study documents delivery delays of 4–9 days, commercial LPG rationing, and black-market prices reaching ₹3,000–₹5,000 for a 14.2 kg cylinder. Small businesses relying on commercial 19 kg cylinders faced 15–35% rises in operational costs. Many vendors raised menu prices for staples (tea, snacks, meals) by 10–25%, switched to coal/wood, reduced operations, or closed temporarily. This contributed to localized food price inflation, hitting daily-wage workers and low-income consumers hardest. The crisis also triggered reverse migration of Bihar-origin workers from cities like Delhi, Mumbai, and Surat, as urban food services scaled back. While PMUY subsidies offered partial household relief (₹300 per refill, up to 9 cylinders), commercial users and informal operators remained exposed. The analysis reveals structural vulnerabilities in Bihar's energy-dependent informal sector (employing ~80% of the workforce). Policy recommendations include ring-fenced commercial LPG quotas, accelerated piped natural gas (PNG) rollout, district-level buffer stocks, and targeted vendor support. This study contributes to socio-economic literature on energy poverty, informal resilience, and global shock transmission in lagging Indian states.

A Brief review on Materials and Printing Processes employed in 3D fiber reinforced Concrete for Environmental Sustainability

Author(s): Dr.G.Jyothi Kumari

ABSTRACT

3D-printed concrete, a transformative technology in the construction field offering design, flexibility, labor efficiency, allows complex shapes and is more sustainable as it reduces material waste, minimizes formwork, architectural freedom, and energy consumption compared to conventional concrete. Conventional concrete is strong and reliable but completely depends on formwork which requires more labor and results in material waste and carbon emissions. It possesses higher compressive strength but lower tensile strength which will be overcome by introducing fibers and the product will emerge as Fiber Reinforced Concrete (FRC). Several reviews were conducted on 3D Fiber Reinforced Concrete (3DFRC) and among those extrusion-based printing technique, binder jetting and spray-based techniques were employed. However, extrusion-based printing technique was significant. Several researchers continued their studies using wide range of fibers like steel, carbon etc., which can provide significant gains in strength and ductility and their impacts on printability, mechanical and durability properties. But basalt fibers offer superior durability in marine environments. The use of supplementary cementitious materials (SCMs) such as recycled aggregates, waste materials like fly-ash, GGBS, Rice husk ash can cause environmental sustainability by reducing higher quantity of cement for minimizing carbon emissions. Some studies related to Life cycle assessments (LCAs) for potential environmental benefits were also carried out. Absence of conventional reinforcement in printed elements pose structural challenges in tensile and flexural capacities. To mitigate limitations and to enhance characteristics viz., ductility, crack control, and post-crack toughness the technique of fiber reinforcement has become a remarkable strategy. In the present scenario, fibers from synthetic to high-performance materials like basalt and Carbon, plant-based and recycled fibers are being used as fillers in 3D concretes. The present review clearly explains the advancements made in (3DFRC) and the interplay between printing methods, fiber types, and environmental sustainability. Fiber-matrix interfaces, development of multi-scale reinforcement strategies, and establishment of design guidelines for structural 3DFRC elements need to be prioritized for future directions in this field.

A study on impact of green infrastructure (GI) on students studying in HEIs in Thane city

Author(s): Asst Prof YOGITA KUMBHAR

ABSTRACT

The rapid urbanisation of Thane City has led to intensified Urban Heat Island (UHI) effects and reduced natural spaces, placing significant physiological and psychological pressure on the student population. This study investigates the impact of Green Infrastructure (GI)—including vertical gardens, permeable pavements, and shaded social spaces—on students within Higher Education Institutions (HEIs) across Thane. Green infrastructure (GI) is a network of natural and semi-natural areas designed to solve urban and climatic challenges. Key Components of Green Infrastructure are Green Roofs & Walls: Vegetation on buildings to insulate and reduce heat, Permeable Pavement: Surfaces that allow rainwater to soak into the ground, Rain Gardens: Depressions planted with native species to capture runoff, Urban Forests: Tree canopies that clean air and provide shade, Constructed Wetlands: Man-made marshes that naturally treat wastewater. Utilizing a mixed-methods research design, the study correlates campus micro-climate data with student surveys and academic performance metrics. Findings indicate that well-integrated GI significantly mitigates "felt" temperatures during Thane's humid pre-monsoon months, leading to a measurable reduction in student thermal discomfort and stress levels. Furthermore, the presence of functional green spaces is shown to enhance cognitive restoration and foster environmental stewardship among the youth. The research concludes that for HEIs in Thane, green infrastructure is not merely an aesthetic addition but a critical intervention for climate resilience and student well-being. The paper provides a framework for institutional planners to align campus development with the Thane Heat Action Plan and global sustainability goals.

From Adoption to Impact: FinTech-Led Financial Inclusion in India Towards Viksit Bharat 2047

Author(s): GOPALA B

ABSTRACT

This paper examines how FinTech adoption can be translated into measurable financial inclusion outcomes in India, aligned with the vision of Viksit Bharat 2047. Despite the rapid growth of digital financial services such as UPI, mobile banking, and digital wallets, inclusion outcomes remain uneven. The study shifts focus from access to actual usage and impact. The analysis is based on primary data from 250 respondents across urban and semi-urban areas. It applies logistic regression to identify key drivers of inclusion, principal component analysis to reduce and validate underlying constructs, and cluster analysis to segment users based on behavior. The results show that digital literacy, frequency of usage, perceived security, and regulatory awareness significantly influence financial inclusion outcomes. The study identifies three distinct user segments: active users, passive adopters, and excluded individuals. Each group requires targeted policy and strategic interventions. This study contributes by linking FinTech adoption, post-adoption behavior, and inclusion outcomes through an integrated multi-method framework. It provides clear, actionable insights for policymakers, financial institutions, and FinTech firms to move beyond access and drive sustained engagement, which is essential for building an inclusive and resilient digital economy by 2047.

Balancing Books And Bills: Part-Time Employment through Experiential Learning And Youth Empowerment Under NEP 2020

Author(s): Nandhini Suruthi I & Lenin S

ABSTRACT

The National Education Policy (NEP) 2020 has implement to holistic, flexible, and skill – oriented higher education in India. The transition from education to employment has become increased in 21st century, demanding not only academic knowledge but also practical skills. Part-time employment among college students is a very important pathway for bridging academic and work with real-world experience. Experiential Learning is a significant for enhancing youth empowerment. This study explores how part-time students have a experiential learning gained through work exposure complements classroom learning and aligns with the NEP 2020 vision of integrating vocational education, internships, and multidisciplinary learning. The study also examines how part-time employment promotes youth empowerment by encouraging financial independence and self-reliance. The study are expected to provide insights into the role of experiential leaning and youth empowerment under NEP 2020, while offering recommendations for educational institutions such as flexible schedules, credit- based internships and career guidance to support work and study rather than conflict each other. It also highlights the importance of integrating experiential learning opportunities within higher education to create a more holistic and career – oriented learning environment. Overall, the study concludes that part-time employment act as a experiential learning platform that strengthens youth empowerment and contribute to the broader goals of NEP 2020 in preparing students for the dynamic demands of the modern workforce. Encouraging structured and supportive part-time work opportunities can play a vital role in empowering students to successfully balance books and bills while building a sustainable career path.

Impact of AI-Assisted Creative Tools on Artists Creators Pathways to Viksit Bharat 2047

Author(s): Dr. Sweety Garg

ABSTRACT

Artificial Intelligence is increasingly transforming creative domains by reshaping how artists ideate, design, and produce content. This study examines the impact of AI-assisted creative tools on artistic innovation and explores artists' perceptions regarding the role of AI in contemporary creative practices within the broader vision of Viksit Bharat 2047. The research adopts a quantitative approach using a structured questionnaire distributed through online platforms, with a sample size of 100 respondents drawn from diverse artistic and academic backgrounds. The findings indicate a high level of adoption of AI tools, with a majority of respondents actively integrating them into their creative workflows on a daily or weekly basis. AI tools are widely perceived as catalysts for innovation, enabling faster ideation, improved efficiency, and exploration of new artistic expressions. At the same time, the study highlights ongoing concerns related to authenticity, originality, and authorship, reflecting a nuanced understanding of AI's role as both an enabler and a disruptor. While most respondents do not believe AI will replace human creativity, they acknowledge its significant influence in augmenting creative capabilities. The study concludes that AI-assisted tools have the potential to contribute to an inclusive and innovation-driven creative ecosystem, aligning with the goals of Viksit Bharat 2047, provided ethical considerations and human-centric approaches are maintained.

A Brief review on Materials and Printing Processes employed in 3D fiber reinforced Concrete for Environmental Sustainability

Author(s): Dr.G.Jyothi Kumari

ABSTRACT

3D-printed concrete, a transformative technology in the construction field offering design, flexibility, labor efficiency, allows complex shapes and is more sustainable as it reduces material waste, minimizes formwork, architectural freedom, and energy consumption compared to conventional concrete. Conventional concrete is strong and reliable but completely depends on formwork which requires more labor and results in material waste and carbon emissions. It possesses higher compressive strength but lower tensile strength which will be overcome by introducing fibers and the product will emerge as Fiber Reinforced Concrete (FRC). Several reviews were conducted on 3D Fiber Reinforced Concrete (3DFRC) and among those extrusion-based printing technique, binder jetting and spray-based techniques were employed. However, extrusion-based printing technique was significant. Several researchers continued their studies using wide range of fibers like steel, carbon etc., which can provide significant gains in strength and ductility and their impacts on printability, mechanical and durability properties. But basalt fibers offer superior durability in marine environments. The use of supplementary cementitious materials (SCMs) such as fly-ash, GGBS, Rice husk ash etc and waste materials like recycled aggregates can cause environmental sustainability by reducing higher quantity of cement for minimizing carbon emissions. Some studies related to Life cycle assessments (LCAs) for potential environmental benefits were also carried out. Absence of conventional reinforcement in printed elements pose structural challenges in tensile and flexural capacities. To mitigate limitations and to enhance characteristics viz., ductility, crack control, and post-crack toughness the technique of fiber reinforcement has become a remarkable strategy. In the present scenario, fibers from synthetic to high-performance materials like basalt and Carbon, plant-based and recycled fibers are being used as fillers in 3D concretes. The present review clearly explains the advancements made in (3DFRC) and the interplay between printing methods, fiber types, and environmental sustainability. Fiber-matrix interfaces, development of multi-scale reinforcement strategies, and establishment of design guidelines for structural 3DFRC elements need to be prioritized for future directions in this field.

From Policy Silos to Synergy: Converging Policies for Social Equity and Human Development in the North East India towards Viksit Bharat 2047.

Author(s): Deka N¹ and Choudhury K²

ABSTRACT

The vision of Viksit Bharat@2047 is a collective effort to achieve the goal of becoming a developed nation by the centenary celebration of its independence. The vision emphasizes to bring inclusive growth through equitable human development; however achieving this goal requires addressing regional disparities and social inequalities, particularly in the Northeast India. While the region has made progress in areas such as economic growth, infrastructure, women empowerment, skill and entrepreneurship development but the region still experience structural marginality, limited infrastructure, lack of employment and economic opportunities, education. This Paper explores the roles of convergence of flagship national policies to create synergistic path ways to bring inclusive growth, human development in the North Eastern Region of India. The study examines the Dharti Aaba Janjatiya Gram Utkarsh Abhiyan under Pradhan Mantri Janjatiya Unnat Gram Abhiyan, the Central Sector Scheme for the Formation & Promotion of 10,000 Farmer Producer Organizations, the capacity building of Community Resource Persons–Enterprise Promotion & Business Development Service Providers as special project Pradhan Mantri Kaushal Vikas Yojana, Lakhpati didi under National Rural Livelihoods Mission, the Pradhan Mantri Van Dhan Yojana under Pradhan Mantri Janjatiya Vikash Mission and Skill India Mission. The paper is based on a comparative policy analysis, case studies, all the pertinent information have been collected from academic journals, policy reports of MSDE, MoRD, MSME & it's functional arms & different ministries. The study identifies the schemes objectives and grassroots outcome, gap of the policies. The findings of the present study suggest policy convergence is the key to transform the Northeast India into a hub of cohesive society and inclusive human development towards Viksit Bharat 2047.

BHARATH'S ECONOMIC TRANSFORMATION: PATHWAYS TO A SUSTAINABLE VIKASIT BHARAT

Author(s): Smt. Prajna Kamath

ABSTRACT

Bharath's aspiration to achieve developed nation status by 2047, under the vision of Vikasit Bharat, represents a transformative phase in its economic journey. This paper examines the pathway through which Bharat can ensure sustainable and inclusive economic growth. It analyzes structural changes in the economy, policy frameworks, and emerging sectors such as digitalization and renewable energy. The study also highlights key challenges, including inequality, unemployment, and environmental concerns. By integrating economic growth with sustainability principles, the paper concludes that a balanced and coordinated approach is essential to achieve long-term development goals.

From Liberalisation to atmanirbhar Bharat : police pathways

Author(s): Banshi Dineshbhai Kacha

ABSTRACT

India's economic policy framework has undergone a significant transformation since the liberalisation reforms of 1991. These reforms marked a shift from a state-controlled, protectionist regime to a market-oriented and globally integrated economy. Over the past three decades, liberalisation has contributed to high economic growth, increased foreign investment, and structural transformation, particularly in the services sector. However, recent global disruptions, including the COVID-19 pandemic and geopolitical tensions, have exposed vulnerabilities in global supply chains and external dependencies. In response, the Government of India introduced the Atmanirbhar Bharat Abhiyan in 2020, aimed at promoting self-reliance, strengthening domestic manufacturing, and enhancing economic resilience. This paper critically examines the transition from liberalisation to Atmanirbhar Bharat, analysing whether it represents a departure from or an evolution of the earlier policy paradigm. Using secondary data from institutions such as the Reserve Bank of India, World Bank, and International Monetary Fund, the study employs descriptive and analytical methods to evaluate policy outcomes. The findings suggest that Atmanirbhar Bharat is not a reversal of globalisation but a strategic recalibration aimed at balancing domestic capability-building with global integration.

“ENHANCING STUDENT ENGAGEMENT THROUGH ACTIVITY-BASED LEARNING: AN EMPIRICAL STUDY”.

Author(s): MANKIRAN VIRDHI

ABSTRACT

Abstract: Activity-Based Learning (ABL) has emerged as a successful pedagogical technique that focuses on active involvement and experiential learning in the classroom. This study investigates the influence of ABL in increasing student engagement among schoolchildren. Student involvement, which includes behavioural, emotional, and cognitive aspects, is critical for meaningful learning and academic achievement. The study employs a quantitative/qualitative (modify as needed) research methodology to investigate how activity-based tactics such as group work, role-playing, projects, and hands-on tasks affect students’ engagement in learning. The results show that ABL greatly enhances students’ attention, motivation, engagement, and conceptual understanding when compared to standard teaching approaches. Learners who get activity-based instruction show increased engagement and teamwork, which leads to better academic achievement. However, the study does highlight several challenges, such as time constraints, the need for trained teachers, and limited resources. Overall, the study shows that Activity-Based Learning is an effective strategy for increasing student involvement and suggests incorporating it into classroom procedures to support holistic development. The findings have consequences for teachers, curriculum planners, and policymakers who want to increase educational quality.

The Role of Sports Participation in Human Capability Development: A Systematic Review within the Viksit Bharat Context

Author(s): Mehraj Ud Din Ganaie

ABSTRACT

The Role of Sports Participation in Human Capability Development: A Systematic Review within the Viksit Bharat Context Mehraj Ud Din Ganaie ¹Research Scholar, Department of Physical Education, Central University of Kashmir, Ganderbal, India Email: mehrajganaie125@gmail.com, ORCID: 0009-0000-6085-206X Corresponding Author: Mehraj Ud Din Ganaie Abstract In modern times, sports participation has become one of the leading deciding variables for human potential and overall improvement. Global findings indicate that the execution of habitual exercise can lower risk by an estimated 20-30% in individuals for non-communicable disease, and benefits are also observed for a range of mental health outcomes (demonstrated ~15 -25%), contributing to greater well-being. The importance of sports and physical education in nurturing fitness, mental health, and social inclusion is vital for the realisation of India's dream of Viksit Bharat. This paper presents a systematic review to assess the role of sports participation on human capability orientation. Sports and physical activity also contribute significantly to cardiovascular fitness, cognitive function, and emotional stability in individuals involved regularly. In addition, involvement with sports is linked to higher levels of self-esteem, improved academic achievements and enhanced social interactions among youth. The review further emphasises the current scenario of sports participation in India, where despite numerous government programs, participation is still uneven due to sociocultural hurdles, infrastructure restrictions, and gender imbalances. The results highlight that playing sports is a strategic tool for the development of human capital and the advancement of the country, rather than just a pleasurable activity. Achieving the objectives of Viksit Bharat requires bolstering infrastructure, encouraging grassroots involvement, and incorporating physical education into educational systems. Keywords Sports Participation, Human Capability Development, Physical Education, Mental Well-being, Youth Empowerment

Governance, Decentralisation, and Local Development - Panchayati Raj, urban-rural synergy

Author(s): Shah Mohd

ABSTRACT

This paper analyses the interaction between governance, decentralization and local development with particular focus on the contribution of the Panchayati Raj institutions and syncretism between urban and rural areas. Decentralisation has become a crucial tool of empowering grassroots governance through the relocation of authority to make decisions to the local institutions, thus increasing participation, accountability, and effectiveness in the provision of public services. The Panchayati Raj institutions are very important as they enable inclusive development by meeting the needs of local people, mobilisation of resources and democratic participation at the village level. The paper also discusses the role of effective coordination between urban and rural regions in ensuring balanced regional development. Urban-rural synergy facilitates the movement of resources, knowledge, infrastructure and economic opportunities, minimizing differences and creating sustainable development. The discussion indicates that although the use of decentralised form of governance has enhanced local planning and implementation, issues like lack of financial autonomy, capacity issues, and administrative inefficiencies still remain a problem in their effectiveness. In this paper, an analytical approach is taken to conduct a literature review of the current literature on decentralisation and local governance, to identify the major trends, gaps and policy implications. It concludes by asserting that fair and sustainable local development requires strengthening of Panchayati Raj institutions, as well as, improving urban-rural connections. The results help to understand that inclusive growth can be promoted at the grassroots through governance reforms.

Public Health Vulnerability During ‘Nautapa’: An Empirical Study in East-Central India

Author(s): Moumita Pal

ABSTRACT

Rising summer temperatures have intensified heat-related health risks across the globe. Extreme heat is no longer an occasional event but a recurring seasonal challenge that affects everyday life and public health systems. Nautapa, a local terminology used in Chhattisgarh, stands out as a critical phase of extreme heat placing growing pressure on public health systems. This study examines the relationship between severe heat conditions during Nautapa and its possible health related outcomes in Raipur, the capital of Chhattisgarh. The analysis is based on data collected from remote sensing data and GIS, newspaper reports and meteorological observations. Summers in the recent years showing a noticeable increase in severity. During this period, air temperatures often approach or exceed 43°C while ultraviolet radiation levels also remain consistently high. These extreme conditions contribute to acute health impacts including heatstroke, dehydration, skin burns, ocular irritation and even causes deaths. Outdoor workers such as daily wage labourers and traffic police personnel along with elderly and economically vulnerable populations bear the greatest burden of heat exposure. Prolonged heatwaves intensify physiological stress and place additional strain on public health services particularly when combined with high humidity and delayed monsoon rainfall. Overall, the findings underscore the urgent need for regional heat action plans with targeted hotspots, effective early warning systems, improved occupational safety measures and selective public awareness initiatives to reduce avoidable heat-related deaths. These measures are essential for building urban resilience and protecting vulnerable populations under rapid climate changes events.

