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National Institute of Technology Durgapur

An Institute of National Importance under the Ministry of Education, Government of India

PROCEEDINGS OF ABSTRACTS

Management Doctoral Research Colloquium (MDRC 2025)

MDRC 2025

DMS NIT DURGAPUR

An International Conference

(22nd – 23rd December, 2025)

DEPARTMENT OF MANAGEMENT STUDIES

Management Doctoral Research Colloquium (MDRC 2025)

An International Conference

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PROCEEDINGS OF ABSTRACTS

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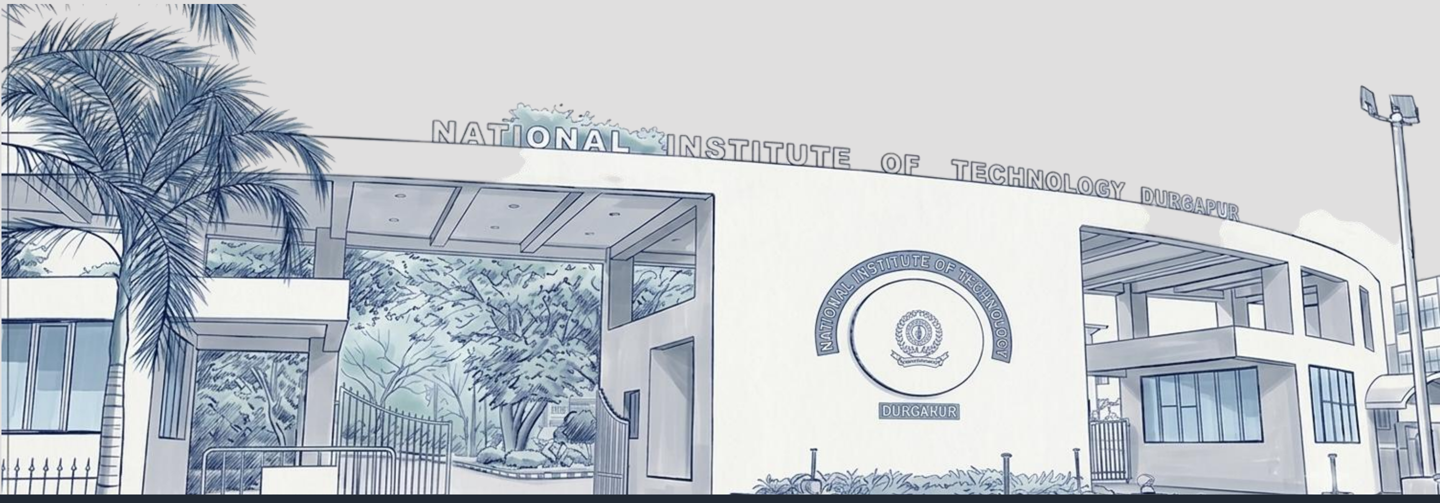

ABOUT MDRC 2025

The Management Doctoral Research Colloquium (MDRC 2025), organized by the Department of Management Studies, National Institute of Technology Durgapur, is a scholarly platform dedicated to advancing rigorous and meaningful research in management and allied disciplines. The Second MDRC was held on 22nd–23rd December 2025 in conjunction with an International Conference hosted by the Department.

MDRC brings together doctoral scholars, early-career researchers, academicians, industry experts, and distinguished thought leaders to present research, exchange ideas, receive constructive feedback, and foster meaningful academic collaborations. The Colloquium emphasizes academic rigor, interdisciplinary thinking, research relevance, and mentorship-driven engagement, providing an environment in which emerging research ideas can be critically examined and strengthened.

MDRC 2025 addressed contemporary and emerging issues across four broad thematic tracks: Marketing & Sustainability; Organizational Behaviour & Human Resource Management; Finance, Economics & FinTech; and Operations & Supply Chain. The conference encompassed diverse areas including artificial intelligence and digital transformation, consumer behaviour, sustainable and responsible business practices, employee well-being, leadership, future of work, behavioural finance, corporate governance, ESG and sustainable finance, fintech, operational analytics, Industry 4.0, logistics, resilient supply chains, and sustainable manufacturing.

These Conference Proceedings bring together the scholarly contributions presented at MDRC 2025 and serve as a record of the diverse research perspectives and emerging ideas shared during the Colloquium. They reflect the collective pursuit of knowledge and the commitment of the research community towards advancing management scholarship and addressing contemporary organizational and societal challenges.

ABOUT DEPARTMENT OF MANAGEMENT STUDIES

The Department of Management Studies (DoMS), National Institute of Technology Durgapur, established in 2004, is committed to excellence in management education, research, and professional development. The Department offers MBA, Ph.D., and M.Tech. in Operations Research programmes, with academic and research specializations in Marketing, Finance, Human Resource Management, and Systems & Operations.

DoMS follows an interdisciplinary approach and technology-driven pedagogy, with a strong emphasis on contemporary management challenges and emerging business practices. Its academic and research activities focus on areas such as sustainability, digital transformation, and data-driven decision-making, enabling scholars and students to engage with evolving organizational and business environments.

The Department maintains strong industry–academia linkages and fosters a vibrant research culture that encourages intellectual inquiry, collaboration, and knowledge creation. Through its academic programmes and research initiatives, DoMS seeks to nurture future-ready leaders and scholars equipped to address complex management challenges and contribute meaningfully to organizations and society.

The Department's alumni network extends across leading organizations globally, reflecting its commitment to quality management education and its relevance in the contemporary business landscape. By integrating academic rigor with interdisciplinary perspectives and practical relevance, DoMS continues to provide an environment conducive to learning, research, innovation, and professional growth.

Through initiatives such as the Management Doctoral Research Colloquium (MDRC), the Department further promotes scholarly dialogue, research collaboration, and engagement among doctoral scholars, academicians, researchers, and practitioners. DoMS remains committed to developing knowledge, capabilities, and perspectives that contribute to impactful management research and education.

ABOUT NIT DURGAPUR

The National Institute of Technology, Durgapur (formerly Regional Engineering College, Durgapur), was established by an Act of Parliament in 1960 as one of the eight such colleges aimed to function as a pace setter for engineering education in the country and to foster national integration. It is a fully-funded premier Technological Institution of the Government of India and is administered by an autonomous Board of Governors. The Institute is a University which awards B.Tech., M.C.A., M.Sc., M.B.A., M.Tech. and Ph.D. degrees to students after their successful completion of the specified courses. As a constituent of the prestigious National Institutes of Technology (NIT) system, the Institute is recognized for excellence in engineering, science, and management education and research.

Located in the industrial city of Durgapur, West Bengal, NIT Durgapur provides a vibrant academic environment supported by modern infrastructure, cutting-edge laboratories, innovation hubs, and a dynamic student community from across the country. The Institute places strong emphasis on interdisciplinary research and industry-aligned learning, fostering an environment that encourages innovation, creativity, and critical thinking.

NIT Durgapur offers a wide range of undergraduate, postgraduate, and doctoral programmes across multiple disciplines. Through its diverse academic and research activities, the Institute promotes the generation and application of knowledge to address emerging technological, organizational, and societal challenges.

The Institute is guided by its motto, “Excellence in Engineering Education and Research,” reflecting its commitment to academic excellence, research-driven innovation, and the development of future-ready professionals and scholars.

With its multidisciplinary academic ecosystem, research orientation, and commitment to innovation, NIT Durgapur continues to contribute to the advancement of knowledge and human capabilities. Its vibrant intellectual environment provides an ideal foundation for national and international academic initiatives, including the Management Doctoral Research Colloquium (MDRC), bringing together scholars, academicians, researchers, and practitioners for meaningful scholarly exchange.

Table of Contents

Paper ID	Title	Page
MDRC0100	Global Finance Innovations and Microfinance Challenges: Analyzing the Impact of Buy Now Pay Later (BNPL) Models on Microfinance Institutions in India.	
	Author(s): Dr. Prajakta Rajani & Bhausaheb Deshmukh	1
MDRC0101	Evaluating financial literacy as a determinant of rational investment choices and risk perception in the context of decision-making under uncertainty	
	Author(s): Abhishek Uniyal, Prof. Shalini Gupta and Prof. Anoop Pandey	2-4
MDRC0103	Behavioral Biases and Investment Decisions: A Bibliometric Analysis of Global Research Trends	
	Author(s): Rahul Negi, Prof. Kaushal Kumar	4-5
MDRC0104	Drivers of credit risk under climate change	
	Author(s): Dr. Nibir Khawash, Chinhita Sanyal, Dr. Sanjib Biswas and Banhi Guha	5
MDRC0106	Evaluating Warren Buffett's Stock Selection Criteria in the Indian Equity Market: A Portfolio Performance Analysis	
	Author(s): Preeti bai Agrawal, Dr. Anuradha Samal	6
MDRC0109	Determinants of Customers' Perceived Intention to Adopt Sustainable Banking Products and Services in Nepal	
	Author(s): Ghanashyam Tiwari, Dr. Neeta Dhusia Sharma, Dr. Abhisekh Saha Roy	6-7
MDRC0110	Sustainable finance and green initiative: A Systematic Literature Review	
	Author(s): Renu Maurya, Dr. R S Pandey	7-9
MDRC0111	Herding behavior in Emerging and Developed Markets: Evidence from India and the U.S.A During the COVID-19 Crisis	
	Author(s): Gayatri Meher, Dr. Anuradha Samal	9-10
MDRC0112	Green Technology Innovation and Carbon Mitigation: A Panel data analysis of BRICS Economies using an ARDL approach	
	Author(s): Bhawna Saini, Dr. Renuka Sharma	10-11
MDRC0114	Safe Havens in Crisis? Event-Study and Variance Decomposition Evidence from U.S. Sustainable and Conventional Asset Classes	
	Author(s): Rashi Modi, Dr. Bidisha Sarkar	11-12
MDRC0118	Digital Literacy and Women's Empowerment: A Theoretical Integration of TAM and TPB Models	
	Author(s): Poonam Naudiyal, Prof. Atul Dhyani	12
MDRC0120	Microfinance, A Tool for Rural Market Expansion: A Study on Select States of India	
	Author(s): Dr. Archita Chatterjee, Arijit Saha, Abhrajit Saha, Dr. Abhik Kumar Mukherjee	13-14
MDRC0121	Stability vs. Profitability Trade-off in Bank Mergers: Evidence from Indian Commercial Banks	
	Author(s): Aman Patel; Swati, Prof. Bimal Jaiswal	14-16

MDRC0122	Capital Structure Efficiency and Firm Performance of Indian IT Firms *Author(s): Stuti Dwivedi, Prof. Bimal Jaiswal*	16-19
MDRC0123	Asymmetric effects of exchange rate dynamics and monetary policy transmission on consumer prices *Author(s): Mr. Vaibhav Soni, Ms. Vanshita Mishra, Prof. Bimal Jaiswal*	20-22
MDRC0125	Factors affecting formal credit accessibility of plant nursery industry: a case study in the areas of Khamargachi in Hooghly district and Muchisa in south 24 parganas district of West Bengal *Author(s): Kartick Biswas and Ashoke Mondal*	22-23
MDRC0126	How Executive Compensation Shapes Capital Structure and ESG Performance Nexus: Evidence from NSE Listed Indian Manufacturing Companies *Author(s): Mou Bhadra, Sayak Mitra & Pradip Kumar Samanta*	23-26
MDRC0127	"Unlocking Retail Investor Confidence in India's Corporate Bond Market: Empirical Insights from a PLS-SEM Framework" *Author(s): Mohini Rathore, Prof. Swami Prasad Saxsena*	26-27
MDRC0128	A Comparative Analysis of Clustering Performance based on Yamanaka Factors: Evidence from the Cryptocurrency Market *Author(s): Sandeep Bhattacharjee, Sanjib Biswas*	27
MDRC0129	Empowering Women Entrepreneurs: Analysing the Impact of Startup Ecosystem Dynamics in Uttarakhand *Author(s): Anshika Upadhyay, Prof. R. C. Dangwal*	28-29
MDRC0130	A Behavioural Inquiry into Herding in Indian Mutual Funds Using CSSD and CSAD Models *Author(s): Keshav kant Prasad, Dr. Amlan Ghosh*	29
MDRC0131	A Decision-making approach on Heuristic Bull Flag Pattern analysis under uncertain in the Indian financial market. *Author(s): Arup Mitra, Supriyo Das, Sayan Gupta, Prabir Biswas, A.K Jalan*	30
MDRC0132	Do Trump's Tariffs Rattle BRICS? GARCH Evidence on Market Volatility *Author(s): Dr. Priya Gupta, Biki Digar, Pitu Kundu*	30-33
MDRC0133	Dynamic Volatility Forecasting of the Nifty 50 Index and Its Impact on Select Fintech Stock Returns in India: Econometric Analysis *Author(s): Somnath Mukhuti, Prof. Pradipta Banerjee*	33-34
MDRC0135	Financial Confidence Matters: The Mediating Effect of Financial Self-Efficacy on Mobile Banking Adoption among Young Users *Author(s): Raunak Bhattacharyya, Dr. Anupam De, Dr. Aishwarya Mitra*	35
MDRC0136	From Disparate Notes to a Unified Symphony: A Bibliometric Analysis of Sustainability Reporting and Materiality *Author(s): Neha Verma, Monika Aggarwal*	36
MDRC0137	Financial Inclusion as a catalyst for women's empowerment: The mediating role of rural credit accessibility *Author(s): Anamika Thakur*	37-38
MDRC0138	"Corporate Social Responsibility in West Bengal: A Study of Regional Insights" *Author(s): Baishakhi Banerjee*	38-42

MDRC0140	Climate risk & financial performance: A science mapping & Bibliometric analysis of emerging trend *Author(s): Ritesh Kumar Sao, Rahul Sarkar*	42-43
MDRC0151	Coordinating sales efforts, managing channels, and ensuring timely delivery to meet customer demands *Author(s): Ajay Kumar Yadavana*	43-45
MDRC0152	Undercoats: Contribution movement as sustainable basecoat category post SDG and Pandemic in Indian domestic market *Author(s): Sayantan Ghosh Dastidar, Professor Dr. Mousumi Roy*	45-52
MDRC0153	Demographic Determinants of Consumer Engagement with Influencer - Endorsed Electronic Products *Author(s): Raisha Yesmin, Dr. Chandan Goswami*	52-56
MDRC0154	Factors Influencing Shopping Mall Selection of Consumers: An Empirical Study for Apparel Shopping in Kolkata *Author(s): Arindam Roy, Prof (Dr.) Gairik Das*	56-59
MDRC0156	Influence of AI-Powered Beauty Product Recommendations on Purchase Intention and Loyalty among Female Nykaa Customers in West Bengal. *Author(s): Mr. Debayan Chakraborty, Mr. Bibek Mandal*	60
MDRC0157	Reimagining the marketing mix: a comprehensive case study analysis of batat’s experiential marketing mix (7e) framework *Author(s): Ankit Baral*	61-64
MDRC0159	Navigating Ethical AI in Personalized Marketing and Its Impact on Consumer Trust, Privacy, and Responsiveness *Author(s): Dr. Santanu Modak, Sk. Abdul Rahim, Chandradeep Dutta*	64
MDRC0160	Overtourism in the Himalayan Destinations: A Dual MCDM Analysis of Expert and Resident Perspectives. *Author(s): Kushal Tamang, Dr. Sanmoy Mallick*	65
MDRC0161	Do emojis always work for Gen Zers? A survey-based study to validate the role of emojis on purchase intention through inferential and affective pathways. *Author(s): Saswati Chakraborty, Pradeep Krishnatray*	66-68
MDRC0164	Greenwashing vs Genuine Sustainability: An Empirical Evaluation of Customer Trust in the Indian Marketplace *Author(s): Panjala Swapna, Dr.D.Srinivas*	69-70
MDRC0167	A novel extended approach for adopting eHealth under FAHP application for assessing barriers to customer engagement. *Author(s): Dr. Dikhita Das*	71
MDRC0168	The Blueprint of Modern Enrolment Marketing: High-Intent Lead Ecosystem *Author(s): Dr. Sandip Kumar Mukherjee, Dr. Prabir Biswas*	72-73
MDRC0169	Exploring the influence of travel motivation on memorable tea tourism experiences and travellers’ behavioural intention: A hybrid technique of SEM and fsQCA *Author(s): Dr. Prosenjit Ghosh*	73-75

MDRC0170	Modelling Smartwatch Adoption and Recommendation Behaviour: A Hybrid SEM–ANN Approach to Perceived Usefulness and Health Orientation *Author(s): Dr. Parul Choudhary, Dr. Smita Sharma*	76-78
MDRC0200	Inventory Control Challenges in Pharmaceutical MSMEs: An Empirical Study of Operational Inefficiencies and Regulatory Constraints. *Author(s): Rohit Ashok Mohite*	78-81
MDRC0202	Impact on market efficiency due to sudden political crisis: a case study of India *Author(s): Raju Paul, Bishal Routh*	82-83
MDRC0203	Machine Learning Technique for Skin Lesion Analysis and Melanoma Cancer Detection. *Author(s): Mrs. Sharmili Ganguly, Barnali Howlader*	84
MDRC0205	Optimization of Battery Swapping Operations with Health-Based Charging and Dynamic Demand *Author(s): Sheersha Karmakar, Prerna Gautam, B Vipin*	84-87
MDRC0206	Machine Learning–Enhanced Genetic Algorithm for Portfolio Optimization in India's APY Pension System *Author(s): Abhishikta Basak, Dr. Amlan Ghosh*	88
MDRC0208	Green Supply Chain Management Research: A Bibliometric and Systematic Review *Author(s): Abhishek Mukherjee, Dr. Subhadip Sarkar*	88-89
MDRC0251	Hybrid Work and the New World of Talent: Strategies for a Changing Workforce *Author(s): Pushkala G, Dr. Naini Shalini Reddy*	89-91
MDRC0252	Bridging Servant and Academic Leadership through the Conservation of Resources Theory: A Comprehensive Review and Research Agenda *Author(s): Satya Swaroop Roy Medapati, Dr. Ravi Kumar Tati*	91-92
MDRC0253	An Empirical Investigation into the Integration of Sustainable Human Resource Management and Learning & Development in boosting organizational performance in the Indian IT Sector *Author(s): Ms. Syamili Sugathan, Dr. Sushmita Singh*	92-93
MDRC0255	On Spirituality and Mindfulness: The Context of Indian Knowledge Systems *Author(s): Jullie Ranina*	93-95
MDRC0256	Managing Employee Well-Being and Sustainability: Enhancing Work Performance in the IT Sector *Author(s): Apurva Singh, Dr. Sushmita Singh*	95-96
MDRC0257	Culture Eats Engagement for Breakfast: Exploring How Organizational Culture Fuels or Destroys Employee Engagement *Author(s): Tabassum Jahan, Prof. Anshu Yadav*	96-99
MDRC0258	Technostress and Employee Productivity: A Systematic Literature Review using TCCM Framework *Author(s): Gauri Gupta, Prof. Ashok Kumar Pokhriyal*	100

MDRC0260	Prosocial Behavioural Factors, Diversity Beliefs, and Job Satisfaction: A Conceptual Framework for Enhancing Faculty Well-being in Indian Engineering Colleges	
	Author(s): Ms Padma Ammu, Dr Jaya Rani & Prof Ajeya Jha	101-102
MDRC0261	Exploring the Impact of Sleep Patterns on Health and well-being Among Adolescents: A Cross-sectional Study	
	Author(s): Dr Soumi Ray, Promita Choudhury, Sneha Chatterjee	102-104
MDRC0264	AI disruption and employee well-being: role of digital resilience and psychological capital	
	Author(s): Swati Vaid Chaturvedi	104-106
MDRC0266	Digital Dexterity as a competitive advantage in the future of work:A strategic framework and empirical investigation.	
	Author(s): Dr. A. Jyothi, Ms. P. Swapna	107
MDRC0267	A Conceptual Framework for Using Generative AI to Develop Metacognitive Skills in Management Education	
	Author(s): Rakesh Mehta	107-109
MDRC0268	A Study on Motivation and Social Security of the Food Delivery Platform Worker in South and Central Kolkata	
	Author(s): Sunita Saha, Dr. Sumanta Dutta	110
MDRC0269	From Microaggressions to Exclusion: Lived Experiences of Homosexual folks at Indian Workplaces	
	Author(s): Atul Yadav, Mohita Junnarkar, Sanjeev P Sahni	111

Paper Code MDRC0100

Global Finance Innovations and Microfinance Challenges: Analyzing the Impact of Buy Now Pay Later (BNPL) Models on Microfinance Institutions in India

Dr Prajakta Rajani & Bhausaheb Deshmukh
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Abstract

The rapid global proliferation of financial technology has introduced disruptive innovations, with Buy Now Pay Later (BNPL) models emerging as a dominant force in digital credit. This paper analyzes the impact of BNPL on traditional Microfinance Institutions (MFIs) in India, a sector crucial for financial inclusion. While BNPL offers frictionless access to consumption credit, it poses significant challenges to the MFI model, which is predicated on productive lending and stringent credit discipline. This study adopted a quantitative, cross-sectional research design to investigate the perceptions of MFI professionals on this issue. A structured questionnaire was administered to a sample of 367 loan officers and branch managers from various MFIs operating in Pune City, Maharashtra. The collected data were analyzed using descriptive statistics and Pearson correlation. The findings reveal a strong consensus among MFI professionals that BNPL negatively impacts clients' financial behavior, encouraging impulsive spending and making it harder for them to manage overall debt. A statistically significant negative correlation ($r = -0.582$, $p < 0.01$) was found between perceived BNPL adoption and client credit discipline, confirming that higher BNPL usage is linked to increased delays in MFI loan repayments. Furthermore, a significant positive correlation ($r = +0.645$, $p < 0.01$) was established between BNPL proliferation and the operational challenges faced by MFIs, including rising default rates and difficulties in client retention. The study concludes that BNPL presents a formidable strategic and operational threat to the Indian microfinance sector. It calls for urgent adaptive strategies from MFIs, including enhanced financial literacy programs, and advocates for proactive regulatory intervention to ensure that digital lending innovations do not undermine the financial stability of vulnerable populations.

Keywords: Buy Now Pay Later (BNPL), Microfinance Institutions (MFIs), Financial Inclusion, Fintech, Digital Lending, Over-indebtedness, Credit Discipline, India.

Paper Code MDRC0101

Evaluating financial literacy as a determinant of rational investment choices and risk perception in the context of decision-making under uncertainty

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Prof. Shalini Gupta (Professor at H.N.B.G.U.)
Prof. Anoop Pandey (Professor at H.N.B.G.U.)

Abstract

This conceptual paper addresses a critical challenge for individual investors: how to choose wisely in increasingly complex and uncertain financial markets. As traditional barriers to entry dissolve and the responsibility for retirement shifts entirely to the individual through defined-contribution schemes, the stakes of every investment decision are profoundly elevated, transforming personal choices into determinants of lifelong economic well-being. This monumental shift necessitates a theoretical model that moves beyond assumptions of perfect rationality. The core argument of this inquiry is that in this era of personalized financial risk, simply having market access is insufficient; the capacity for rational processing of information, fundamentally rooted in an individual's Financial Literacy (FL), is paramount. This study posits that FL acts as a robust protective mechanism against the predictable psychological pitfalls that thrive amidst market complexity and uncertainty. Failure to integrate FL into the policy and educational response to modern finance represents a critical oversight, allowing a structural flaw to persist that facilitates the erosion of personal wealth and, consequently, public financial stability. This conceptual inquiry seeks to provide a rigorous, theoretically grounded explanation for why and how financial education must move beyond simple arithmetic to address deeper cognitive vulnerabilities.

To accurately model this relationship, this paper is firmly grounded in Behavioural Finance, which acknowledges the systematic, predictable ways human psychology deviates from pure rationality. The theoretical architecture is constructed around three interlinked concepts: heuristics, cognitive biases, and subjective risk perception. Human beings, as bounded information processors, rely on mental shortcuts (heuristics) to manage financial complexity, which are systematically prone to error. For example, the availability heuristic may lead to disproportionate investment in familiar, often lower-performing assets, while the representativeness heuristic causes investors to erroneously extrapolate short-term market performance into long-term certainties. This framework posits that deficiencies in FL do not just correlate with poor choices, but actively amplify the uncorrected impact of these heuristics, thereby preventing critical evaluation of investment decisions and leaving the investor captive to unexamined psychological impulses.