Hybrid Work Models in Higher Education: Implications for Faculty Well-being and Productivity

Author(s): FALGNI YOGESH MAKWANA

ABSTRACT

Hybrid work models have gained prominence in Indian higher education institutions as digital technologies enable flexible work arrangements. In the context of India's vision for Viksit Bharat 2047, higher education institutions play a critical role in fostering human capital and institutional effectiveness. This study examines the impact of hybrid work models on faculty well-being, with a particular focus on work-life balance, and explores its implications for productivity in academic settings. A quantitative research design was adopted using primary data collected from 55 faculty members in higher education institutions. A structured questionnaire based on a five-point Likert scale was used, and data were analysed using reliability analysis, descriptive statistics, correlation, and regression techniques. The findings reveal a significant positive relationship between hybrid work models and faculty work-life balance, indicating that flexibility and autonomy enhance the ability to manage professional and personal responsibilities. Drawing on the Job Demands-Resources (JD-R) framework, the study conceptualizes hybrid work as a job resource that supports faculty well-being. While productivity was not directly measured as a separate construct, the findings suggest that improved work-life balance may create favourable conditions for enhanced productivity. The study highlights the importance of institutional support and structured policies for the effective implementation of hybrid work models. The study offers important implications for higher education institutions in designing flexible and sustainable work practices aligned with the goals of Viksit Bharat 2047.

Artificial Intelligence and Digital Transformation in Tourism: Examining User Perceptions and Challenges among Tourists from Maharashtra

Author(s): Farha Deeba Hassan

ABSTRACT

Artificial Intelligence (AI) is a central force that's driving digital transformation in the tourism sector. Its reshaping how tourists plan, navigate, and experience their entire travel through its data-driven and real-time solutions. Despite its transformative potential, the effectiveness of AI-enabled systems is strongly influenced by its user perceptions and its associated challenges. This study examines the perceived limitations of AI within the broader context of digital transformation in tourism. It focuses on tourists from Maharashtra for this study. A quantitative research approach which is supported by qualitative insights was employed using primary data collected through a structured online questionnaire. The findings reveal that AI-enabled digital tools are widely utilized in travel planning and on the trip experiences. This clearly reflects a shift towards smart and technology-mediated tourism ecosystems. However, this transformation has its own challenges. Users express concerns regarding the reliability and contextual accuracy of AI-generated information. A continued preference for human interaction for personalised and culturally sensitive guidance is observed. Furthermore, respondents indicate that overdependence on AI may diminish the authenticity and spontaneity of travel experiences. These findings suggest that while AI is speeding up a digital transformation in tourism, its successful adoption is moderated by trust, user behaviour, and the need for balanced human-AI integration. The study contributes to understanding the evolving dynamics of technology-driven tourism and highlights the importance of designing user-centric, human like and trustworthy digital systems that can help enhance the entire travel experience.

AI Chatbots and Virtual Assistants Driving Employee Experience: A Study on Digital Transformation.

Author(s): ANANTHA KRISHNA S B

ABSTRACT

Abstract: Artificial intelligence (AI) integration into an organization is reshaping people-focused functions, such as human resources. This research analyzes the impacts of AI chatbots and virtual assistants in setting the employee experience and concerns the digital transformation of these sectors. The research is initiated to determine the effects of the above digital tools, considering important components of employee experience concerning access, responsiveness, personalization, and engagement. For purposes of this research, a detailed quantitative method is utilized. Primary data was obtained through the employment of a survey across various fields. Such data was followed by the use of advanced techniques to obtain the effects of AI use in increasing employee experience outcomes. The results show the swift impact of virtual assistants and AI chatbots in transforming service delivery to employees, in addition to the consistent and answer-ready support available round the clock. In addition to the benefits of chatbots and digital assistants, the research identifies several AI HR challenges, including algorithmic bias, the challenges of a digitally agile HR moderated by the experiences of the employees, and data privacy issues. To remain competitive, organizations need resilience, particularly in an age of innovation such as the current digital age. Among these challenges, the development of AI HR chatbots and digital assistants is becoming one of the most important factors in employee experience.

SUSTAINABLE LIVELIHOODS THROUGH SOCIAL ENTREPRENEURSHIP: EXPERIENCES OF TRANSGENDER COMMUNITIES IN TAMIL NADU

Author(s): SASIKALA.S.V

ABSTRACT

SUSTAINABLE LIVELIHOODS THROUGH SOCIAL ENTREPRENEURSHIP: EXPERIENCES OF TRANSGENDER COMMUNITIES IN TAMIL NADU Sasikala S.V. , Research Scholar (FT), Department of Cooperation, The Gandhigram Rural Institute(DTBU), Gandhigram, Tamil Nadu srisasi0@gmail.com Dr. B.Tamilmani, Senior Professor and Head of Cooperation and Dean School of Management Studies,The Gandhigram Rural Institute(DTBU), Gandhigram, Tamil Nadu drtamilmani.b@gmail.com

ABSTRACT In Tamil Nadu, transgender entrepreneurs are increasingly leveraging social enterprises to achieve both economic independence and social inclusion. Despite positive developments they still face significant challenges, including social stigma, limited access to finance, low formal education levels, market discrimination, and a lack of sustained policy implementation. Social enterprises play a crucial role by providing transgender individuals with market connections, mentorship, seed funding, and skill development. Simultaneously, new opportunities are emerging such as inclusive government initiative, growing social acceptance, digital platforms, and collaborations with cooperatives and self-help organizations. The aim of this study to evaluate the effectiveness of social enterprises in fostering entrepreneurship and empowerment, and to examine the primary obstacles and opportunities encountered by transgender entrepreneurs in Tamil Nadu. The findings are expected to support the development of inclusive entrepreneurial ecosystems, policy frameworks and social enterprises models tailored for underrepresented gender communities.

THE EMPIRICAL STUDY ON SOCIO-ECONOMIC EMPOWERMENT OF WOMEN IN TAMARAIPADI VILLAGE, DINDIGUL DISTRICT, TAMILNADU

Author(s): ANNAPOORANI P*, DR.SONKHOGIN HAOKIP**

ABSTRACT

The theme of this paper is India's strategic choices in the changing global order, in which India lives in villages. This paper explores decentralisation and local development as processes of rural women's empowerment through an empirical study in rural areas of India. This paper delves into the socio-economic empowerment of women in the Tamaraipadi rural region of Dindigul district, Tamil Nadu. This study examines women's education, health care, and decision-making authority as the major factors. The two spheres of empowerment considered primarily are social and economic empowerment of women in rural areas. This paper uses a quantitative data collection method and analyses the data using simple random sampling, based on an interview schedule and a structured questionnaire. The study's findings and suggestions focus on rural women's limited educational attainment, barriers to their decision-making autonomy, and the status of women's healthcare and sanitation facilities. The study concludes with policy recommendations to empower rural women economically and socially at both the household and societal levels.

Only Participation

Author(s): Prabakaran J, Dr. M R Swaminathan

ABSTRACT

Only Participation

Sustainable Pharmaceutical Policies for Viksit Bharat 2047: Integrating Environmental Risk, Green Chemistry and Regulatory Innovation

Author(s): Rutuja Salunke, Zubeen Hussain, Tushar Srivastav

ABSTRACT

The vision of Viksit Bharat 2047 necessitates a paradigm shift in pharmaceutical policy frameworks that harmonize industrial growth with environmental sustainability and public health imperatives. This study critically examines the integration of environmental risk assessment (ERA), green chemistry principles, and regulatory innovation within the Indian pharmaceutical sector. Adopting a qualitative, policy-analytical approach supported by secondary data from global regulatory guidelines and sustainability frameworks, the paper identifies key environmental challenges, including pharmaceutical residues, antimicrobial resistance, and carbon-intensive manufacturing processes. The analysis demonstrates that the adoption of green chemistry—encompassing safer solvents, process intensification, renewable feedstocks, and waste minimization—can substantially reduce ecological burden while improving process efficiency. Furthermore, embedding mandatory ERA into regulatory pathways enhances proactive risk mitigation and environmental stewardship. The study highlights the role of adaptive, risk-based regulatory systems, augmented by digital technologies, in accelerating the transition toward sustainable pharmaceutical practices. Economic instruments such as carbon markets, green financing mechanisms, and production-linked incentives are identified as critical enablers for industry-wide adoption. The findings underscore the necessity of multi-stakeholder collaboration among academia, industry, and policymakers to foster innovation and ensure compliance with global sustainability standards. The paper concludes that integrating environmental, technological, and regulatory dimensions can establish a resilient, low-carbon, and globally competitive pharmaceutical sector, thereby contributing to the realization of a sustainable and innovation-driven Viksit Bharat by 2047.

Financial Literacy leading to financial technology: an Systematic Equation Model Approach

Author(s): NEHA CHOUDHARY

ABSTRACT

Financial technology (Fintech) has an important role in managing finances. It is a technological innovation and is mostly related to financial literacy. It plays a Vital role in financial Inclusion. Financial technology has replaced the traditional banking system. It is the need of the hour to educate women about financial literacy and the adoption of financial technology. The study will use a structural equation model after confirmatory factor analysis with a sample of 404, which was collected through different women residing in Urban and Rural areas. Women are important contributors to the economy, and they also manage finances in the long term. The test was conducted using the JAMOV Software. The study extends the theory of the Acceptance Model and the theory of Planned Behavior to study the effect of latent variables on financial technology. There are three latent variables: financial attitude, financial behavior, and financial knowledge, and the outcome variable is the usage of financial technology. The study finds that the respondents who have high financial knowledge have a strong influence on Fintech adoption, where Financial Attitude and financial behavior do influence Fintech, but not much as financial knowledge

Intersecting Inequities: Gender Equity , Child Labour and Access to Justice in India-A Mixed-Methods Study from Assam.

Author(s): Dr.Lokman Ali

ABSTRACT

Sustainable Development Goals(SDG)-5,8,7 and 16 target gender equity,elimination of child labour and equal access to Justice.In india these goals are pursued separately despites evidence of overlap.However,policy and scholarship often adress these domains in isolation,overlooking their intersectional linkages.

River-Bed Agriculture as a Pathway to Sustainable Growth: Evidence from Watermelon Cultivation in Cooch Behar

Author(s): Mr. Kashi Kanta Barman, Assistant Profesor in Economics

ABSTRACT

River-Bed Agriculture (RBA) has emerged as an innovative and adaptive agricultural practice in flood-prone regions of India. As India marches towards the vision of "Viksit Bharat 2047," the optimization of underutilized river-bed (Diara) lands becomes a strategic necessity for achieving rural prosperity and food security. This paper examines the economic viability, climate resilience, and nutritional implications of river-bed agriculture, with special reference to watermelon cultivation in the river-beds of the Teesta, Torsa and Jaldhaka rivers in Cooch Behar district of West Bengal (26° 19' 27.08" N, 89° 27' 3.6" E). Using a conceptual and analytical framework supported by primary data from marginal farmers, the study employs a Cobb-Douglas production function to determine resource-use efficiency and marketing margins. The findings reveal a high Benefit-Cost (B:C) ratio, positioning river-bed agriculture as a low-capital, high-return venture ideal for landless laborers. Furthermore, the study evaluates the crop's role in climate-resilient agriculture, given its minimal dependency on groundwater and high tolerance to seasonal heat. However, marketing inefficiencies and price volatility remain significant barriers. The paper concludes that by integrating Farmer Producer Organizations (FPOs) and modern mulch technology, Cooch Behar can transform its river-beds into economic hubs. This transition supports the "Viksit Bharat" pillars of sustainable agriculture, nutrition security, and enhanced rural livelihoods, providing a scalable model for riverine districts across India.

AI-Driven Public Administration for Viksit Bharat 2047: A Psychological-Ethical Governance Framework

Author(s): MEERA M

ABSTRACT

As India advances toward Viksit Bharat 2047, Artificial Intelligence (AI) is emerging as a transformative force in public administration, reshaping governance, service delivery, and policy innovation. This paper critically examines how AI can strengthen India's governance architecture through a psychological, ethical, and institutional lens. Moving beyond technology-centric narratives, the study proposes that successful AI integration in governance depends not only on infrastructure but also on trust, perceived fairness, bureaucratic adaptability, and citizen-centric legitimacy. Using a macro-meso-micro analytical framework, the paper evaluates AI's role across national governance systems, organizational structures, and everyday administrative practices. It introduces two original conceptual constructs: Systematic AI Capacity (institutional readiness for AI integration) and Axiological AI Capacity (alignment of AI systems with democratic values, transparency, justice, and Indian humanism). Drawing on comparative governance models, Digital India initiatives, and behavioral insights, the study identifies critical barriers including algorithm aversion, ethical ambiguity, digital inequality, and institutional resistance. The findings argue that AI-led governance in India must be psychologically informed, ethically regulated, and strategically aligned with inclusive national development. The paper concludes that AI can become a cornerstone of Viksit Bharat only when governance systems integrate technological innovation with social equity, public trust, and constitutional accountability. By positioning AI as both a developmental and democratic instrument, this study offers a strategic roadmap for India's transition toward transparent, resilient, and citizen-responsive governance.

Impact of the US – China Trade Rivalry on India’s Roadmap to Viksit Bharat 2047

Author(s): Neethi Sai Thiyagarajan

ABSTRACT

The United States–China trade rivalry has become one of the most important developments shaping today’s global economy. What began as a tariff conflict in 2018 has gone on to disrupt global trade, supply chains, and investment flows. This paper explores how these changes affect India and what they mean for its goal of becoming a developed nation under Viksit Bharat 2047. The study shows that India has gained several opportunities from this situation. With companies looking beyond China under the “China+1” strategy, India has seen growth in exports, rising foreign direct investment, and expansion in sectors like electronics, pharmaceuticals, textiles, and IT services. At the same time, there are challenges for India such as continued dependence on Chinese imports, trade imbalances, infrastructure gaps, and global economic uncertainty. The paper also looks at how India is responding through initiatives like Make in India, Atmanirbhar Bharat, and Production Linked Incentive (PLI) schemes, which aim to strengthen domestic manufacturing and reduce external dependence. Overall, the paper argues that while the US–China trade rivalry creates uncertainty, it also presents a valuable opportunity for India. If managed well through the right policies and reforms, these global shifts can help India strengthen its position in the world economy and move closer to achieving Viksit Bharat 2047.

Sustainable Development and Climate Action Title of Paper

Author(s): Dr. Meenakshi Dubey

ABSTRACT

Viksit Bharat 2047 is the Government of India's ambitious vision to transform India into a developed nation by 2047, the 100th year of independence. It is a dream of every Indian and focuses on economic prosperity, social progress, environmental sustainability, and good governance, aiming for a self-reliant nation. It emphasizes citizen participation, especially youth, for structural reforms. For this mission work at all levels is going on encompassing equality, technological advancement, and sustainable governance. Major pillars of this movement are youth, poor, women and farmers. They have to be transformed for a developed nation. The aim is economic growth of 30\$-40\$ trillion with high per capita income. Social Development has a target of zero poverty, 100% quality education, and accessible healthcare. Most important target is sustainability means commitment to net zero carbon emissions and green growth. Communication both traditional and digital has an important role as a critical enabler in this transformation. This paper examines the multidimensional role of communication as a pathway toward achieving Viksit Bharat of 2047. It explores how communication facilitates policy dissemination, digital inclusion, behavioral change, innovation diffusion, and participatory governance. Using theoretical frameworks such as Development Communication Theory and Diffusion of Innovations, the study analyzes the intersection of communication infrastructure as telecom, media, ICT and national development. The paper argues that inclusive, transparent, and technologically empowered communication systems can bridge socio-economic divides, strengthen democratic engagement, and accelerate nation building. The findings suggest that communication is not merely a tool but a foundational pillar for realizing India's long-term developmental vision.

Green FinTech Adoption and Corporate Sustainability Performance: Evidence from Nifty 50 Companies

Author(s): Sayak Chakraborty

ABSTRACT

India's vision of Viksit Bharat 2047 emphasizes sustainable development, digital transformation, and responsible corporate growth. In this context, Green FinTech has emerged as a significant driver of environmental sustainability by integrating financial technology with green finance practices such as digital ESG reporting, green bonds, sustainability-linked financing, and paperless financial operations. This study examines the relationship between Green FinTech adoption and corporate sustainability performance among selected Nifty 50 companies in India. The research uses secondary data collected from annual reports, sustainability reports, ESG disclosures, and financial statements of ten major listed companies for the period 2016–2025. A Green FinTech Adoption Index is developed to measure the extent of digital and sustainable financial practices, while corporate sustainability performance is evaluated using ESG indicators and environmental disclosure scores. Correlation and multiple regression analysis are applied to assess the impact of Green FinTech adoption on sustainability outcomes. The findings are expected to highlight the positive role of financial innovation in supporting India's transition toward a resilient, inclusive, and sustainable economy aligned with the vision of Viksit Bharat 2047.

Only Participation

Author(s): Nishit Jadiya

ABSTRACT

Only Participation

DIGITAL LITERACY AND RURAL ENTREPRENEURSHIP DEVELOPMENT IN INDIA: A MIXED-METHOD STUDY”

Author(s): Amanpreet Kaur

ABSTRACT

Digital literacy is increasingly seen as a key enabler of rural entrepreneurship in India, where small businesses are adapting to a rapidly digitising economy. This study examines how digital skills influence the growth, sustainability, and innovation capacity of rural enterprises. Using a mixed-method approach, the research combines secondary data from government reports and surveys with primary insights gathered through interviews and questionnaires from rural entrepreneurs. The study explores how digital literacy affects access to markets, financial services, government schemes, and digital platforms such as e-commerce and mobile banking. The findings suggest that entrepreneurs with higher levels of digital literacy are better able to expand their customer base, reduce operational costs, and respond to market changes. At the same time, the study highlights persistent barriers, including limited internet access, lack of training, and low awareness of digital tools in many rural areas. Qualitative insights further reveal that social factors such as education, gender, and community support play an important role in shaping digital adoption. Overall, the research underscores that improving digital literacy can significantly strengthen rural entrepreneurship, but it must be supported by better infrastructure, targeted training programs, and inclusive policies. The study contributes to existing literature by linking digital capability with grassroots economic development and offers practical recommendations for policymakers and development practitioners.

INCLUSIVE FINANCE AND PENSION SCHEME ACCEPTANCE: A COMPARATIVE STUDY OF OPS, NPS AND UPS”

Author(s): Amanpreet kaur

ABSTRACT

Financial inclusion has emerged as a key driver of economic security and social equity, particularly in the context of retirement planning. This study examines the relationship between inclusive finance and the acceptance of pension schemes Old Pension Scheme (OPS), New Pension Scheme (NPS), and Unified Pension Scheme (UPS) in India, with a focus on Punjab. Based on secondary data drawn from government reports, policy documents, and published research, the paper explores how access to formal financial services, financial literacy, and digital banking influence individuals' perceptions and preferences regarding pension schemes. The findings suggest that higher levels of financial inclusion significantly enhance awareness and understanding of pension options, thereby shaping positive attitudes toward structured and contributory schemes like NPS and UPS. However, traditional preference for OPS persists due to perceived security and guaranteed benefits, especially among less financially included populations. The study also highlights the role of government initiatives such as Pradhan Mantri Jan Dhan Yojana and Atal Pension Yojana in expanding financial access and encouraging pension participation among marginalized groups. Furthermore, the analysis reveals a gap between access and effective utilization of financial services, indicating that inclusion alone is not sufficient without adequate financial awareness. The paper concludes that strengthening financial literacy and digital inclusion can play a crucial role in improving acceptance and informed decision-making regarding pension schemes. These insights are valuable for policymakers aiming to design inclusive and sustainable pension systems in India.

Digital Transformation and Inclusive Growth in Tumkur City: A City-Level Study on Challenges, Opportunities and the Road to Viksit Bharat 2047

Author(s): Dr. Anitha B R

ABSTRACT

Tumkur, one of Karnataka's prominent industrial and educational cities, sits at an interesting crossroads of urban aspiration and semi-rural reality. Known for its coconut farms, silk production, and growing IT presence, Tumkur city is attempting to ride the wave of India's digital economy while several of its wards and surrounding villages remain poorly connected. This paper focuses specifically on Tumkur city and its immediate outskirts to understand how digital transformation is unfolding at the ground level – what is working, what is not, and what needs to change. The study draws on field visits to different zones of Tumkur city, discussions with local traders, SHG members, students, auto drivers, and government office staff, as well as available secondary data from Karnataka state reports and national survey findings. The findings show a mixed picture: while smartphone penetration is reasonably high among youth and working-aged men, meaningful digital use for banking, healthcare access, grievance redressal, and livelihood improvement remains limited for women, older residents and daily wage workers. The paper concludes with practical, city-specific policy suggestions aimed at making Tumkur a genuine model for inclusive digital growth as India moves toward its 2047 development vision. Keywords: Tumkur city, digital inclusion, Viksit Bharat 2047, SHG, digital literacy

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Tumkur, one of Karnataka's prominent industrial and educational cities, sits at an interesting crossroads of urban aspiration and semi-rural reality. Known for its coconut farms, silk production, and growing IT presence, Tumkur city is attempting to ride the wave of India's digital economy while several of its wards and surrounding villages remain poorly connected. This paper focuses specifically on Tumkur city and its immediate outskirts to understand how digital transformation is unfolding at the ground level – what is working, what is not, and what needs to change. The study draws on field visits to different zones of Tumkur city, discussions with local traders, SHG members, students, auto drivers, and government office staff, as well as available secondary data from Karnataka state reports and national survey findings. The findings show a mixed picture: while smartphone penetration is reasonably high among youth and working-aged men, meaningful digital use for banking, healthcare access, grievance redressal, and livelihood improvement remains limited for women, older residents and daily wage workers. The paper concludes with practical, city-specific policy suggestions aimed at making Tumkur a genuine model for inclusive digital growth as India moves toward its 2047 development vision.

IMPACT OF ARTIFICIAL INTELLIGENCE ON INVESTMENT DECISIONS OF RETAIL INVESTORS IN MUMBAI CITY

Author(s): DR. SAHANA RAVIPRASAD

ABSTRACT

Artificial Intelligence (AI) is increasingly transforming the financial services sector by influencing how retail investors access information, evaluate alternatives, and make investment decisions. The present study examines the impact of AI-based investment tools on the decision-making process and investment behaviour of retail investors in Mumbai City. With the rapid growth of fintech platforms, widespread smartphone usage, and improved digital financial infrastructure, investors now have access to AI-driven recommendations, predictive analytics, robo-advisory services, and real-time market insights, significantly altering traditional investment practices. The research is based on both primary and secondary data, with primary data collected through a structured questionnaire from retail investors in Mumbai. The research analyses demographic characteristics, investment preferences, awareness and usage of AI-enabled financial tools, and the perceived benefits of AI in investment decisions. The findings indicate that AI positively influences retail investors by improving access to financial information, enhancing decision-making speed, offering personalised investment recommendations, and supporting risk assessment. AI-based platforms also contribute to greater investor confidence and convenience, thereby encouraging broader participation in modern financial markets. However, concerns relating to overdependence on technology, data privacy, and trust in automated recommendations remain relevant considerations. The study concludes that AI is playing a significant role in reshaping investment behaviour among retail investors and is becoming an essential component of contemporary investment decision-making. The research provides useful insights for fintech firms, policymakers, and investors regarding the adoption and effectiveness of AI in personal finance and investment management.

Rural Livelihood as Harmonious and Sustainable Development

Author(s): Monika

ABSTRACT

Rural Livelihood as Harmonious and Sustainable Development – A Gandhian Perspective M. Monika Guest Faculty Gandhian Thought and Peace Science The Gandhigram Rural Institute – Deemed to be University Gandhigram monikamani268@gmail.com Abstract Gandhiji's one of the fundamental principles for development is Rural Reconstruction, i.e. Rural livelihood. Rural livelihood denotes the opportunities and resources in remote places and in villages for living and development. In India, a total of 6.65 lakh villages with 2.68 lakh Gram panchayats and Rural local bodies exist. At present, there are several barriers and struggles for the village population to get employment and educational opportunities, due to the lack of infrastructure and facilities in rural areas. Subsequently, Gandhiji had given the framework for the model village with every facility needed for an individual and the community." My idea of Village Swaraj is that it is a complete republic, independent of its neighbours for its own vital wants, and yet interdependent for many others in which dependence is a necessity." Gandhiji had resigned from Congress in 1934 and went to Wardha and started the Sevagram Ashram in 1936, to experiment with village lifestyle and development patterns. After many of his experiments and research, Gandhiji had framed the thirteen-point Constructive Programme in 1941. The constructive programme encompasses all dimensions of development and a progressive approach. Moreover, Gandhiji's individual, social and economic thought and perspective, other than the constructive programme for rural livelihood, includes Self-control, Discipline, Vegetarian Lifestyle, Diet and Hygiene, Ends and Means, Rights and Duties, Trusteeship, Decentralisation, and Swaraj (Self-rule). This paper is going to highlight Gandhiji's Rural Reconstruction and Development approaches for sustainable and harmonious development in a descriptive way.

“INTEGRATING POKA-YOKE WITH DIGITAL TRANSFORMATION FOR OPRATIONAL IMPROVEMENT IN AUTOMOTIVE SMEs IN INDIA”

Author(s): E M RAMESH

ABSTRACT

In the age of Industry 4.0, Automotive Small and Medium Enterprises (SMEs) in India are increasingly adopting advanced technologies to improve operational efficiency, reduce production costs and improve the quality of products. But these industries are still suffering from human error, process inefficiencies, rework and production delays. The present research aims at the fusion of Poka-Yoke (mistake-proofing) solutions with digital transformation technologies as a strategic vector of operational improvement and cost-time effectiveness. Poka-Yoke, a significant element of Lean Manufacturing, is all about error avoidance at the source and early detection in the manufacturing process. When combined with digital technologies such as Internet of Things (IoT), Artificial Intelligence (AI), smart sensors and automation systems; Poka-Yoke becomes more intelligent, responsive and effective. This paper describes different types of Poka-Yoke, their application in automotive SME's and the need for digital transformation to enhance their effectiveness. The study underlines the significance of digital tools in addition to error-proofing methods to minimize defect rates, enhance productivity, allow real-time monitoring, and enable better decision-making. The results show that this integrated approach can improve the operational performance and also support sustainable manufacturing and competitive advantage. In conclusion, the paper suggests that automotive SMEs need to adopt an integrated Lean-Digital framework to survive in a highly competitive and technology-driven environment.

PROCRASTINATION: A SILENT HINDRANCE TO THE ACADEMIC AND CAREER SUCCESS OF YOUTH

Author(s): Hemant Shantanu Gothankar

ABSTRACT

Procrastination is a fundamental behavioral problem that quietly undermines the academic and career readiness of today's youth. The present study intends to find out the prevalence and multimodal effects of procrastination among undergraduates of Thane city. The research is quantitative and descriptive and analytical design and use a sample of 88 students. The study is limited to four areas: 1. Procrastination behavior; 2. Academic outcomes; 3. Emotional well-being; 4. Professional preparedness. The Mean Analysis and Pearson Correlation Coefficient were the statistical tools used to test the research hypotheses. Results show a significant positive correlation between procrastination and its negative effects, with the emotional domain (Mean 3.33) being the most affected domain. The findings suggest that procrastination is primarily a failure of emotional regulation, rather than a simple time-management issue. The research offers practical suggestions for students and academic institutions to mitigate these trends.

“Development and Evaluation of Climate-Resilient Millet-Based Functional Foods for Adolescent Nutrition”

Author(s): Ekata Meshram

ABSTRACT

Adolescent nutrition is a critical determinant of long-term health, growth, and cognitive development, yet adolescents remain a nutritionally vulnerable group due to increasing reliance on energy-dense, nutrient-poor foods. This shift in dietary patterns has contributed to rising nutritional deficiencies and poor health outcomes. Simultaneously, the growing impacts of climate change on food systems threaten food security, emphasizing the urgent need for sustainable and nutrient-rich dietary solutions such as millets. This study aims to develop and evaluate climate-resilient millet-based functional foods to enhance adolescent nutrition security and promote sustainable livelihoods. Millets, known for their low water requirements and resilience to climate variability, provide a sustainable approach to addressing nutritional deficiencies and environmental challenges. The methodology involved the development of millet-based food products, followed by sensory evaluation and acceptability testing among 150 adolescents aged 13–19 years. A structured questionnaire was used to assess dietary habits, awareness, and preferences related to millet consumption. Sensory attributes such as taste, texture, appearance, and overall acceptability were evaluated using a standard hedonic scale, and the data were analysed using appropriate statistical methods. The findings revealed a high level of acceptance for millet-based products, with significant variation across formulations. An improvement in awareness regarding the nutritional and environmental benefits of millets was also observed among participants. The results suggest that incorporating millet-based functional foods into adolescent diets can enhance nutritional outcomes while supporting climate-resilient agriculture and sustainable livelihoods. These findings have important implications for developing nutrition interventions, promoting sustainable food systems, and informing policies aimed at strengthening climate resilience and food security.

Role of Mutual Funds in Financial Inclusion and Retail Participation in India: Towards Viksit Bharat 2047

Author(s): Vaishnavi S

ABSTRACT

One way India aims to become a developed country by 2047 is through widespread involvement in finance. Not just big players but everyday people need to take part. Mutual funds help make this happen because they turn regular savings into investments that fuel economic growth. Because of them, more individuals can grow their money without relying on a single asset. Digital tools now bring these options straight to new and smaller savers. That shift opens doors where access once felt limited. As phones replace paperwork, more households find their footing in investing. This wider reach adds momentum to the bigger dream - lifting the whole nation forward. This work looks into how mutual funds help more people join the financial system, especially regular investors across India. Digital tools have made a difference - so has better understanding of money matters, along with easier access to investing options. The research uses secondary data from official regulatory reports, industry publications and other reliable financial sources. Now showing progress, mutual funds reach past city limits into fresh markets. Fresh faces show growing curiosity about investing. With clearer money knowledge, hurdles drop for many. Smoother steps into buying funds open doors wide. Digital tools shaped for ease pull more people in. Room remains to grow, yet paths forward appear clear. Putting it all together, the report wraps up by pushing for stronger efforts in teaching investors, making systems clearer, while using tech to open doors and grow confidence. With mutual funds at the center, its message shines through - these tools can lift people up economically, line up with India's long-term vision by 2047, then ripple out into fairer, lasting progress for everyone.

Surrogate Modeling of Regulatory Economic Impact: An ANN, SVR, and Random Forest Comparative Study "Code & Courts: Machine Learning for Economic Compliance"

Author(s): Syed Eirfan Atthar, Syeda Ezhana Arman

ABSTRACT

The intersection of legal frameworks and economic development is central to India's trajectory toward Viksit Bharat 2047. Traditional econometric models often fail to capture the complex, non-linear relationships between statutory regulations and real-world economic efficiency. This paper introduces a novel, interdisciplinary approach by applying machine learning and surrogate modeling to legal-economic analysis. We present a generalized surrogate modeling framework to assess the economic impact of corporate and technological regulatory compliance. By conducting a comparative study of Artificial Neural Networks (ANN), Support Vector Regression (SVR), and Random Forest models, this research quantifies the drag (compliance costs) and lift (economic growth and stability) generated by specific legal statutes. Utilizing domestic economic datasets juxtaposed against indices of regulatory stringency, the models are trained to predict the economic outcomes of proposed legislative changes. The findings reveal that while SVR provides robust boundary margins for strictly linear regulatory environments, Random Forest and ANN superiorly map the multi-variable, highly volatile impacts of modern digital and commercial laws. This study bridges the critical gap between qualitative legal theory and quantitative economic forecasting. Furthermore, it aligns with sustainable development goals by optimizing regulatory pathways for emerging sectors, offering policymakers a predictive tool to draft legislation that maximizes economic momentum while maintaining legal equity.

EXPLORING AI-ENABLED GOVERNANCE: CHARTING INDIA'S PATH TO SMART ADMINISTRATION

Author(s): Varalika Nigam

ABSTRACT

India's approach to Artificial Intelligence (AI) reflects a strategic shift toward smart administration, aimed at enhancing governance through efficiency, transparency, and citizen-centric service delivery. Guided by NITI Aayog's National Strategy for Artificial Intelligence (NSAI), the country is building a comprehensive AI ecosystem aligned with its vision of becoming a global leader by 2047. Key initiatives such as the IndiaAI Mission (2024), sector-specific Centres of Excellence, and proposed National Centres of Excellence for Skilling focus on strengthening institutional capacity, expanding access to advanced computing infrastructure, and developing a skilled workforce. A strong emphasis is placed on indigenous AI development, with initiatives like BharatGen, BHASHINI, and Sarvam-1 enabling multilingual, context-aware governance solutions. The IndiaAI Dataset Platform supports data-driven administration by providing access to high-quality non-personal datasets. Integration of AI with Digital Public Infrastructure (DPI), including Aadhaar, UPI, and DigiLocker, enables scalable and inclusive service delivery, demonstrated through applications such as AI-enabled crowd management and multilingual assistance. India adopts a principles-based regulatory framework centred on transparency, accountability, fairness, and inclusivity. However, challenges such as data governance, privacy concerns, energy demands, and potential job displacement persist. Addressing these requires adaptive regulation, sustainable practices, and workforce transition strategies, alongside stronger democratic oversight to ensure ethical and coordinated AI-driven governance.

CULTURAL VALUES, ETHICS AND GLOBAL INTEGRATION

Author(s): MS. CHARU MAHAJAN, MS. SHUCHI MAHAJAN

ABSTRACT

This review research paper examines the relationship between cultural values, ethics, and global integration in the context of an increasingly interconnected world. It highlights that individuals from different cultural backgrounds exhibit varied patterns of thinking and behavior, shaped by their traditions, beliefs, and social norms. These cultural differences influence perceptions of right and wrong, thereby affecting decision-making in both business and everyday life. For instance, some societies place greater emphasis on collectivism and teamwork, whereas others prioritize individual achievement. Such variations make it challenging to apply uniform ethical standards across different regions. The paper analyzes how key cultural dimensions, including individualism versus collectivism, power distance, and uncertainty avoidance, influence organizational behavior and ethical decision-making. It further identifies common ethical challenges in global business environments. For example, labor practices that are considered acceptable in one country may be viewed as unethical in another. Similarly, practices such as gift-giving may be culturally appropriate in certain regions but interpreted as corruption elsewhere. These complexities are particularly evident in multinational corporations operating across diverse cultural contexts. To address these challenges, the study outlines practical approaches for managing cross-cultural ethical issues. These include the development of clear codes of conduct, implementation of cross-cultural training programs, and adherence to fundamental ethical principles such as honesty, fairness, and respect. For instance, organizations may enforce a universal policy against bribery while still adapting to local cultural norms in areas such as communication and teamwork. The study emphasizes that effective global integration requires a balanced approach. Organizations must respect cultural diversity while upholding essential ethical values, including integrity, transparency, and accountability. In this regard, flexible and adaptive strategies are more effective than rigid, standardized approaches in managing global operations. The paper underscores the importance of cultural awareness and ethical compliance in a globalized environment. It also highlights the need for further research, particularly in developing economies and in the context of digital transformation, where cross-cultural interactions are rapidly increasing. Developing effective strategies to manage cultural diversity while maintaining ethical consistency is essential for achieving long-term global success.

Atmanirbhar Bharat vs. Asymmetric Interdependence: Rethinking India's Semiconductor Strategy in the AI Era

Author(s): Sandesh Kumar

ABSTRACT

Supervisor: Prof. SS Bindra Abstract The Indian government's Atmanirbhar Bharat project has raised semiconductor self-sufficiency to the level of national sovereignty, pouring a significant amount of policy attention into local semiconductor fabrication and import substitution. Yet, this strategic focus is premised on a conceptual conflation: that of dependence with vulnerability. This paper suggests that this conflation yields a misdiagnosis which steers Indian semiconductor policy off course. By building on the concepts of relative interdependence in the Keohane-Nye tradition of international political economy, the paper offers an alternative conceptual realignment: its strategic concern is not whether India is dependent on the international semiconductor network, but where it is located in the network. In high-tech industries marked by chokepoint bottlenecks and irreversible specialization, position in a network not autarky is the actual form of power. The paper uses structured policy analysis and value-chain mapping to assess current India semiconductor policy against this alternative conceptualisation, relying on secondary literature, statistical data, and case studies of South Korea, Taiwan, and the Netherlands. The analysis suggests that India's focus on full-stack fabrication is associated with disproportionate capital spending for weak strategic leverage, and disproportionate underinvestment in other segments advanced chip design, OSAT-layer packaging, and specialty materials in which it can attain and sustain asymmetric leverage. The paper concludes by outlining a doctrine of networked sovereignty, in which the goal of strategic autonomy is achieved not by withdrawing from interdependence, but by inserting into its most strategic nodes.

‘Conditional Cash Transfer and Sustainable Education for Girls’ through Kanyashree Prakalpa: A study in Border Regions of North Bengal’

Author(s): Mr. Nilay Kumar Deb

ABSTRACT

Abstract: Present study investigates the significance of conditional cash transfer schemes in ensuring sustainable education among adolescent girls in the border regions of North Bengal, with particular focus on Kanyashree Prakalpa implemented by govt. of West Bengal. The borderland districts of North Bengal are frequently marked by economic hardship, educational inequality, gender-based discrimination, early marriage practices, migration-related vulnerabilities, and inadequate institutional support systems. Within this socio-economic backdrop, maintaining continuity in girls’ education has emerged as a critical concern. The research emphasizes on understanding how financial assistance linked with educational participation, has influenced school retention, learning engagement, and the broader empowerment of girls in these marginalised regions. A mixed-method research design has been employed by combining quantitative educational data with qualitative responses collected from beneficiaries, parents, teachers, and other educational stakeholders. The study evaluates the effectiveness of conditional cash transfers in reducing school dropout rates, discouraging early marriage, promoting educational aspirations, and strengthening the decision-making abilities of adolescent girls. The findings reveal that conditional cash transfer initiatives have played a significant role in improving girls’ enrolment and participation in education across the border districts of North Bengal. The scheme has generated educational motivation and a degree of financial assurance among socio-economically backward families. Nevertheless, the long-term sustainability of girls’ education depends not only on financial incentives but also on wider social awareness, access to quality education, and institutional strengthening. The study concludes that conditional cash transfer programmes should be viewed not merely as welfare-oriented schemes, but as important instruments for promoting gender-sensitive development and enhancing human capabilities in borderland regions.

“Emotional Intelligence among School Teachers: Preliminary Evidence from Surat District in the Context of NEP 2020”

Author(s): Rachna Mehta

ABSTRACT

In the 21st century, education is pivotal in shaping students' futures. The significance of teachers' emotional competencies has become increasingly pronounced, particularly within the framework of the National Education Policy 2020, which emphasises holistic development and socio-emotional learning. This study aims to evaluate the level of emotional intelligence among secondary and higher secondary school teachers in selected schools in Surat District using the Schutte Self-Report Emotional Intelligence Test (SSEIT), which is based on Salovey and Mayer's (1990) original model of emotional intelligence consists of the appraisal of emotion in the self and others, the expression of emotion, the regulation of emotion in the self and others, and the utilization of emotion in solving problems by providing preliminary evidence from 50 teachers. The data was collected through a standardised instrument to measure Emotional Intelligence. The results indicate moderate emotional intelligence among school teachers. The findings highlight the need to strengthen teachers' emotional competencies to support the implementation of NEP 2020.