A central theoretical pillar is Prospect Theory, which dictates that individuals are loss-averse and evaluate utility based on changes relative to a reference point, not absolute wealth. This theory provides

a clear explanation for two prevalent suboptimal outcomes: first, selling off assets during market dips, which is a powerful loss-aversion reaction inconsistent with

rational, long-term compounding goals; and second, overestimating returns during positive trends, which often stems from overconfidence or the framing effect and leads to unsustainably risky portfolio construction. Crucially, the proposed model identifies the precise moderating role of FL in transforming objective uncertainty into subjective risk perception. High FL permits the investor to frame uncertainty using objective, probabilistic data and historical context, whereas low FL forces reliance on immediate, visceral emotional signals (subjective perception), facilitating the behavioural extremes observed in volatile markets.

The synthesis of heuristics and Prospect Theory is formalized through the introduction of this paper's core conceptual contribution: the Behavioural Vulnerability Gap (BVG). The BVG is defined as the chasm between the required level of cognitive resistance necessary to navigate complex markets and the actual level of resistance possessed by an investor due to low FL. It represents not just the absence of knowledge, but the presence of a structural, predictable susceptibility to systematic financial error. When FL is deficient, the investor lacks the cognitive ability to engage in System 2 thinking (slow, analytical processing), reverting instead to fast, emotional System 1 thinking. This reliance cripples the investor's ability to discount speculative market noise, accurately calculate risk probabilities, and maintain emotional discipline against the imperative of loss aversion. The BVG is, therefore, the key theoretical mechanism connecting low financial literacy to the pervasive threat of behavioural risks that undermine wealth accumulation and contribute to economic inequality.

The paper's focus on retail investors in Uttarakhand provides essential contextual validation for the BVG framework. The region presents a unique confluence of economic factors: unique economic volatility driven by reliance on the tourism and agriculture sectors (creating distinct and synchronized risk exposures); varied financial access that often necessitates reliance on informal advice; and a historical preference for informal savings (gold, real estate) over formal market instruments. This distinct context makes Uttarakhand an essential area for localized theoretical interventions, allowing the framework to identify which specific biases (e.g., local bias, familiarity heuristic) are most potent and where targeted financial education programs would yield the greatest societal benefit.

The methodology is a rigorous, systematic synthesis of literature across economics, psychology, and finance to define, relate, and integrate the constructs of FL, heuristics, and market uncertainty. This comprehensive, theory-building approach serves as the foundational argument. The resulting model generates a detailed and testable set of propositions for future large-scale empirical research, offering a structured hypothesis for validation by quantitative studies on retail investor data. Ultimately, this work provides actionable guidance for financial educators and policymakers, transforming an abstract psychological vulnerability into a concrete, measurable economic variable to strengthen public financial resilience and ensure greater market stability for everyday citizens.

Keywords - Behavioural Finance, Financial Literacy, Risk Perception, Cognitive Biases / Heuristics, Investment Decisions, Behavioural Vulnerability Gap, Decision-Making Under Uncertainty, Uttarakhand

Paper Code MDRC0103

Behavioral Biases and Investment Decisions: A Bibliometric Analysis of Global Research Trends

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Hemwati Nandan Bahuguna Gharwal University

Abstract

Purpose - This paper maps the intellectual and thematic evolution of behavioral finance and investment decision-making research. It seeks to identify the dominant research streams, influential contributors, and emerging areas of inquiry to guide scholars and practitioners in this field.

Design/methodology/approach - A bibliometric review was conducted using publications indexed in Scopus and Web of Science (WoS) from 2000 onward, limited to English-language documents. Co-citation, bibliographic coupling, and keyword co-occurrence analyses were performed using VOSviewer, while RStudio supported thematic development and performance evaluations.

Findings - The analysis shows that overconfidence, herding, financial literacy, and investor decision-making are the most frequently addressed themes. Recent literature highlights the growing relevance of fintech adoption and digital trading platforms. Co-citation mapping points to key theoretical foundations and seminal authors, while bibliographic coupling reveals the most active research clusters and leading journals such as Qualitative Research in Financial Markets and the Journal of Behavioral and Experimental Finance. Thematic evolution indicates a transition from studies centered on individual biases to research integrating technology-driven investor behavior.

Research limitations/implications - The study is confined to Scopus and WoS databases and excludes non-English publications and grey literature. Future work could expand coverage by including additional sources and country-specific datasets to capture regional research dynamics.

Practical implications - The findings offer valuable guidance for researchers, policymakers, and market practitioners by pinpointing the most productive authors, institutions, and journals, as well as identifying knowledge gaps and promising areas for further investigation.

Originality/value - This study combines two major databases with advanced bibliometric tools to deliver a robust, systematic overview of behavioral finance research. It contributes by mapping both the historical progression and the emerging intersections of technology and investor psychology, providing a reliable foundation for future research agendas.

Keywords: Behavioral Finance; Investment Decision-Making; Bibliometric Analysis; Financial literacy; Investor behavior; Fintech adoption.

Paper Code MDRC0104

Drivers of Credit Risk under Climate Change

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Abstract

The continuing climatic variability and its associated adverse effects pose a substantial threat to financial institutions. Climate change not only poses physical risks but also increases credit risk. Moreover, the need for transition to a low-carbon economy also impacts credit risk. In this context, we present an introspective analysis of climate change-induced factors that drive credit risk. This paper aims to conduct a causal analysis of the various causes of credit risk under climate change. To this end, the current study employs an integrated Interpretive Structural Modeling (ISM) and MICMAC analysis. The drivers are indicative of regulatory changes, asset value depreciation, market volatility, technological shifts, and socioeconomic vulnerabilities. ISM methodology enables the development of a causal model portraying the hierarchical relationships among the drivers. The MICMAC analysis validates the ISM's findings by classifying drivers into independent, linkage, and dependent categories. The present study highlights the critical drivers and their interrelationships, which assume strategic importance, and unveils the dynamics of credit risk.

Keywords: Climate change, Credit risk, ISM, MICMAC

Paper Code MDRC0106

Evaluating Warren Buffett's Stock Selection Criteria in the Indian Equity Market: A Portfolio Performance Analysis

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Sambalpur University

Abstract

This study evaluates the Warren Buffett's stock-selection criteria within the Indian equity market by combining value-investing philosophy with modern portfolio-optimization frameworks. Buffett's criteria highlighted on the high profitability having low leverage and returns on equity yet it has reasonable valuation were applied into measurable financial ratios for Indian listed firms specifically BSE 500 stocks. A binary scoring system is applied to identify top-performing stocks which were subsequently structured into three portfolios reflecting different investor risk preferences: Equal-Weighted (EW), Minimum-Variance (MVO), and Maximum-Sharpe (MSR). Portfolio performance was assessed relative to the SENSEX benchmark using standard risk-adjusted metrics such as Sharpe ratio, Sortino ratio, Jensen's alpha, and M-squared.

The results indicate outperformance of all three portfolios to that of benchmark over the 15-year horizon. The results showing highest return of 28.26% by MSR where as a stable and lowest volatility of 21.58 by MVO portfolio. These findings support the robustness and adaptability of Buffett's value-investing philosophy within an emerging-market context like India. This study contributes to the growing literature by linking qualitative investment knowledge with quantitative financial modeling thus offers practical insights for long-term investors seeking disciplined, fundamentals-driven strategies in volatile markets.

Keywords: Warren Buffett, Value Investing, Portfolio Optimization, Indian Stock Market, Risk-Adjusted Performance, Emerging Markets.

Paper Code MDRC0109

Determinants of Customers' Perceived Intention to Adopt Sustainable Banking Products and Services in Nepal

Ghanashyam Tiwari; Dr. Neeta Dhusia Sharma and Dr. Abhisekh Saha Roy
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Abstract

Customers are increasingly aware of the environmental consequences of their consumption patterns and their contribution to global warming. The financial sector, particularly banking, plays a crucial role in promoting economic growth and social development; however, conventional banking operations often overlook their environmental impacts. This study examines customer attitudes and intentions toward environmentally sustainable banking practices in Nepal. Using a cross-sectional survey design, data were collected from 450 banking customers through a convenience sampling method. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). Guided by the Theory of Planned Behaviour (TPB), the study tested a conceptual framework to explore the determinants of sustainable banking adoption. The findings reveal that attitudes and social influence are the most significant predictors of customers' intentions to engage in sustainable banking, while perceived environmental outcomes remain less influential. These results highlight the need for greater emphasis on environmental awareness and behavioral change strategies to promote sustainable financial practices. The study contributes to the understanding of customer behavior in sustainable banking and provides valuable insights for policymakers and financial institutions aiming to foster sustainable banking initiatives in developing economies such as Nepal.

Keywords: attitude, banking, customers, environment, intentions, sustainability

Paper Code MDRC0110

Sustainable finance and green initiative: A Systematic Literature Review

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Abstract

i) Purpose / Objective

This study examines the evolving landscape of sustainable finance and its role in promoting green initiatives through a systematic review and synthesis of existing research. The primary objective is to identify the key themes within sustainable finance that influence the adoption of environmental initiatives and to examine the diverse stakeholders contributing to these efforts. The research recognises that sustainable finance has emerged as a critical mechanism for mobilising financial resources toward environmental sustainability, particularly through the incorporation of Environmental, Social, and Governance (ESG) principles, sustainable investment instruments, and transparent disclosure practices. Specifically, the study aims to (a) identify major themes within sustainable finance that directly influence the adoption of green initiatives and (b) examine the roles played by varied stakeholders, from investors and corporations to policymakers and regulators, in advancing sustainable finance and environmental sustainability. Through this systematic inquiry, the study provides deeper insights into how sustainable finance can mobilise capital, encourage responsible corporate behaviour, and foster long-term resilience in the context of climate change and sustainability transitions.

ii) Research Methodology

This research employs a systematic literature review (SLR) methodology, adhering to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework. The identification process began with a comprehensive keyword search in the SCOPUS database related to sustainable finance and environmental topics. This initial search resulted in 734 articles. A two-phase screening process was implemented. The first phase filtered studies

according to publication year (2015–2024), subject area (economics, finance, business, and management), open-access availability, and document type (research articles), narrowing the pool to 193 papers. The second manual screening phase used Rayyan software to assess titles, abstracts, and keywords, ensuring alignment with the study's environmental focus and research aims. This resulted in 93 articles for full-text evaluation, from which 52 studies meeting the inclusion criteria were finalised. These studies were then subjected to thematic analysis using ATLAS.ti software to identify recurring patterns and themes. Four major themes emerged—sustainable investment strategies and financial instruments, ESG factors, risk and financial disclosure, and stakeholder roles.

iii) Findings

The review identifies four dominant themes that collectively shape how sustainable finance supports environmental initiatives. First, sustainable investment strategies and financial instruments—including green finance, low-carbon investment, climate finance, impact investing, ocean finance, green bonds, climate bonds, sustainability-linked bonds, blue bonds, and green auto asset-backed securities—are essential tools for channelling capital into environmentally beneficial projects. These instruments help redirect financial flows toward renewable energy, pollution control, resource efficiency, and biodiversity protection. Second, ESG factors have become central to investment decisions as investors increasingly evaluate corporate performance based on environmental stewardship, social responsibility, and governance quality. ESG funds influence companies to reduce emissions, adopt clean technologies, and improve transparency. Third, risk and financial disclosure frameworks—such as the EU Sustainable Finance Disclosure Regulation (SFDR), climate-related financial risk analysis, EU taxonomy, and the Task Force on Climate-Related Financial Disclosures (TCFD) enhance transparency, enabling investors to assess climate risks and making corporations more accountable for their environmental impacts. Mandatory ESG disclosures improve firm performance, investor confidence, and accurate risk pricing. Fourth, a diverse set of stakeholders, including individual and institutional investors, impact investors, corporate firms, asset managers, policymakers, central banks, regulators, financial intermediaries, and consumers, actively drive the growth of sustainable finance. Investors are increasingly demanding green products, corporations are integrating ESG into their strategies, financial institutions are developing green lending models, and regulators are implementing policies that promote low-carbon transitions.

Collectively, these findings show that sustainable finance is a powerful enabler of green initiatives, shaping markets, influencing corporate behaviour, and supporting global sustainability goals.

iv) Originality and Contribution

This study contributes original value by offering a holistic and thematically integrated synthesis of sustainable finance research, which has been largely fragmented across domains. Unlike prior reviews that focus narrowly on specific instruments such as green bonds or isolated ESG practices, this study unifies diverse components- investments, ESG metrics, disclosure policies, and stakeholder dynamics into a comprehensive framework. It uniquely highlights the interconnectedness of these themes and their cumulative impact on driving environmental initiatives. The study further contributes by underscoring the multi-actor ecosystem involved in sustainable finance, an area that has often been overlooked in prior literature. It reveals that sustainable finance is not solely driven by investors or regulations but is the result of complex interactions among corporations, regulators, consumers, financial institutions, and international frameworks. Additionally, the study identifies critical research gaps, such as the need for harmonised global standards, integrated measurement frameworks, and sector-specific strategies, which provide a clear direction for future scholarship. Overall, the review expands understanding of how sustainable finance can be effectively leveraged to advance environmental sustainability, offering valuable insights for researchers, policymakers, financial institutions, and sustainability practitioners.

Keywords: Environmental sustainability, Sustainable finance, environmental initiatives, Systematic literature review

Paper Code - MDRC0111

Herding behavior in Emerging and Developed Markets: Evidence from India and the U.S.A During the COVID-19 Crisis

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Abstract

Purpose – This study investigates the presence of herding behavior in India and the U.S. during the COVID-19 crisis, offering comparative evidence from an emerging and a developed market during a period of global financial stress.

Methodology/approach – The analysis uses daily, weekly and monthly index data from the Indian and U.S. markets during the COVID-19 period and employs the CSAD and CSSD frameworks of Christie

and Huang (1995) and Chang et al. (2000) to detect herding during periods of intense market movements.

Findings – The analysis shows that herding is present only in the U.S. stock market during extreme upward movements in both daily and weekly data, while no significant herding behavior is observed in the Indian market during the COVID-19 period.

Implications – The presence of herding only in the U.S. during extreme upswings indicates greater synchronized trading under stress, while India shows more diverse investor behavior. These results highlight the need for market regulators in both countries to closely monitor investor behavior during periods of heightened uncertainty to ensure stability, protect retail participants, and strengthen market resilience during future crises.

Keywords: Herding behavior, Covid-19, Emerging and Developed Market, India and U.S.A

Paper Code MDRC0112

Green Technology Innovation and Carbon Mitigation: A Panel data analysis of BRICS Economies using an ARDL approach

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Abstract

The urgency of achieving carbon neutrality has emphasised the critical role of Green Finance in achieving Sustainable Growth. For BRICS economies, it's a critical situation because these countries collectively generate a major percentage of global carbon emissions while seeking rapid economic growth. While the increasing importance if green finance, empirical evidence on its effectiveness in reducing carbon emission within BRICS economies remains limited. This study addresses this gap by employing the Autoregressive Distributed Lag (ARDL) model to analyse both short- and long-term dynamics between Green technological innovation and Carbon emission from 2000 to 2025, serving as a measure of environmental sustainability. Our empirical results shows that Green technological innovation significantly lowers carbon emissions over both the short and long term, highlighting its significance in decarbonisation plans. Furthermore, a Bidirectional relationship between Green technological innovation and Carbon emission is confirmed by causality analysis using the Diks and Panchenko (2006) nonlinear Granger causality test. The results emphasize the transformative role of green technological innovation in mitigating climate change impacts and fostering sustainable growth across BRICS nations, while providing actionable insights for policymakers to strengthen green investment frameworks and align financial systems with low-carbon development pathways.

Keywords: Green Technological Innovation, Carbon Emission, Sustainable Development Goals, ARDL Approach

Paper Code MDRC0114

Safe Havens in Crisis? Event-Study and Variance Decomposition Evidence from U.S. Sustainable and Conventional Asset Classes

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Abstract

This study examines the stability and resilience of four major asset classes green bonds, ESG equities, conventional bonds, and conventional equities when subjected to significant economic and geopolitical disturbances. Employing a hybrid methodological framework that integrates event-study techniques with variance-decomposition analysis, the paper evaluates the behaviour of these assets under four categories of shocks: market, geopolitical, financial, and sovereign. Event dates are defined as the precise points at which each shock begins to exert a measurable influence on U.S. financial markets, thereby ensuring that the immediate price-adjustment dynamics are adequately captured. Abnormal returns are estimated through a risk-adjusted market-model framework using an event window of (–30, +7), which allows for a comprehensive assessment of pre-event positioning, impact-day reactions, and short-run post-event adjustments.

The empirical findings indicate that sustainable asset classes demonstrate superior shock-absorption capacity and faster recovery trajectories relative to their conventional counterparts. Green bonds, in particular, exhibit the lowest deviations in abnormal returns and the quickest mean-reversion behaviour, underscoring their strong safe-haven characteristics. ESG equities also outperform traditional equities, although they display slightly higher volatility when compared with green bonds. Traditional equities show the most pronounced negative abnormal returns across all shock types, reflecting their heightened sensitivity to earnings expectations, liquidity constraints, and sentiment-driven trading pressures. These results are reinforced by the variance-decomposition analysis, which reveals that shock-induced innovations account for a smaller proportion of future return variance in sustainable assets, whereas conventional markets exhibit greater vulnerability to persistent shock effects.

The observed patterns can be attributed to factors such as the growing institutional demand for sustainable instruments, stronger disclosure and governance practices among ESG-oriented firms, and the investment-grade, project-linked nature of green bond issuances. Overall, the study contributes to the sustainable finance literature by offering comparative evidence on the resilience differentials across asset categories and by elucidating the mechanisms underpinning safe-haven behaviour during periods

of turbulence. The policy implications are substantial: robust regulatory frameworks that support the expansion of sustainable finance can enhance systemic financial stability while advancing environmental objectives. For investors, the findings highlight the portfolio-stabilizing potential of sustainability-linked assets. Collectively, the paper underscores the rising importance of such assets in an era defined by recurring shocks and structural uncertainty.

Keywords: Sustainable Finance, Event Study, Green Bonds, Shock Resilience

Paper Code MDRC0118

Digital Literacy and Women's Empowerment: A Theoretical Integration of Technology Acceptance Model (TAM) and Theory of Planned Behaviour (TPB) Models

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Abstract

Purpose: The purpose of this conceptual study is to examine how digital literacy influences women's adoption and empowerment of digital technology by integrating two major behavioural theories: the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB).

Objective: The study aims to develop a unified theoretical framework that explains how digital literacy influences perceptions, attitudes, social pressures, behavioural intention, and ultimately, women's empowerment.

Study Design: This research follows a conceptual and theory-driven design, synthesising existing literature to build a multi-dimensional model. No primary data collection is involved.

Methodology: Using an integrative review approach, the study analyses scholarly work on digital literacy, TAM, TPB, and women's empowerment. The paper proposes theoretical propositions based on established relationships among the constructs, forming a pathway from digital literacy to empowerment.

Findings: The conceptual analysis suggests that digital literacy enhances perceived usefulness, perceived ease of use, perceived behavioural control, and subjective norms, which collectively strengthen behavioural intention and lead to increased digital engagement and empowerment.

Contribution: The study contributes a novel integrated framework combining digital literacy with TAM and TPB in the context of women's empowerment—an area where limited research exists. It reframes digital literacy as a behavioural determinant rather than a demographic variable and offers a foundation for future empirical research and policy interventions.

Paper Code MDRC0120

Microfinance, A Tool for Rural Market Expansion; A Study on Selected States Of India

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Abstract

Microfinance initiatives provide essential financial services to underserved populations, enabling them to invest in small businesses (Tripti Gupta, 2024). This empowerment can lead to increased income and improved living standards. Moreover, microfinance also facilitates access to education and healthcare, fostering overall community development. As access to credit expands, rural entrepreneurs can innovate and diversify their offerings. (Jie Chen et al., 2022). The growth of local entrepreneurs not only stimulates local economies but also attracts outside investment and creates job opportunities. Furthermore, improved financial literacy among borrowers equips them to make informed economic decisions. This cycle of growth ultimately contributes to sustainable rural development but also strengthens supply chains and creates job opportunities. Consequently, rural regions experience enhanced economic resilience and reduced poverty levels. (Collin Chikwira et al., 2022). Several empirical studies demonstrate that microfinance institutions and self-help groups (SHGs) play a critical role in reducing poverty and improving socio-economic conditions among rural populations by fostering entrepreneurship, increasing income, and minimizing financial crises for smallholder farmers and the rural poor (Chowdhury & Ramchandra, 2023). Research from various Indian states, including Karnataka and Telangana, corroborates these findings by demonstrating that SHG membership leads to tangible improvements in savings behaviour, access to microcredit, social mobility, and leadership development among women from marginalised communities, although variations exist across caste, class, and regional lines (Gadad & Kademani, 2024; Reddy & Kalle, 2025). Moll, H. A. (2005) in the study found out the long-term effectiveness of microfinance depends on a paradigm shift from pursuing targeted outreach and sustainability to guaranteeing systemic stability and ongoing development of financial services, which integrates macro-level financial deepening theory with micro-level impact studies. Tenaw, S., & Islam, K. Z. (2009) found out that Microfinance and cooperatives greatly increase agricultural productivity and lower poverty by providing essential liquidity, as shown by a comparative case study analysis of Ethiopia and Bangladesh. However, their full potential is limited by high risks, inadequate infrastructure, and the exclusion of smallholder farmers from formal financial systems. Abiola Babajide (2012) in their study, which is based on a panel data regression analysis of 502 micro and small enterprises (MSEs) in Nigeria, concludes that access to microfinance as it is currently implemented does not considerably boost business growth as measured by sales growth. According to the research, the loan amounts are too little and the repayment terms are too short to allow for significant

development or investment. Rather, more important factors influencing growth are firm-level attributes like the firm's age and size, the location of the organization, and the entrepreneur's educational background. The study comes to the conclusion that although microfinance helps microenterprises in certain industries, such as trading, its overall impact is limited. This calls for the recapitalization of microfinance banks and a sector-specific approach to policy that takes into account the unique financial requirements of various business types. The primary objective was to investigate how deeply the microfinance market has penetrated the rural areas of the States of West Bengal and Bihar. In accordance with the primary objective, we tried to measure the impact of microfinance reach on boosting rural entrepreneurship. This study used a cross-sectional design of research, analysing data of secondary nature at the state level for select Indian states, i.e the states of West Bengal and Bihar. Data on penetration of Microfinance, which is sourced from NABARD reports, while data on the rural market is drawn from the National Sample Survey Office (NSSO). This study aimed to find out the connection between the outreach of microfinance and the expansion of the market in those selected states. This study found a statistically significant positive connection between the penetration of microfinance and rural market expansion indicators. Higher Self Help Group (SHG) denser states and states with good credit disbursement have a greater scope of development in their Rural market Sector. The findings substantiate that microfinance played the role of a critical catalyst for the fostering of entrepreneurship in rural areas, providing an evidence-based framework for policymakers.

Paper Code MDRC0121

Stability Vs. Profitability Trade-Off in Bank Mergers: Evidence from Indian Commercial Banks

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Abstract

Purpose: The Indian banking sector has gone through several rounds of consolidation, each driven by the goal of strengthening financial resilience and improving competitiveness. However, whether mergers translate into measurable improvements in performance remains empirically inconclusive. While mergers are often justified as a way to boost efficiency, they can also bring integration challenges and new risk exposures that may affect financial stability. This study looks at whether mergers in India help banks improve profitability without weakening their stability, or if there is a trade-off between the two. It examines how merger events influence profitability, how profitability and stability move together over time, and how internal factors like capital adequacy, cost efficiency, and asset quality shape this relationship. The findings contribute to ongoing policy discussions on consolidation and help assess whether mergers have lived up to their expectations of supporting sustainable bank performance.

Methodology: The study uses a balanced panel dataset of nine Indian commercial banks, among which six were from the public sector and three from the private sector, all of which underwent mergers after the 2008 global financial crisis. For every bank, data for four years before the merger and four years after the merger were collected from Annual Reports of the respective banks and the Reserve Bank of India, giving a window that captures both structural changes and their performance implications. The analysis includes key variables such as Return on Equity (ROE) to measure profitability and the Z-Score to assess financial stability. A merger dummy distinguishes the pre-merger and post- merger periods. The model also controls for bank size, cost efficiency, credit-to-deposit ratio, capital adequacy ratio, non-performing assets ratio, and inflation. Two fixed-effects regression models were estimated to study profitability and stability in a bidirectional setup. The first model explains ROE using merger status, financial stability, and the control variables. The second model explains stability using profitability, merger status, and the same set of controls. The Hausman test confirmed that fixed effects were more appropriate than random effects. Diagnostic tests showed no heteroskedasticity, some serial correlation, and no cross-sectional dependence. To address the serial correlation, Driscoll-Kraay robust standard errors were applied, ensuring more reliable inference. These steps strengthen the credibility of the findings and support the study's aim of understanding how mergers shape bank performance over time.