A STUDY ON DIGITAL INCLUSION AND ITS IMPACT ON ACCESS TO EDUCATION AND EMPLOYMENT OPPURTUNITIES AMONG YOUTH

Author(s): Adithyan K S, Amrutha Santhosh

ABSTRACT

The current paper explores the impact of digital inclusion on educational and employment opportunities for young people. Digital technologies have become a fundamental element of our life at present. It is becoming increasingly important to be able to use the internet and digital devices to gain new knowledge and acquire necessary skills. This study addresses the role played by variables such as the availability of the internet, digital skills, and availability of digital devices in facilitating learning and creating opportunities for finding jobs. The data used for conducting this analysis will be obtained through surveys of young people complemented by literature reviews. The results show that greater access to digital devices enables young people to take advantage of online education opportunities, improve their skills, and discover new job opportunities. At the same time, there are a number of obstacles which hinder access to digital opportunities.

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EMOTIONAL INTELLIGENCE IN HRM FOR SUSTAINABLE WORKFORCE DEVELOPMENT: A PATHWAY TO VIKSIT BHARAT 2047

Author(s): Bala Suriya S & Prof. Vijay Murthy

ABSTRACT

1] BALA SURIYA S II MBA (Education Management), Alagappa University (D.E), Karaikudi, TN 2] Prof. VIJAY MURTHY Assistant Professor, Vijaya College, RV Road, Basavangudi, Bangalore

ABSTRACT The field of organizational management shows continuous progress but Emotional Intelligence (EI) now serves as a vital element that supports both employee retention and work efficiency. This study investigates how Emotional Intelligence impacts Human Resource Management (HRM) practices to develop a sustainable workforce which supports Viksit Bharat 2047 goals. The paper shows that EI-based HR strategies which include recruitment and training plus leadership development and employee engagement initiatives create better organizational performance and stronger organizational resilience. Organizations achieve better work environments and lower employee turnover rates through applying emotional competencies to their HRM systems while their overall performance improves. The research demonstrates that emotionally intelligent HR practices create adaptive and innovative human capital which national development needs to thrive.

Exploring Women Empowerment Pathways to Village Development: Discovering a Case for Atmanirbhar Bharat

Author(s): Channaveer RM and Lokanath Sahoo

ABSTRACT

The pathways of women empowerment to village development in India is significantly associated. This study adopts a meta-synthesis methodology by using the qualitative case-based evidence from selected empirical studies to analyse the role of women empowerment and SHGs for the transformation of villages to achieve Atmanirbhar Bharat, thus setting a stage for Viksit Bharat by 2047. The study identifies consistent patterns in empowerment outcomes, including awareness building, economic participation, decision-making autonomy, and capacity development, ultimately contributing to poverty reduction and sustainable livelihood as macro-level influencers. In India, there is a need for inclusive and self-reliant rural transformation, and women are the key drivers of change to establish gender-driven community development. Women SHG-led intervention contributed to sustainable village development through livelihood diversification, community participation and local resource management, including emerging sectors such as micro enterprise development and community-based tourism. Women's collective action significantly enhances social capital and strengthens grassroots governance, which are essential for inclusive growth. The study discovered that integrating women empowerment strategies with policy frameworks can accelerate rural development and contribute to achieving the national goal of Viksit Bharat. This synthesis perspective provides solid evidence for scaling women-centric development models as sustainable pathways for holistic village transformation.

Global Expansion, Market Signals, and Digital Transformation: Evidence from Indian Steel Companies in the Viksit Bharat 2047 Framework

Author(s): Pooja Khirwadkar

ABSTRACT

India's vision of Viksit Bharat 2047 focuses on making India technologically superior & globally competitive. It also aims at economical inclusiveness. Throughout this journey, Indian companies have used abroad acquisitions to acquire sophisticated technology, expand into global markets and strengthen their position in international commerce. This study focuses on how the stock market reacts when major Indian steel companies, namely Tata Steel, JSW Steel, Essar Steel etc. announce overseas acquisitions. The study used the event study methodology to investigate abnormal returns (AR) and cumulative abnormal returns (CAR) around the announcement dates. The findings indicate that investor sentiments are varied. In certain circumstances, the market reacts positively because investors feel that these purchases would help companies achieve technical advancement, increase efficiency and help them expand globally. At the same time, some reactions are unfavourable due to concerns about high acquisition costs, financial strain and the difficulty of integrating foreign operations. These varied replies indicate that, while international acquisitions provide potential for expansion, they also carry major hazards. The paper stresses the growing relevance of cross-border acquisitions in achieving India's long-term development objectives under Viksit Bharat 2047. It demonstrates how such acquisitions can help Indian enterprises gain access to new technologies, improve industrial operations and expand their global presence.

Social media, mental health and productivity -an insight from survey based study

Author(s): Khushi gupta

ABSTRACT

India's economy has undergone a significant upheaval over the past few decades. Major economic reforms started when the government of India initiated the policy of 1991 namely globalization, privatization, and liberalization (LPG). These reforms had major ramifications on various sectors whether they were agricultural, manufacturing, or services sectors for the overall structural transformation. One of the major impacts from all those years can be seen in the service and technology sector where the country developed from the usage of letters for communication to the owning of smartphones, from the 14-year-old teenager to the 60-year-old man everyone owns a smartphone. Over the past few years Indian economy has merged into the digital economy where the usage of social media has been playing a major role. As per stats, India has a large number of social media users about 5.66 billion active social media users identified as of early 2026 representing 65% -70% of the world population. Also, social media can have the great relationship with mental health and productivity of the youth in India, which is the core objective of this study. This study examines this relationship with the help of using primary data collected through a well-structured questionnaire. The survey was conducted aged up to 27 years with a sample size of approximately 97 respondents through the convenience sampling. The study involves the use of quantitative approach using a Likert scale. While the findings are based on a limited sample size but it provides the great insight into the need for balanced social media use to enhance overall well being and efficiency.

“Digital Payment Systems in India: A Catalyst for Financial Inclusion”

Author(s): VANDANA SHARMA

ABSTRACT

In the last few years, digital payment systems have changed the way people in India carry out financial transactions. This study looks at how these systems are helping in improving financial inclusion, especially for people who earlier had limited access to banking services. The analysis is based on secondary data and existing reports to understand recent trends in digital payments. The use of platforms like Unified Payments Interface (UPI), mobile apps, and internet banking has increased rapidly. Government efforts such as Digital India, along with the growing use of smartphones and better internet facilities, have supported this growth. Because of this, more people are now able to take part in formal financial activities, even in rural and semi-urban areas. The study shows that digital payments have made transactions faster, easier, and more convenient, while also reducing the dependence on cash. At the same time, some issues still exist, such as lack of digital knowledge, limited access to technology in some areas, and concerns about safety and privacy. To conclude, digital payment systems are playing an important role in increasing financial inclusion in India. However, there is still a need to improve awareness, strengthen infrastructure, and ensure better security so that the benefits can reach everyone.

An analysis of problem faced by small businesses in GST and solutions

Author(s): Rashika Baskaran

ABSTRACT

The objective of the GST is to reduce the tax structure and improve compliance, but still the small businesses face certain difficulties and challenges. This study states the difficulties and other problems faced by small businesses in GST and suggests solutions. The main objective of the study is to find the level of dependency and the lack of guidance and awareness of the support systems and government support services, and also to suggest practical solutions. The descriptive method design uses primary data through a questionnaire, and the sample size is 15 respondents collected through the convenience sampling method and analyzed in percentages. The findings reveal that the respondents registered and filed regularly under GST face several challenges, depending on an expert for GST work and also face difficulties in filing and lack the technical knowledge. This study also shows the low awareness of GST support systems and government support services, with no proper guidance, and many of them need extra support from the Government. Therefore, the study suggests training startups, workshops or awareness programs, giving proper guidance, simplifying the procedures, to strengthen the support systems and create the local assisted centres, and an accessible grievance portal and reducing the burdens on small business owners by giving a standard fee format and reducing dependency on experts.

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Gender Wage Gap in Urban India: An Econometric Analysis for Viksit Bharat 2047

Author(s): Muskan Sharma

ABSTRACT

The gender wage gap has still been a recurring and structural aspect of the Indian urban labour market, even though there has been a significant rise in female literacy, educational attainment and labour market participation over the last ten years. This paper aims to investigate the level and the determinants of the gender pay gap in urban India empirically using an econometric model. The study uses Ordinary Least Squares (OLS) regression to determine the independent effect of its variables on wages by including important explanatory variables, including education, age (as a proxy of experience), sectoral employment, and the occupation type, in addition to gender as a dummy variable. The data are analysed using SPSS, with secondary data from credible government sources, such as the Periodic Labour Force Survey, National Sample Survey Office, Census of India and Labour Bureau of India. The results show that, although part of the wage disparity can be attributed to observable traits such as education and occupation, there remains a statistically significant portion that cannot be explained. This indicates structural inequalities and discrimination of women in the labour market in urban India. Considering India's vision of Viksit Bharat 2047, addressing gender wage inequality is important for achieving inclusive growth, social equity & sustainable economic development. The paper finds not only the need for human capital advancements but also institutional reforms, equal pay policies, encouraging formal jobs, and increased transparency in wage-setting processes.

Learning from Within: As Correlates of Intrinsic Motivation and Mathematics Achievement in Urban and Rural Secondary School Students in Kerala

Author(s): FEMEENA MM

ABSTRACT

This study investigates the relationship between intrinsic motivation and mathematics achievement among 150 secondary school students (75 urban, 75 rural) from Thrissur District, Kerala. Data were collected using Personal Data Sheet to gather demographic information, the Intrinsic Motivation Inventory (IMI) to assess the intrinsic motivation level of students, and an Achievement test to measure Mathematics performance. The IMI, grounded in Self-Determination Theory, measures five dimensions: Enjoyment, Perceived Competence, Pressure/Tension, Perceived Choice, and Value/Utility (Vera Monteiro et al., 2015). The study examines whether urban-rural differences exist in intrinsic motivation levels and their relationship to mathematics performance. The collected data were analysed using appropriate statistical techniques such as Measures of Central tendency and Variability for finding comparison used as Measures of Correlation and regression analysis. Results revealed a statistically significant positive relationship between intrinsic motivation and mathematics achievement, indicating students with higher intrinsic motivation demonstrate superior mathematics performance. This finding aligns with established research showing intrinsic motivation as a significant positive predictor of academic achievement. These results have important implications for teachers, school counsellors, and educational policymakers in designing strategies to strengthen the Intrinsic Motivation and Achievement link across diverse educational settings, particularly considering urban-rural contextual differences in motivation patterns.

Inclusive Education, Youth Empowerment and Skill Development: Quality Education, NEP2020, Employability and India's Demographic Dividend

Author(s): JAGDISHBHAI BHAGUBHAI PATEL

ABSTRACT

India is one of the youngest countries in the world, with a large population of youth. This young population is considered India's biggest strength and is known as the "demographic dividend." If the youth receive proper education, skills, employment opportunities, and support, they can contribute greatly to the economic and social development of the nation. However, if quality education and job opportunities are not available, this demographic advantage can become a challenge. Therefore, inclusive education, youth empowerment, and skill development are very important for building a developed India under the vision of Viksit Bharat 2047. This research paper studies the relationship between inclusive education, quality education, employability, skill development, and India's demographic dividend in the context of the National Education Policy (NEP) 2020. Inclusive education means providing equal learning opportunities to all students regardless of caste, gender, religion, disability, economic background, or geographical location. It aims to remove discrimination and ensure that every learner gets access to education and personal growth. The National Education Policy 2020 is an important educational reform introduced by the Government of India to improve the education system. NEP 2020 focuses on holistic learning, vocational education, digital literacy, critical thinking, flexibility in subject choices, and skill-based education. The policy also emphasizes practical learning and employability so that students become job-ready and capable of meeting modern industrial and technological needs. The paper highlights that skill development is necessary for reducing unemployment and improving productivity. In today's competitive world, employers require communication skills, digital knowledge, teamwork, creativity, and problem-solving abilities. Traditional education often focuses more on theoretical knowledge and less on practical skills. Therefore, there is a need to connect education with industry requirements and modern technology. The study also discusses major challenges in India's educational system such as poverty, regional inequality, digital divide, lack of infrastructure, gender discrimination, unemployment, and shortage of trained teachers. Many students, especially from rural and marginalized communities, still face difficulties in accessing quality education and digital resources. These challenges must be addressed to achieve inclusive growth and national development. The research concludes that education and skill development are the foundations of Viksit Bharat 2047. NEP 2020 provides a strong framework for transforming India into a knowledge-based and skilled economy. However, successful implementation requires cooperation between government, educational institutions, industries, teachers, and society. By ensuring inclusive and quality education, promoting youth empowerment, and developing employable skills, India can successfully utilize its demographic dividend and become a developed, self-reliant, and globally competitive nation by 2047.

Renewable Energy as a Mitigation Strategy for Climate Change: Pathways, Challenges, and Policy Implications

Author(s): SELUNG KONAI EMMANUEL and WAIKHOM DORENDRAJIT SINGH

ABSTRACT

Climate change, largely driven by anthropogenic greenhouse gas (GHG) emissions, poses a pressing global challenge that demands immediate and sustained mitigation efforts. The energy sector, as one of the largest contributors to global emissions, plays a pivotal role in addressing this issue. Renewable energy (RE) technologies including solar, wind, hydropower, biomass, and geothermal provide viable low-carbon alternatives capable of transforming existing energy systems. This study assesses the effectiveness of renewable energy in mitigating climate change through a comprehensive review of recent literature, global datasets, and policy frameworks. The findings indicate that renewable energy adoption substantially reduces carbon emissions, improves energy security by diversifying supply sources, and fosters economic growth through job creation and technological innovation. Despite these benefits, several challenges persist, such as the intermittent nature of some renewable sources, inadequate infrastructure, and inconsistent policy support across regions. The study concludes by emphasizing the need for stronger policy alignment, investment in grid modernization, and technological advancements to accelerate the global transition toward a more sustainable and resilient energy future.

The Intelligent Infrastructure: AI-Driven Evolution of Societal Pillars

Author(s): Thari Maneesha

ABSTRACT

This study explores the paradigm shift catalyzed by Artificial Intelligence (AI) and Digital Transformation across the fundamental pillars of modern society: Agriculture, Industry, Tourism, Education, Healthcare, Public Services, and Security. By integrating advanced computation and data analytics, these sectors are transitioning from siloed, manual systems into a cohesive, intelligent infrastructure that prioritizes precision and agility. In the primary and secondary sectors, Agriculture and Industry, AI facilitates autonomous precision farming and "Smart Factories," drastically reducing waste and maximizing output. Simultaneously, the digital evolution of Education and Tourism fosters hyper-personalization, breaking geographic barriers through immersive technologies. Crucially, the deployment of AI in Healthcare and Public Services enables predictive diagnostics and streamlined governance, while in Security, it provides the proactive surveillance and threat detection necessary for a stable society. However, this transition necessitates a robust ethical framework to manage data integrity and algorithmic bias. This paper argues that the convergence of these seven domains via digital innovation creates a synergistic "multiplier effect" on national development. Ultimately, mastering this digital synergy is the definitive factor in achieving sustainable economic growth and a modernized, citizen-centric social contract in the 21st century.

CLIMATE CHANGE, ENERGY TRANSITION AND ENVIRONMENTAL SUSTAINABILITY

Author(s): SEEMA

ABSTRACT

Climate change is fundamentally changing global priorities and requires immediate action through energy transitions and sustainable practices. The rising greenhouse gas emissions from our dependence on fossil fuels are worsening ecological degradation and increasing socio-economic risks. Renewable energy technologies, such as solar, wind, hydroelectric and bioenergy, offer effective pathways for decarbonization while also improving energy security and resilience. The transition to clean energy constitutes not merely a technological shift but also a societal transformation that requires cohesive policies, innovative financing solutions and inclusive participation from various stakeholders. Recent advancements in energy storage, smart grid technology and decentralised energy systems have significantly improved the reliability of renewable energy sources, placing them at the forefront of climate mitigation strategies. Beyond their potential to reduce emissions, the adoption of renewable energy contributes to broader sustainability objectives, including enhanced public health, diminished resource dependency and equitable access to energy. Case studies from a variety of regions illustrate how renewable energy can synergistically promote environmental protection and socio-economic development, particularly within rural contexts. Nonetheless, ongoing challenges related to infrastructure, governance and investment underscore the imperative for coordinated global efforts and the exchange of knowledge. Consequently, renewable energy is situated within the comprehensive framework of climate resilience and sustainability, acting as a unifying component that connects technological innovation, policy development and social equity. The energy transition symbolises a collective commitment to safeguarding ecosystems, advancing economic opportunities and ensuring a sustainable future.

A study of India's organic products market

Author(s): BHARVADIYA BHARTIBEN RANMALBHAI

ABSTRACT

ભારતના જૈવિક ઉત્પાદનોના બજારનો વિકાસ છેલ્લા કેટલાક વર્ષોમાં નોંધપાત્ર રીતે વધ્યો છે. આરોગ્ય પ્રત્યે વધતી જાગૃતિ, પર્યાવરણના સંરક્ષણ પ્રત્યેની ચિંતા અને રસાયણ મુક્ત ખોરાકની માંગ વધવાથી જૈવિક ઉત્પાદનો તરફ ગ્રાહકોનું આકર્ષણ વધી રહ્યું છે. કોઈપણ દેશના ટકાઉ વિકાસ માટે તે દેશમાં ઉત્પાદન થતી વસ્તુઓ જૈવિક હોવી જરૂરી છે. આપણા દેશમાં હરિયાળી ક્રાંતિને લીધે જૈવિક ઉત્પાદન ઘટ્યું અને રાસાયણિક ઉત્પાદન ખૂબ વધ્યું. પરંતુ તેના લીધે ખેતી ખર્ચાળ બની અને ઉત્પાદકતામાં લાંબા ગાળે ઘટાડો જોવા મળ્યો. ઉત્પાદનો ઝેર યુક્ત હોવાથી લોકોનો આહાર પણ ઝેર યુક્ત બન્યો. હવે આધુનિક સમયમાં ખાસ કરીને કોરોના કાળ પછીથી જૈવિક ઉત્પાદનો અંગે જાગૃતિ આવી અને લોકો તેનો ઉપયોગ કરતા થયા. ખેડૂતોએ પણ આ ખેતી તરફ પ્રયાણ કર્યું. પરંતુ જૈવિક ઉત્પાદનને વિશિષ્ટ બજાર અને યોગ્ય કિંમતની જરૂરિયાત હતી. આથી તેની વેચાણ વ્યવસ્થાને જાણવા તેના બજારનો અભ્યાસ જરૂરી છે. અહીં વર્ષ 2019 થી 2024 સુધીના સમયગાળામાં જૈવિક પેદાશના બજારમાં આવેલા પરિવર્તનો દર્શાવવામાં આવ્યા છે. જેમાં જૈવિક ઉત્પાદનનો વિસ્તાર, તેના બજારનું કદ, ઘરેલૂ બજાર તથા આંતરરાષ્ટ્રીય બજારમાં તેની માંગની સ્થિતિ દર્શાવવામાં આવી છે. ભારતની જૈવિક પેદાશની માંગ રાષ્ટ્રીય અને આંતરરાષ્ટ્રીય બજાર બન્નેમાં રહે છે. આંતરરાષ્ટ્રીય બજારમાં જૈવિક પેદાશની માંગ વર્ષ 2021 માં 8.9 મિલિયન ટન હતી. તે 2024 માં 2.6 મિલિયન ટન થઈ. જ્યારે રાષ્ટ્રીય બજારમાં જૈવિક પેદાશની માંગ વર્ષ 2021 માં 2550 કરોડ હતી તે વર્ષ 2024 માં 3340 કરોડ થઈ. આંતરરાષ્ટ્રીય બજારમાં ભારતની જૈવિક પેદાશોના બજારના કદમાં ઘટાડો અને રાષ્ટ્રીય બજારમાં જૈવિક પેદાશોના બજારના કદમાં વધારો થતો જોવા મળે છે.

Does Auto-Pay Reduce the Pain of Payment? A UX Study of Digital Spending

Author(s): Rashmi Sunil Pandey

ABSTRACT

The brisk adoption of digital payment systems has mutated consumer spending behaviour patterns, specifically through the evolving application of auto-pay and subscription-based models. While these systems accommodate convenience, they may also demote user's awareness of their spendings, a fact linked to the notion of the 'pain of payment'. This investigation aims to determine how autopay mechanisms impact financial awareness and spending patterns, and whether UX-based mediation can diminish these effects. Through structured questionnaire data has been collected from agile digital payment users to collate financial awareness between auto-pay and manual payment UX friction and subscription spending behaviour. Additionally, research explores the impact of UX-based financial nudges like reminders, spending summaries which helps in re-establishing user awareness. The findings seek to present lower engagement with auto-pay systems, weakens financial awareness and promotes higher spending, whereas an effective nudge develops more user control and awareness. This research expands understanding of behavioral economics and user experience design, suggesting practical insights to increase transparency and user control over digital transaction spaces.

Nutritional and Hygiene Practices Among Under-5 Moderately Wasted Children in Rural Maharashtra: A Descriptive Study

Author(s): Ganesh Anantrao Mane, Shamim Mohammad

ABSTRACT

Abstract Background Moderate Acute Malnutrition (MAM) in the rural areas of India and especially Maharashtra continues to be a significant public health concern. Identifying the interplay between nutritional intake, hygiene behaviors, and morbidity is essential for developing effective community-based interventions. **Objectives** 1. To understand the different nutritional and hygiene practices among under-5 children with Moderate Acute Malnutrition. 2. To identify the morbidity patterns among moderately wasted children. 3. To recognize the socio-demographic and environmental factors responsible for malnutrition in this cohort. **Methods** A cross-sectional descriptive study was conducted in the rural part of Pune district, Maharashtra, between June 2025 and July 2025. A total of 290 children under the age of five, Moderate Acute Malnutrition were involved. Data were collected using a pre-designed and pre-tested questionnaire administered to parents. **Results** 152 (52.4%) were males, and 204 (70.3%) belonged to BPL households. Maternal education was low, with 66.2% having primary/secondary education. Recurrent morbidity was observed, with 80 children (27.6%) experiencing ≥ 3 illness episodes in the past six months, while 42 (14.5%) had current symptoms. Dietary patterns revealed high reliance on cereals (284; 97.9% daily), with inadequate intake of protein-rich foods (182; 62.8% weekly or less) and frequent consumption of non-nutritive snacks (165; 56.9%). **Conclusion** The research shows that MAM in rural Pune results from two factors which include insufficient dietary diversity and economic limitations. The public understands basic hygiene practices, yet people continue to experience wasting because they consume excessive amounts of non-nutritive snacks and their food options remain restricted.

Strengthening Occupational Health and Safety for Unorganized Women Construction Workers in India

Author(s): R.KALAIVANI

ABSTRACT

India's construction sector employs tens of millions of people, yet the women within it remain largely uncounted and unprotected. They mix concrete, carry bricks, and work 10–12 hour shifts in punishing heat — often without contracts, safety equipment, or pay equal to their male counterparts. Most migrated from rural poverty with few alternatives. The system treats them as less skilled, so it mostly ignores them. This study examines the reasons for the inadequacy of India's occupational health and safety frameworks for these workers. Drawing on data from the Ministry of Labour, the eSHRAM portal, and DGFASLI records, the research maps a troubling pattern: around 48,000 people die from work-related causes in India each year, and roughly a quarter of those deaths happen on construction sites. Women are underrepresented in the incident data not because they're safer, but because their risks go unrecorded. Basic facilities — toilets, crèches, health monitoring — are scarce or absent on most sites. The Building and Other Construction Workers Act has been on the books for thirty years. Welfare funds have accumulated. Yet most workers have never heard of either. The paper argues for concrete interventions: mobile eSHRAM registration camps, site inspections that track outcomes by gender, and mandatory digital wage payments to expose and close the pay gap. The "Viksit Bharat 2047" vision cannot be constructed on imperceptible labor. Occupational safety must be regarded as a right, rather than a privilege exclusive to workers in formal sectors.

The Imperative of Epistemic & Epistemological Swaraj: Gandhi's Critique of Enlightenment Rationality

Author(s): Harsh Vasudatta Thakur

ABSTRACT

The paper provides a new interpretation of Mahatma Gandhi's critique of modern civilisation, presenting it as an opposition to the Enlightenment rationality, not to modernity as such. Using Hind Swaraj, the paper shows that Gandhi's main concern lies in the separation of instrumental rationality from its purpose. Where Enlightenment philosophers, including Immanuel Kant and René Descartes, considered the autonomy of reason and scientific development as the key features of modernity, Gandhi revealed how such a rationality becomes independent of ethical and spiritual goals, resulting in moral alienation, unbridled desire, and violence. The paper also explains how colonial railways illustrate the instrumental nature of rationality by supporting colonial exploitation, centralisation, and a lack of independence. Instead, Gandhi's idea of Swaraj isn't merely individual and social but is rooted in an alternate form of rationality focused on self-control, truth, and non-violence, wherein the means cannot be separated from their ends. Hence, Gandhi is not an antimodern philosopher, but a critical commentator on the epistemological principles of modern Western civilisation. And his idea of Swaraj includes epistemic and epistemological Swaraj.

Role of FinTech in Advancing Digital and Financial Inclusion for Vikshit Bharat 2047

Author(s): Hemapriya

ABSTRACT

The challenge for banks today is shifting from the traditional profit-driven business model to one that provides value to customers and is socially and environmentally responsible. The use of AI (e.g. big data, machine learning) that banks currently have available allows them to support their own businesses and achieve sustainable outcomes. The various methods in which they can benefit from using AI technology will be outlined in this report, but we will primarily focus on the ways in which AI is impacting banks' ability to operate more efficiently. In addition to discussing these examples, this report will provide examples of actual banking situations occurring and/ or were conducted in countries around the world, whereby banks were able to enhance their decision-making capabilities with respect to approving loans, detecting fraud, and determining if there are any potential environmental concerns associated with the portfolios they manage, using AI. As a part of this research, we also will address some of the challenges banks may be encountering as the result of the use of AI technology, including consumer/consumer data security and privacy, issues of transparency surrounding the fairness and accuracy of AI technology, and compliance with any and all applicable regulatory requirements imposed by statutory agencies or regulatory authorities. The road to sustainable banking with the assistance of AI is challenging. In order for financial institutions to develop and implement AI, they need to combine new technologies with strong ethical practices and effective governance. The study also suggests that AI can provide the ability to enhance banking operations (in terms of both speed and cost), but that the broader goal of AI implementation is to improve societal outcomes through banking for both the future and the environment. Those banks who are able to successfully implement AI will have a competitive edge over their competitors and at the same time, will be providing positive contributions to society.

Reimagining Economic Growth in India: The Role of FinTech in Achieving Viksit Bharat”

Author(s): Amidala Sunitha

ABSTRACT

“Reimagining Economic Growth in India: The Role of FinTech in Achieving Viksit Bharat Fin Tech, or financial technology, has been a major force behind India's economic revolution, changing the country's financial landscape and advancing Viksit Bharat 2047. Through improved digital finance and inclusive development, Fin Tech technologies can reimagine economic progress, as this paper explores. Fin Tech has greatly increased the accessibility, effectiveness, and transparency of financial services by using technology like block chain, digital payment systems, mobile banking, artificial intelligence, and data analytics. It has made transactions easier, decreased reliance on cash-based systems, and increased financial access for underserved and unbanked groups. The study emphasizes how government programs like Digital India, Unified Payments Interface (UPI), Pradhan Mantri Jan Dhan Yojana (PMJDY), and Aadhaar-enabled services help to build digital infrastructure and hasten the adoption of FinTech. These programs have promoted equitable economic growth by fostering financial inclusion, especially among marginalized populations, small companies, and rural communities. The FinTech ecosystem has a number of drawbacks despite its benefits, such as cybersecurity threats, complicated regulations, low levels of digital literacy, and inequities in infrastructure. For digital finance to expand in a way that is secure, inclusive, and sustainable, these problems must be resolved. The study comes to the conclusion that FinTech is a potent catalyst for changing India's financial environment and promoting equitable economic growth. FinTech will be crucial to accomplishing the goals of Viksit Bharat, guaranteeing a more inclusive, effective, and digitally empowered economy, with sustained technological innovation, favorable legislative frameworks, and enhanced digital accessibility. Key words: FinTech, Digital Finance, Viksit Bharat 2047, Financial Inclusion, Economic Growth, Digital India, UPI, Artificial Intelligence , Blockchain

India's Integration into Global Value Chains: Challenges and Opportunities for Achieving Viksit Bharat 2047

Author(s): Geetha D

ABSTRACT

India stands at a critical turning point in its economic history. The vision of Viksit Bharat 2047 a developed India by the centenary of independence is not simply a political aspiration; it represents a measurable target that demands deep structural transformation of the Indian economy. Central to this transformation is the question of how India positions itself within global value chains (GVCs) those complex, cross-border networks through which goods are designed, produced, assembled, and delivered to final consumers. This research examines India's current position in GVCs, the factors limiting deeper integration, and the pathways through which India can move from being a low-value raw material and assembly-stage participant to a high-value, knowledge-intensive contributor. Drawing on data from the World Bank, UNCTAD, OECD Trade in Value Added (TIVA) database, and India's own Ministry of Commerce and Industry reports, this paper identifies four core sectors electronics, pharmaceuticals, textiles, and digital services as pivotal battlegrounds for India's GVC ambitions. The research develops an AI-assisted diagnostic model that maps India's GVC readiness across five dimensions: infrastructure quality, regulatory environment, labour skill levels, technological adoption, and trade logistics performance. Findings indicate that while India holds genuine competitive advantages in services and pharmaceuticals, it continues to lag in electronics manufacturing and logistics two areas where China and Vietnam have built commanding positions over two decades. The paper argues that India's GVC integration cannot be achieved through policy statements alone. It requires sustained investment in people, infrastructure, and governance reform. Without coherent action across these dimensions, the Viksit Bharat 2047 goal risks remaining aspirational rather than achievable.

State Finances in Bihar: Revenue Dependence, Expenditure Priorities, and Fiscal Sustainability

Author(s): Baikunth Roy

ABSTRACT

This paper examines the fiscal architecture of Bihar, one of India's most fiscally constrained states, through the lens of revenue composition, expenditure priorities, and sustainability indicators. Drawing on Bihar's Budget 2026-27, Economic Survey 2025-26, CAG audit reports, and NITI Aayog's fiscal analysis, the study finds that Bihar's own tax and non-tax revenues have persistently contributed only about one-fourth of total revenue receipts over the past two decades, with central transfers making up the remaining three-fourths. Although own tax revenue relative to GSDP has gradually risen to around 6.2 percent, non-tax revenue remains stubbornly stagnant at 0.6 to 0.7 percent of GSDP. Bihar's revenue balance has also weakened visibly, with its revenue receipts-to-expenditure ratio declining from 1.1 in 2019-20 to 0.9 in 2025-26. Debt outstanding stands at roughly 38.9 percent of GSDP, and the fiscal deficit reached 9.2 percent of GSDP in 2024-25, nearly double the national average. On the expenditure side, committed liabilities such as pensions, interest payments, and debt servicing are steadily crowding out discretionary development spending, which has remained stagnant at roughly two-thirds of total expenditure. The paper concludes that Bihar's fiscal challenge is fundamentally structural, requiring sustained reforms in own-revenue mobilisation, expenditure rationalisation, and reduced dependence on intergovernmental transfers.

Democratic Rights and AI Surveillance in India

Author(s): Tamanna Begam

ABSTRACT

The growing proliferation of Artificial Intelligence (AI) in surveillance practices has raised serious apprehensions about its consequences for democratic rights in India. This article examines the use of AI-enabled systems, such as facial recognition and data-driven policing, to interrogate their implications for privacy, accountability, and state power. While often justified on the basis of national security and administrative efficiency, these technologies present serious challenges to fundamental rights, including the right to privacy, individual autonomy and freedom of expression. The study is qualitative and analytical, and uses constitutional principles, policy developments and judicial interpretations. The landmark judgment of Justice K.S. Puttaswamy v. Union of India, which recognised privacy as a fundamental right under Article 21, is used. It also engages with current debates on AI ethics and surveillance to assess the adequacy of India's regulatory framework and institutional safeguards. The paper says that as AI surveillance grows without strong laws or proper oversight, governments can end up with too much power. That means we could face problems like misuse of data, profiling, exclusion, and losing basic freedoms. It wraps up by pointing out that AI can definitely make governments work better, but if we want to protect democracy in this fast-changing digital world, we need transparency, accountability, and tougher legal protections.

Algorithmic Social Justice and Gender Equality: Child Labour, Welfare Inequalities and Access to Justice in the Era of Intelligent Governance

Author(s): A. R. Asha Juliet

ABSTRACT

The increasing implementation of algorithmic governance in public welfare institutions is transforming how states address social inequalities, particularly in the areas of child welfare and the justice system. While artificial intelligence (AI) is often praised for its potential to enhance efficiency, predictive accuracy, and scalability, there is mounting evidence that these systems may reinforce or exacerbate existing gender and socio-economic disparities. This research examines the connection between algorithmic decision-making, gender equity, vulnerability to child labour, and access to justice. This study utilizes a mixed-method research design that includes secondary datasets, policy analysis, and comparative case studies from both developing and developed welfare systems. Research indicates that algorithmic tools used for welfare targeting, risk assessment, and service allocation often contain historical biases within their training data. These biases disproportionately impact marginalized populations, particularly girls, resulting in higher rates of exclusion errors, increased risk of misclassification, and limited access to protective services. The study presents an Algorithmic Equity Model that emphasizes transparency, bias auditing, the inclusion of gender-sensitive data, and governance based on child rights. This model aligns with global development priorities and underscores the need for regulatory oversight and ethical deployment of AI in welfare systems. The research contributes to ongoing discussions about equitable digital governance and provides policy recommendations for creating justice-oriented, inclusive algorithmic systems.

EcoPack-AI: An AI-Driven Web Platform for Sustainable and Cost-Efficient Packaging Recommendations

Author(s): Sneha Porwal

ABSTRACT

EcoPack-AI is an AI-driven web platform developed to support sustainable and practical packaging selection for e-commerce and product-shipment workflows. Unlike static recommendation systems, the platform combines image-based product recognition with context-aware packaging logic to generate internal and external packaging suggestions tailored to the item and shipment conditions. The system uses a React frontend, a Flask backend, a fine-tuned MobileNetV2 model for product classification, and MongoDB-backed storage for prediction history, feedback, and vendor data. In addition to classification, the platform provides top-3 predictions, packaging explanation scores, alternative packaging strategies, vendor matching, and report-ready outputs. The model was trained on a curated dataset of 5921 images across 30 product classes and achieved 77.15% validation accuracy with 95.58% top-3 accuracy. These results indicate that EcoPack-AI is effective as an assisted decision-support system, especially in scenarios where sustainable packaging selection must balance usability, deployment efficiency, and operational practicality. The platform demonstrates how artificial intelligence can be integrated into a full-stack workflow to support greener packaging decisions in real-world digital commerce.

Peace as Power: India's Opportunity in a Leaderless World

Author(s): Ekisha Sehra

ABSTRACT

The structural decline of American hegemony and the transactional nature of Chinese global engagement have produced a legitimacy vacuum in the world order. Thus, consequently, India is right now uniquely positioned to fill this very vacuum, though not through military dominance or economic coercion, but rather by projecting an approach that places peace at its very core. Unlike its competitors, India enters this without structural adversaries, and along with simultaneous memberships across competing global blocs such as the Quad, BRICS, SCO, and G20 which grant it a form of diplomatic inclusivity which no other rising power can account for. India also becomes the leading voice of the 'Global South', which in turn presents itself as a 'third-front' in the world. This paper demonstrates that India's unparalleled record in UN peacekeeping, with over 2,90,000 personnel deployed across 50+ missions, constitutes a sustained 'peace-first' foreign policy orientation. India propagates an approach of being the 'First Responder' in preventing or mitigating regional and international crises. Furthermore, 'Humanitarian Assistance and Disaster Relief' operations have emerged as a critical component of India's role in the global community. Second, this paper establishes India's presence across multilateral groups from the Quad to BRICS to the SCO, providing it a diplomatic grounding in convening this fragmented world order. Third, this paper contends that India through its diaspora and its increasing cultural influence, functions not merely as a soft power but provides for an ethical bedrock foundation for its claim on global leadership. Additionally, a peace-centric global leadership role is not merely strategically advantageous but also in line with India's Viksit Bharat vision.

A NOVEL AND SUSTAINABLE DEVELOPMENT OF VANADIUM MOLYBDATE / GRAPHITIC CARBON NITRATE NANOCOMPOSITE USING CO-PRECIIPITATION METHOD AND EFFICIENT FOR PHOTOCATALYTIC DYE DEGRADATION

Author(s): Srimathi. M,

ABSTRACT

The development of efficient and sustainable photocatalysts to purify wastewater is a major thing in the cleaning of the environment. The synthesis of a vanadium molybdate/graphitic-carbon nitrate nanocomposite ($V_2MoO_8/g-C_3N_4$) by employing low-cost and simple, eco-friendly co-precipitation method. The nanocomposite was prepared to enhance the work of the solar-light-driven photocatalytic catalyst in the degradation of organic dye pollutants such as methyl orange (MO) in aqueous conditions. Structural and morphological, functional group analysis is proved the creation of a heterojunction between $V_2MoO_8/g-C_3N_4$ which allows a further division of charges and reduction of the fusion of electrons and holes. The degradation efficiency of the nanocomposite was very high compared to the single nanomaterial due to the synergistic effect of the elements of the nanocomposite and the capacity to absorb better light absorption. The low- amount of catalyst used and the initial dye concentration and the duration of irradiation were also investigated in a systematic manner. Additionally, the nanocomposite was also observed to be very stable and reusable even after a series of cycles, an indication of practical usability. This work provides a sustainable approach to designing effective photocatalysts by using low-cost materials and gentle conditions of the fabrication process. This increased photocatalytic activity and environmental support of the vanadium molybdate/ $g-C_3N_4$ nanocomposite have made it a suitable material in wastewater treatment and environmental protection.