Findings: The empirical results show that merger events among Indian commercial banks did not lead to a statistically significant improvement in either profitability or stability during the post-merger period. The merger dummy was negative for profitability and positive but insignificant for stability, suggesting that mergers neither raised short-term returns nor strengthened resilience in any meaningful way. At the same time, the study finds a strong, bidirectional, and statistically significant link between profitability and stability. The positive coefficients of ROE in the stability model and the Z-Score in the profitability model indicate that profitable banks tend to be more stable, and stable banks are able to sustain higher profitability. This points to a reinforcing relationship rather than a trade-off. Across the control variables, cost efficiency, asset quality, and credit performance were the main drivers of profitability. Higher cost-to-income and credit-to-deposit ratios reduced returns, while greater stability (Z-Score) improved profitability. The non-performing asset ratio had a clear negative effect, highlighting the importance of maintaining strong asset quality. Capital adequacy had a small negative impact on profitability, which may reflect a short-term trade-off between building capital buffers and generating immediate returns. For stability, profitability, capital adequacy, and credit performance were significant positive contributors. Both ROE and CAR strengthened stability, indicating that well-capitalized and profitable banks are more resilient. Inflation and NPA showed small positive coefficients, possibly reflecting better provision in and a gradual macroeconomic recovery in the post-crisis period. Overall, the findings suggest that mergers alone did not deliver performance gains. The profitability & stability relationship in Indian banks is shaped more by internal efficiency, asset quality, and capital management than by merger activity. This implies that consolidation, without strong post-merger integration and efficiency improvements, is unlikely to produce meaningful performance benefits.

Contribution: This study makes a distinct contribution by examining profitability and stability together within the context of bank mergers in India, a perspective that has received limited attention in domestic empirical work. Unlike earlier studies that assess merger outcomes through a single performance measure, this paper uses a bidirectional fixed-effects panel model to capture how profitability and stability influence each other. By drawing on evidence from the period in which these post- 2008 mergers occurred, it offers a context-specific view of how merger-driven consolidation shapes both performance and resilience. The findings show that the profitability-stability relationship is conditional rather than inherently conflicting. Banks with strong internal efficiency, sound asset quality, and adequate capitalization are able to improve both outcomes at the same time. This challenges the conventional assumption that profitability and stability inevitably involve a trade-off. The study adds to the existing research by showing that profitability and stability are not necessarily at odds, even in the context of bank mergers. For policymakers, especially the Reserve Bank of India, the findings offer a more grounded view of consolidation. They suggest that mergers work well only when banks follow through with strong integration, tight cost control, and effective risk management, rather than relying on size alone. Overall, the evidence shows that mergers in India do not automatically improve performance, and that sustainable profitability and stability rely more on internal efficiency and risk management than on consolidation alone.

Paper Code MDRC0122

Capital Structure Efficiency and Firm Performance of Indian IT Firms

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Introduction**-** Inflation continues to be one of the most persistent macroeconomic challenges for developing economies. In India, periodic surges in inflation influence interest rates, production costs, investor expectations, and consumer purchasing power. In such an environment, how firms finance their operations becomes increasingly important. Debt exposes firms to interest rate and refinancing risks, while equity offers flexibility but may dilute ownership. Due to these contrasting features, the ability of firms to withstand profitability shocks during high inflation may differ based on their capital structure. The primary purpose of this study is to examine whether equity-financed or debt-financed firms in India demonstrate superior shock-absorption capacity during periods of elevated inflation. By analysing firm-level financial data over a long horizon, the study evaluates the comparative resilience of debt-heavy and equity-heavy firms when inflation pressures intensify.

Research Gap- Although capital structure and profitability have been extensively researched, several critical gaps persist in the Indian context.

First, most existing studies analyse the general effect of leverage on profitability without considering macroeconomic shocks, especially inflation spikes. They treat inflation merely as a control variable rather than examining how inflation interacts with funding choices.

Second, previous studies typically use only one leverage measure-usually total debt ratio-ignoring the fact that equity financing may behave differently under inflation. There is little comparative evidence on whether equity or debt provides stronger protection against macroeconomic volatility.

Third, the available research rarely covers long-term datasets, limiting the ability to identify patterns across multiple inflation cycles.

Fourth, many studies rely primarily on static regressions, without incorporating panel-specific tests such as LM and Hausman tests to identify the most reliable estimator.

This study addresses these gaps by comparing two leverage measures (TLTA and TETA), using a long balanced panel from 2009 to 2025, and focusing explicitly on shock absorption under inflation, which is largely unexplored in Indian corporate finance literature.

Objectives Of The Study- The study is guided by the following objectives:

To compare the impact of debt-based leverage (TLTA) and equity-based leverage (TETA) on firm profitability in India during 2009–2025.

To evaluate how inflation shocks influence profitability and whether financing structure strengthens or weakens shock absorption.

To assess the additional role of tangibility and liquidity in shaping the inflation–profitability relationship.

To identify whether equity-based firms perform better than debt-based firms during high inflation.

The study uses a balanced panel dataset of six Indian firms covering annual observations from 2009 to 2025. The dependent variable is Return on Equity (ROE). Capital structure is measured in two ways:

TLTA: Total liabilities divided by total assets, representing debt intensity.

TETA: Total equity divided by total assets, representing equity intensity.

Control variables include:

Tangibility: Proportion of fixed assets.

Liquidity: Short-term solvency ratio.

CPI: Consumer Price Index, representing inflation.

Research Methodology

The study proceeds with descriptive statistics, correlation analysis, pooled OLS, fixed effects (FE), and random effects (RE) models.

Model selection uses:

Breusch–Pagan LM test to determine whether panel structure is appropriate.

Hausman test to choose between FE and RE.

Two separate models are constructed:

Model 1: ROE regressed on TLTA and controls (debt model)

Model 2: ROE regressed on TETA and controls (equity model)

This dual-model approach allows a direct comparison of resilience under debt and equity financing.

CONCLUSION- Findings from the Debt-Based Model (TLTA)

The fixed effects model is identified as the appropriate estimator. Results show:

Leverage (TLTA) has a significant negative effect on ROE, indicating that debt-heavy firms experience weakened profitability.

The negative effect intensifies during high inflation (as observed from correlation and coefficient behaviour).

Tangibility also has a significant negative influence, suggesting that firms with higher asset intensity face reduced flexibility during inflationary stress.

Liquidity displays a weak negative influence, implying that holding liquid assets does not sufficiently buffer profitability decline.

Inflation (CPI) is statistically insignificant, showing that debt-heavy firms cannot translate inflationary conditions into improved performance.

Findings from the Equity-Based Model (TETA)

The random effects model is supported by diagnostics. Key results include:

TETA is not statistically significant, indicating that equity financing does not directly increase or decrease profitability.

However, **CPI shows a strong positive relationship with ROE,** meaning equity-funded firms benefit or adjust better during inflation.

Tangibility and liquidity remain insignificant, suggesting inflation is the dominant external factor influencing equity-financed firms.

Comparative Interpretation

The contrast between the two models is clear:

Debt weakens profitability and worsens shock exposure.

Equity mitigates inflationary risks and strengthens resilience.

Firms that rely heavily on debt face interest rate risk and refinancing pressure during inflation, while equity-based firms avoid these burdens and maintain operational flexibility.

Contribution of the Study

This study offers several important contributions:

It provides the **first comparative evidence** on the inflation-shock absorption capacity of equity versus debt in Indian firms.

It incorporates a **long dataset (2009–2025),** covering multiple inflation cycles.

It applies **two leverage measures** simultaneously, enabling a clearer understanding of financing choices.

It highlights the importance of **macroeconomic conditions—**particularly inflation—in shaping profitability.

It offers **policy-relevant insights** for Indian firms navigating inflationary periods.

JEL Codes **G32, G31, E31, C23**

Paper Code MDRC0123

Asymmetric Effects of Exchange Rate Dynamics and Monetary Policy Transmission on Consumer Prices

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University of Lucknow

Abstract

Objective: This study investigates the extent and asymmetry of Exchange Rate Pass-Through (ERPT) to consumer prices in India and the United States, emphasizing how exchange rate volatility, monetary policy transmission, and inflation dynamics interact in contrasting economic environments. The motivation arises from the evolving role of the exchange rate as a key transmission channel of monetary policy in open economies. In theory, fluctuations in exchange rates can affect domestic inflation both directly through import prices and indirectly by altering production costs and aggregate demand. Yet, the degree of pass-through varies significantly across countries depending on their structural, institutional, and monetary characteristics. While developed economies like the United States are known for low and stable inflation coupled with strong policy credibility that dampens exchange rate sensitivity, emerging

economies such as India tend to exhibit higher and more volatile pass-through due to weaker monetary frameworks and structural supply constraints. Despite a rich body of literature on ERPT, comparative studies that systematically analyse both developed and developing economies under a common econometric framework remain scarce. This paper fills that gap by examining how exchange rate movements, together with some macroeconomic variables influence consumer prices in India and the U.S. over the period 1990-2024. The study aims to highlight structural asymmetries between these economies and provide insights for designing country-specific monetary strategies that can effectively manage inflation while stabilizing exchange rate volatility.

Methods: The empirical analysis is conducted using the Autoregressive Distributed Lag (ARDL) model framework which allows for the estimation of both short-run and long-run relationships among macroeconomic variables even when they are integrated of mixed orders (I (0) and I (1)). Annual time-series data were collected from 1990 to 2024 for both countries. Data sources include the World Development Indicators and RBI Handbook of Statistics on Indian Economy. The key variables include: Nominal Effective Exchange Rate (NEER) as a measure of exchange rate, Broad Money (M3 as % of GDP) as a proxy for money supply, Real Interest Rate to capture monetary policy stance, Output Gap, computed using the Hodrick-Prescott (HP) filter, and Consumer Price Index (CPI) representing inflation. Before estimation, the Zivot-Andrews (ZA) unit root test was employed to verify the stationarity of variables while accounting for potential structural breaks arising from economic crises, policy regime shifts, or external shocks. Results indicated a mix of I (0) and I (1) variables, validating

the ARDL model's suitability. The bound testing approach was then applied to determine the existence of cointegration among the variables. For both India and the U.S., F-statistics exceeded upper bound critical values, confirming long-run equilibrium relationships. The ARDL model was subsequently estimated in both long-run and short-run error correction (ECM) forms, allowing the study to capture dynamic adjustments and persistence of inflationary shocks. Diagnostic tests including Breusch-Godfrey LM, Breusch-Pagan-Godfrey, Ljung-Box, Shapiro-Wilk, and Ramsey RESET tests were conducted to ensure the robustness, reliability, and proper specification of the models. Additionally, CUSUM and CUSUM of Squares (CUSUMQ) stability tests were applied to verify the temporal stability of parameters across the sample period.

Results: The results confirm a long-run cointegrating relationship between consumer prices and key macroeconomic variables in both India and the United States, though the direction and strength of these effects vary due to structural and policy differences. In India, exchange rate appreciation and higher interest rates exert a negative and statistically significant influence on consumer prices, consistent with the Monetary Policy Transmission mechanism where tighter monetary policy helps curb higher price level. Conversely, money supply and output gap have positive and significant effects, supporting the Quantity Theory of Money (QTM) and demand-pull inflation dynamics. Increased money supply enhances liquidity and purchasing power, while a widening output gap reflects rising demand against supply constraints, both contributing to upward pressure on consumer prices. In contrast, the U.S. displays distinct results. Exchange rate and money supply show positive and significant impact on consumer prices, while the output gap exerts a negative and significant influence, and interest rates remain insignificant. The positive exchange rate- inflation relationship indicates that currency appreciation, contrary to expectations, may trigger inflation through reduced export competitiveness, slower output growth, and policy responses that stimulate domestic demand. Structural features such as service-sector dominance, wage rigidity, and external competitiveness shape this pattern. Overall, price level in India is more responsive to domestic monetary conditions, whereas in the U.S., structural and external factors dominate. The negative and significant error correction terms confirm quick adjustment toward long-run equilibrium, and CUSUM as well as CUSUMQ tests validate the stability and robustness of both models.

Conclusion: The study concludes that exchange rate dynamics and monetary policy transmission mechanisms exhibit significant structural asymmetries between India and the United States. In India, appreciation of the exchange rate and rising interest rates exert disinflationary pressure, while monetary expansion and demand-side pressures drive inflation. In contrast, in the U.S., consumer prices are more responsive to money supply and exchange rate changes, while output fluctuations play a stabilizing, deflationary role and interest rate transmission remains muted. These findings offer several policy implications. For India, maintaining exchange rate stability and enhancing monetary discipline are crucial to curbing imported inflation and preventing liquidity-driven price surges. Strengthening supplyside productivity and narrowing the output gap can mitigate demand-pull inflation. For the U.S., the results underscore the importance of carefully managing money supply and coordinating exchange rate policy with macroprudential measures to contain inflationary spillovers from currency appreciation and service-sector wage rigidity. Broadly, the study reinforces that monetary policy transmission is not homogeneous across economies; its effectiveness depends on structural characteristics, trade openness, and institutional credibility. Policymakers must therefore adopt context-specific frameworks that recognize the distinct channels through which exchange rates, money supply, and output interact to influence inflation. Ultimately, this comparative analysis contributes to the broader understanding of exchange rate-consumer price linkages in an increasingly globalized environment. It demonstrates that managing price level through monetary and exchange rate policies requires nuanced, country- specific approaches recognizing that what stabilizes prices in one economy may amplify volatility in another.

Paper Code MDRC0125

Factors Affecting Formal Credit Accessibility of Plant Nursery Industry: A Case Study in the Areas of Khamargachi in Hooghly District and Muchisa in South 24 Parganas District of West Bengal

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Abstract

Purpose of the study: Sustainability and growth of plant nursery industry mostly depend on amount of capital invested in the nursery business. To meet the growing needs of the customers of nursery industry, the scope of plant nursery business needs to be expanded which necessitates the huge investment of debt capital along with owners' capital. There are some factors that cause hindrances in respect of loan accessibility from commercial banks to the plant nursery owners.

Data: The study is conducted on 97 select plant nursery owners from two districts- Hooghly and North 24 Parganas of West Bengal. The study is based on primary data which has been collected through structured questionnaire.

Method: For this purpose, factor analysis is conducted for reducing a large number of variables into more manageable set of underlying factors. After that, logistic regression has been conducted for identifying the factors that affect the accessibility of loan.

Findings of the study: It revealed that rate of interest, group lending, some bank related, farm related and owners related factors are the major factors of loan accessibility. And out of these five factors three factors such as bank related factors, nursery owners' related factors and the rate of interest have been emerged as the major determinants of loan accessibility.

Implications: The study will provide valuable information to the government for making policy and thereby the government will be able to generate more employment and reduce global warming.

Paper Code MDRC0126

How Executive Compensation Shapes Capital Structure and ESG Performance Nexus: Evidence from NSE Listed Indian Manufacturing Companies

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Abstract

Backdrop of Study: Now a day's world is more focused on sustainable development and for this reason companies are improving their long-term goals that they can easily improve their ESG score (Madyan, M., & Widuri, S. K. 2023). Presently company's ESG is a very important factor because it helps investors to make decisions about the investment in the respective companies (Al Amosh, H., et.al 2024). Improvement in ESG means firms will think about to meet the stakeholder's need, reducing the social cost and also try to improve the working conditions. Along with investors other stakeholders are also expect that company act for long term sustainability purpose and practice good governance. Firms who have high ESG score enjoy reputation, good image, stakeholder's trust and their financial position is also improved. Capital structure means how a company choose debt or equity for their financing activities. So, it plays a very important and critical role for taking the financial decisions of the firm. If company don't take right capital structure decision then it will create agency problem which means this create conflict either between managers and shareholders or between managers and creditors. Levered firms may have the risk to disclose many important information to outsiders especially at the time of conflict (Al Amosh, H., et.al 2024). But to prevent from conflict, firms disclose those information that is required by stakeholders and that may reduce the conflict between shareholders and creditors. Company's Corporate Governance factors especially executive's compensation is most debated topic in India for many years. Executive may motivated by performance based pay that lead to improve ESG ratings because when firm's financial performance improves then executives are also paid well and for this reason they will be interested to work hard for improving the ESG score. So compensation of executives linked with ESG goals means executive pay are not only based on financial outcomes but it also depend on real progress of the firms means sustainability, social responsibility and good governance. This helps firms to achieve the long term goals of organization (Usman, A., & Yahaya, A. 2024).

Purpose: Initially, this study aims to observe, how the company's capital structure affects the underlying ESG Score. Moreover, it exclusively observes that whether executive cash compensation and pay-

performance sensitivity play moderating role or not on the interactive relation between capital structure and ESG score.

Originality and contribution: In developing countries like India, few studies are conducted in these area of corporate finance compared to developed countries. Even in the existing literature, the impact of capital structure on ESG scores and how good corporate governance parameters play moderating role in this has been analyzed (Madyan, M., & Widuri, S. K. 2023). Nevertheless, paucity of research on the interrelationship between capital structure and ESG score, where executive cash compensation and pay-performance sensitivity are factors, both play a moderating role is undone yet. Hence, it makes this study a potent and unexplored area of research in this particular domain of corporate finance and corporate governance, exclusively in the Indian context. The result of this study is expected to provide insights into the formulation of strategies to address Executive compensation in a legitimate manner, with an eye on good governance and the sustainability of companies.

Design/Methodology/Approach: In selection sample of the study, we have basically followed the CRISIL ESG rating guidelines and limited our population to top 500 NSE listed manufacturing companies as per the market capitalization, every year, who are supposed to comply with Business Responsibility Reporting (BRR) from 2014-15 to 2021-22 and then Business Responsibility and Sustainability Reporting (BRSR) guidelines as per SEBI since 2022-23. Thereafter, we have excluded Public and Public Sector Undertaking companies owing to their different administrative pattern as compared to a typical profit-making company. Finally, we arrived at a sample size of 118 companies and corresponding data for the financial years 2015-16 to 2023-24. We have extracted the latest ESG Score as released by CRISIL ESG rating, and to obtain financial and governance data, accessed the CMIE Prowess and Indian Boards database (under PRIME). In this study, instead of using actual numerical ESG ratings, we have used the categorical levelling for the given attribute as per the CRISIL ESG rating methodology (www.crisilesg.com/en/home/esg-ratings). Eventually, we assigned “5” as “Leader” if the ESG Score is in between 71-100; “4” as “Strong” if Score is in between 61-70; “3” as “Adequate” if Score is in between 51-60; “2” as “Below” if Score is in between 41-50 and “1” as “Weak”; if Score is in between 0-40. We have set the Upper limit “5” and the Lower limit “1” As we have used a categorical latent variable with upper and lower limits as our dependent variable, the Multilevel Tobit regression Methodology has been employed. This model can handle data censoring and clustering while allowing for coefficient interpretation similar to OLS. By considering latent variables and random effects, it makes it useful for panel or multilevel data analysis with categorical censored outcomes (www.stata.com). To estimate relationships where both censoring and data hierarchy are present, this approach improves robustness compared to other simpler approaches. Furthermore, to observe the objective of the study, we have introduced the “Executive Cash Compensation and “Pay Performance Sensitivity” as the two moderating variables of the study, which will interact with capital structure parameters to investigate the moderating effect on ESG Rating. Lastly, we have performed the requisite specifications and robustness tests to verify the model's assumptions and robustness by analyzing normality, homoscedasticity, and log-likelihood tests, along with the Mundlak approach (Mundlak, Y., 1978); to detect random effects in the model.

Findings and practical Implications: The study results indicate that Debt Ratio has a positive and significant impact on the ESG score. This implies that firms with higher leverage are more attuned to their financial performance and stability, as high leverage may lead to bankruptcy. Usually, when a company infuses long-term funds through debt rather than equity, this enhances its ESG score because it is compelled to operate its financial activities with greater prudence and caution to maintain stakeholders; trust. For this reason, managers closely monitor the financial position rather than prioritizing their personal interests and gains. This efficient functioning and responsible management require companies to prevent financial distress. Conversely, we observe that the Proprietary ratio (a proxy for owner's funds) has a significant, negative relationship with the ESG score. This result implies that when firms are financed more with equity than with debt, managers feel less pressure and are minimal concerned about external financial obligations. So, managers are keener to fulfil their interests, which often do not align with those of internal stakeholders, leading to agency conflict among them and, hence, a downgrade in ESG Scores. Furthermore, we have found a significant negative moderating relationship between cash compensation and the company's Debt ratio. This is much more obvious because cash compensation doesn't encourage managers; as they are over-pressurized, which may result in lower operating performance. With very little self-motivation, they work only to keep stakeholders; interests in mind. This might be a cause of weaker relationship with the ESG Score. On the contrary, a positive moderating relation has been identified with proprietary ration; as higher proportion of owners; funds is associated with greater control over the firm, empowering managers to incentivize themselves and leveraging stronger motivations to improve the ESG Score. However, as far as the Pay performance sensitivity is concerned, we have identified a positive moderating impact on leverage, since greater sensitivity in pay performance will make managers more accountable for business performance and the withdrawal of their compensation. Now, to keep performance more transparent, they withdraw compensation with greater caution, which helps enhance their ESG Score. Nevertheless, negative moderation of such pay sensitivity with shareholders; funds imply that, owing to agency conflict, managers are less concerned about the company's sustainability than that of their own benefits.

Concluding remarks and Suggestions: Investors prefer companies with high ESG scores because this demonstrates a company's sustainability, positive image, and good governance, enabling them to reduce social costs. This study concludes with practical implications for the firm's managers, stakeholders, and investors. Our findings suggest that an optimal financing mix of debt or equity is advantageous for firms seeking to improve their ESG scores. Moreover, the Cash compensation and pay performance sensitivity dimensions should be well aligned with the company's business responsibilities and sustainability parameters, without completely depriving executives of their interests. A balanced compensation policy may be set by managers that will not be detrimental to the company's credibility and, at the same time, optimize managers; individual motivations to a certain extent. Nevertheless, this study is focused on moderating role of cash compensation in between nexus of capital structure and ESG performance. Future research should include equity compensation and other broader corporate governance factors in this research.

Paper Code MDRC0127

Unlocking Retail Investor Confidence in India's Corporate Bond Market: Empirical Insights from A PLS-SEM Framework

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Abstract

Objective: In the Indian corporate bonds market retail participation remains significantly low despite extensive policy reforms aimed at strengthening market depth, liquidity and alternative financing capacity. Enhancing individual investor's confidence is crucial for broadening the investor base and reducing systemic dependence on bank-led financing. This research investigates the behavioural and structural determinants influencing retail investor's confidence in corporate bonds and develops an empirical model explaining confidence formation and participation intention.

Design / Methodology / Approach: The researcher collected primary data from 183 individual investors through a structured questionnaire. The study examined six antecedent constructs Knowledge & Awareness (KNA), Risk & Return (RIR), Market Information & Transparency (MIT), Regulatory Policies & Environment (RPE), Trading Activities (TRA) and Trading Platforms (TRP) and the dependent construct Individual investor confidence (ICC). Data analysis employed Partial Least Squares Structural Equation Modelling (PLS-SEM) to assess measurement reliability, convergent and discriminant validity using Cronbach's α, Composite Reliability, AVE, Fornell-Larcker and HTMT criteria. Structural analysis incorporated path coefficients, bootstrapping significance (t-statistics and p-values), R2, f2 effect sizes and VIF diagnostics.

Findings: The results confirmed strong reliability and validity across all constructs, with AVE values exceeding 0.50 and CR above 0.86. Discriminant validity was established through Fornell- Larcker and HTMT criteria. Structural model results demonstrated that all antecedents significantly and positively influence retail investor confidence. Regulatory Policies Environment, Risk & Return considerations and Knowledge & Awareness emerged as the most influential drivers, underscoring the importance of regulatory clarity, credible disclosures, risk- adjusted yield perception and financial literacy. Trading

infrastructure, market liquidity, trading activity and digital platforms also had substantial influence. The model explained 56% of the variance in investor confidence, demonstrating robust explanatory strength.

Practical implication: The findings highlight that confidence-building depends on strengthening transparency mechanisms, promoting financial literacy, improving trading platform usability and enhancing regulatory accountability. Expanding retail participation through investor-centric reforms can diversify market depth, improve price discovery, reduce concentration risk and support long- term funding for corporate and infrastructure development.

Originality / Value: This study contributes a validated behavioural-structural model of retail investor confidence in India's corporate bond market a domain with limited empirical evidence. It shifts the discourse from structural constraints to psychological and informational determinants and offers an evidence-based direction for policymakers, market designers and financial intermediaries aiming to build a more inclusive and resilient bond market ecosystem.

Conclusion: Strengthening investor confidence emerges as a strategic lever for expanding retail engagement, reinforcing financial intermediation and accelerating sustainable economic growth. The study establishes a foundation for future comparative research between retail and institutional investors and cross-market benchmarking.

Paper Code MDRC0128

A Comparative Analysis of Clustering Performance Based on Yamanaka Factors: Evidence from the Cryptocurrency Market

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Abstract

This research investigates the role of feature engineering in the analysis and prediction of cryptocurrency markets by employing Yamanaka factors. By integrating data preprocessing, engineered feature extraction, and clustering methodologies, the study evaluates the influence of these features on market insights and predictive models. Historical cryptocurrency data from Yahoo Finance has been analyzed, with K-Means clustering applied on both (with and without) the inclusion of Yamanaka factors. Performance assessment has been done using the Silhouette Score and the Davies–Bouldin Index. Furthermore, the study also investigates how engineered features enhance the precision and robustness of cryptocurrency price prediction models. A significant improvement in clustering and predictive performance was observed upon applying feature engineering, providing constructive insights for investment strategies and risk management. This research also highlights the benefit of feature engineering in refining analytical and predictive models within cryptocurrency markets.

Paper Code MDRC0129

Empowering Women Entrepreneurs: Analysing the Impact of Startup Ecosystem Dynamics in Uttarakhand

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Abstract

Research Problem: Women entrepreneurship is a recurring theme in the literature; however, empirical research on the growth and development of women-led startups within specific start-up ecosystem remains underdeveloped. The number of women-led startup launches in regions like Uttarakhand is

increasing; their growth and sustainability are highly correlated with the effectiveness of the startup ecosystem.

Objectives: This study analyses the impact of the startup ecosystem on women's entrepreneurship in Uttarakhand, focusing on how ecosystem components, including government initiatives, access to finance, mentorship, digital connectivity, and policy support, influence entrepreneurial activity among women over time.

Research Methodology: With women-led startups constituting 47% of the state's total startups as of 2024, the research examines year-wise secondary data on the number of women-led startups and ecosystem developments from 2017 to 2024, utilising government reports and industry data. Using Compound Annual Growth Rate (CAGR) and Average Annual Growth Rate (AAGR) analysis, the study highlights an initial surge in women-led startups, followed by a stabilisation phase post-2019.

Findings: The study reveals significant growth in female entrepreneurship, particularly after Uttarakhand's startup policy interventions in 2019. It also indicates that while government policies such as the Uttarakhand Startup Policy have moderately improved the entrepreneurial landscape, challenges like limited access to funding, inadequate mentorship, and regional disparities persist. Urban incubators and accelerators provide valuable support, but their reach remains restricted. The study concludes that while the startup ecosystem in Uttarakhand has made strides in empowering women entrepreneurs, targeted interventions in funding, skill development, and infrastructure expansion are necessary to sustain growth and bridge regional disparities.

Originality and Contribution: This research paper offers original empirical insights into the growth and development of women-led startups in Uttarakhand, a topic that remains underexplored in current literature. By quantitatively analysing year-wise startup data from 2017 to 2024 and employing growt metrics such as CAGR and AAGR, the study moves beyond general discussions of women's entrepreneurship to directly assess the impact of specific ecosystem factors, including finance, mentorship, digital connectivity, and policy support, on entrepreneurial activity among women. Notably, the paper documents a significant increase in women-led startups, particularly following policy

interventions in 2019, and highlights ongoing challenges related to access to funding, mentorship, and regional disparities. By highlighting both the beneficial effects and limitations of government policies and urban incubators, the study offers unique actionable recommendations for sustaining growth and promoting regional inclusion, providing policymakers and ecosystem stakeholders with valuable data-driven guidance.

Paper Code MDRC0130

A Behavioural Inquiry into Herding Indian Mutual Fund Using CSSD AND CSAD Models

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Abstract

In emerging markets like India, institutional herding in mutual funds remains a relatively underexplored phenomenon, particularly across market capitalization tiers. Addressing this gap is crucial for understanding systemic risk, investor coordination, and informational inefficiencies in volatile financial environments. This study investigates the presence and asymmetry of herding behaviour in Indian equity mutual funds—segmented into large-cap, mid-cap, and small-cap schemes over the period July 2018 to March 2025. Employing CrossSectional Standard Deviation (CSSD) and Cross-Sectional Absolute Deviation (CSAD) models, the analysis reveals significant nonlinear and asymmetric herding, especially in mid- and small-cap segments during market stress. The findings suggest that herding intensifies in bearish conditions, reflecting fear-induced behaviour and diminished informational diversity among fund managers. These results have implications for market efficiency, portfolio risk management, and regulatory oversight, particularly during periods of heightened macroeconomic uncertainty. The study contributes to the growing behavioural finance literature by providing nuanced evidence of herding across capital segments in an emerging market context.

Keywords: Herding Behaviour; Indian Mutual Funds; Cross-Sectional Standard Deviation (CSSD); Cross-Sectional Absolute Deviation (CSAD); Emerging Markets; Institutional Investors

JEL Classification: G23, G11, G14, G41

Paper Code MDRC0131

A Decision-making approach on Heuristic Bull Flag Pattern analysis under uncertain in the Indian financial market

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Abstract

In the stock market, sentiment analysis is a technique for evaluating investors' general perceptions of a stocks or the market as a whole, which can be expressed through news, social media, and economic reports. This psychology affects in the stock market or financial analysts' behaviour is known as behavioural finance. Investors can assess market expectations and utilize the information to guide trading methods, control risks and identify possible opportunities by analysing this general sentiment (bullish or bearish). The emotional and behavioural components of market movements enhance the importance of conventional technical analysis. In this study the impact of bull flag pattern is defined for stock's future performance. Also, the machine learning algorithms have developed more opportunities for predicting ideas for stock selection and return in unexpected conditions. This study presents an application of novel technical analysis in which bull flag generation algorithm has been used and designed for stock prediction and profitability of 30 companies enlisted in Bombay Stock Exchange (BSE) from April 1, 2015 to 31st March 2025.

Keywords: Behavioural finance, Time Series, Bull Flag, Clustering, Investment,

Paper Code MDRC0132

Do Trump's Tariffs Rattle BRICS? GARCH Evidence on Market Volatility

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Introduction**:** Recent years have seen global trade relations characterized by increased tariff tensions, punitive policy measures, and persistent geopolitical uncertainty. In the current economic climate, financial markets, especially in emerging nations, have shown heightened susceptibility to policy shocks conveyed through tariff announcements, counter-tariff actions, and anticipated trade realignments. This paper examines the BRICS economic bloc and assesses the impact of tariff-related uncertainty and global risk indicators on stock market performance and currency behaviour in these economies. The study analyses the demand for information regarding volatility, contagion, and market response patterns during actual trade disruptions, situating itself within the current discourse on financial instability resulting from global trade.

Purpose of the study**:** The primary objective of this research is to understand and quantify the impact of tariff announcements on the financial markets of BRICS economies, where financial systems are increasingly integrated into global capital flows yet remain vulnerable to external shocks. The study seeks to ascertain if tariff shocks serve as triggers for short-term market volatility and whether these effects endure or diminish over time. The research assesses the influence of global uncertainty indicators, including volatility indexes, on the amplification or moderation of market movements. The goal additionally encompasses the identification of transmission mechanisms across marketplaces. That is, the study seeks to analyse whether stock prices and exchange rates respond jointly to tariff announcements, and whether movement in one variable can predict variations in the other. By examining market reaction behaviour, volatility patterns, and cross-asset linkages under tariff shocks, the objective is not only to document financial sensitivity, but also to reveal resilience, contagion risk, and the factors that shape reaction strength in emerging markets. Ultimately, the goal is to deliver empirical evidence regarding the vulnerability of BRICS financial systems in periods governed by policy unpredictability.

Study Design and Methodology**:** The study is built on daily financial data covering stock indices and exchange rates across BRICS economies for the selected period characterised by high tariff activity. Panel data analysis serves as the core empirical approach for identifying the effect of tariff announcements on stock returns. Panel estimation allows control for country heterogeneity and enables a unified evaluation of how tariff shocks interact with financial systems that share similar emerging market characteristics. Event windows are incorporated to capture the immediate response surrounding tariff-related news, providing insight into shock amplitude and short-run reaction patterns. To assess volatility behaviour more rigorously, GARCH modelling is employed. Since financial data commonly displays volatility clustering, sharp spikes around information releases, and non-normal distribution, GARCH estimation is particularly well-suited. Through this model, the study evaluates the magnitude and persistence of volatility induced by tariff announcements and compares whether volatility dissipates quickly or remains elevated for longer durations. Additional econometric tools, including cointegration testing, Vector Error Correction analysis, and Granger causality are used to study long-run relationships, direction of influence, and short-run predictive linkages between exchange rates and stock markets. Together, these methods provide a multi-dimensional empirical view encompassing rate-of-return effects, risk behaviour, structural dependency, and cross-market transmission.

Findings**:** The findings indicate that tariff announcements generate strong short-run disturbances in BRICS financial indicators. Stock returns respond notably around event periods, with several tariff announcements associated with significant deviations from normal return levels. Global risk sentiment intensifies these reactions; particularly, volatility indices exert a powerful negative drag on financial performance. Markets exhibit increased susceptibility during tariff events that align with surges in global uncertainty, resulting in more significant return declines and intensified speculative fluctuations.

Volatility study demonstrates that tariff announcements trigger sudden shock-induced fluctuations, with GARCH findings confirming the presence of significant ARCH behaviour. This signifies that volatility escalates markedly in response to new tariff-related information. However, persistent volatility patterns are limited, indicating that after shocks are alleviated, markets gradually stabilize rather than undergoing extended turbulence.

Cointegration tests indicate that stock prices and currency rates typically lack stable long-term correlations under tariff settings, suggesting that tariff disturbances primarily function as short-term shocks rather as long-term realignment mechanisms. Granger causality patterns reveal substantial short-term spillovers, indicating that market fluctuations in one BRICS country can predict variations in others. Enhancing financial connectedness serves as a conduit, enabling the transfer of shock effects across borders.

The primary conclusion is that financial markets are highly sensitive and responsive to tariff disruptions, especially when compounded by uncertainty from global volatility conditions. The lack of sustained long-term integration indicates that transient shocks mostly influence BRICS financial reactions, while cross-market spillover reveals systemic vulnerability under prolonged policy strain. The study enhances understanding by including return effect evaluation, volatility modelling, and cross-market dynamic analysis into a cohesive analytical framework.

Contribution of the study**:** Previous research has often focused on specific bilateral tariff conflicts or examined only price-based reactions, overlooking volatility and market interconnectedness. This analysis enhances the literature by illustrating the impact of trade-induced uncertainty on market return patterns and volatility structures across many emerging economies collectively, rather than separately.

The research provides empirical insights into the dynamics of financial transmission during policy uncertainty. The recognition of abrupt yet transient volatility indicates that markets first overreact to tariff signals but later stabilize when information is assimilated into pricing. The presence of Granger-driven spillovers underscores the significance of policy, suggesting that instability in one BRICS market might affect others, regardless of variations in direct tariff exposure. This enhances comprehension of financial resilience, market integration, and the behaviour of emerging economies under external pressure.

Conclusion and Implication**:** The study concludes that tariff announcements disrupt BRICS financial markets in the short run and produce sharp, uncertainty-driven volatility responses. Market recovery generally ensues; yet, the interdependence of financial systems might result in the dissemination of repercussions notwithstanding the stability of fundamentals. Policymakers should augment domestic buffers, improve transparency in policy communication, and implement macro-financial safeguards to bolster resilience against external shocks. Tariff events generate measurable volatility opportunities and risk exposures for investors and risk managers, requiring diligent supervision and tailored hedging strategies.

Paper Code MDRC0133

Dynamic Volatility Forecasting of the Nifty 50 Index and Its Impact on Select Fintech Stock Returns in India: Econometric Analysis

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Abstract

The Indian stock market acts as a mirror of large macroeconomic situations, representing financial market activity, investor sentiment and market expectations. The Nifty 50 index functions as a principal market benchmark representing the performance of top 50 listed companies across major sectors. Index volatility is influenced by global economic disturbance, shocks, policy changes and domestic macroeconomic conditions. It creates both opportunities and risks for investors. The present study examines the volatility assessment of Nifty 50 index listed on National Stock Exchange (NSE) in India and evaluates its impact on stock returns of selected Fintech companies in India such as Bajaj Finance Ltd., HDFC Asset Management Co. Ltd., One 97 Communications Ltd., PB Fintech Ltd., Angle One Ltd., and IIFL Finance Ltd. selected based on their constant stock market performance using 492 daily time-series observations starting from April 2022 to March 2024. This study incorporates time series regression analysis along with Autoregressive Conditional Heteroscedasticity (ARCH) family models and a comprehensive set of diagnostic tests including descriptive statistics and time series plots, diagnostic checking based on ACF and PACF, unit root tests, serial correlation, heteroscedasticity, normality and stability assessments.

As per systematic literature review, maximum research investigated the methodological approaches, impact of specific events or news, sectoral variations, long-term and short-term effects, risk management strategies, comparative studies, investor behaviour and sentiment and some asymmetric results. But, very limited research was found on Fintech companies stock index, specially, assessment and forecasting volatility, assessment of future risk, higher and lower volatility impact on Fintech stock index and methodological gaps.

The empirical analysis confirms the presence of volatility clustering and significant ARCH effects in the residuals after establishing stationarity at the first difference. Correlation analysis reveals a positive association between the Nifty 50 index and stock prices of HDFC Asset Management Co., Angel One Ltd. and IIFL Finance Ltd. As per Maximum Likelihood Estimation (MLE), ARCH (3,0) model is identified as most suitable models to capture the past and present volatility and its impact on Fintech stock returns. ARCH (3,0) specification is identified a periods of high volatility (large price movements) to be followed by another high volatility, and low volatility (small price movements) to be followed by another low volatility. Similarly, GARCH (1,1) model is better for explaining the present and future volatility in the conditional variance depends on past squared residuals and lagged conditional variance. The positive and statistically significant coefficients suggest that volatility shocks exhibit strong persistence volatility implying long-term influence on the present and future volatility of the Nifty 50 index. The risk analysis based on square root of GARCH is negative and insignificant which implies that decreasing in the square root of GARCH process continuously decreasing in the conditional variance in the model or very low risk is coming from the analysis and the risk model is free from positive serial correlation, heteroscedasticity residuals and non-normality.

However, when Fintech stock variables are included in the model, the estimated coefficient is negative and insignificant, implying the period of positive returns and upward trends in the Nifty 50 index are associated with declining volatility. It is a good sign for Fintech companies' stocks.

The findings of the study suggest that the Fintech stock returns may be relatively less sensitive to changes in volatility of Nifty 50 index compared to stocks from other sectors. Fintech stocks can change due to regulatory changes, company-specific factors, macroeconomic conditions, technological innovations, etc. There are many extensions of ARCH model and variety of variance distribution specification in the time series econometrics such as, variance, log-VAR, etc. and error distribution criteria such as student t test, student t with fixed difference. If the condition of the MLE criteria is changed, the results may be changed. This study provides a valuable insight for investors, policymakers, and researchers interested in understanding the dynamics of stock market and the Fintech sector. Overall, this study provides meaningful insights for investors, policymakers and researchers by enhancing the understanding of volatility transmission and risk dynamics in the Indian stock market, particularly within the Fintech sector.

Keywords: Fintech, Nifty 50 Index, Volatility, Unit Root and Stationary Test, Time Series Regression, Maximum Likelihood Estimation, ARCH and GARCH model.

Paper Code MDRC0135

Financial Confidence Matters: The Mediating Effect of Financial Self-Efficacy on Mobile Banking Adoption among Young Users

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Abstract

Purpose – The study examines how usage of mobile banking services influences the intention to adopt mobile banking among higher secondary and university students (Gen Y and Gen Z), and whether financial self-efficacy strengthens this relationship within the perspectives of self-efficacy theory and the UTAUT framework

Design/methodology – A quantitative cross-sectional survey of 259 higher secondary and university students representing Gen Y and Gen Z mobile banking users and potential users was conducted. Standardized scales from prior studies on mobile banking adoption and financial self-efficacy were used, and data were analysed using PLS in SmartPLS 4.0 to examine the direct effect of mobile banking usage on adoption intention and the mediating role of financial self-efficacy.

Findings – Results show that actual mobile banking usage positively influences students' adoption intentions, while financial self-efficacy also has a significant positive effect and partially mediates this relationship, indicating that students with greater financial confidence are more inclined to adopt mobile banking.

Research Implications – The findings extend the UTAUT framework by identifying financial self-efficacy as a key psychological mechanism linking usage behaviour to adoption intention among young users. The proposed model provides a foundation for future research integrating usage behaviour and domain-specific self-efficacy in financial technology adoption.

Originality/value – The study focuses specifically on Gen Y and Gen Z students, a segment that is both heavy technology user and strategically important for banks, yet under-represented in combined self-efficacy and UTAUT-based mobile banking research. By integrating financial self-efficacy into a usage–intention framework, the study provides novel empirical evidence on how confidence in personal financial capability can amplify the effect of mobile banking usage on future adoption intentions

Keywords mobile banking, intention to adopt, financial self-efficacy, mediation

Paper type Research paper

Paper Code MDRC0136

From Disparate Notes to a Unified Symphony: A Bibliometric Analysis of Sustainability Reporting and Materiality

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Abstract:

Purpose: This research provides a bibliometric analysis of the global sustainability reporting and materiality research, identifying key themes, emerging areas, and influential contributions shaping the academic discourse.

Design/methodology/approach: This study conducts a bibliometric analysis of 309 scholarly publications selected from a total of 614 pertinent works, spanning the years 2005 to 2025, that focus on materiality in sustainability reporting. The analysis is performed utilizing R Studio and VOS-Viewer software to ensure a thorough and comprehensive presentation of the findings.

Findings: This analysis shows Business, Management, and Accounting lead publication volumes, emphasizing sustainability reporting and materiality. Italy is the most cited country, reflecting its research prominence and active sustainability engagement. The literature mainly covers keywords like corporate social responsibility, disclosures, and governance. Future studies should explore responsible investment, sustainability metrics, and investor views. Eight main research clusters are identified.

Originality: This study offers a bibliometric analysis of the underexplored link between sustainability reporting and materiality. Using data from Scopus and the Web of Science and advanced science mapping, it provides an overview of developments in the field. The insights help scholars, practitioners, and policymakers improve the material relevance and strategic integration of sustainability reporting.

Keywords: CSR, ESG reporting, Materiality, Sustainability, Systematic literature review, bibliometric analysis.

Paper Code MDRC0137

Finanancial Inclusion as A Catalyst for Women's Empowerment: The Mediating Role of Rural Credit Accessibility

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Abstract

Purpose- Financial inclusion drives women empowerment by enhancing economic independence, particularly through improved rural credit access as a key mediator. The objective of this conceptual study is to examine the relationship between empowerment in rural contexts, specifically investigating how rural credit accessibility functions as a mediating mechanism. The research aims to understand whether and how access to financial services translates into tangible empowerment outcomes for women in rural communities, addressing a critical gap in understanding the pathways through which financial inclusion creates social impact.

Design/Methodology/Approach- This study adopts a quantitative research design using structural equation modeling (SEM) to test the mediating role of rural credit accessibility. Data were collected through a structured survey of rural women across multiple regions, measuring financial inclusion indicators (account ownership, borrowing capacity, credit terms)and woman's empowerment dimensions (economic decision, saving behavior, digital payment usage), credit accessibility (loan, availability, making autonomy, household resource control, mobility and participation in community affairs). Mediation analysis was conducted using bootstrapping procedures to assess direct and indirect effects.

Findings- The review of literature reveals that rural credit accessibility significantly mediates the relationship between financial inclusion and women's empowerment. While financial inclusion demonstrates a positive direct effect on empowerment outcomes, the indirect effect through credit relationship between financial inclusion and women's empowerment, accessibility accounts for a substantial proportion of the total effect. Women with improved credit access reported higher levels of economic autonomy, greater participation in household financial decisions and enhanced entrepreneurial activity. The mediation effect was particularly pronounced for dimensions related to economic empowerment, though impacts on social and political empowerment were more modest.

Originality/Value- This paper makes a distinct contribution by offering a theoretically integrated model linking financial inclusion, rural credit, accessibility and multidimensional women's empowerment.

While prior studies have examined these constructs independently, this paper conceptual their interdependence and clarifies the mechanism through which credit accessibility magnifies empowerment outcomes. The proposed framework provides meaningful insights for policymakers,

financial institutions and rural development agencies to strengthen gender-sensitive credit systems and design inclusive financial policies for rural women.

Keywords: Financial inclusion, Women's Empowerment, Rural Credit Accessibility, Women's Empowerment, Rural Credit Accessibility, Rural Women, Economic Empowerment, Financial Services

Paper Code MDRC0138

Corporate Social Responsibility in West Bengal: A Study of Regional Insights

Baishakhi Banerjee
Research Scholar NIT Durgapur

Introduction

Corporate Social Responsibility (CSR) in India has evolved from a voluntary philanthropic practice to a mandatory strategic imperative following the enactment of the Companies Act, 2013. India is unique in being one of the few nations to legally mandate that profitable companies spend at least 2% of their average net profits on social development. This regulatory shift has unlocked billions of rupees for the social sector; however, the distribution and impact of these funds remain highly uneven across the country's diverse geography(Das and Bhaskaran, 2020).

A number of studies have been done on trends (Singh, V., & Katiyar, V., 2021). and impacts of CSR

in India (Sharma, R., & Mehta, P., 2019), (Kundu, D., Chatterjee, N., 2025). This paper will give a complete picture of CSR in West Bengal by looking at where the money goes (distribution), the size of inequality of distribution of CSR expenditure across the districts in West Bengal. This paper seeks to map these geographical disparities, offering a granular view of where corporate India is investing within the state and, crucially, where it is not.

Objectives of the Study

The primary aim of this research is to analyze the landscape of Corporate Social Responsibility (CSR) expenditure in West Bengal to understand its geographical distribution along with the inequality distribution.

To achieve this, the study proposes the following specific objectives:

Mapping the Flow: To examine the district-wise distribution of CSR funds across West Bengal and identify "CSR hot-spots" versus "CSR cold-spots".

Inequality Study: To determine the inequality of distribution in CSR expenditure among the districts in West Bengal. More specifically, to identify the districts responsible for the spatial inequality.

To Propose Policy Recommendations: To suggest strategic frameworks that can encourage more equitable distribution of CSR funds to under-served districts in West Bengal and improve the efficacy of current projects.

Research Methodology

This study employs **a descriptive and analytical research design.**

The Standard Deviation was applied as a measure to determine if the distribution of CSR expenditure across the districts is uniform or uneven (skewed).

Data Sources

The study used secondary data on CSR spending obtained from the Ministry of Corporate Affairs (MCA), Government of India.

Dataset Overview

The dataset captures **district-wise CSR expenditure** over **a five-year period from 201W20 to 2023—24.** The unit of measurement is **CSR expenditure in crore rupees (Z crore).** Structurally, the dataset is organised as a district-level panel, combining both time-series and cross-sectional dimensions, which enables analysis of temporal trends as well as inter-district variations in CSR spending.