A COMPARATIVE STUDY ON THE IMMEDIATE EFFECT OF ‘C’BEND VERSUS ‘S’BEND TECHNIQUE ALONG WITH CONVENTIONAL THERAPY IN IT BAND TIGHTNESS AMONG PATIENTS WITH LBP AND SI JOINT PAIN

Author(s): Thakkar Sonal Rajeshkumar

ABSTRACT

BACKGROUND: The iliotibial band (ITB) or tract is a lateral thickening of the fascia latae in the thigh. The iliotibial band, and its associated muscles function to extend, abduct, and laterally rotate the hip, as well as aid in the stabilization of the knee. Iliotibial band tightness is clinically present in many musculoskeletal patients. A select group of associated injuries and pathologies of the iliotibial tract are seen as sequela of repetitive stress and direct trauma. The symptoms are seen in IT band tightness: Hip pain, clicking sensation, knee pain, warmth and redness. IT band tightness causes reduced adduction ROM of hip joint. IT band tightness is also related to other conditions like: low back pain, SI joint, lateral knee pain, heel pain. **METHOD:** The study was conducted at Ahmedabad. This experimental study was designed in such a way that subjects with age group of 20 to 40 years with iliotibial band tightness and pain were selected. Total 30 subjects with iliotibial band tightness and pain were randomly allocated into two groups: GROUP A (“C” BEND TECHNIQUE ALONG WITH CONVENTIONAL THERAPY n=15) and GROUP B (“S” BEND TECHNIQUE ALONG WITH CONVENTIONAL THERAPY n=15). It was assessed by NPRS, ROM of hip (adduction) and Ober's test. **RESULT:** The study demonstrated improvement in flexibility and reduced pain in both the groups but significant improvement is seen in “c” bend technique along with conventional therapy. **CONCLUSION:** The experimental study concluded that both the treatment techniques are effective but “c” bend technique along with conventional therapy is more effective in reducing pain and improving flexibility in patients with iliotibial band tightness.

Inclusive Education, Youth Empowerment, and Skill Development: A Pathway to Sustainable Development

Author(s): Joglekar Prachi Vijaykumar

ABSTRACT

Sustainable development requires a balanced integration of social addition, profitable progress, and mortal capability improvement. This paper examines the critical part of inclusive education, youth commission, and skill development as connected motorists of sustainable development. Inclusive education ensures indifferent access to learning openings for individualities from different socio- profitable, artistic, and physical backgrounds, thereby reducing inequalities and promoting social cohesion. Youth commission, on the other hand, enables youthful individualities to laboriously share in decision- making processes, fostering invention, leadership, and communal engagement. Completing these rudiments, skill development equips youth with the specialized, digital, and interpersonal capabilities necessary to meet the evolving demands of the global labor request. The study highlights how the community between these three pillars contributes to bettered employability, profitable adaptability, and sustainable community development. It also addresses crucial challenges similar as limited access to quality education, skill mismatches, and systemic walls to youth participation. Through a review of being literature and policy fabrics, the paper underscores the significance of integrated strategies that align education systems with request requirements while promoting inclusivity and commission. Eventually, it argues that investing in inclusive and skill- acquainted education systems, alongside youth- centered programs, is essential for achieving long- term sustainable development pretensions and erecting a more indifferent and prosperous society.

“Digital Investment Services & Sustainable Investment Growth: Insights from Mutual Fund Investors”

Author(s): Khushboo Narang

ABSTRACT

The rapid proliferation of digital technologies has fundamentally transformed the investment landscape, facilitating increased participation in mutual fund services and significantly reshaping investor behaviour. Digital investment platforms have enhanced accessibility, transparency and operational efficiency, thereby fostering the growth of sustainable investment practices. Within this growing financial environment, identifying and understanding the determinants of sustainable investment growth has evolved as a critical concern for financial institutions and investment service providers. This study tries to investigate the influence of Digital Authentication, Security Assurance and Operational Reliability on Sustainable Investment Growth among mutual fund investors. Primary data for the study was collected from 436 respondents through a structured questionnaire from individual mutual fund investors who use digital investment platforms and related services. Analysis of the data is done using SPSS 20 applying statistical tools like Correlation & Regression Analysis, Exploratory Factor Analysis, t-Test and ANOVA. Findings of the study show that Security Assurance and Operational Reliability have a statistically significant positive influence on Sustainable Investment Growth, whereas Digital Authentication does not. This aligns with the Relationship Marketing Theory and the Protection Motivation Theory indicating that trust, dependable service relationships and perceptions of security and risk mitigation are important in shaping sustained investor engagement and investment behaviour. The study makes a meaningful contribution to the existing literature on digital financial services and sustainable investment behaviour by providing robust empirical insights into the determinants of Sustainable Investment Growth within the mutual fund sector. The findings carry significant practical implications for financial institutions and investment service providers, informing the design of secure, reliable and investor-centric digital platforms that are conducive to encouraging sustained, long-term investment participation.

Impact of inattentive Attention-Deficit/Hyperactivity Disorder (ADHD) symptoms on Academic Performance in School-Aged children in India

Author(s): Rima Paul

ABSTRACT

This paper is based on the current unrecognised symptoms of Attention-Deficit/Hyperactivity Disorder (ADHD) faced by children. The study highlights the academic, cognitive, and social challenges associated with delayed identification of the disorder. A 2023 study in Kolkata revealed that approximately 22.9% children screened positive for ADHD, with a significant correlation to increased mobile phone usage (more than 1 hour daily). An article named "Attention Deficit Hyperactivity Disorder" - Maya Mukhopadhyay, Saheli Misra, Tapashi Mitra, Prabal Niyogi, published in 2003, referred 238 children, out of which 37 were diagnosed as ADHD, 64.9% of the referrals were from paediatricians. The prevalence of ADHD in the pediatric clinic was 15.5%, and the attention subtype was predominant. The analysis identifies core symptom domains—including deficits in sustained attention, working memory limitations, impulsivity, and emotional dysregulation—as significant predictors of poor academic achievement and reduced peer engagement. The review evaluates contextual determinants such as socio-economic status, parental awareness, and environmental influences, which may exacerbate symptom expression and delay clinical recognition. Comparative insights from institutional practices reveal that private schools are more likely to implement structured screening, counselling, and intervention programs, whereas government schools face systemic constraints, including limited access to trained mental health professionals and a lack of awareness initiatives. Methodologically, the paper integrates findings from cross-sectional surveys, clinical assessments, and observational studies to highlight gaps in early identification and intervention frameworks. The synthesis underscores the pivotal role of educators as frontline identifiers of ADHD-related behaviours and emphasises the necessity of multidisciplinary collaboration among teachers, parents, and healthcare professionals.

Digital Payment Systems and Consumer Spending Behaviour: A Systematic Literature Review

Author(s): Yashvi Chevli

ABSTRACT

Digital payment systems have rapidly changed the way consumers spend and control money since later 2019. As mobile wallets, unified payment interfaces, contactless payments and online banking become more popular, cash-based transactions are slowly but surely being replaced by better and more convenient electronic alternatives. The present study offers a systematic literature review that analyses the researchers on digital payment system and consumer spending behaviour in existing studies. This review brings together findings published in peer-reviewed journal articles, reports to identify key trends, factors and behavioural outcomes of digital payment usage. The analysis illustrates that digital payment system manipulates and influence customer spending patterns through factors like ease of acceptance/usage, speed of transaction time, pain of payment pressure reduction, offering cash alike promotional schemes and increasing financial access to the unbanked under-bank populations. Research suggests that the ease and transparency of digital payments encourage overspending, impulse buying, and lower budget awareness. Meanwhile, digital platforms similarly provide tools for financial tracking and management which may result in users making more purposeful purchasing behaviours. More specifically, it highlights the moderating factors—financial literacy, trust in technology and perceived security as well as socio-economic conditions. This study enhances the current knowledge by offering a comprehensive overview of how digital payment ecosystems influence consumer behavior. It highlights research gaps, especially concerning long-term financial well-being and the behavioral effects of new fintech innovations. The findings provide important insights for policymakers, financial institutions, and researchers focused on encouraging responsible digital payment use and promoting sustainable consumer spending habits.

Only Participation

Author(s): Sabina

ABSTRACT

Only Participation

India's Maritime Imperative: Building India's dominance in the Indian Ocean Region

Author(s): HRIDAY KULKARNI

ABSTRACT

The Indian Ocean Region (IOR) is becoming one of the contested areas for geopolitical rivalry. It includes key energy routes from the Persian Gulf, trade paths in Southeast Asia, and coastlines along East Africa. Over 80% of global seaborne oil trade passes through here, supporting the economies of more than three billion people. Despite its importance to India, the IOR is a contested area, with China's navy expanding via the "String of Pearls" network of ports. India has not yet built the strong influence its location and history suggest it should have. This article argues that India possesses both the strategic necessity and the nascent capacity to establish dominant influence across the Indian Ocean Region and that failure to do so within the next two decades will result in a permanent and asymmetric constraint on Indian sovereignty, economic security, and regional agency. To substantiate this argument, the article employs two examples of maritime hegemony: the U.S. model in the Gulf of Mexico, built over a century using the Monroe Doctrine (a policy claiming U.S. leadership in the Americas), economic ties, and naval bases; and China's quick rise in the South China Sea through man-made islands, and port deals tied to its Belt and Road Initiative (BRI). Using Alfred Mahan's ideas on sea power, recent strategic studies, and official defense documents from India, China, and the U.S., the article outlines how countries build and maintain control at sea. The article highlights why India needs this influence: it relies almost entirely on IOR sea routes for oil, faces threats from China's navy and Pakistan at Gwadar port, and lacks strong multilateral groups to protect its interests. It reviews India's strengths, like the INS Vikrant aircraft carrier, the MAHASAGAR (Mutual and Holistic Advancement for Security and Growth Across Regions) policy, the Quad alliance, and base deals in Mauritius, Maldives, and Oman. It also points out weaknesses in long-range operations, submarine defense, and supply networks. The article concludes by proposing a strategic roadmap towards influence in IOR, divided into short, medium, and long-term plans, and the institutionalization of an Indian Ocean Doctrine, claiming India's lead in its home waters. Such leadership fits India's rise as a great power, backed by its democracy, economy, and long maritime history but however not as an act of expansionism but to maintain its sovereignty in its own waters.

Child Welfare in Viksit Bharat 2047: Fortifying Legal Structures to curb CSAM Abuse

Author(s): Ms. Aditi Bipin Kasar and Dr. Ranjana Pruthviraj Patil

ABSTRACT

Every child has the right to grow up in a safe, violence-free environment. This vast era of Internet though provided a exposure to children by making them smart kids , but also lead to other issues like depression, Child abuse – in physical and digitalized form, cyber bullying, sextortion , online exploitation etc. Therefore, with the vision of holistic development of children, Children Rights and their safety, both in physical and virtual world is quintessential. This paper also would reasonate Child development with the advocacy for the vision of Viksit Bharat by 2047 securing a enclusive digitally technologically safe environment as a protective safeguard for child development. Education, entertainment, and everything else are increasingly becoming dependent on the internet. This article would also analyse the efficacy of current legislations like IT Act, 2000 , POCSO Act, 2012 and BNS, 2023.As India marches towards Viksit Bharat vision 2047, a digitally advanced economy also brings a urgent mandate for safeguarding the vulnerable part of society i.e., children. There is a rising trend of CSAM (Child Sexually Abusive Material) abuse cases in the nation, this urges the need of Hyper Fast Track Courts and mandatory AI-Filtering protocols at ISP level. By synthesizing legal analysis with the 2047 developmental roadmap, this paper provides a strategic framework for a "Zero-Tolerance" digital ecosystem. It concludes that fortifying legal structures is not merely a social necessity but a foundational pillar of the national security and ethical identity ensuring a "surakshit" (safe) childhood in developed India.

AI-Driven Optimization of CNC Turning Parameters for Sustainable and Efficient Machining “AI-Powered Optimization for Sustainable CNC Manufacturing”

Author(s): Arnab Buragohain

ABSTRACT

The increasing demand for high productivity and energy-efficient manufacturing has made optimization of machining processes a critical research area in modern industry. Conventional studies on CNC turning have largely focused on maximizing material removal rate (MRR) and improving surface quality using statistical approaches such as Taguchi methods and ANOVA. However, these approaches often lack predictive intelligence and fail to incorporate energy consumption considerations, limiting their applicability in smart and sustainable manufacturing environments. This study proposes an AI-assisted optimization framework for CNC turning of mild steel using carbide tools, integrating Design of Experiments (Taguchi L9), statistical analysis (ANOVA), and machine learning-based prediction. The primary machining parameters cutting speed, feed rate, and depth of cut are systematically varied to evaluate their influence on MRR and energy consumption. Experimental results are analysed to identify optimal parameter combinations, while a regression-based and machine learning model is developed to predict MRR with improved accuracy. In addition, a simplified energy model is incorporated to estimate cutting power and specific energy consumption, enabling a multi-objective optimization approach that balances productivity and sustainability. The results demonstrate that feed rate and depth of cut significantly influence MRR, while optimized parameter selection can reduce energy consumption without compromising performance. The proposed framework is further extended into a conceptual digital twin model for real-time prediction and decision support. This research provides a practical and scalable approach for intelligent machining systems, contributing to Industry 4.0 initiatives and supporting India's transition towards energy-efficient and self-reliant manufacturing.

Green Hydrogen in India's Energy Transition: Policy and Governance Pathways for Viksit Bharat 2047

Author(s): Somesh Akolkar & Dr. Shivanjali Bhoite

ABSTRACT

Green hydrogen has emerged as a promising solution for energy transition especially for decarbonization of hard-to-abate sectors like fertilizers, steel, shipping and refineries and as an energy carrier. It has a potential to support climate change mitigation, expanding renewable energy, environmental sustainability, industrial competitiveness and developmental vision of Viksit Bharat 2047. The research gap lies in examining whether the existing legal and policy framework is sufficient to transform the ambition of green hydrogen into a bankable and enforceable energy transition. This study analyzes international best practices to identify the reforms in legal and policy making for strengthening the market creation, offtake security and institutional support for a large-scale deployment in India's energy infrastructure. Green hydrogen is currently seen as a sustainable solution but less consideration is given to the legal and regulatory issues like creation of demand, certainty of contracts, certification, infrastructure coordination and stability. The findings of this research indicates that the adoption and deployment of green hydrogen becomes most viable when law and policy goes hand-in-hand where policy sets ambitious targets and incentives and law provides the binding regulatory structure for safety, standards and enforcement for creating a stable demand and reducing market risk. The evidence suggests that captive industrial utilization especially in refineries and fertilizers offers the promising solution for its deployment for India's clean energy transition, decarbonization and long-term developmental vision for a net zero energy future.

SFB - Smart Food Bridge: A Digital Platform for Efficient Surplus Food Management and Distribution

Author(s): Vedish Gupta , Sakshi Yogi

ABSTRACT

Food waste and hunger are major social challenges in India, where large amounts of surplus food from restaurants, canteens, hostels, and households are often discarded while many underprivileged people face food insecurity. This paper presents Smart Food Bridge, an AI-powered digital platform designed to connect food donors with verified NGOs for safe, fast, and transparent redistribution of surplus food. The platform allows donors to register, enter food details such as food name, quantity, type, pickup location, expiry time, and upload a food image. An AI-based food freshness analysis module checks whether the food is safe or spoiled before publishing the donation. Only safe food donations are made visible to NGOs. The system then uses location-based matching to identify the nearest verified NGO and sends real-time notifications for quick pickup scheduling. Donors and NGOs can track the donation status from posted to accepted, collected, and delivered. An admin dashboard manages verification, monitoring, and analytics such as total food saved and beneficiaries served. Smart Food Bridge supports the vision of Viksit Bharat 2047 by using digital transformation, artificial intelligence, real-time communication, and social innovation to reduce food wastage and improve food security. The project contributes to sustainable development, social equity, and technology-led public welfare by creating an efficient bridge between surplus food providers and organizations serving needy communities.

AI-DRIVEN DIGITAL TRANSFORMATION IN AGRICULTURE: OPPORTUNITIES, CHALLENGES AND FUTURE DIRECTIONS

Author(s): Mr. Pratik Patel

ABSTRACT

The rapid development of artificial intelligence (AI) and digital technologies is driving the transformation in the world of modern agriculture as the new era of data-driven and smart agriculture is emerging. The current review is a compilation of recent papers on AI-driven digital transformation of agriculture and food industries with specific focus on technologies, such as machine learning (ML), deep learning (DL), computer vision, Internet of Things (IoT), big data analytics, and more. The technologies allow real-time monitoring, predictive modelling and intelligent decision support systems to predict crop productivity, soil health, diseases and pests and resource management. In addition, using robotics, autonomous systems and unmanned aerial vehicles (UAVs) is helpful to enhance the efficiency and reduce human involvement. While such initiatives have taken place, there remains a number of challenges such as lack of uniformity and interoperability, cost of investment, cybersecurity and the digital divide, particularly in the developing world. The review also highlights the importance of explainable AI (XAI) solutions, cloud computing and edge computing paradigms in promoting transparency, scalability and acceptance of smart farming tools. Furthermore, emerging technologies (blockchain and digital twins) are explored for improving supply chain transparency and resiliency. The research paper concludes with the need to identify future research opportunities, including the need to build sustainable, scalable and inclusive AI-powered agricultural ecosystems to comply with climate-smart agriculture and global food-security goals.

AI ENABLED DIGITAL TWIN SYSTEMS FOR TRAFFIC AND PUBLIC SERVICE OPTIMIZATION SMART

Author(s): Ms. Vaibhavi Vashi

ABSTRACT

The high rate of expansion in smart cities has made their traffic system more demanding and efficient in-service delivery systems. The new technologies of Artificial Intelligence (AI) and Digital Twin (DT) have been introduced to solve these urban challenges. This is a critical review paper on AI-driven digital twin systems that find their application in smart management of traffic and optimization of a public service. The paper comprehensively conducts the systematic review of the recent sources (published in 2020-2026) covering the theme of intertwining AI methods, including machine learning, deep learning, and reinforcement learning with the concept of the digital twin. These technologies make it possible to monitor, simulate and make data-driven decisions in cities in real-time. The major applications that have been discussed include adaptive traffic signal control, prediction of congestion, optimization of emergency response, and planning urban mobility. Moreover, the paper assesses the system architectures, data sites like IoT sensors and vehicular networks, and computational models like cloud and edge computing that can support such solutions. The comparative analysis of the existing studies shows the benefit of increased efficiency of traffic. In spite of these advantages, there are also a number of issues such as heterogeneity of data, scalability issues, privacy and high implementation costs. Research gaps and future directions are also established based on emerging technologies in the review 5G/6G, explainable AI and big scale 5G/6G digital twin ecosystem to build sustainable smart cities of the future.

KNOWLEDGE, ATTITUDE AND BELIEFS ABOUT THE IMPORTANCE OF YOGA AMONG PHYSIOTHERAPY STUDENTS – AN OBSERVATIONAL STUDY

Author(s): Dr Kajal Chauhan

ABSTRACT

Introduction: In modern healthcare, yoga is increasingly used as a complementary therapy for managing musculoskeletal and stress-related conditions. The knowledge, attitude, and beliefs of physiotherapy students influence their future clinical practice and acceptance of yoga. **Need of study:** As physiotherapists face increasing demand for non-invasive treatments, effective management, and holistic care, It is a traditional practice increasingly adopted within modern physiotherapy for various disorders management and rehabilitation. **Methodology:** An Observational study was conducted on 144 Physiotherapy students with Simple random sampling in Physiotherapy institute. Subjects willing to participate, both male and females, physiotherapy students, Age more than 20 years were included and Subjects who were not willing to participate and working physiotherapists were excluded. Subjects were selected according to inclusion and exclusion criteria. Study was explained and consent was taken. Online questionnaire was filled by them using Google form and data was analyzed using MS Excel (2021). **Result:** The study was conducted on 144 Physiotherapists with Mean age 26+-3.38 years and Mean experience in practice 3.29+-3.27. Out of 105 subjects, 64 were female and 41 were male. Overall Knowledge is 50.5% respondent to Yoga therapy among physiotherapy students, 30.6% had positive attitude, 57.1% had barrier in practicing due to lack of training, 19% occasionally use. Prevalence of quality-of-life among physiotherapy students were highly significant with 78%. **Conclusion:** Limited knowledge of importance of Yoga among physiotherapy students contributed to infrequent use in practice and their own fitness level. The practice remains occasional, with a substantial number of physiotherapy students hesitant.