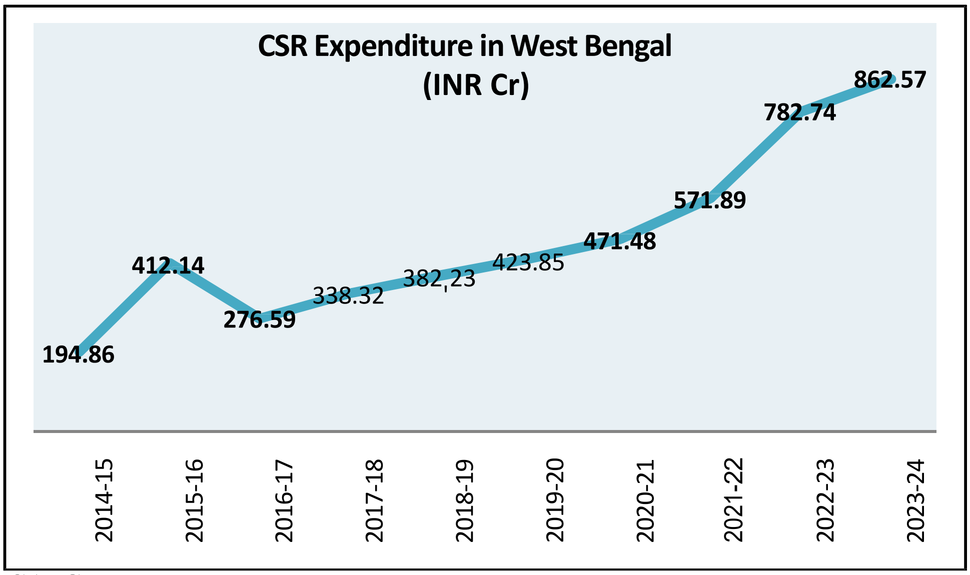
Findings

Overall Pattern

The analysis reveals that CSR expenditure is highly uneven **across districts,** with a small **number of districts accounting for a disproportionately large share of** total CSR **funds.** This concentration highlights significant inter-district disparities in the allocation of corporate social responsibility resources. Additionally, CSR expenditure shows a **sharp** increase **after 2020—21,** reflecting **post-pandemic economic recovery,** improved corporate profitability, and renewed **compliance and engagement** with **CSR initiatives** across the state.

District Concentration Analysis

The district concentration analysis clearly identifies Kolkata as a dominant outlier in CSR expenditure. Kolkata accounts for adisproportionately large share of total CSR spending in the state, far exceeding other districts. This pronounced concentration reflects a **corporate** headquarters bias, as many companies are headquartered or administratively based in the city. It also points to an **urban-centric** pattern of CSR allocation, where metropolitan areas are preferred due to better infrastructure, institutional capacity, and ease of project implementation and monitoring.



Source: MCA, GoI

High-Receiving Districts (Non-Metro)

Among thenon-metropolitan districts, South 24 Parganas, North 24 Parganas, Murshidabad, and Howrahemerge as relativelyhigh recipients of CSR expenditure. These districts exhibitmoderate but stable CSR inflows over the study period, which can be largely attributed to factors such as large population size, the presence ofindustrial corridors and peri-urban economic activity, and better infrastructure accessibilitythat facilitates CSR project implementation.

Low-Receiving Districts

In contrast, several districts—including Purulia, **Bankura, Jhargram, and Kalimpong—**consistently record single-digit or low double-digit CSR expenditure, particularly during the earlier years of the period under study. The persistently low allocation to these districts points to regional neglect, which is especially concerning given their relatively higher development needs and socio-economic vulnerabilities.

Temporal Trend Analysis **(2019—20 to 2023—24)**

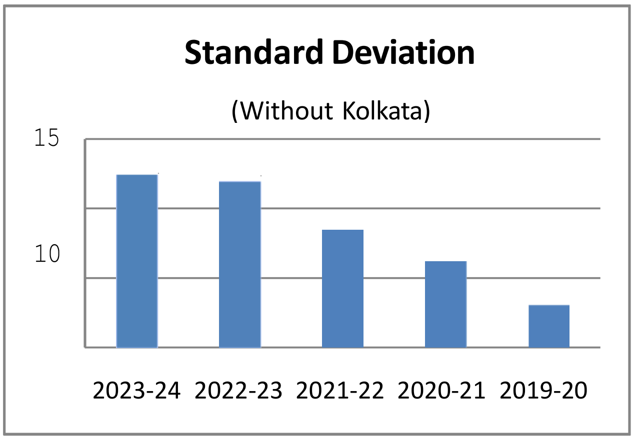
The temporal trend analysis of CSR expenditure at the state level from **2019—20 to 2023—24** reveals a clear shift in spending patterns over time. During the initial phase, particularly between **201W20 and 2020-21,** CSR expenditure remained **low and volatile,** reflecting the economic uncertainty and operational disruptions caused by the COVID-19 pandemic. From **2021—22** onwards, however, a sharp upward trend is observed across most districts, indicating a revival in CSR activity. By **2023—24,** CSR expenditure reaches its peak level **for the majority of** districts, marking the strongest phase of CSR engagement during the study period. This trend suggests that CSR spending closely aligns with **post-pandemic corporate profit recovery, economic stabilisation following COVID-19 disruptions,** and stronger **regulatory compliance** under the CSR provisions of the Companies Act.5.

Inter-District Inequality Visual **Inequality**

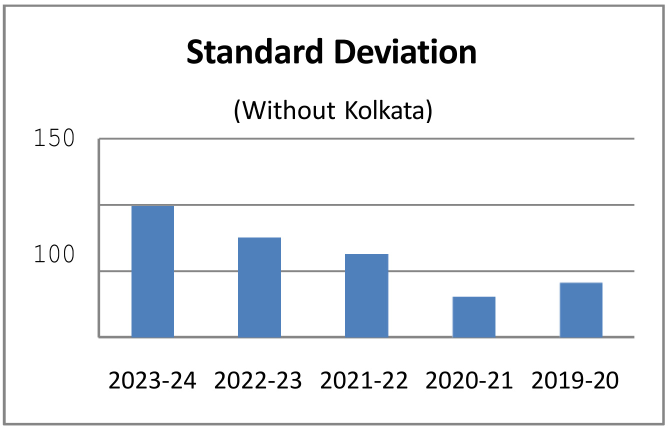
The analysis of **inter-district inequality in** CSR expenditure reveals a pronounced **right-**skewed **distribution,** indicating substantial imbalance in the allocation of CSR funds across districts. A small number of districts capture the majority of total CSR expenditure, while a large proportion of districts remain clustered at the lower **end of the distribution,** receiving comparatively minimal allocations. The Standard Deviation of CSR spending across districts shows a rising trend. Notably, when **Kolkata is excluded from** the **analysis,** the level of inequality reduces substantially, suggesting that the observed disparity is driven largely by extreme **concentration in a single dominant district rather than gradual variation** across districts. This pattern represents a classic case of the "CSR concentration effect," where CSR resources are heavily centralised in select locations, leading to uneven regional distribution.

Year	Without Kolkata		With Kolkata	
	Mean	SD	Mean	SD
2023-24	10.28591	12.40152	30.78087	99.03436
2022-23	8.895455	11.91374	24.43217	75.41517
2021-22	6.761364	8.46926	19.75696	62.87156
2020-21	5.628636	6.189367	11.9487	30.90727
2019-20	2.516818	3.059837	11.1113	41.32598

Source: Author's calculation



Source: Author's calculation



Source: Author's calculation

Policy-Relevant Insights

Urban Bias: CSR allocation strongly favours Kolkata

Regional Imbalance: Western and hill districts remain underfunded

Weak Need Alignment: CSR does not correspond clearly with backwardness

Execution Convenience Bias: Corporates prefer districts with better logistics

Conclusions:

In summary, CSR expenditure in West Bengal suffers from significant spatial inequality and high concentration. Despite a substantial post-pandemic increase in overall spending, the distribution is heavily skewed toward urban and metropolitan areas, particularly Kolkata. This dominance contrasts sharply with the underfunding of high-need western, rural, and hill districts. The allocation mechanism is found to be weakly correlated with socio-economic need, instead prioritizing **corporate convenience and infrastructural accessibility.** In its present form, CSR risks widening regional disparities rather than fostering balanced development. The findings necessitate urgent policy intervention focusing on spatial prioritization and mandated alignment with district-level development needs for a more equitable CSR framework.

Paper Code: MDRC0140

Climate risk & financial performance: A science mapping & Bibliometric analysis of emerging trend

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Abstract

Purpose- This study conducts a bibliometric analysis of climate risk and financial performance, mapping publication trends, key authors, and influential works. Analyzing intellectual structures and collaboration networks provides insights to guide future research and policy development.

Design/methodology/approach- Using Scopus data (2000–2025), the study applies bibliometric techniques with VOSviewer and Biblioshiny to visualize citation networks, co-authorship patterns, and thematic clusters. Descriptive, co-citation analysis, and thematic evolution mapping identify dominant trends.

Findings- Research interest surged post-2015, with climate risk, ESG, and sustainable finance as key themes. The U.S., China, Germany, and the UK lead contributions, while *Journal of Cleaner Production* and *British Accounting Review* dominate. Thematic mapping shows a shift from general climate risk discussions to specialized research on carbon risk, financial performance, and climate policy uncertainty.

Research limitations/implications – The study is limited to Scopus-indexed publications and bibliometric methods, excluding qualitative analysis.

Practical implications – Insights help investors, policymakers, and analysts integrate climate risks into finance and regulations while identifying research gaps in climate risk modelling and investor behaviour.

Social implications – This study highlights finance's role in climate adaptation and emphasizes ESG integration for sustainable economic development.

Originality/value – By consolidating fragmented literature, this study is a vital resource for climate-finance research.

Keywords- Financial performance, Climate Risk, ESG, Bibliometric Analysis, Scopus, Science Mapping, Biblioshiny, VOSviewer

Paper type- Literature review

Paper Code MDRC0151

Coordinating sales efforts, managing channels, and ensuring timely delivery to meet customer demands

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Abstracts

1) Purpose/objective:- Improving the selling process, increasing income, and fostering organizational growth are the ultimate goals of sales and distribution management. Sales managers must continuously evaluate sales data and modify their tactics in order to accomplish this. Developing the skills and knowledge necessary to manage a sales force and distribution function in order to obtain a competitive edge is the primary goal of sales and distribution management. It creates the coordination between the several selling operations required to meet selling goals. Sales organizations do not exist as a distinct entity. Other functional areas like people and production finance have an impact on it. appropriate structure based on the needs of the business.

2) Study design/Methodology/approach :- Topics including sales management principles, sales force management, sales and distribution channel design, and control are often included in a study design for sales and distribution management. From early planning and strategy to sales force organization, execution, and performance review, the structure frequently proceeds logically.

   The sales and distribution management methodology entails an ongoing process of organizing, carrying out, and managing actions to market goods and provide them to clients. Setting goals,

creating sales plans with territories and budgets, hiring and training salespeople, putting sales strategies into practice, and keeping an eye on performance to make sure goals are reached and make necessary adjustments are all important steps.

Making a plan

- Establish goals: Determine sales targets based on overarching marketing plans, taking into account elements like market potential and business resources.
  Design territories and quotas: Establish sales targets or quotas for specific salespeople or regions, and delineate sales territories.
- Budgeting: Create sales budgets to effectively distribute resources and support the sales plan.
  Execution
- Staffing and recruitment: Identify roles and duties by conducting job analyses and hiring, choosing, and training the sales force.
- Sales strategy: Create and implement a plan that may include indirect/channel sales or personal selling (door-to-door, one-on-one).
- Compensation and motivation: Encourage the sales force with performance-based incentives, coaching, support, and well-defined targets.
- Coordination: Make sure that the sales department and other departments, such as marketing and production, work together.
  Control
- Track performance: Compare the sales team's output to objectives to determine

Various sales techniques, such as consultative, solution, and transactional selling, as well as distribution channel tactics, such as direct sales, wholesale, retail, and e-commerce, are used in sales and distribution management. Inventory control, market research, sales force management, and building solid client connections are all components of a comprehensive strategy

3) Findings :- Important discoveries in sales and distribution management emphasize how crucial data-driven strategy, customer happiness, and improved procedures are to generating income and expansion. A emphasis on salesforce motivation and training, effective inventory and channel management, and the use of technology to adjust to shifting market conditions and boost profitability are all necessary for effective management.

4) Originality and contributions In sales and distribution management, originality and contributions refer to the creation and application of novel tactics, procedures, and technologies that provide distinctive value and offer a competitive edge.

   Important domains for creativity and input consist of:

1) Creative Approaches and Strategies for Sales

2) Consultative selling is a shift from transactional selling to a style where salespeople function as counselors, providing tailored insights and solutions to customer issues.

- Social Selling: Making relationships, reaching a larger audience, and interacting with potential customers online using social media platforms.
- Customer Journey Mapping: Understanding the customer journey and preferences through data analytics enables tailored and successful sales techniques.
- Unique Selling Propositions (USPs): Developing strong justifications for distributors and customers to choose a company's products over competitors'

3) Human Capital and Management Innovations

- Visionary Leadership: Transitioning from authoritarian management to leaders who motivate their staff with an inspiring vision, encouraging innovation and a productive workplace.
- Innovative Motivation and Compensation: Creating distinctive incentive plans and recognition techniques to inspire a variety of sales personalities (such as rivals, achievers, and service-oriented people), going beyond straightforward financial compensation.
- Continuous Learning Culture: Promoting a culture of continuous training and market adaptation, enabling sales teams to react quickly to changing circumstances.

Keywords: Sales efforts, Managing channels, Increasing volume, Sales data, Forecast sales

Paper Code MDRC0152

Contribution movement as sustainable basecoat category post SDG and Pandemic in Indian domestic market

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1 Purpose

The study focuses on undercoating category applicable for domestic cement surface both interior and exterior. Commensurate with SDG and pandemic as major influencing factors, the study emphasizes upon contribution percentage trend including forecast analysis of sustainable undercoats to both total coatings and total undercoating volumes separately to see how sustainability is becoming the future of undercoats in Indian domestic coating industry.

2 Design/Methodology/Approach

The paper works on a secondary quarterly timeseries data of 36 quarters from 2015 to 2023. The study applies Expert Modeller in SPSS Statistics for forecast which ideally selected Holt's exponential smoothing as forecast tool. Application of single factor ANOVA for hypotheses testing relevant to each Research Question along with parametric and non-parametric correlation tests ensure significance of contribution percentage of sustainable undercoats to the total undercoats volume before and after pandemic with forecast numbers for next 12 quarters.

3 Select Literatures

Study refers to reports of ***IMF***, ***NDTV Profit***, ***Economic Times Business***, ***Deloitte*** and available ***Government of India data*** along with last 10 years ***Annual Reports*** of domestic coating organizations. Literature Review is also done on Holt's exponential smoothing, SDG, Pandemic and factorization of the same for forecast along with category construct of sustainable undercoats.

4 Sustainable Developmental Goal (SDG)

The UN meeting on SDG held in 2015, execution started from 1st January'2016 with 17 Sustainability Goals to be achieved across Globe by 2030. The same comprises of stringent rules & regulations to be implemented in phased manner across different parts of the Globe. Social Engagement and Economic Success finally get transformed into execution in the form of 5 Rs of sustainability i.e. Reuse, Reduce, Refuse, Recycle and Repurpose.

5 Properties of Sustainable Undercoats

[1] Sealing of alkaline substances and efflorescence
[2] Maximization of topcoat adhesion, optimum hiding and whiteness
[3] Prevention of topcoat film from chipping out or flaking
[4] Very low VOC and odor, as per WHO standards
[5] Anti-fungal, anti-bacterial and anti-algal properties
[6] Water proofing, anti-damp, crack bridging, pour filling properties and breathing out stored water vapours
[7] Reduction of surface temperature with Stretchability
[8] UV Resistance
[9] Acrylic PU resins or bases with Non-Chrome, Non-Lead, water borne, light and natural micronized pigments

6 Research Queries

RQ1. How contribution percentage of sustainable undercoats to total coatings is varying in trend, before and after pandemic;

RQ2. How the absolute volume of sustainable undercoats is varying in trend, before and after pandemic;

RQ3. How contribution percentage of only sustainable undercoats to total undercoating products is varying in trend, before and after pandemic;

RQ4. How contributions percentage of sustainable undercoats to total coating volumes are increasing in the 12 forecast quarters;

RQ5. How contribution percentage of sustainable undercoats to total undercoat volumes are increasing in the 12 forecast quarters;

7 Analysis

7.1 Trend Diagrams of quarterly Contributions of Sustainable Undercoats and its Volume movement from 2015 to 2023

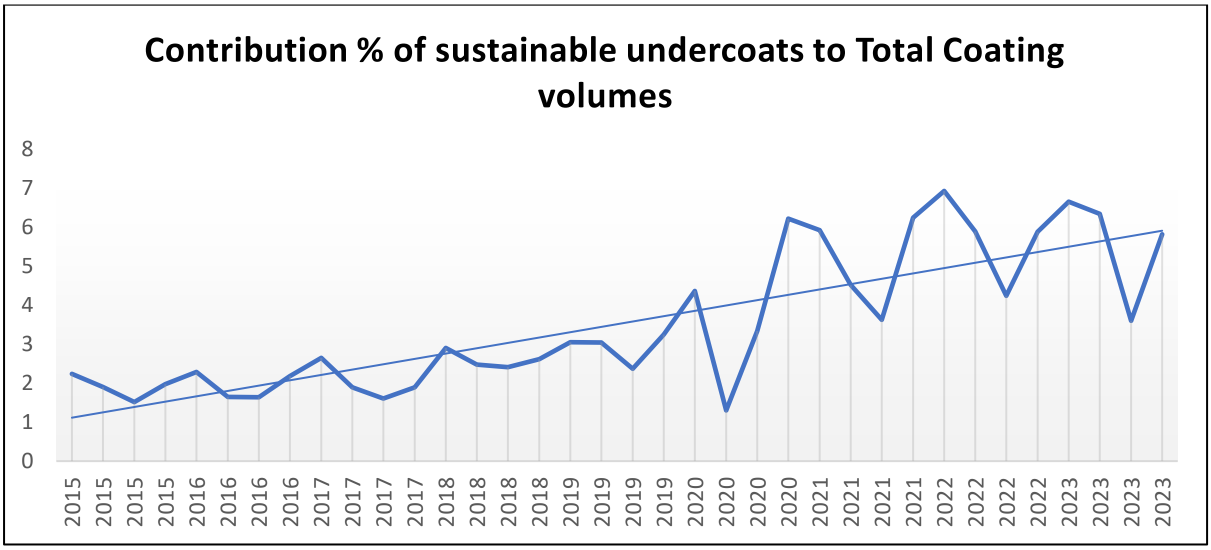

Figure 1. Contribution percentage of sustainable undercoats to total coating volumes

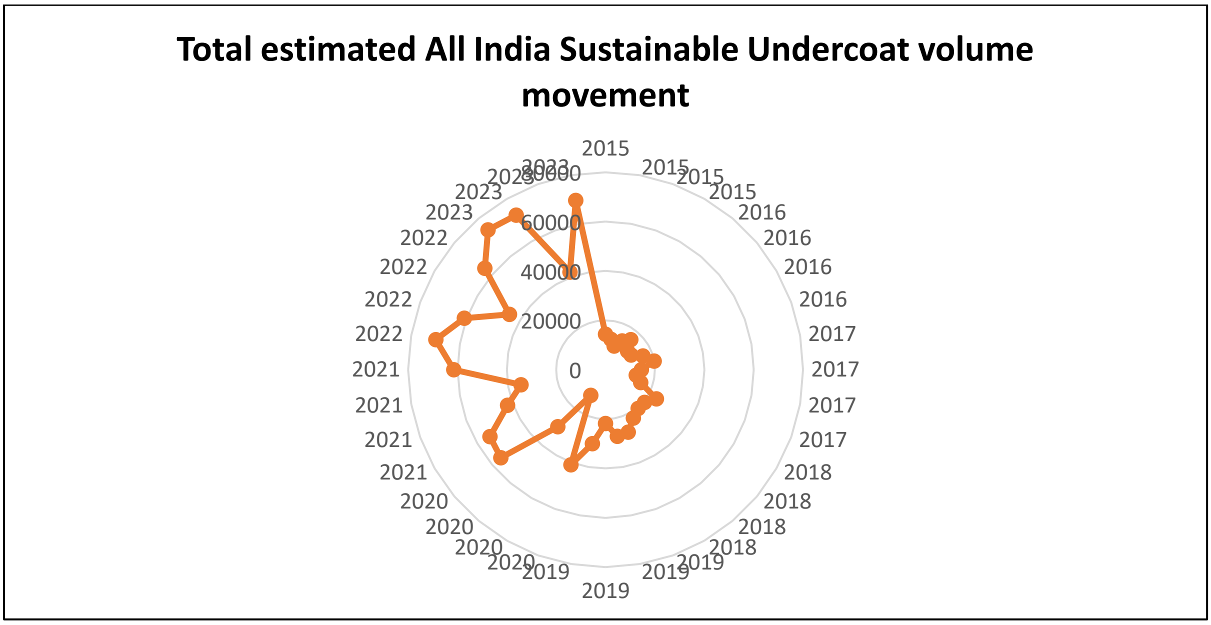

Figure 2. Estimated and representative sustainable undercoat volume movements from 2015 to 2023

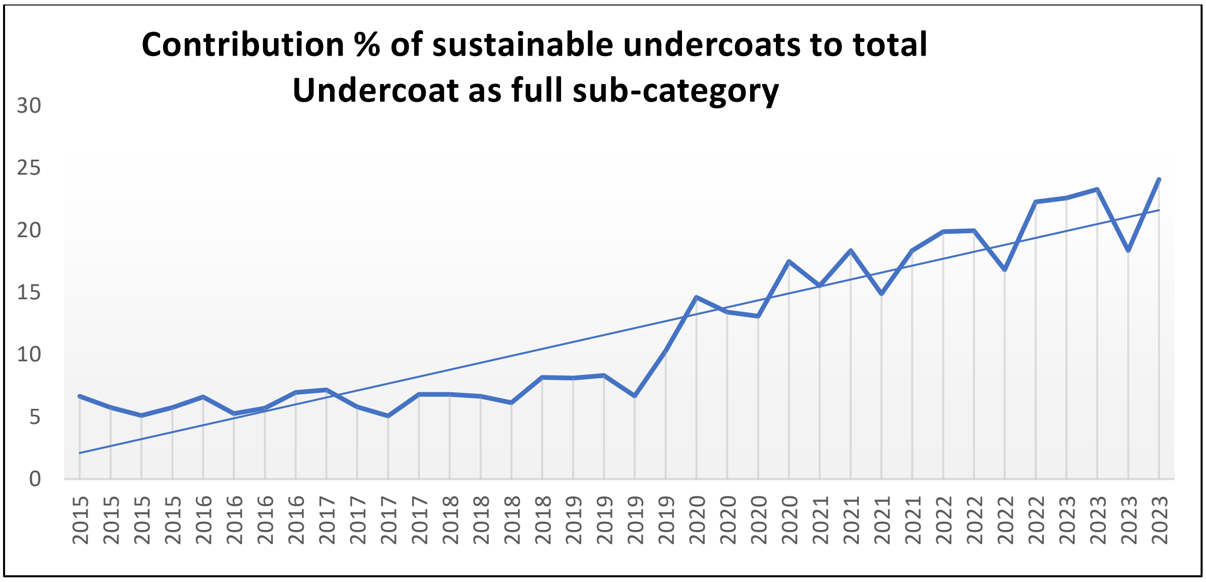

Figure 3. Contribution percentage of sustainable undercoats to total undercoats

7.2 Correlation

Spearman's rho for Sustainable Undercoats contribution percentage to total Undercoats volume

Correlation	**12 quarters Before Covid**		**12 Quarters After Covid**	
	Coefficient	Sig. (2 tailed)	Coefficient	Sig. (2 tailed)
Contribution Forecast	0.692	0.013	0.721	0.008

Pearson's Correlation for Sustainable Undercoats contribution percentage to total Undercoats volume

Correlation	**12 quarters Before Covid**		**12 Quarters After Covid**	
	Coefficient	Sig. (2 tailed)	Coefficient	Sig. (2 tailed)
Contribution Forecast	0.696	0.012	0.730	0.007

For both the correlations, the forecast contributions are best fitted to post-pandemic quarters with better measures of correlations and stronger statistical significance.