From Waste to Wealth: Lignocellulosic Biomass Valorization in Bionfeneries for Cellulase Production and Application

Author(s): Mahima

ABSTRACT

With the increasing demand for sustainable industrial practices and renewable resources, there is growing interest in using lignocellulosic biomass as a valuable raw material in modern biorefinery systems. This biomass, obtained from agricultural residues, forestry waste, and other plant-based sources, is abundant, low-cost, and renewable in nature. Instead of being discarded as waste, it can be effectively converted into useful bioproducts, including industrial enzymes such as cellulases. This not only helps reduce environmental pollution and issues like open-field burning but also supports global initiatives such as the United Nations Sustainable Development Goals (SDGs), particularly those related to clean energy, responsible consumption, and climate action. A key step in this process is the breakdown of cellulose, where cellulase enzymes play an important role. These enzymes convert complex cellulose into simple, fermentable sugars by breaking internal β -1,4-glycosidic bonds. Among them, endoglucanases are especially important because they initiate cellulose degradation, making it easier for other enzymes to act. These enzymes are produced by microorganisms such as fungi and bacteria, including *Trichoderma* and *Aspergillus*, which use lignocellulosic materials as both a nutrient source and an inducer, making the process efficient and eco-friendly. In a biorefinery system, this biological process is combined with eco-friendly pretreatment methods like steam explosion and alkali treatment to improve cellulose accessibility. This enhances enzyme production and hydrolysis efficiency. Additionally, classifying cellulases into glycoside hydrolase (GH) families helps in selecting suitable enzymes for industrial applications. Overall, this approach represents a sustainable “waste-to-wealth” strategy that supports efficient resource utilization and a circular bioeconomy.

Determinants of FinTech Platform Usage and Investment Behaviour of Working Women in Mumbai

Author(s): Jyoti Langote and Dr. Sachin Vilas Acharekar

ABSTRACT

This study investigates the determinants of the use of the FinTech platform and its effect on investment behavior of working women in Mumbai, India. Even with digital financial services and policy efforts that are growing in rapid pace in promoting financial inclusion, there is a gap in the adoption of digital financial services and digital investment practices between men and women. This study is descriptive and analytical with primary data collected from 120 working women by using the structured questionnaire. Various statistical methods such as descriptive analysis and inferential analysis are used to analyze the impact of technological, behavioral and socio-demographic factors on the use of FinTech. The findings showed that although a large proportion of females are working and using FinTech platforms, usage is limited and low value periodic investments. Ease of use, trust, security, and awareness are important factors that can affect adoption behavior, while socio-demographic factors can also affect investment decisions. The study also pinpoints key challenges, such as awareness and security issues, that prevent increased engagement. The research is also a contribution to the existing literature by combining the technology adoption models and behavioral finance theories to an analysis of technology adoption in a gender-specific context. It provides a number of tangible suggestions for both policy makers and FinTech providers to improve digital financial education, build trust frameworks and create financial products that are accessible to and empower women.

The spirit of Vasudaiva Kutumbakam: Tagore's vision of Ecological sustainability and Socio-cultural integrity

Author(s): Natyashri Smt Debjani Chatterjee

ABSTRACT

"सा विद्या या विमुक्तये" - True knowledge is that which liberates. This line from Vedvyasa's Vishnupuran provides, in a nutshell, the true essence of the original Indian concept of Knowledge & education. Rooted in the philosophies outlined in our Vedas, Upanishads, Puranas & Itihasas, the transmission of Knowledge in our country has always been holistic & humane. Based on the core principles of Parampara, Drsti & Laukika Prayojana among others, it encompasses diverse disciplines and domains whose interconnectedness has given shape to the socio-cultural fabric of our society since ages. In the modern world torn apart by different kinds of conflicts – conflicts on religious & ethnic identities, on environmental degradation – climate change, economical & political dominance and so on, the ancient Indian philosophies that emphasise oneness, cosmic unity, global harmony, ethics and morality, hold great relevance. Gurudev Tagore, the great bard, Viswakavi, was more than a prolific poet, writer or musician; he belongs to the illustrious lineage of global visionaries and leaders – cast in the mould of our ancient Vedic Rishis, he gave us the universal vision of Vasudaiva Kutumbakam, The Earth as one family. This paper delves into his educational practices, literary works and international engagements that articulated a holistic vision integrating environmental consciousness with cultural unity. Rabindranath Tagore's legacy as a thinker, educator, and cultural ambassador positions him as a visionary whose ideas transcend time. His integrated approach to ecological sustainability and global cultural integration provides a compelling framework for addressing the complexities of the modern world. Hence, by re-engaging with Tagore's philosophy, contemporary societies can move toward a more harmonious, sustainable, and inclusive future.

Enhancing Student Engagement for a Developed India: A Pathway to Viksit Bharat 2047

Author(s): BINDHYA P

ABSTRACT

Enhancing Student Engagement for a Developed India: A Pathway to Viksit Bharat 2047 Bindhya P, Research Scholar, IASE Thrissur. bindhyapmenon@gmail.com Abstract The vision of Viksit Bharat 2047 emphasizes the transformation of India into a developed nation through sustained investments in human capital, innovation, and inclusive growth. Within this framework, higher education plays a pivotal role in preparing a skilled and competent workforce. Student engagement, as a multidimensional construct encompassing behavioural, emotional, and cognitive involvement in learning, has emerged as a significant determinant of academic achievement and skill development. This thematic paper synthesizes recent open-access research (2019–2026) to examine the role of student engagement in enhancing educational quality and its implications for national development. The review highlights the influence of institutional practices, teacher support, and technology-enhanced learning environments on student engagement levels. The findings indicate that higher levels of student engagement contribute to improved learning outcomes, adaptability, and employability, all of which are essential for achieving the goals of Viksit Bharat 2047. The paper concludes by emphasizing the need for policy alignment, pedagogical innovation, and institutional strategies that prioritize active and inclusive learning environments.

छत्तीसगढ़ के जिला रायपुर में 6-14 आयु वर्ग के बच्चों के लिए ऑनलाइन एवं ऑफलाइन शिक्षण का एक तुलनात्मक समाजशास्त्रीय अध्ययन

Author(s): Bhumika Sharma

ABSTRACT

वर्तमान वैश्विक परिदृश्य में शिक्षा के स्वरूप में क्रांतिकारी बदलाव आए हैं। यह शोध पत्र छत्तीसगढ़ के जिला रायपुर के 6-14 आयु वर्ग के बच्चों के सामाजिक और शैक्षिक विकास पर ऑनलाइन एवं ऑफलाइन शिक्षण पद्धतियों के प्रभाव का एक तुलनात्मक विश्लेषण प्रस्तुत करता है। इस अध्ययन का मुख्य उद्देश्य यह समझना है कि पारंपरिक कक्षा शिक्षण की तुलना में डिजिटल शिक्षण ने बच्चों के सामाजिक व्यवहार, अनुशासन और उनके सीखने की क्षमता को किस प्रकार प्रभावित किया है। समाजशास्त्रीय दृष्टिकोण से, यह शोध रायपुर के शहरी और ग्रामीण क्षेत्रों के बीच 'डिजिटल डिवाइड' (Digital Divide) और सामाजिक समावेशन (Social Inclusion) की चुनौतियों को रेखांकित करता है। शोध प्रविधि (Methodology) के अंतर्गत प्राथमिक आंकड़ों का संकलन प्रश्नावली और साक्षात्कार के माध्यम से किया गया है। प्रारंभिक निष्कर्ष बताते हैं कि जहां ऑनलाइन शिक्षण ने तकनीकी साक्षरता को बढ़ावा दिया है, वहीं बच्चों के समग्र व्यक्तित्व विकास और सामाजिक गुणों के निर्माण में ऑफलाइन शिक्षण की भूमिका आज भी अनिवार्य है। यह शोध 'विकसित भारत-2047' के विजन के अनुरूप समावेशी शिक्षा की दिशा में महत्वपूर्ण सुझाव प्रस्तुत करता है।

Grassroot Governance in Mental Health: Addressing Addiction Related Stigma Within Families

Author(s): Riddhi Jain, Babita prusty

ABSTRACT

Substance use disorders in India extend their impact well beyond the individual, placing considerable psychological, social, and financial strain on affected family members (AFMs). Despite this, families navigating the consequences of a member's addiction remain largely unaddressed within formal mental health systems. A significant reason for this gap is stigma deeply rooted in cultural values around honour and family reputation — which discourages help-seeking and pushes distress inward. At the same time, India's existing decentralised health infrastructure, including ASHAs, Panchayati Raj, and community health centres, remains inadequately equipped to identify and respond to the needs of such families. This paper examines how grassroots governance mechanisms can be better positioned to address addiction-related stigma at the family and community level. Drawing on Andersen's Behavioural Model of Health Services Use and available literature on community mental health in low-resource settings, it identifies key structural gaps between policy intent and ground-level implementation. A three-tier approach is proposed- involving sensitisation of local bodies, frontline worker training in stigma-informed family engagement, and community level accountability through Gram Sabha participation. Recognising and responding to the burden carried by addiction-affected families is not only a mental health imperative but central to the inclusive development goals of Viksit Bharat 2047. Empowering local institutions to recognise and respond to the needs of addiction-affected families would advance both mental health equity and the broader Sustainable Development Goal 3 commitments India has endorsed. Decentralisation, when paired with cultural competence, can transform grassroots governance into a meaningful pathway for inclusive mental health.

The experiences and perception of living with and treatment of Intermittent Claudication due to peripheral artery disease in India: A qualitative study

Author(s): Dr Megha Nishith Gohil

ABSTRACT

Introduction This qualitative study aims to explore the patients' experience and perception of living with and treatment for IC due to PAD in India **Method** Twenty participants were purposively sampled from vascular clinics at two hospitals in Gujarat, India. Inclusion criteria included those aged ≥ 18 years with established PAD and IC. Audio-recorded, in-person interviews were conducted by one researcher, guided by a topic guide that was developed a priori. Interviews were conducted in Gujarati, transcribed verbatim, and then translated into English. Data was analysed using reflexive thematic analysis. **Result** One overarching theme, Navigating the challenges of walking leg pain in India: and three sub-themes that captured the experiences and perception of living with and treatment of IC in India. The first sub-theme, Understanding Walking Leg Pain, highlighted participants' lack of awareness and understanding of the cause of their walking leg pain. The second sub-theme, adapting to the consequence of walking leg pain, illustrated how walking leg pain adversely impacted participants' daily activities, work, and social interactions. The third sub-theme, Searching and trying remedies, describes how participants attempted to alleviate their walking leg pain with home remedies, spiritual cures, and self-management strategies. Poor awareness of PAD, IC, and the benefits of walking, along with financial constraints, limited the use of walking as a self-management strategy and affected treatment adherence. **Conclusion** This study highlights that walking leg pain in PAD significantly affects daily life in India, with limited awareness of walking therapy indicating a need for accessible, culturally appropriate self-management strategies.

Advancing Equity: The Impact of Disabled Leaders on Governance and Policy

Author(s): Gursharan Singh

ABSTRACT

Background: Despite the global movement towards a rights-based approach after the UNCRPD and the RPWD Act 2016, people with disabilities (4.52% of India's population according to NFHS-5, 2019-21) are severely under-represented in the formal governance. Disability is often seen as a welfare concern in conventional policy-making, rather than a leadership lens. **Objective:** This study investigated the role of leaders with disabilities in decision-making, driving policy change and in inclusive governance. **Approach:** A Systematic Literature Review synthesized 16 peer-reviewed articles and policy reports (2006-2025) from existing databases. Grey literature reduced publication bias; thematic analysis revealed legislative influence pathways. **Results:** The research highlighted the role of disabled leaders as policy innovators, advancing policy through three mechanisms: identity formation (disability narratives), cognitive innovation (new problem-solving) and substantive representation (lived-experience integration). This boosts state innovation and legitimacy. **Conclusion:** The study found that by removing institutional barriers, institutions can harness the innovation potential of a marginalized population group accounting for a large share of the population, to create a stronger, more functional state for everyone.

“Impact of Digitalization on Customer Satisfaction: A Case Study of AU Small Finance Bank”

Author(s): Dr. Snehal Vaghela

ABSTRACT

AU Small Finance Bank has also embraced digital transformation by introducing services such as mobile banking, internet banking, online transactions, and digital payment systems. This study titled “Impact of Digitalization on Customer Satisfaction: A Case Study of AU Small Finance Bank” examines how these digital initiatives influence customer satisfaction and the overall banking experience. The research aims to understand the level of digitalization implemented by the bank and to analyze its effect on customer satisfaction. The study focuses on important factors including convenience, security, reliability, responsiveness, accessibility, and ease of use of digital banking services. It also evaluates customers’ opinions and attitudes toward the digital facilities offered by the bank. In addition, the research identifies the common difficulties faced by customers while using digital banking platforms, such as technical errors, cybersecurity concerns, lack of awareness, and internet connectivity issues. The study is based on both primary and secondary data. Primary data is collected through questionnaires and customer responses, while secondary data is gathered from journals, reports, websites, and banking-related publications. The findings indicate that digital banking services play an important role in increasing customer satisfaction by offering quick, convenient, and efficient banking solutions. At the same time, certain challenges continue to affect customer experience and require improvement. The study concludes with practical suggestions to enhance the effectiveness of digital banking services at AU Small Finance Bank. Recommendations include improving technological support, strengthening security measures, increasing customer awareness, and providing better digital assistance. The research emphasizes that effective digitalization not only improves customer satisfaction but also helps banks maintain competitiveness in the modern financial environment.

Multi-Node Service Congestion in Hospitals: Integrating Queue-Based Design Principles into Healthcare Delivery Reform

Author(s): YOGINDER ARUN

ABSTRACT

Yoginder Arun Research scholar , Department of Mathematics, Lingaya's Vidyapeeth , Faridabad , Haryana
Guided By : Dr Smarti Gosani Associate Professor , Department of Mathematics , Lingaya's Vidyapeeth , Faridabad , Haryana
Abstract Hospital congestion has emerged as a critical challenge in modern healthcare systems due to increasing patient inflow, limited medical resources, and inefficient service coordination across multiple treatment nodes. Multi-node congestion occurs when delays at one service point, such as registration, diagnostics, consultation, pharmacy, or inpatient wards, propagate throughout the healthcare network, reducing operational efficiency and patient satisfaction. This paper examines the application of queue-based design principles and queueing theory in addressing congestion within hospital systems. The study integrates mathematical queueing models, patient flow optimization strategies, and healthcare delivery reforms to propose a framework for reducing waiting time and improving service quality. Special emphasis is placed on multi-server and multi-node queue systems such as $M/M/1$, $M/M/c$, and network queue models. The paper further discusses the role of operational research, simulation techniques, digital appointment systems, and resource pooling in optimizing healthcare delivery. Findings indicate that integrating queue-based strategies significantly enhances patient throughput, minimizes overcrowding, and improves healthcare accessibility. The study concludes that queue-based healthcare reform provides an effective analytical and managerial framework for sustainable hospital administration in both developed and developing healthcare systems.

Optimizing Intersection Performance Through Symbolic Signal Cycle Logic in Urban Transport Systems

Author(s): AJAY KUMAR TRIPATHI

ABSTRACT

Ajay Kumar Tripathi Research scholar , Department of Mathematics, Lingaya's Vidyapeeth , Faridabad , Haryana
Guided By : Dr Sultan Ahmad Associate Professor , Department of Mathematics , Lingaya's Vidyapeeth , Faridabad , Haryana
Abstract Urban transportation systems are increasingly challenged by traffic congestion, excessive delays, fuel wastage, and environmental degradation. Signalized intersections constitute critical bottlenecks within urban road networks, where inefficient traffic signal cycles significantly affect transportation efficiency. This paper investigates the application of symbolic signal cycle logic as an advanced analytical framework for optimizing intersection performance in urban transport systems. Symbolic signal cycle logic refers to the representation of traffic signal phases, timing patterns, and decision rules using logical and mathematical symbols for adaptive and coordinated traffic control. The study explores the integration of symbolic logic with traffic engineering principles, optimization algorithms, and intelligent transportation systems (ITS). Key performance indicators including vehicle delay, queue length, throughput, and intersection capacity are analyzed. Furthermore, the paper discusses optimization techniques such as genetic algorithms, particle swarm optimization, and adaptive signal coordination. The proposed framework demonstrates how symbolic signal logic can improve synchronization, reduce congestion, and enhance traffic flow efficiency in complex urban environments. The research concludes that symbolic signal cycle logic provides a systematic and scalable approach for modern traffic signal management and smart city transportation planning.

Technological Advancements and Green Transitions in Agriculture: Innovating Sustainable Development

Author(s): Gargi Mishra

ABSTRACT

Climate change, resource depletion, environmental degradation, and growing global food poverty are all posing challenges to agriculture. Concurrently, the agriculture sector's reliance on fossil fuels, unsustainable land-use practices, and intensive chemical-based farming techniques greatly increase greenhouse gas emissions. As a result, technical advancements and green transitions have become revolutionary avenues for long-term food security, climate resilience, and sustainable agricultural development. The combination of smart digital agriculture and farming systems, renewable energy technologies, and circular economy techniques in redesigning modern agricultural systems is critically examined in this study. In order to assess how solar-powered irrigation, biogas systems, renewable storage, artificial intelligence (AI), the Internet of Things (IoT), and management techniques contribute to low-carbon and resource-efficient practices, the study synthesizes recent scientific literature, international institutional reports, and technological advancements. Recent developments in digital farming, biotechnology, climate-smart agriculture, and regenerative agricultural systems show significant promise for raising output while lessening environmental effects. The socioeconomic prospects, policy ramifications, and implementation difficulties related to green agricultural transitions, particularly in developing economies are further examined in this study. According to research, integrated green technology can greatly lower carbon emissions, maximize resource use, improve rural lives, promote climate adaption, and increase the resilience of the food system. This study findings shows coordinated investments in digital innovation, institutional support, renewable energy infrastructure, and inclusive agricultural policy are necessary to meet sustainable development goals. Therefore, developing resilient and sustainable food systems that can handle upcoming environmental and food security issues requires green technology change.

GREEN JOBS IN SMART CITY DEVELOPMENT: PRESENT SCENARIO OF INDIA

Author(s): Nilanjana Some

ABSTRACT

Viksit Bharat 2047 aims to establish a developed India free from injustice, poverty and regress. Building sustainable, effective, and citizen-focused cities is essential to meet this ambition. Smart city initiatives are a viable way to achieve this goal because of their emphasis on technologically advanced solutions. India's Smart Cities Mission and the national vision of Viksit Bharat 2047 are aiming towards a common goal: sustainable, inclusive development and green transition. In this transition, creating green jobs and employment that positively contribute to environmental quality could be an impactful move. This paper evaluated the present scenario of green jobs in India and their role in the development of smart cities, focusing on climate action and sustainable urban infrastructure. Initiatives such as solar rooftop programs, e-mobility projects, and solid waste management have created new employment opportunities. In India, skill gaps, informal work conditions, and uneven regional distribution of green jobs are some major issues in achieving the Smart Cities mission. Findings of this review suggest that integrating green jobs into city planning can accelerate India's low-carbon transition while accounting for urban unemployment. In conclusion, policy measures have been recommended for skill development under the Green Skill Development Programme. Thus, strengthening the green jobs infrastructure is considered a strategic pathway for achieving both sustainable urbanisation and the broader goals of Viksit Bharat 2047.

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TO STUDY THE ATTITUDE OF PARENTS TOWARDS PM SHRI SCHOOLS.

Author(s): SATISH KUMAR YADAV

ABSTRACT

In ancient times, human life was simple, with limited needs and restricted resources. Today needs and perspectives have changed. Along these lines, PM SHRI schools are being opened to provide education in human values and ideals, which will play a crucial role in nation building in the future. This is based on the national education policy 2020 with the ministry of education and the department of literacy taking an active role. In the current scenario, the central Government has determined that poor parents are unable to secure admission for their children in private schools due to high fees and other expenses. Following the same initiative, PM SHRI schools have been opened under the central governments directive, enabling children of the common man to complete their education and fulfill their parents dreams. This is a revolutionary step in the education system, hence it can be said that the importance of PM SHRI schools is increasing in urban and rural areas. This will prove to be a milestone in the field of education in the future. The positive attitude of parents in PM SHRI schools. This research is helpful in creating awareness among parents. It will provide support and make self dependent. This PM SHRI school play role of model schools.

STRUCTURAL TRANSFORMATION OF INDIAN ECONOMY: DECLINING ROLE OF AGRICULTURE AND IMPLICATIONS FOR VIKSIT BHARAT 2047

Author(s): RITI BASAK

ABSTRACT

In economic development of India, the process of structural transformation is an important feature, which is characterized by a gradual shift in economic activity from agriculture to industry and services. In India, since the economic reforms of 1991, this transformation has been particularly evident, leading to a steady decrease in the GDP share of agriculture. However despite this decline, agriculture remains an important sector in terms of employment, food security and rural livelihoods. The present study examines the structural transformation in Indian economy by focusing on the declining share of agriculture and its broader implications for achieving the vision of Viksit Bharat 2047. The study is based on secondary time-series data for the period 1991–2024, which has been collected through various sources. To study the relationship between agriculture's share in GDP and economic growth, this research uses both simple trend analysis and an econometric method. In addition, a regression model using the Ordinary Least Squares technique is applied to measure the impact of agriculture's share on economic growth. In this model, GDP growth is the dependent variable, while agriculture's share is the independent variable. The results indicate a statistically significant decline in agriculture's share alongside rising GDP growth, supporting the theory of structural transformation. However, the persistence of a large workforce in agriculture highlights structural imbalances and challenges for inclusive growth. The study concludes that while sectoral transformation is necessary for development, strengthening agricultural productivity, promoting diversification, and ensuring balanced growth across sectors are essential for achieving sustainable and inclusive development under Viksit Bharat 2047.

A Prototype development and validation of a low-cost ambulatory blood pressure monitoring (AMBP) wrist band: A pilot testing

Author(s): Dr Bansi Lakhani (PT); Dr Megha Gohil PT, PhD; Mr Pinal Hansora; Dr Mehali Patel (PT, DPT); Mr Fenil Finava

ABSTRACT

Background: In India, more than one in four adults is affected with hypertension, with over 90% remaining undiagnosed, untreated, or inadequately controlled. ABPM is clinically essential for detecting masked, monitoring prehypertensive individuals, and assessing treatment efficacy; however, existing smart devices are costly and largely inaccessible in rural settings in India. **Objective:** To develop a low-cost Ambulatory Blood Pressure Monitoring Wristband and validate the developed wristband against a standard clinical-grade sphygmomanometer. **Methods:** The development process started by identifying and locating dependable, reasonably priced components for the electric circuit. Alongside, a code was created that facilitates the wireless transfer of sensor data to a smartphone for further analysis. The circuit was constructed and tested following individual component testing. The circuit was then soldered onto a printed circuit board (PCB) and placed on a comfortable band. The developed prototype was tested on 10 participants. Blood pressure readings were obtained three times daily and compared against measurements from a standard clinical-grade digital sphygmomanometer. Agreement between the two devices was assessed using Bland-Altman analysis. **Result:** Bland-Altman analysis demonstrated moderate agreement for both systolic and diastolic blood pressure between the prototype and the reference device. A proportional bias was observed, wherein the prototype tended to underestimate at lower pressures and overestimate at higher pressures, which may be attributed to peripheral amplification effects compared in the radial and brachial artery measurements. **Conclusion:** Developing a low-cost ambulatory blood pressure monitoring wristband is feasible for to be used by rural settings.

A study on factors Affecting adoption of Fintech services by customers

Author(s): PAYAL D Patel

ABSTRACT

Financial Technology (FinTech) has changed the way people use financial services by making transactions faster, easier, and more convenient through digital platforms. The use of smartphones, internet services, and digital payment systems has increased the popularity of FinTech services in India. However, the adoption of these services is different in every region because of factors such as age, education, income, technology awareness, and social influence. The study reviews existing literature based on technology adoption theories such as the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Diffusion of Innovation Theory. The review identifies key determinants influencing FinTech adoption, including perceived usefulness, perceived ease of use, trust, security, financial literacy, social influence, government initiatives, internet accessibility, and perceived risk. The paper also highlights the challenges faced by customers in urban, semi-urban, and rural areas in adopting digital financial services. The findings of the study may help policymakers, financial institutions, and FinTech companies develop effective strategies to improve customer trust, digital literacy, and financial inclusion.

A theoretical framework for multidimensional symmetry analysis using matrix transformation techniques

Author(s): Ritu

ABSTRACT

The rapid growth of mathematical computing, multidimensional data systems, and advanced computational technologies has increased the importance of studying algebraic structures and symmetry patterns through modern mathematical techniques. The present study, titled “A Theoretical Framework for Multidimensional Symmetry Analysis Using Matrix Transformation Techniques” focuses on developing a conceptual and descriptive understanding of how matrix transformations can be used to analyze multidimensional symmetry in advanced algebra. The study is theoretical and descriptive in nature and is based on secondary mathematical literature, algebraic theories, and existing transformation models. It examines important concepts such as matrix algebra, linear transformations, vector spaces, eigenvalues, eigenvectors, and symmetry operations. The research particularly explores the role of rotation matrices, reflection matrices, orthogonal transformations, and diagonalization methods in identifying and interpreting symmetry patterns in multidimensional structures. The study also explains the connection between algebraic structures and geometric representations, which helps in understanding transformation behavior, invariance, and structural stability across higher dimensions. The proposed framework aims to integrate traditional algebraic concepts with modern computational approaches for better structural and symmetry analysis. Further, the study highlights the practical importance of multidimensional symmetry analysis in several fields, including computational mathematics, artificial intelligence, cryptography, theoretical physics, engineering, and data science. The framework developed in this study may serve as a foundational model for future theoretical and computational research in advanced algebraic transformation systems. The research contributes to the promotion of mathematical innovation, analytical thinking, and advanced scientific research. It also supports the broader vision of technological and knowledge-based development associated with Pathways to Viksit Bharat – 2047 by encouraging advanced mathematical applications for future scientific progress.

IoT and Machine Learning Based Smart Soil Health Monitoring and Decision Support System.

Author(s): Ms. Priti Dhimmarr

ABSTRACT

Smart technologies are being used to achieve sustainable and efficient agriculture. We propose a smart system for monitoring the soil health and providing decision support that uses Internet of Things (IoT) and machine learning techniques to support precision farming. The system gathers soil information in real time from sensors that are networked together and measure moisture, temperature, pH and nutrient levels (NPK). This data is transmitted to a cloud-based platform for processing and analysis. To extract valuable insights, a number of machine learning algorithms such as Random Forest, Support Vector Machine and Gradient Boosting are used to assess soil quality and estimate soil fertility status and crop suitability. A tailored Soil Health Index (SHI) is developed to represent the soil fertility status in a meaningful way. The system generates actionable insights regarding irrigation management, fertilizer application and suitable crop options based on the analytical results. The accuracy of the proposed method is assessed using standard metrics such as accuracy, precision, recall and Root Mean Square Error (RMSE), demonstrating better performance compared to traditional approaches. The system is scalable and cost-effective, enabling its adoption in various agricultural settings. Through data-driven insights, the system seeks to enhance yield, minimise resource waste and not only sustain, but improve agricultural practices.

Democratic Rights and AI Surveillance in India

Author(s): Tamanna Begam

ABSTRACT

The growing proliferation of Artificial Intelligence (AI) in surveillance practices has raised serious apprehensions about its consequences for democratic rights in India. This article examines the use of AI-enabled systems, such as facial recognition and data-driven policing, to interrogate their implications for privacy, accountability, and state power. While often justified on the basis of national security and administrative efficiency, these technologies present serious challenges to fundamental rights, including the right to privacy, individual autonomy and freedom of expression. The study is qualitative and analytical, and uses constitutional principles, policy developments and judicial interpretations. The landmark judgment of Justice K.S. Puttaswamy v. Union of India, which recognised privacy as a fundamental right under Article 21, is used. It also engages with current debates on AI ethics and surveillance to assess the adequacy of India's regulatory framework and institutional safeguards. The paper says that as AI surveillance grows without strong laws or proper oversight, governments can end up with too much power. That means we could face problems like misuse of data, profiling, exclusion, and losing basic freedoms. It wraps up by pointing out that AI can definitely make governments work better, but if we want to protect democracy in this fast-changing digital world, we need transparency, accountability, and tougher legal protections.

The AI Critic in Design Education: Transforming Feedback, Cognition and Creativity

Author(s): DIKSHA TANGRI

ABSTRACT

In traditional design education or practices, the studio critique is the cornerstone of professional development. However, this version often suffers from scalability issues, subjective bias and most important feedback latency where designers must wait days for professional or peer approval or validation. This research examines that how using AI as a "digital critic" changes the way designers learn. As mentioned above, designers have to wait for their mentor or boss or co-worker to give them feedback on their projects, but an AI critic can give advice instantly that also at any time of day means AI critic is available 24/7 for providing feedback. This research explores whether getting immediate feedback assists designers think more clearly about their work and results in rapid completion of task or may also encourages them to try more creative and novel ideas. By investigating how designers interact with these AI tools, this paper aims to see if this technology assists them become better designers or if it makes their work look similar. This study employs a quasi-experimental mixed-methods approach, comparing a control group receiving traditional instructor feedback with an experimental group utilizing an AI-driven critique interface. There is a critical gap in understanding whether AI-driven criticism fosters creative autonomy or induces algorithmic dependency i.e. increasing self-reliance on AI driven tools. Specifically, this study examines how real time, provocative AI feedback influences designers' creativity.

Geopolitical Conflicts, Supply Chain Disruptions, and India's Strategic Economic Adaptation Toward Resilience

Author(s): Praveen Keralli

ABSTRACT

The ongoing 2026 USA-Israel-Iran war, which escalated dramatically with joint airstrikes launched on 28 February 2026 under Operation Epic Fury, has triggered one of the most severe geopolitical and economic crises of the contemporary era. The conflict has generated the largest supply disruption in the history of the global oil market, with global financial markets reeling from stagflation fears and Iran's threats to the Strait of Hormuz further amplifying vulnerabilities in global trade and energy flows. For India, a major oil importer and a significant trading partner of Middle Eastern economies, the ramifications are profound and multi-dimensional. This paper examines how India is strategically adapting its economic policies in response to these geopolitical shocks, with focus on energy security, supply chain diversification, trade rerouting, and macroeconomic stabilization. Using a qualitative policy analysis framework supported by secondary data from RBI, Ministry of Petroleum, and international trade databases, the study maps India's adaptive responses across crude oil procurement, forex management, and diplomatic positioning. The findings suggest that India's policy of strategic neutrality, combined with accelerated domestic energy transition under the Panchamrit commitments and PLI-linked manufacturing expansion, provides partial insulation from external shocks. However, rising crude import costs, currency depreciation pressures, and disrupted remittance flows from Gulf-based Indian workers remain critical vulnerabilities. The paper concludes that building long-term economic resilience requires India to fast-track energy independence, deepen strategic oil reserves, and strengthen bilateral trade frameworks, all essential pillars of the Viksit Bharat 2047 vision.

COMPARISON AND CONTRAST OF CURRICULAR AND PEDAGOGICAL STRUCTURE BETWEEN NEP 2020 AND ANCIENT GURUKUL SYSTEM

Author(s): Dr. G.V.S.R.N.S.A.Sastry

ABSTRACT

The NEP 2020 constitutes the first education policy of the 21st century, it replaces the National Policy on Education (NPE) of 1986, which was thirty-four years old at the time. This policy, grounded in the fundamental pillars of access, equity, quality, affordability, and accountability, aligns with the 2030 Agenda for Sustainable Development. Its aim is to transform India into a vibrant knowledge society and a global knowledge superpower by making school and university education more holistic, flexible, and multidisciplinary; by aligning it with the needs of the 21st century and by focusing on the development of the unique capabilities of every student. This policy was formulated following an extremely extensive consultation process of unprecedented scope and depth. The paper summarised the compare and contrast of curricular and pedagogical structure between NEP2020 and Ancient gurukul systems. The ancient Gurukul system was a residential, learner-centric, and holistic educational model where students (Shishyas) lived with their teacher (Guru), focusing on character formation, spiritual growth, and practical skills. According to NEP 2020 the cumulative and pedagogical structure of the school system is governed by a 5+3+3+4 model, corresponding respectively to the following age groups: 3–8 years, 8–11 years, 11–14 years, and 14–18 years. The date for this paper collected through secondary source.

Bridging Digital Mental Health Disparities among Indian Working Professionals: Pathway to Viksit Bharat 2047

Author(s): Aransha Saxena

ABSTRACT

Research objective: Despite the rapid growth of digital technologies in India, disparities in the adoption of such technologies to improve psychological support accessibility for working professionals persist. This paper analyses these disparities with a focus on technological accessibility, organisational culture, socioeconomic inequalities, digital literacy, and psychological stigma. **Methodology:** The study is in line with the vision of “Viksit Bharat 2047” and adopts the methodology of systematic analytical review, incorporating thematic analysis and comparative policy analysis. It reviews literature on digital health, workplace well-being, educational technology, and mental health in India from 2010 to 2026 through a multi-stage screening process. The review takes into consideration empirical studies and policy documents to recognise patterns affecting variation in digital tech adoption. **Key findings:** The analysis underscores the persistent inequalities in mental health among professionals, shaped by income, hierarchy, gender, digital infrastructure, and technological literacy. Stigma in the workplace, privacy issues, and differences in organisational support are preventing professionals from using digital mental health platforms. However, inclusively implemented and culturally interpreted digital interventions are found to improve emotional self-regulation, workplace engagement, and access to preventive mental healthcare. **Contribution:** The paper discusses the need to bridge the gaps to achieve digital transformation and the national objectives under Viksit Bharat 2047, supporting the Sustainable Development Goal of Good Health and Well-Being (SDG 3) by recommending non-discriminatory access to mental healthcare technologies. The conclusion puts an inclusive framework forward for digital mental health management in India, focusing on tech innovation, ethics, and socially just policy implementation.

A Strategic Analysis of a Decade of India's Climate-Resilient Initiatives for Sustainable Fisheries (2014 – 2023) under the Pradhan Mantri Matsya Sampada Yojana

Author(s): Karishma Sachdev

ABSTRACT

The Indian Fisheries sector is grappling with anthropogenic climate change related challenges such as rising sea temperatures, dwindling catch volumes, migration of favourable species from traditional breeding grounds. Climate change is generally considered anthropogenic as it is caused by human activities such as increased maritime trade, oil spills, GHG emissions, large mechanised trawlers which make governance of oceans particularly difficult. The Blue Revolution Scheme for Integrated Development and Management of Fisheries (FY 2015-16), with a budgeted expenditure of Rs.3000 crores over five years, laid the foundation for targeted policy intervention to make the fishery sector sustainable. The Pradhan Mantri Matsya Sampada Yojana (PMMSY, 2020 -2025), further integrated efforts of research institutions such as the ICAR-Central Marine Fisheries Institute, Institutional lending institutes, fish farmer co-operatives, the Ministry of Fisheries, Animal Husbandry and Dairying and various State governments to make the fisheries sector climate-resilient and sustainable. This paper examines the effect of aquaculture investment in cage farming, sea-weed cultivation, shrimp culture, ornamental fisheries on production, productivity and export earnings of the fisheries sector. There is a significant reduction in marine dependency and a shift towards climate resilience lowering the vulnerability of fishers to climate change induced disruptions in catch volume and earnings.

Socio-Economic Impact of MGNREGA Vb-G Ram G The Vikshit Bharat Guarantee For Rozgar Ajeevika Mission Gramin on Marginalized and Vulnerable Communities: A Study of Dhubri District, Assam

Author(s): Abdul Hai Ahmed and Dr. Ram Krishna Mandal

ABSTRACT

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), now also referred to as the Vikshit Bharat Guarantee Gramin (VB-G RAM) scheme, is a major government program to provide job security in rural areas. This study looks at how this scheme has helped the marginalized and vulnerable communities—such as Scheduled Castes (SCs), Scheduled Tribes (STs), Muslims, and landless laborers—in Dhubri District, Assam. Dhubri is a flood-prone, backward district with high poverty and a large minority population. Using primary data from 100 households across four villages and secondary data from government reports, the study finds that MGNREGA has increased household income, reduced seasonal migration, and improved assets like ponds and roads. Women have gained financial independence through 100 days of guaranteed work. However, problems like delayed wages, corruption, lack of job cards, and difficult work conditions remain. The study concludes that while MGNREGA has brought positive changes, full benefits have not reached the most vulnerable. Better implementation, transparency, and awareness are needed. This research provides suggestions to make VB-G RAM more effective for inclusive rural development.

A Novel Shell Waste–Derived Bio-composite for Efficient Lead Removal from Aqueous Solution and Antibacterial Performance.

Author(s): Ms. Lubna S. Majgaonkar, Dr. Rupinder Kaur, Dr. Surajit Some

ABSTRACT

Heavy metal contamination of aquatic environments is a major concern because of its toxicity, persistence, and potential health impacts. In this study, an activated carbon–calcium carbonate–polypyrrole (Ac+CaCO₃+PPy) composite was synthesized and evaluated as a multifunctional material for lead (Pb²⁺) removal and antimicrobial applications. Batch adsorption experiments were conducted using lead solutions of different concentrations to assess the adsorption performance of the composite. The synthesized adsorbent showed excellent lead removal efficiency, achieving a maximum adsorption of 96.46% at 25 ppm within 30 min, indicating rapid uptake and strong interaction between Pb²⁺ ions and the active sites on the composite surface. At 50 ppm, the removal efficiency reached 76.05%, while adsorption decreased at higher concentrations due to the progressive saturation of available binding sites. FTIR analysis confirmed successful composite formation, with a broad band near 3252 cm⁻¹ assigned to O–H stretching, a peak around 1620 cm⁻¹ attributed to aromatic C=C stretching and N–H bending of polypyrrole, and bands at 1371 cm⁻¹ and 1200–1000 cm⁻¹ corresponding to C–N/C–O vibrations and carbonate groups. Peaks near 823 cm⁻¹ and 706 cm⁻¹ further supported the composite structure. Kinetic studies were performed using pseudo-first-order and pseudo-second-order to better understand the adsorption mechanism. In addition, the composite was tested for antibacterial activity against *Staphylococcus aureus* and *Escherichia coli* using the agar well diffusion method, exhibiting inhibition zones of 14 mm and 12 mm, respectively. Overall, the results suggest that the Ac+CaCO₃+PPy composite is a sustainable, cost-effective, and effective multifunctional material for heavy metal remediation and microbial control in wastewater treatment systems.