7.3 Test of Hypotheses

Hypotheses	*F*	*F-Crit*	*p- Value*	Status of Null
H1 Contribution percentage of Sustainable Undercoats to Total Coating Volume are same before and after Pandemic Period	41.455	4.13	2.33E-07	Rejected
H2 Total Volume of Sustainable Undercoats are equal before and after Pandemic Period	48.797	4.13	5E-08	Rejected
H3 Contribution percentage of Sustainable Undercoats to Total Undercoating Volume are same before and after Pandemic Period	92.672	4.13	0.0000	Rejected
H4 There is no change in contribution percentage of sustainable undercoats to total coating volume during forecast period of 12 quarters and immediate post pandemic 12 quarters	12.371	4.301	0.002	Rejected
H5 There is no change in contribution percentage of sustainable undercoats to total undercoats Volume during forecast period of 12 quarters compared to immediate post pandemic 12 quarters	44.777	4.301	0.000	Rejected

7.4 Forecast Model Test Statistics and trend diagram for H4

Application of Expert Modeller in SPSS Statistics

Exponential Smoothing Model Parameters

Model			Estimate	SE	t	Sig.
Contribution To Total	No Transformation	Alpha (Level)	0.001	0.069	0.014	0.989
		Gamma (Trend)	3.947E-05	8.247	4.785E-06	1.000

Table 5. Goodness of Fit

Model Statistics								
Model	Number of Predictors	Model Fit statistics						
		Stationary R-squared	R-squared	RMSE	MAPE	MAE	Max APE	Max AE
Contribution To Total	0	0.695	0.647	1.073	30.629	0.823	295.924	2.959

Table 6. Test Statistics of exponential smoothing

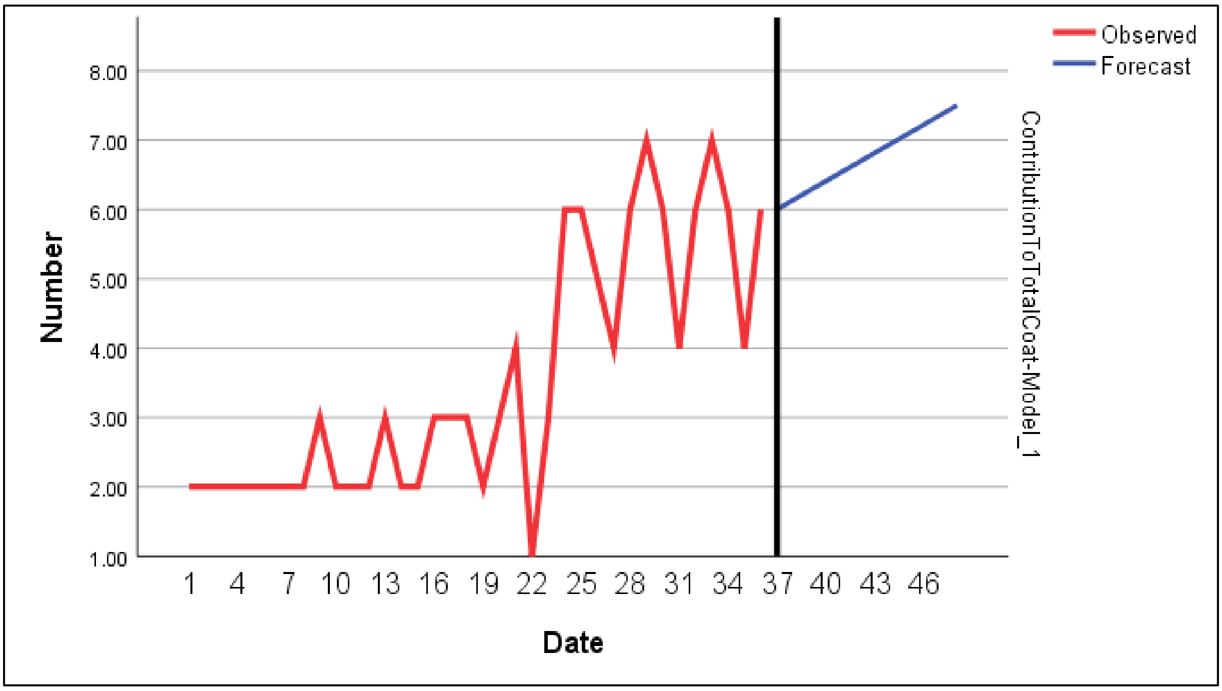

Figure 4. Forecast of contribution percentage of sustainable undercoats to total coatings

7.5 Forecast Model Test Statistics and trend diagram for H5

Application of Expert Modeller in SPSS Statistics				
Exponential Smoothing Model Parameters				
Model	Estimate	SE	t	Sig.

Contribution To Undercoat-Model_1	No Transformation	Alpha (Level and Trend)	0.237	0.052	4.523	0.000

Table 9. Goodness of Fit

Model Statistics								
Model	Number of Predictors	Model Fit statistics						
		Stationary R-squared	R-squared	RMSE	MAPE	MAE	Max APE	Max AE
Contribution To Undercoat	0	0.696	0.895	2.039	13.038	1.417	40.662	6.099

Table 10. Test Statistics of exponential smoothing

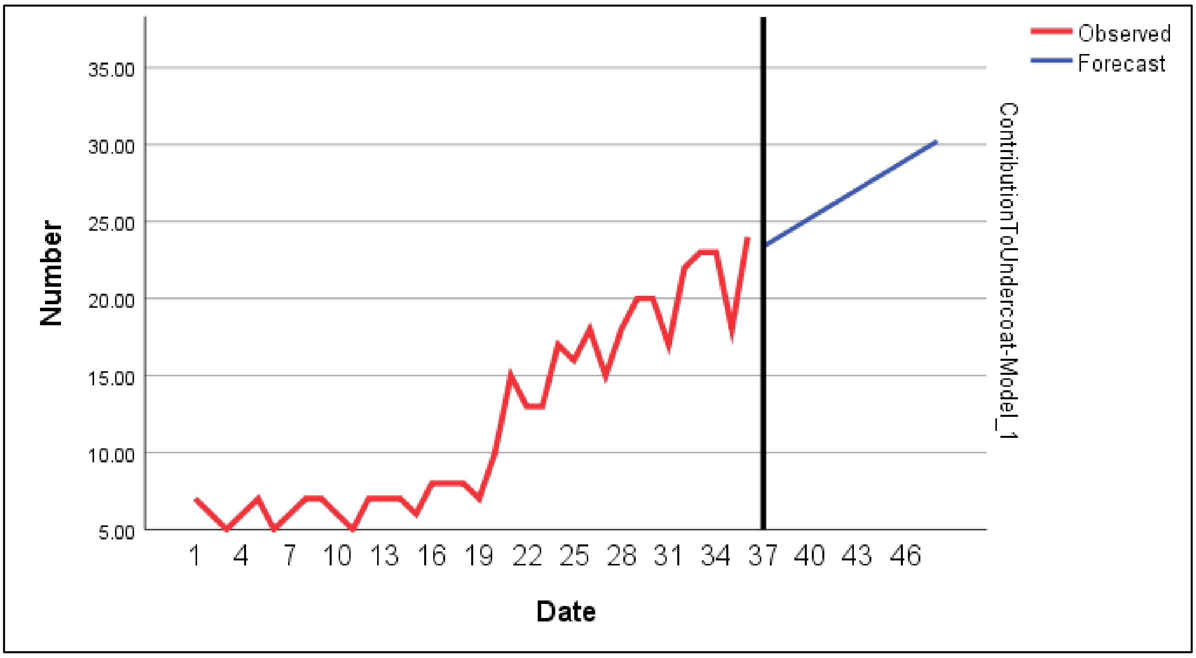

Figure 5. Forecast of contribution percentage of sustainable undercoats to total undercoating volumes as sub-category

8 Findings

[1] There is a heavy increase in contribution percentage of sustainable undercoats to ***total coatings volume*** after pandemic compared to the trend before pandemic

[2] ***Absolute volumes of sustainable undercoats*** have significantly increased post pandemic suggesting contribution increase due to its own volume increase instead of reduction or stagnancy of overall coating volumes year on year

[3] There is a heavy increase in contribution percentage of sustainable undercoats to ***total undercoating volumes*** after pandemic compared to the trend before pandemic

[4] There is a heavy increase in forecast numbers of contribution percentage of sustainable undercoats to ***total coatings volumes*** for next 12 quarter compared to immediate previous 12 quarters post pandemic

[5] There is a heavy increase in forecast numbers of contribution percentage of sustainable undercoats to total ***undercoating volumes*** for next 12 quarter compared to immediate previous 12 quarters post pandemic

9 Originality and Contribution

[1] Influence on Industry and Researchers to work on business and integrated operational analysis towards sustainable undercoating category along with future trend and contribution estimates.

[2] Application of Exponential Smoothing and robust trend cum forecast analysis of sustainable undercoats is a new approach in Indian coating industry

[3] Finalization of commensurate forecast alongside market trend considering SDG and pandemic in forecasting of sustainable undercoats is a unique, original and value-adding approach for Industry to finalize strategic AOP.

Paper Code MDRC0153

Demographic determinants of consumer engagement with Influencer - Endorsed electronic products

Raisha Yesmin[1], Dr. Chandan Goswami[1]
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Abstract

The rapid growth of various social media sites has significantly affected contemporary consumer behavior and has given rise to one of the major promotional strategies, influencer marketing. Social media influencers serve as credible and relatable intermediaries between brands and consumers, offering a sense of authenticity and perceived expertise often absent in traditional advertising. This marketing phenomenon is particularly relevant to high-involvement product categories, such as electronic goods, where purchase decisions are guided by trust and perceived credibility.

While past studies have analyzed the effect of influencer characteristics on customers' attitudes and

purchase intentions, limited attention has been paid to these dynamics in emerging Indian markets, specifically in the North-East region, which is undoubtedly different from metropolitan cities in terms of socio-cultural and digital engagement patterns. Furthermore, the role of demographic control variables, namely age, gender, income, and education, influencing buyers' intention remains relatively unexamined in the literature on influencer marketing.

The present study, therefore, addresses the following:

1. To identify whether demographic factors (age, gender, income, and education) play a significant role in buying intention when treated as control variables.

The aim of the research is to enhance influencer marketing effectiveness through better contextual understanding, and to determine how relevant demographic segmentation continues to be in digital marketing.

Design/Methodology

A quantitative, cross-sectional research design was adopted whereby the proposed relationships between influencer attributes and consumer purchase intentions were empirically tested. Primary data were collected from a total of 200 valid respondents who resided in Guwahati, India. Non-probability convenience sampling was used to select the participants for this study, which included active social media users who followed influencers and engaged with influencer-endorsed electronic product content.

Conceptual Framework

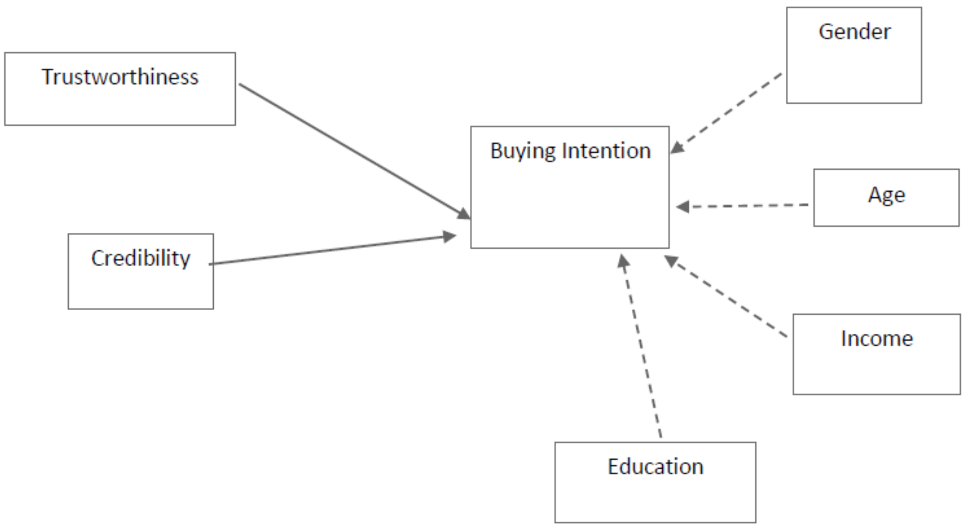

Figure 1. Conceptual framework of the study Hypotheses

H1: Gender has a positive effect on consumers' buying intention for electronic products.

H2: Age has a positive effect on consumers' buying intention for electronic products.

H3: Income has a positive effect on consumers’ buying intention for electronic products.

H4: Education has a positive effect on consumers’ buying intention for electronic products.

A structured questionnaire was developed based on valid scales from existing studies on influencer marketing and consumer behavior. The instrument consists of three sections:

1. Items measuring influencer trustworthiness and credibility;
2. Items assessing buying intention; and
3. Demographic questions related to age, gender, income, and education.

All constructs were measured using a five-point Likert scale, anchored from "strongly disagree" to "strongly agree." Data analysis was carried out with SmartPLS 4 because this software tool allows for the simultaneous examination of both measurement and structural models by means of structural equation modeling, PLS-SEM. In the structural model, the demographic variables-age, gender, income, and education-were treated as control variables, each being a predecessor of buying intention (BU). Path coefficients, along with their standard deviations, t-statistics, and p-values, were assessed to determine whether their effects were statistically significant.

Results

Results of control variable assessment indicated that demographic factors exert minimal influence on buying intention. Results were as follows:

	Path Coefficients	Standard Deviation	T statistics	P values
Age ->BU	0.028	0.033	0.856	0.392
Gen ->BU	0.013	0.02	0.636	0.525
Income ->BU	0.019	0.023	0.832	0.406
Edu ->BU	0.006	0.025	0.227	0.82

All path coefficients were statistically insignificant ($p > 0.05$), indicating that age, gender, income, and education do not significantly predict consumers’ purchase intentions in this context. Although income displayed a marginally stronger coefficient, its effect was not statistically significant at the 5% threshold.

These results imply that traditional demographic segmentation has lost much of its predictive power in the field of influencer marketing. Consumers in Guwahati, regardless of demographic background, show similar behavioral responses to credible and reliable influencer messages. This trend could be explained by the democratization of access to social media, increasing digital literacy, and also by the fact that online content exposure is becoming increasingly homogeneous across demographic groups.

Therefore, in digital consumption environments, psychographic and attitudinal characteristics of consumers, such as perceived authenticity, trust, and engagement, seem to act as stronger drivers of behavioral intention than their demographic attributes.

Originality and Contribution

This study makes several theoretical and managerial contributions to the field of digital marketing and influencer marketing

Theoretical Contribution:

The study adds to the academic discussion on influencer marketing by empirically showing that demographic factors have negligible effects on buying intention in the context of social media influence. This finding challenges conventional marketing paradigms emphasizing demographic segmentation and helps reinforce growing recognition of psychographic and behavioral variables as more robust predictors of consumer decision-making in online settings. Second, focusing on North-East India, this research expands the geographic and cultural context of studies on influencer marketing, offering new insights into an under-investigated regional setting.

Practical Contribution:

The findings underline that marketers should emphasize authenticity and credibility, not demographic targeting, when designing influencer campaigns from a managerial point of view. That is, organizations should collaborate with influencers perceived as genuine, transparent, and aligned in their values with their audience because such qualities enhance trust among consumers and foster purchase intention. Such an emphasis on authentic engagement and communication based on expertise is likely to yield more sustainable marketing outcomes than reliance on demographic profiling.

Future Research Directions:

Future studies could extend these findings by conducting a comparative study among different regions of India or even a platform-specific analysis on Instagram, YouTube, and Facebook. Longitudinal designs may also offer a sophisticated view on the sustained impact of trustworthiness and credibility on post-purchase satisfaction, loyalty, and advocacy.

Conclusion

The findings of the study indicate that although influencer trustworthiness and credibility strongly increase the buying intention of electronic product consumers, demographic factors of age, gender, income, and education have little or no effect. These findings imply that purchase intentions in Guwahati's digitized marketplace are primarily influenced by perceptions of authenticity and trust rather than demographic distinctions.

Paper Code MDRC0154

Factors Influencing Shopping Mall Selection of Consumers: An Empirical Study for Apparel Shopping in Kolkata

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Abstract

Purpose: The emergence of the shopping malls has radically changed the urban retail of the metropolitan India. The apparel segment, being one of the fastest growing retail categories in India showcases how consumers are now also looking for some form of experiential value in their shopping journey. The city of Kolkata known for its history of traditional markets, has witnessed a tremendous transition in the retail market.

This present work intends to establish and empirically determine the key factors and influence the selection of shopping malls for apparel shopping among the consumers in the unique socio-cultural and economic background of Kolkata.

Literature Review:

Location: Location refers to where a shopping mall is in a city, how close it is to customers, and how well it connects to key transportation routes. Research shows that people prefer malls that are close to where they live or work, adjacent to major roadways, or near public transportation hubs.

Research findings indicate that consumers frequenting adjacent malls shop more often but spend little on each visit, whereas individuals traveling greater distances undertake fewer visits but buy more products. Malls located close to residential areas or public transportation hubs draw in a lot of people who don't plan their visits and spend money on things they don't need. People who travel over greater distances tend to plan their purchases with a specific goal in mind.

The malls in the retail clusters enjoy the advantages of agglomeration effect where its location to the complementary stores, entertainment and places of eating enhances its overall attractiveness. Such agglomeration raises the dwell time and cross-shopping resulting in greater unplanned purchases whereas isolated malls struggle being large or well furnished.

Enjoyment Potential: Entertainment potential refers to the enjoyment and emotional arousal expected from leisure and amusement experience offered at a mall. Shopping malls have become more than transactional markets wherein the interplay of leisure, entertainment and social interaction take over consumption.

To the modern consumer, particularly young people in urban areas and middle income families, shopping at the mall is not just a utilitarian shopping affair but a multisensory pleasure experiences including dining, cinema, events, digital interactivity, in addition to social bonding. Fashion shows, cultural events, and children areas enhance playfulness which is one of the elements of enjoyment potential. Multiplexes, Food Courts, and Gaming Zones fulfill family and peer-group recreation requirements and promote longer length of stay and greater enjoyment. To intensify emotional thrill malls also use themed decorations during festive seasons.

Grand architecture, art displays, and water features can make a mall seem more sophisticated and enjoyable. These architectural designs stimulate the mind and give the impression of escaping, which is an important part of pleasure.

Facilities Management: Facilities management in a retail setting is seen as a formal process of organizing the physical resources of mall, the services offered in the malls and the maintenance of the mall infrastructure in order to provide a safe, clean, comfortable and efficient environment to the visitors. The availability of lifts and escalators, clean toilets, clean drinking water, and overall cleanliness are considered as core FM components that helps to form consumer perception and in making a mall choice.

The lifts and escalators minimize the cost of physical effort and time. The reliability and accessibility of lifts and escalators may affect the mall selection. Studies in retail revealed that washroom cleanliness is highly correlated to customer satisfaction and revisit intention. The hygiene of food courts, the control of the smell, and the cleanliness of the rest areas are of particular importance since the specified areas are directly related to the personal comfort and health. Access to clean drinking water has also become another FM dimension that is related to the perception of trust and safety among the population in shopping centers.

Objectives:

i) Find out the salient factors which play a major role in influencing customers in their choice of shopping mall in Kolkata.

ii) Examine the direct relationships between the mall selection factors and mall selection outcomes.

iii) Construct statistically validated structural model based on shopping mall selection predictors to explain the variation in mall selection behaviour.

Hypothesis

H1: Shopping mall location has a significant influence on consumer shopping mall selections decision.

H2: Enjoyment potential has a significant effect on consumers' shopping mall selection choice decision

H3: Facilities management has a significant influence on consumers' shopping mall selection decisions

Research Methodology

Sampling: Given the socio-economic heterogeneity of the city, a stratified random sampling method was adopted to provide equal representation of gender, income, and age groups. A total of 213 valid responses were collected using a structured questionnaire. Respondents were taken from five major shopping malls representing different places of Kolkata:

i) South City Mall, ii) Quest Mall, iii) City Centre Salt Lake, iv) Acropolis Mall, v) Forum Courtyard.

Data Collection: The structured questionnaire comprised 35 closed-ended statements with a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The instrument measured three major dimensions:

i) Location and Accessibility ii) Entertainment iii) Facilities Management

Findings:

1. EFA was used to determine the hidden structure of the observed variables and to reduce the dimension of the data. Using Principal Component Analysis with Varimax rotation, 3 factors are

extracted with Eigen values greater than one and their total variance accounts for 59.179% of the variance. The KMO value was 0.829 and the Bartlett's Test of Sphericity was significant ($p < 0.001$) which indicated suitability of the data for factor analysis. The factors identified were:

- Location and Accessibility (distance, connectivity, clusters)
- Entertainment and Retailtainment (Multiplexes, Food Courts, Live Shows, Leisure Zones)
- Facilities Management (Cleanliness, Escalators, Hygiene, Maintenance)

2. CFA was conducted for validating the measurement model by applying Maximum Likelihood Estimation. The model had good goodness fit indices:

$\chi^2/df = 1.956$, CFI = 0.919, GFI = 0.895, AGFI = 0.858 and RMSEA = 0.067

These are the values of acceptable fit.

All standardized factor loadings were significant ($p < 0.01$) and Average Variance Extracted (AVE) values were greater than 0.50 to establish convergent validity. Discriminant validity was verified using the Fornell Larcker criterion which states that square root of each AVE were greater than the inter-construct correlations.

3. Last stage was hypothesis testing using SEM to get into causal relationships among constructs. Path coefficients showed that:

Location and Accessibility $b=0.582$, $p<0.001$
Entertainment Potential $b = 0.366$, $p < 0.01$ Facilities
Management $b = 0.411$, $p < 0.005$

Managerial Implications:

The insights gathered from the study will help mall developers and retailers managing retail stores in Kolkata to take action. The mall management can strategically choose the location where the mall needs to be constructed. It underlines the importance of investment in the equipments in malls and leisure facilities to offer a unique experience that compete with both other malls and the rising wave of e-Commerce

Originality/Contribution:

This paper adds to the literature on retailing by testing a model of mall selection in the apparel category, a high-involvement, image-conscious category of products, empirically. Its usage of stratified sampling improves the validity of its results for Kolkata, a substantial but frequently under-researched metropolitan market.

Keywords: Apparel retail, shopping mall, location, enjoyment, Kolkata

Paper Code MDRC0156

Influence of AI-Powered Beauty Product Recommendations on Purchase Intention and Loyalty among Female Nykaa Customers in West Bengal.

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Abstract

The 21st century is completely dominated by tech-savvy solutions & data-driven accuracy. Artificial intelligence (AI) has revolutionized the e-shopping experience, particularly with the integration of AI for product recommendations. Nykaa in the Indian market has emerged as one of the most trending and popular e-commerce platforms for purchasing both regular and luxury beauty products. For a better shopping experience for its predominantly female consumers, Nykaa leverages AI-powered recommendations. Using mixed methods and the Unified Theory of Acceptance and Use of Technology (UTAUT) as the theoretical framework, this study investigates how AI-driven beauty product recommendations influence the purchase intention and customer loyalty among female Nykaa customers in West Bengal. A structured Google Forms survey will be administered to different groups, and 200 valid responses from female Nykaa users will be collected for quantitative analysis. Complementing this, the qualitative phase involved in-depth, semi-structured interviews with a purposive sub-sample of 20 survey respondents for thematic analysis. For analyzing quantitative data, descriptive statistics (means, standard deviations, skewness, and kurtosis), reliability diagnostics (Cronbach's α), and correlation analyses will be used in this study. This study aims to examine the level of awareness among female customers regarding automated recommendations and their perceptions of the benefits and drawbacks of AI-driven suggestions. This paper will contribute to the research of AI and human-technology interaction, whether experiential attributes influence decision-making and acceptance towards AI recommendations, which can pave the way for organizations to upsell and cross-sell their products and increase customer loyalty.

Keywords: Artificial Intelligence, Nykaa, Product Recommendation, Purchase intention

Paper Code MDRC0157

Reimagining The Marketing Mix: A Comprehensive Case Study Analysis Of Batat's Experiential Marketing Mix (7e) Framework

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1. Purpose

This case study research examines the strategic transformation of the traditional marketing mix into the experiential marketing mix introduced by Wided Batat in the book titled: Experiential Marketing: Consumer Behaviour, Customer Experience and the 7Es. The aim is to examine how each E: Experience, Exchange, Extension, Emphasis, Empathy, Emotional Touchpoints, and Emic-Etic Process transcend classical elements of the 7Ps by foregrounding customer-centricity, co-creation, phygital engagement, and cultural immersion. The research objectives include: (i) explicating the theoretical and practical distinctions between traditional and experiential marketing constructs; (ii) critically analysing how leading global brands operationalise each 'E' pillar to drive customer engagement, brand loyalty, and emotional resonance.

The study addresses the knowledge gap in the practical application of experiential marketing frameworks, especially in complex, multi-stakeholder environments found in hospitality, tourism, food delivery, and retail. By focusing on well-documented industry case studies, ranging from Starbucks and Marriott Hotels to Airbnb, Nike, IKEA, Apple, Dove, and Amul, the paper advances the discussion on how experiential marketing fosters not just transactional value, but also symbolic, relational, and emotional capital. The research further aims to generate actionable insights into constructing resilient brand strategies that pivot on meaningful experiences rather than utilitarian value alone, answering the pressing call in marketing for experience-driven business models suited to the phygital age.

2. Methodology

This research adopts a qualitative case study methodology informed by secondary data analysis. The approach integrates academic literature, industry reports, and empirical studies to build a multi-case comparative analysis. Grounded in Wided Batat's conceptualisation of the 7E experiential marketing mix, the paper systematically contrasts each 'E' with its traditional marketing mix counterpart across different business contexts. Cases are purposively selected for their exemplary application of specific experiential marketing mix elements. The study synthesises theoretical insights with observed brand execution, drawing on academic references and market analytics to validate interpretive claims. Methodological rigour is ensured through triangulation of sources and in-depth comparative narrative analysis.

3. Findings

The study establishes that the 7E experiential marketing mix enables brands to transcend the operational limitations of the traditional marketing mix by centring on holistic customer experience, emotional engagement, and participatory value creation.

3.1 Experience: Brands such as Starbucks and Marriott succeed by designing immersive multisensory environments. Starbucks' concept of the "third place" blends community, scent, sound, and emotional personalisation, while Marriott leverages sensory branding, emotional guest services, and loyalty ecosystems, stimulating all modules of Schmitt's experiential framework. This results in measurable enhancements to customer satisfaction and long-term loyalty through the orchestration of physical, digital, and human touchpoints.

3.2 Exchange (versus Price): Airbnb and Nike by You demonstrate that value creation surpasses monetary transactions. In Airbnb's case, co-creation occurs through individualised host-guest engagement and customisation of the lodging experience, elevating relational and emotional connection. Nike's customizable offerings enable creative input and co-production, translating to emotional attachment and customer pride, which in turn promotes differentiated brands that command loyalty over price-driven competitors.

3.3 Extension (versus Place): IKEA's targeted urban pop-ups and Rapido's transition from ride-hailing to food delivery show that extension is about leveraging multiple physical and digital channels to open continuous experiential touchpoints. This fluid, omnipresent brand presence adapts to evolving consumer behaviours, deepening brand engagement through both accessibility and context-specificity.

3.4 Emphasis (versus Promotion): Apple and Nike manifest the power of cultural branding and humanised communication. Apple cultivates a brand personality anchored in innovation and empowerment, resulting in a devoted community. Nike's emphasis on performance, community, and inclusion constructs lifestyles rather than product-push narratives, fostering intangible consumer-brand bonds.

3.5 Empathy (versus People): Dove and Amul excel through "empathy capital" by attuning to consumer emotional needs, embracing real-world diversity, and addressing collective consciousness. Amul additionally integrates rural empowerment and cooperative models, expanding empathetic connection beyond the consumer to upstream stakeholders.

3.6 Emotional Touchpoints (versus Physical Evidence): Coca-Cola and Zomato exemplify the shift towards affect-driven touchpoints. Coca-Cola's vending machines reward hugs with products, generating joy and social sharing, while Zomato's witty push notifications foster light-hearted, emotionally charged digital micro-moments, replacing traditional physical cues with digital emotional connectivity.

3.7 Emic-Etic Process (versus Process): Brands achieve global-local resonance by merging emic (insider, culture-specific) and etic (outsider, standardised) processes. The Coca-Cola 'Share a Coke' campaign personalises at a local level while maintaining global brand coherence. IKEA's domestic adaptation and global sustainability initiatives strike a similar balance, demonstrating seamless brand experiences that are both universally recognisable and intimately local.

The case study evidence refutes the adequacy of transactional, company-focused marketing. It validates that experiential strategies, grounded in culture, sensory engagement, emotional relevance, and participatory co-creation, significantly transform consumer relationships, purchase drivers, and loyalty anchors in phygital and hybrid consumption contexts.

4. Originality and contribution

This research offers an integrative synthesis and critical extension of experiential marketing theory by operationalising Batat's 7E framework through contemporary cross-sector case studies. It elucidates the practical mechanisms brands use to integrate the 7E experiential marketing mix, contrasting it with the obsolete 7P constructs. The study presents a dynamic model of value co-creation, emotional engagement, and omnichannel extension, reflecting the complexities of today's phygital and culturally diverse marketplace. Through a diverse range of cases spanning hospitality, technology, retail, food services, and media platforms, the 7E approach is demonstrated as sector-agnostic and widely applicable. The research illuminates the evolving role of brands as cultural co-creation platforms and community anchors, thus redefining marketing's impact from mere transaction to meaningful transformation. It also provides actionable guidance for practitioners, urging marketers to rethink strategy design by prioritising empathy and emphasis, leveraging digital-emotional touchpoints, and pursuing continuous, reciprocal value exchange. Theoretically, it reconceptualises classical marketing elements, advancing the field toward consumer sovereignty, networked brand communities, and participatory market innovation. Empirically, the research provides a roadmap for brands seeking to build loyalty and differentiation in volatile, experience-driven markets. Ultimately, the holistic integration of the 7E framework marks a significant evolution beyond piecemeal experiential tactics, positioning it as the contemporary foundation for marketing theory and practice.

Paper Code MDRC0159

Navigating Ethical AI in Personalized Marketing and Its Impact on Consumer Trust, Privacy, and Responsiveness

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Abstract

Companies have engaged consumers in new and innovative ways through the implementation of Artificial Intelligence (AI) in personalised marketing. As a result of this advancement in technology, there are many important ethical issues that arise, one of which relates to whether consumers have adequate level of trust, confidence, and privacy when interacting with these systems. Therefore, this research paper will explore the ethical issues concerning AI and the way Trust, Privacy, Transparency and the Right to Data Protection relate to this technology; how these four factors are necessary to create an environment of trust with consumers, while promoting a positive relationship between personalised experiences and individual Privacy Rights. In addition this paper will examine the dynamic nature of AI, (whereby AI is continually updating and adjusting itself to the behaviours of Consumers), and therefore how it can facilitate positive interactions with Consumers, while simultaneously causing a variety of ethical dilemmas, including the possibility of manipulative behaviour by organisations. Finally, the research paper presents the challenges that Organisations face in promoting Responsible AI. It includes a review of current Ethical Frameworks being used for the promotion of responsible AI and an examination of ethical case studies to demonstrate the ethical issues concerning the promotion of Responsible AI. Finally a series of Recommendations are presented to Organisations on the best practices for promoting the ethical use of AI to preserve their consumers' trust while ensuring successful personalised Marketing. This research will contribute to the ongoing discussions regarding how best to create a sustainable and ethical environment for AI-driven marketing.

Paper Code MDRC0160

Overtourism in the Himalayan Destinations: A Dual MCDM Analysis of Expert and Resident Perspectives

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Abstract

Overtourism is a phenomenon that negatively impacts the quality of life for Local residents and the overall experience of tourists in a tourist destination. While overtourism is widely recognized, gaps remain in systematically prioritizing its multifaceted challenges in the Darjeeling Himalayan region. Despite global attention to overtourism, limited research has examined how different stakeholder groups perceive and prioritise its challenges in developing Asian contexts. This study evaluates and compares the perceptions of tourism experts and local residents regarding overtourism in Darjeeling using two Multi-Criteria Decision-Making (MCDM) techniques: the Analytic Hierarchy Process (AHP) and the Criteria Importance Through Intercriteria Correlation (CRITIC) method. AHP was applied to expert-based pairwise comparison data, while CRITIC used resident responses collected through a structured 5-point Likert questionnaire. The findings reveal a clear conflict in how stakeholders understand overtourism. Residents favour community-driven, socially grounded solutions that prioritise local well-being, whereas experts interpret overtourism primarily as a carrying-capacity issue, proposing infrastructure expansion to accommodate and attract even more tourists. Contrary to the low priority given to economic challenges by experts, the residents demonstrated high economic vulnerability rooted in overtourism. Social and environmental challenges hold a widespread influence on both groups. The conflicting priorities and differing interpretations of overtourism drivers indicate a need for a more community-driven approach to tourism. This study presents a structured hierarchical framework for assessing overtourism challenges in the Darjeeling Himalayan region, underscoring the need for integrated, participatory, and community-driven tourism management strategies to balance stakeholder expectations while ensuring long-term sustainability.

Keywords: AHP, CBT, CRITIC, Himalaya, MCDM, Overtourism, Residents

Paper Code MDRC0161

Do emojis always work for Gen Zers? A survey-based study to validate the role of emojis on purchase intention through inferential and affective pathways.

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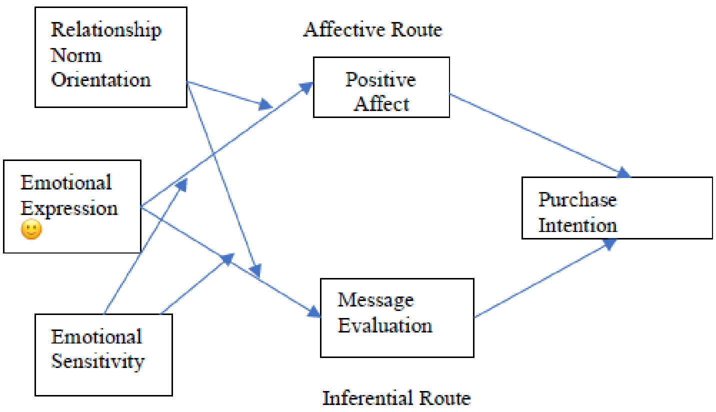
Abstract

Emojis have become a central element of digital brand communication, offering a powerful means to convey emotional tone and increase social presence in text-based environments. Despite their widespread adoption in promotional messaging, limited research examines *how* emotional expressions conveyed through emojis influence consumer responses—and *for whom* these effects are most impactful. Guided by Emotions as Social Information (EASI) theory, which proposes both affective and inferential pathways of emotional influence, and informed by the Elaboration Likelihood

Conceptual Model



Model (ELM), which highlights the role of individual differences in shaping message processing depth, this study investigates a dual-route model explaining how emojis influence purchase intention. Specifically, we test two mediators—positive affect (affective route) and message evaluation (inferential route)—and two theoretically grounded moderators: Relationship Norm Orientation (RNO) and Emotional Sensitivity

Hypotheses Development

H1a (Affective Route): Positive affect will play a mediating role in the relationship between emotional expression in promotional brand communication and purchase intention.

H1b (Inferential Route): Message evaluation will play a mediating role in the relationship between emotional expression in promotional brand communication and purchase intention.H2a: Relationship Norm Orientation (RNO) will moderate the effect of emotional expression on purchase intention mediated through positive affect.

H2b: Relationship Norm Orientation (RNO) will moderate the effect of emotional expression on purchase intention being mediated through message evaluation.

H3a: Emotional sensitivity will moderate the effect of emotional expression on purchase intention being mediated through positive affect.

H3b: Emotional sensitivity will moderate the effect of emotional expression on message evaluation.

Method

A survey-based study was conducted with 210 Gen Z respondents (aged 17–23), a demographic known to be the most active and proficient users of emojis. Participants were exposed to a promotional brand message embedded with emotional emojis. Using moderated mediation models (jAMM in Jamovi) with bootstrapped confidence intervals, we examined whether emotional expression influenced purchase intention through positive affect and message evaluation, and whether these indirect effects varied by levels of RNO and emotional sensitivity. The Delta method was used for computing robust confidence intervals.

Results

a. **Mediation**

The analyses revealed strong support for a dual-route mechanism. Emotional expression significantly increased purchase intention through positive affect (indirect effect $b = 0.240$, $p < .001$) and through message evaluation (indirect effect $b = 0.240$, $p < .05$), with both pathways demonstrating partial mediation.

b. Moderation

Moderation tests showed distinct patterns across individual differences:

RNO as Moderator:

- RNO significantly moderated the message evaluation pathway, with the indirect effect stronger for low-RNO individuals and weaker for high-RNO individuals.
- RNO did not moderate the positive affect pathway, indicating that affective responses to emotional expression remained consistent regardless of relational expectations.

Emotional Sensitivity as Moderator:

- Emotional sensitivity produced opposing effects across the two mediators.
- It amplified the positive affect pathway, such that highly sensitive individuals experienced stronger affective responses that enhanced purchase intention.
- It attenuated the message evaluation pathway, suggesting that highly sensitive

individuals rely less on cognitive appraisal when interpreting emotional content.

These findings highlight a theoretically coherent double dissociation, where relational norms influence cognitive processing, and emotional sensitivity shapes both affective and inferential responses in distinct ways.

Contributions

This study makes three key contributions. First, it extends EASI theory into the domain of promotional brand messaging by empirically demonstrating the coexistence of affective and inferential mechanisms in emoji-based persuasion. Second, it integrates ELM to show how stable individual differences—RNO and emotional sensitivity—shape the relative dominance of these pathways. Third, it advances the literature on emoji use in marketing by providing a comprehensive, mechanism-driven explanation of how emotional symbols influence consumer decision-making among digital natives.

Practical Implications

For practitioners, the findings suggest that emoji-based emotional expression is a robust persuasive tool, but its effectiveness depends on consumer characteristics. Brands targeting consumers low in RNO may benefit from emojis that enhance message clarity and evaluation, whereas those targeting more emotionally sensitive audiences should emphasize affect-rich emojis that heighten emotional resonance. The dual-route insights provide actionable guidance for tailoring emoji-based strategies across consumer segments.

Future Scope of Research

Although the current study offers significant theoretical and practical insights, it also opens several promising avenues for future research. First, the study focuses exclusively on Gen Z consumers; future work could extend the investigation to other demographic groups to assess generational differences in emoji interpretation, emotional contagion, and message evaluation. Cross-cultural research may further reveal how cultural norms around emotional expression shape the dual-route mechanisms identified here.

Second, while the present study relied on survey-based moderated mediation analyses, future research can adopt SmartPLS (PLS-SEM) to validate and extend these findings. Using SmartPLS could strengthen model comparison, enable simultaneous assessment of affective and inferential mechanisms, and provide deeper insights into latent constructs that underlie emoji processing.

Keywords: Emojis; Emotional Expression; Positive Affect; Message Evaluation; EASI Theory; Elaboration Likelihood Model; Moderated Mediation; Relationship Norm Orientation; Emotional Sensitivity; Purchase Intention; Gen Z.

Paper Code MDRC0164

Greenwashing vs Genuine Sustainability: An Empirical Evaluation of Customer Trust in the Indian Marketplace.

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Abstract

Introduction: Sustainability, a genre for businesses worldwide, it reflects shifting preferences of businesses, governments and consumers towards environmental and social responsibility. On the offset of Sustainability as the Core Principle, there a proportionate rise of unverified and exaggerated green claims—commonly known as Green Washing.

Though some companies stay true to their Sustainable ideology and invest in green operations, others rely on misleading messages to appear environmentally responsible thus created considerable confusion and skepticism among individuals. In India, sustainability marketing is growing at a fast pace, but limited research studies reveal how consumers differentiate between true sustainability initiatives by organizations and deceptive claims. This research paper aims to evaluate the impact of genuine sustainability versus Green Washing on customer trust, perception, and purchase behaviour.

Purpose of the study: The main purpose of the study is to assess how consumers perceive and identify Green Washing with authentic sustainability efforts and to understand how these perceptions influence their trust.

Objectives of the present research study:

1. To understand how well consumers can differentiate genuine sustainability efforts from Green Washing.

2. To examine how the credibility of sustainability claims influences consumer trust and buying decisions.

3. To analyse customer responses towards brands that practice genuine sustainability compared to those accused of Green Washing.

4. To suggest a clear and transparent communication framework that organizations can use to present their sustainability efforts honestly.

Research Design & Methodology: Our research study uses a mixed-methods approach. Quantitative Component used Stratified random Sampling method on a sample respondent of (approximately 87 consumers using online portals). A well Structured questionnaire instrument using 5-point Likert scalewas used.

The Likert Scale has independent variables such as consumers' ability to differentiate sustainability claims, perceived credibility, trust levels, and purchase intentions as measures. The quantitative findings are used to evaluate the proportionate relationship between dependent variables such as

authenticity of sustainability claims and behavioural responses of consumers.
Exploratory factor analysis and Correlation and regression analysis was calculated on the responses received. The Reliability test was calculated and the Cronbach's alpha as measured around 7.86
Findings from the research study: Based on preliminary literature and pilot study of the research on a small sample of consumers the following observations are made:

1. Consumers really find it difficult to distinguish between authentic sustainability efforts from Green Washing due to lack of accessible information and inconsistent regulatory standards.

2. Consumers generally fail to understand the independent certifications issued by regulatory bodies which significantly improve perceived credibility, and transparency.

3. It is observed that consumers develop negative cohesion for GreenWashing organisations thus results in negative trust which results in long-term skepticism.

4. Consumer trust in sustainability efforts is fragile, and many express high skepticism even toward genuinely sustainable brands.

5. This research study found that younger consumers, particularly Gen Z and millennials, are particularly driven by the content and narratives created by companies rather than making fully informed or educated choices regarding sustainability efforts made by organisations.

6. Many consumers appreciate sustainable efforts made by the companies but unwilling to pay a premium for products which have cheaper substitutes.

7. This research highlights the disconnect between sustainability communication, genuine efforts, and actual consumer expectations.

This research paper addresses a critical gap in sustainable marketing by focusing on consumer trust—a key determinant of long-term brand success. This paper helps organisations to analyze how consumers interpret green claims and how greenwashing erodes credibility. The outcomes will help shape more responsible sustainability communication channels and support the global shift toward ethical consumption.
This study provides empirical evidence of an emerging market (India), where sustainable marketing is expanding rapidly. It offers a comparative analysis of real cases of greenwashing and genuine sustainability efforts. The paper emphasize the need for a credibility-evaluation framework to help organizations design transparent sustainability communication. It urges policymakers to develop clearer guidelines and reduce misleading environmental claims done by the organisations.

Paper Code MDRC0167

A novel extended approach for adopting ehealth under FAHP application for assessing barriers to customer engagement.

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Abstract

Objective: One of the widely discussed topics in the healthcare industry is customer engagement. Previous studies have shown that low levels of engagement can lead to worse health outcomes, so this study is an expanded version of those findings to highlight those challenges. India, as a developing nation, should think about running its healthcare system profitably so that it can serve as a model for other nations.

Data sources/study setting: We looked through MEDLINE, PsycInfo, Web of Science, and Scopus to find the first set of obstacles that the Indian healthcare sector faces up until mid-2022, covering the decade since its first implementation in 2009. In order to confirm the findings of the literature review and categorise the other barriers, exploratory interviews were then conducted with experts from August 2022 to November 2022 at renowned hospitals (Doctors, Healthcare Workers) and eHealth researchers from academic.

Study Design: These barriers were ranked using a fuzzy analytic hierarchy process, which is a multi-criteria decision-making approach. The top barriers are then subjected to a sensitivity test to help determine how they affect the remaining barriers.

Data collection/extraction methods: Interviews were conducted via video conferencing, sending the questionnaire through email as some experts being travelling out of country, rest were interviewed in person.

Principal Finding: The research revealed that customer interaction-related barriers are the biggest impediments to customer engagement. Moreover, customer empowerment was the biggest barrier out of the thirty sub-barriers.

Conclusion: This is one of the first studies to thoroughly examine, classify, and prioritize the reported barriers to customer engagement in India's eHealth industry. A novel finding of this research was that customers are not empowered by the process and system, so they are always hesitant to engage in a new intervention.

Keywords: eHealth, Digital health, Barriers, Customer Engagement, Customer Empowerment, Prioritization, India

Paper Code MDRC0168

The Blueprint of Modern Enrolment Marketing: High-Intent Lead Ecosystem

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Abstract

Enrollment marketing is a strategic initiative pursued by educational institutions aimed at attracting, engaging, and converting potential students into enrolled individuals. This approach encompasses a blend of traditional and digital marketing strategies, focusing on the entire student journey from initial awareness to final enrollment. The effectiveness of enrollment marketing is underscored by its ability to identify target audiences through careful analysis of demographics, interests, and motivations, which is crucial in a competitive landscape marked by declining demographics. Contemporary enrollment marketing integrates brand positioning, audience segmentation, and multichannel communication to present institutional value propositions. These propositions typically highlight program quality, outcomes, and the overall student experience, thereby fostering engagement through various communication channels. Particularly, content creation and digital marketing are pivotal in building trust with prospective students while articulating the value of the institutions in this high-intent lead generation landscape. Furthermore, data analytics play a vital role in delivering personalized communications and experiences to potential students, aiding them in their enrollment decisions. Research has shown that enrollment marketing is effective in generating leads via inquiries and applications across diverse platforms. The Indian higher education ecosystem is currently transitioning from traditional offline recruitment methods to a digital-first model, driven by increased internet penetration, mobile usage, and the growth of educational technology (edtech). This transformation is evidenced by a study that analyzed dataset estimated 2.3 crore student inquiries of (admission session 2025) spanning various educational levels and geographic locations. The research provides insight into the contribution of various channels at different stages of the enrollment funnel, identifying both strengths and areas for optimization in marketing strategies. Notably, the paper emphasizes the substantial impact of digital channels on reach and accessibility, particularly when contrasted with traditional offline recruitment sources, which have historically underpinned enrollment processes. Digital-first marketing strategies that focus on professional institutional websites, personalized campaigns, marketing automation, and robust search engine optimization (SEO) practices are increasingly linked to improved conversion rates and more stable enrollment pipelines. Additionally, the analysis illustrates student mobility trends, which reflect regional education preferences and the influence of specific institutions. A heatmap detailing inter-regional student flows unveils areas of localized dominance and highlights emerging cross-regional opportunities based on enrollment-driven mobility patterns. Market share analysis reveals the significant contribution of paid marketing channels,

which account for 29.59% of enrollments, including results from paid ads and publisher campaigns. Overall, this comprehensive review equips stakeholders with actionable insights to refine their enrollment marketing strategies effectively.

Overall, this comprehensive review provides actionable insights for educational stakeholders to refine and optimize their enrollment marketing strategies, ensuring sustained growth and competitive advantage in a rapidly evolving digital landscape.

Key Words: Enrollment, Funnel, Prospective, Lead generation, Publishers, Paid Channel, Blueprint.

Paper Code MDRC0169

Exploring the influence of travel motivation on memorable tea tourism experiences and travellers' behavioural intention: A hybrid technique of SEM and fsQCA

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Purpose – Despite the increasing recognition of tea tourism, there is limited research on the influence of memorable tourism experiences (MTEs) on tea tourist behaviours. This investigation attempted to fill the gap in extending the MTE model by integrating travel motivations and expectation–confirmation theory (ECT). This study aims to investigate the interplay of destination image, authenticity, and relaxation in driving revisit and word of mouth (WOM) intentions of tea tourists through the mediating role of memorable tourism experiences (MTE) and moderating role of traveller engagement.

Literature review- The rich aroma of tea leaves, lush green tea plantations, the picturesque valley filled with curly clouds, babbling mountainous streams together give a sensory experience that has mesmerised the nature-loving tourists over the years around the world. Being the largest consumed beverage, a cup of tea is considered as a universal sign of hospitality, either in a dwelling place or out in a commercial hospitality setting (Mondal and Samaddar, 2021; Walton, 2001). The relationship between tea and tourism is deep-rooted. Tracing back to the old tea trade routes such as the Silk Road (Hamel, 2001) and Tea Horse Road (Freeman and Ahmed, 2011) connecting the Mediterranean to China and rest of Southeast Asia, tourism around tea has spread its presence across the globe. Being the birthplace of tea as a medicinal beverage (Heiss and Heiss, 2007), China along with Japan, the UK and few other South Asian countries such as India and Sri Lanka has developed a tea culture for centuries. Although China is regarded as the pioneer in boosting tea culture through its tea markets, museums and tea-related services, it is Japan who popularised tea ceremonies to promote cultural tourism (Mondal and Samaddar, 2021; Joliffe and Zhuang, 2007). Likewise, England has recognised afternoon tea as a symbol of the nation's heritage and identity. Tea tourism is gradually making its own niche, which has promoted India to a driving seat in presenting its lush green tea gardens and plantations to both domestic

and international tourists (Cheng et al., 2012). Holding the hands of three reputed breeds of tea, namely, Darjeeling tea, Assam tea and Nilgiris tea, tourism in India has flourished and gained popularity. Among various shades and tastes, "Darjeeling Tea" has made its own name, for its rich golden-red liquor-like aroma that provides a unique tea drinking experience. Regarded as the paradise for tea lovers for its scenic tea estates and a plethora of tea brands, tea tourism in India is making its foothold amidst other forms of alternate tourism (Mondal and Samaddar, 2021; Shah and Pate, 2016).

Memorable tea tourism experiences (MTE) - The examination of experiences is continuous in tourism studies. The exploration has evolved from experience quality (Augustyn and Ho, 1998) and satisfactory experiences (Li, 2000) to recently experience scape (O'Dell, 2005), co-creation of experiences (Campos et al., 2018) and MTEs (Kim et al., 2012). Zhang et al. (2018) reported that lately MTEs had attracted greater attention at the forefront of tourism experience research due to their significant influences on tourist decision-making processes. Only those "remembered" experiences facilitate tourists' intentions to revisit or recommend a tourist attraction or destination (Kim, 2018; Sharma and Nayak, 2019). Kim et al. (2012) found that "an MTE is selectively constructed from tourism experiences based on the individual's assessment of the experience". That is, not every on-site tourism experience becomes an MTE; instead, it depends on an individual's cognitive evaluation of the tourism service or settings (Zhang et al., 2018). The proposed framework is illustrated in Figure 1.

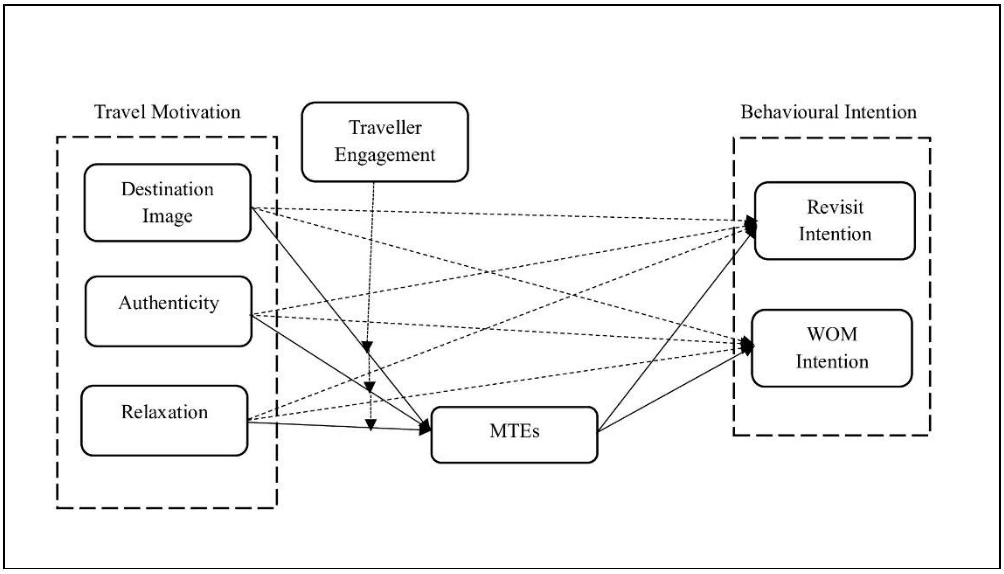

Figure 1: Conceptual framework

Design/methodology/approach– The data for this study were collected from tea tourists of Darjeeling and the Dooars of West Bengal, India and the information was collected from Indian tourists using designed questionnaires. This study employed a two-step analysis approach, integrating SEM with fsQCA. The two approaches adhere to fundamentally different principles and fulfill separate objectives (Afonso et al., 2018). A variety of academics have utilized mixed methodology, particularly within the realm of marketing (Fang et al., 2016). A number of experts have indicated that the hybrid approach could be more effective than traditional statistical methods (Fazal-e-Hasan et al., 2020; Sergis et al., 2018) when dealing with multivariate data. The PLS-SEM method was utilized to assess the measurement and structural models (Hair et al., 2013, 2016) using SmartPLS software (Ringle et al., 2005). The fsQCA approach has been developed to address this inquiry by examining the non-linear correlations inside our suggested framework. Utilizing fsQCA enabled us to elucidate the complex linear and non-linear relationships between the antecedents (Satar et al., 2024).

Findings– Using SEM and fsQCA approach, the study's findings highlighted the importance of MTE as a mediator of these interrelationships. The results also identified the positive direct and indirect effects of visitor engagement on revisit and WOM intentions. The indirect effects of authenticity on revisit and WOM intentions through MTE were also significant. The findings also showed the positive direct and indirect effects of destination image on WOM intention, with the indirect effect on revisit intention being significant. The fsQCA results revealed more heterogenous combinations to predict WOM and revisit intention.

Research implications– This study focuses on travel motivation, MTEs, traveller engagement, and behavioural intention and contributes unique insight to tourism marketing research; thus, it identifies plentiful opportunities for further research, as summarized.

Practical implications– The results offer insights by identifying vital factors linked to tea tourist experiences, which will aid practitioners developing better marketing strategies. This study also offers key implications for destinations to build tourism and marketing strategies to strengthen the travel motivation, MTEs, traveller engagement, and behavioural intention or tourist/destination–brand relationship.

Originality/value– The memorable tourism experience scale has rarely been applied in gastronomy and particularly in relation to tea tourism. Moreover, this research is unique in investigating the relationships among travel motivation, MTEs, traveller engagement, and WoM and revisit intentions.

Paper Code MDRC0170

Modelling Smartwatch Adoption and Recommendation Behaviour: A Hybrid SEM-ANN Approach to Perceived Usefulness and Health Orientation

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Abstract

Purpose /Objective

The recent technological advancements and global popularity of mobile devices, such as smartphones and tablets, have enabled easy access to information from anywhere at any time (Kim and Shin, 2015). However, the concept of "mobility" is now shifting from simply being portable to incorporating wearable technology, further enhancing the widespread availability of personal communication. Electronic devices worn on the body, either as accessories or as articles of clothing, are known as wearable devices. A smartwatch is a wearable device that complements a smartphone (Sofian & Putra, 2021). Smartwatches, which offer numerous functions beyond simply telling time, have gained popularity recently. Functionality, aesthetics, comfort, and device integration are all elements that impact how users perceive smartwatches. It is anticipated that the worldwide user base of 'Smartwatches' within the digital health market will steadily grow by 11.4 million individuals between 2023 and 2028, representing an increase of 5.2%. Following nine consecutive years of growth, the indicator is expected to reach 230.85 million users in 2028, marking a subsequent peak. By 2024, the Indian smartwatch market might generate US$110.50m. It is anticipated to rise 6.43% annually (CAGR 2024-2028) to US$141.80m by 2028 which is higher than the world average (Statista,2023). Developments in smartwatch technology have brought about a significant transformation in numerous facets of human existence, encompassing communication and healthcare (Kamal Basha et al., 2022).

The objective of this research is thus to analyze the impact of perceived use and perceived usefulness on intention and recommendation for smartwatches and construct an ANN model that aids in evaluating the major factors contributing to recommendations for using smartwatches, taking into account the user's perception. This purpose can indeed be accomplished through the objectives as stated below:

1. To evaluate user perception through analyzing the effect of perceived ease of use, and perceived usefulness on user intention and recommendation for smartwatches.

2. To develop a structural and artificial neural network (ANN) model for analysing variables of perceived usefulness leading to the recommendation of smartwatches by the users.

Study Design/ Methodology

The study was placed in the Indian consumer market as it is an evolving market in the smartwatch industry. This study assessed the linkages among various constructs using Partial Least Squares Structural Equation Modelling (PLS-SEM), as it can analyse complex models (Qader et al., 2022) and examine intricate relationships by addressing endogeneity and factor indeterminacy (Akter et al., 2017). PLS-SEM is a statistical technique used to analyse structural equation models, particularly when confronted with complex relationships among latent variables. We further assessed the perceived usefulness of the smartwatch through additional analysis and the application of the ANN method.

The study examines how perceived ease of use and perceived usefulness affect smartwatch purchase intention and recommendation. The model is analyzed by evaluating its validity and reliability statistics and by studying the structural model to find relationships.

Findings

The primary achievement of this study lies in its effective identification and incorporation of perceived usefulness variables in relation to the recommendation of smartwatches. While user acceptance studies have traditionally focused on the cognitive and rational evaluation of technology, there is a growing recognition that product functionality in the form of usefulness also plays a significant role in determining intention and recommendation. Wearable devices are not just practical tools, but also items that provide self-comfort. An important practical application of this search is that equal importance should be given to both the engineering (such as cognitive and technological factors) and design (such as affective and aesthetic components) to create a user experience that is more easily accessible and unobtrusive (Defeo, 2013). This study utilized the TAM framework to show that PEOU, PU, and Intention are important predictors of user recommendation of smartwatches. This extends the applicability of TAM to the setting of wearable computing. Nevertheless, the study's primary theoretical contribution is in its incorporation of usability (PE, PU), Intention, and recommendation components into a unified research paradigm. It is considered that TAM frameworks that include both the emotional and logical aspects of technology are more effective in explaining technology adoption than the original, unchanged TAM (Chun et al.,2012; Kim and Sundar,2014). The study also asserts the impact of perceived usefulness on the recommendation of smartwatches.

Originality and Contribution

This study utilizes a theoretical framework to examine the recommendation behavior of smartwatch users in India. The findings indicate that perceived usefulness plays a significant role in influencing customers' intention to purchase smartwatches and recommend them to others. Specifically, consumers perceive smartwatches as highly useful for health tracking purposes, making them valuable for monitoring and managing one's health. Employers can utilize smartwatches to promote and oversee employee wellness programs. Employers can enhance employee well-being, decrease absenteeism, and encourage healthier lifestyles by equipping staff with smartwatches that have health-tracking capabilities. Integrating new technologies into current systems and giving technical support to users may be necessary to implement smartwatches as health monitors. Managers should allocate resources towards training programs and establishing support infrastructure to facilitate the seamless integration and utilization of smartwatch technology. Organizations can examine the health data obtained by smartwatches to tailor marketing messages and services to individual customers. For instance, fitness centres can implement targeted promotional campaigns tailored to consumers' activity levels and fitness objectives, resulting in more effective marketing tactics and enhanced customer satisfaction. However, managers must thoroughly assess the consequences in terms of privacy, data handling, efficiency, and ethical concerns to optimize the benefits of these technologies while reducing potential drawbacks. Managers must also consider the ramifications of gathering and overseeing health data acquired via smartwatches.

Paper Code MDRC0200

Inventory Control Challenges in Pharmaceutical MSMEs: An Empirical Study of Operational Inefficiencies and Regulatory Constraints

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1. Purpose / Objective

The pharmaceutical sector in India is a crucial pillar of the economy, contributing to global healthcare supply and ensuring access to essential medicines. However, while large pharmaceutical firms leverage advanced Enterprise Resource Planning (ERP) systems and automated warehousing technologies, the Micro, Small, and Medium Enterprises (MSMEs) operating within this sector continue to face significant challenges in maintaining efficient inventory control systems. This research aims to identify, analyse, and evaluate the key operational inefficiencies and regulatory constraints affecting inventory management practices among pharmaceutical MSMEs in the western region of India, particularly across industrial clusters in Palghar, Boisar MIDC, and Tarapur.

The primary objectives of this study are:

1. To assess the current inventory control techniques adopted by pharmaceutical MSMEs, such as ABC analysis, EOQ, JIT, and Reorder Point (ROP) models.
2. To examine the operational inefficiencies—such as poor forecasting accuracy, lack of skilled manpower, and delayed procurement—impacting working capital and production continuity.
3. To evaluate the role of Good Manufacturing Practices (GMP) and regulatory compliance (FDA, CDSCO, Schedule M) in shaping inventory management behavior.

4. To propose a framework for integrating data-driven decision-making and digital inventory tools suitable for MSME-scale adoption.

The research is guided by the question: *"How do operational inefficiencies and regulatory constraints interact to affect inventory control performance and sustainability among pharmaceutical MSMEs?"*

2. Study Design / Methodology / Approach

This study follows a mixed-method empirical research design, integrating quantitative survey data with qualitative interviews to ensure triangulation and depth of understanding.

Sampling and Data Collection

The study population comprises 80 pharmaceutical MSMEs registered under the District Industries Centre (DIC) in Boisar MIDC and Tarapur MIDC (Palghar District, Maharashtra). Using a purposive stratified sampling technique, 52 MSMEs were selected, representing different sub-sectors such as bulk drug manufacturing, formulation units, and packaging. Respondents included inventory managers, production supervisors, and owners. Primary data was collected through a structured questionnaire comprising 25 items measured on a 5-point Likert scale (ranging from strongly disagree to strongly agree), covering areas such as inventory accuracy, procurement lead time, demand forecasting, compliance documentation, and wastage control. In addition, 10 semi-structured interviews were conducted with plant heads to understand how regulatory compliance impacts day-to-day inventory decisions.

Analytical Techniques: Data was analyzed using SPSS v26 for descriptive and inferential statistics. Reliability was tested using Cronbach's Alpha ($\alpha = 0.83$), indicating good internal consistency. Factor Analysis (PCA with Varimax rotation) was employed to identify key clusters of challenges. Hypothesis testing was done using multiple regression analysis to determine the strength of relationships between operational inefficiencies (independent variables) and overall inventory performance (dependent variable).

Qualitative data from interviews were thematically analyzed using NVivo, categorizing responses into operational, regulatory, and technological dimensions.

Conceptual Framework: The conceptual framework integrates two main pillars:

1. Operational Efficiency Factors: inventory forecasting, procurement cycle, manpower skills, and technology adoption.
2. Regulatory Compliance Factors: documentation burden, audit frequency, quality control sampling, and adherence to Schedule M norms.

These two dimensions collectively influence Inventory Control Effectiveness (ICE) measured through cost efficiency, lead-time reduction, and stockout frequency. The framework also introduces digital readiness as a moderating variable, hypothesizing that MSMEs adopting basic ERP or barcode systems experience less inefficiency under the same regulatory pressure.

3. Findings

The empirical findings reveal a multifaceted challenge landscape for pharmaceutical MSMEs, where operational and compliance pressures are intertwined rather than isolated.

a. Operational Inefficiencies

- Forecasting and Demand Planning: 68% of firms rely on manual forecasting, often based on managerial intuition or historical consumption rather than statistical models. This leads to frequent mismatches between production and sales orders.
- Procurement Delays: Approximately 57% of respondents cited supplier delays for critical APIs (Active Pharmaceutical Ingredients) due to import dependency, resulting in increased safety stock and working capital blockage.
- Manpower and Training: 71% of micro and small firms reported a shortage of trained inventory personnel familiar with scientific methods such as EOQ or ABC–VED matrixing.
- Technology Adoption Gap: Only 29% of respondents reported partial use of ERP systems, while the majority still depend on Excel-based or manual registers.

b. Regulatory Constraints

- Compliance Overload: MSMEs are required to maintain detailed batch manufacturing records, stability data, and quality control logs, increasing administrative burden.
- Inspection and Certification: 64% of respondents noted that inconsistent inspection timelines from the Food and Drug Administration (FDA) cause inventory disruptions.
- Storage and Expiry Management: Many firms struggle to maintain optimal temperature and humidity conditions, leading to product degradation and wastage, especially for heat-sensitive raw materials.
- Documentation Complexity: Firms with limited staff capacity face difficulties meeting the documentation requirements of Schedule M and CDSCO audits, often diverting resources from production to compliance management.

c. Statistical Insights: Regression analysis confirmed that operational inefficiencies ($\beta = 0.47$) and regulatory constraints ($\beta = 0.39$) both have significant negative effects ($p < 0.05$) on inventory control performance. Firms employing digital inventory systems showed relatively better outcomes, with 10–15% lower stockout frequency and 8% reduction in working capital blockage.

d. Thematic Insights: Interview data highlighted that MSMEs feel "overregulated yet under-supported." Many owners acknowledged that while compliance is necessary to maintain drug quality, the absence of digitized tools, training programs, and subsidized technology access limits their ability to sustain inventory efficiency under strict norms.

4. Originality and Contribution: This research provides one of the first empirical assessments specifically focusing on inventory control challenges in India's pharmaceutical MSME segment, a sector often overshadowed by studies on large pharmaceutical corporations or generic MSME manufacturing.

The study makes several unique contributions:

1. Sector-Specific Focus: By isolating pharmaceutical MSMEs as a distinct group, the research captures the dual challenge of managing perishable, high-value inventory under stringent quality regulations.
2. Empirical Validation: The use of quantitative and qualitative methods enhances the robustness of findings, providing statistically significant evidence on how inefficiency and compliance interact.
3. Policy Implication: The findings highlight a policy gap where regulatory compliance mechanisms do not scale proportionately to enterprise size. Recommendations include simplified documentation portals, periodic compliance training, and incentives for ERP adoption under schemes like Digital MSME and Pharma Vision 2030.
4. Practical Framework: The proposed "Operational-Regulatory Inventory Alignment (ORIA) Framework" provides a diagnostic tool for MSME managers to assess where inefficiencies originate—either from internal processes or external compliance demands—and design targeted interventions.
5. Academic Extension: The research extends existing inventory management models (EOQ, JIT) by embedding them within the compliance context of a regulated sector, offering a theoretical bridge between operations management and regulatory studies.

Paper Code MDRC0202

Impact on Market Efficiency due to Sudden Political Crisis: A Case Study Of India

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Abstract

Purpose: This paper attempts to explore the level of market efficiency due to the sudden political crisis in the Indian stock market from January 1, 2025, to June 30, 2025. Unlike, earlier literature where researchers have dealt with the moderate frequency data (daily, weekly and monthly) and concluded that Indian market is inefficient (Elangovan et al., 2022; Das, 2020; Mehla & Goyal, 2012; Nisar & Hanif, 2012), in this paper, we have chosen very high frequency data as the stock market is very sensitive and analysing with the high frequency data may throw some more light on this issue.

Methodology: Very high-frequency data (1-minute closing price) of the Nifty 50 index is used as a proxy for the Indian Stock market. The whole period is divided into two sub-samples: Sub-sample 1 (from 1st January, 2025 to 28th March, 2025) and Sub-sample 2 (from 1st April, 2025 to 30th June, 2025). The reason to separate the whole sample period into two sub-sample periods is various global as well as national incidences that took place during the sub-sample 2 period (from 1st April, 2025 to 30th June, 2025). Some of these prominent national and international incidents are- (i) announcement to impose reciprocal tariff by the US Government on India on 2nd April 2025, (ii) a tragic terror attack in India on 22nd April 2025, (iii) and the measures taken by the country etc.

Various statistical tests are used for the analysis. These include descriptive statistical tests to understand the characteristics of return (log natural) series, the Run test, the most commonly used test to detect randomness in return series. The Random Walk model and the ARCH model are used to forecast trending volatility in residual series. During the sub-sample period 2 mean return (0.000374) and volatility (0.0521) are comparatively higher than those of sub-sample period 1 (-0.0000282) and (0.0388). The return series is not normally distributed in both the sub-periods (p-value of Jarque-Bera 0.000). As the return series are not normally distributed, we have selected the Run test, a non-parametric test, to find out the randomness. The result of the Run test depicts that the return series for both the sub-sample periods are random, as p-values are 0.624 (Subsample 1) and 0.874 (Subsample 2).

Furthermore, at first, the Random Walk model and then the ARCH model (Bollerslev et al., 1992) are used to forecast the current volatility based on the past errors to gain more clarity and confirmation. The p-value of the ARCH model is below 0.05 during sub-sample period 1, which indicates the presence of heteroskedasticity in the residual series. The variance equation of the ARCH

model is $[\mathbf{h_{t} = 0.001 + 0.436\ \mu^{2}_{(t-1)}}]$ (p-value 0.000). It means that current volatility is predictable and can be explained by 43.6% of the past error.

In sub-sample period 2, the p-value of the heteroskedasticity test (ARCH) of the residual series on the Random Walk model is above 0.05, which indicates the presence of homoskedasticity. The absence of heteroskedasticity in the return series asserts the non-existence of volatility clustering during this period. The mean of the residual series of the Random Walk model is 0.006, which is close to zero. The p-value of the Autocorrelation test on the residual lag series is 0.112, which also confirms the absence of correlation between the immediate lag value (no correlation up to five lags). These satisfy all the necessary conditions of a purely random series or a white noise process (Gujarati & Porter, 2009). This asserts the presence of a weak form of efficiency. Therefore, it is impossible to predict the current volatility based on the past residual series during the subsample period 2. It affirms that the Indian stock market is more efficient during the subsample period 2 as compared to subsample period 1.

Findings: The results of the descriptive statistics indicate that the mean return and volatility are comparatively higher in sub-period 2 than the sub-period 1 in the Indian market. Though the result of the Run test confirms the presence of randomness in both periods, the presence of the ARCH effect violates the assumption of randomness during the subsample period 1. It can be concluded that the Indian market is more efficient during sub-period 2 compared to sub-period 1. As one can predict the current volatility based on the past residual series during the subsample period 1, and can earn an abnormal return from the market. The absence of ARCH effect and serial correlation among residual series of the Random walk model indicates that there is no possibility of predicting current volatility based on the past residual series during the subsample period 2, which eliminates the scope for abnormal gains. This raises a question: ‘Does domestic/ global turmoil increase the level of market efficiency?’ This needs more in-depth study.

Originality and Contribution: The study mainly focuses on the efficiency level of the Indian market in the sudden occurrence of a political crisis from January - June 2025. Policy makers will get some valuable insights from this paper about the dynamics of the market and in turn it will help to frame the economic policies caused by a sudden political crisis accordingly. The investors, on the other hand, can take advantage to gain abnormal profit when the market is inefficient.

Paper Code MDRC0203

Machine Learning Technique for Skin Lesion Analysis and Melanoma Cancer Detection

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Abstract

Cancer is a leading cause of morbidity and mortality worldwide now a days. Artificial Intelligence technology used to predict and automate many type of cancer has emerged as a very positive option for improving healthcare accuracy and patient outcomes. Machine Learning is a subset of AI which allow computer to learn from training or label data to predict various types of cancer, e.g. skin cancer, breast cancer, lung cancer, etc. This project goal is to detect skin lesion which include benign, malignant, non-melanocytic, and melanocytic tumors images to find out it in prior level which make it easier to treat well. Not only in cancer but also AI and MI can be used in other medical field also.

Melanoma is a malignant form of skin cancer that contributes significantly to global cancer-related mortality. Early and precise detection is crucial for effective treatment and improved patient survival. In this study, a hybrid deep learning framework is proposed for automated melanoma detection by integrating Residual Neural Network (ResNet) and MobileNetV2 architectures. The dataset used comprises dermoscopic images collected from publicly available repositories such as the ISIC (International Skin Imaging Collaboration) dataset.

Our methodology involves the creation of a comprehensive data set comprising images of healthy and diseased skin cancer. Using this data set, we employ machine learning algorithms to train a model capable of recognizing patterns and features associated with various cancerous diseases. The trained model, once validated, can analyze fresh images and can detect whether it is cancerous or not.

Paper Code MDRC0205

Optimization of Battery Swapping Operations with Health-Based Charging and Dynamic Demand

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Purpose / Objective- The rapid adoption of electric mobility in urban India has intensified the need for robust and responsive charging infrastructure. Conventional plug-in charging stations, despite growing deployment, continue to suffer from operational drawbacks such as long waiting times, grid congestion, and spatial constraints. These challenges limit the scalability of plug-in charging models. Battery Swapping Stations (BSS) have therefore emerged as a promising alternative by enabling instant energy replenishment through the exchange of depleted batteries with pre-charged units. This substantially reduces downtime for users while offering operators the flexibility to schedule charging during off-peak periods.

However, most operational models of BSS in existing literature assume homogeneous battery conditions, uniform charging times, or simplistic representations of demand. Such assumptions overlook a fundamentally important aspect of lithium-ion batteries, i.e., heterogeneity in State-of-Health (SoH). Returned batteries at different stages of degradation have different charging requirements, thermal sensitivities, and useful lifespans. Treating all batteries identically creates inefficiencies in charging schedules, accelerates degradation, and can increase operational costs. Moreover, real-world BSS demand patterns are not constant or uniform; instead, they exhibit pronounced peaks corresponding to commuting cycles. Failure to account for this temporal variability limits the applicability of idealized models.

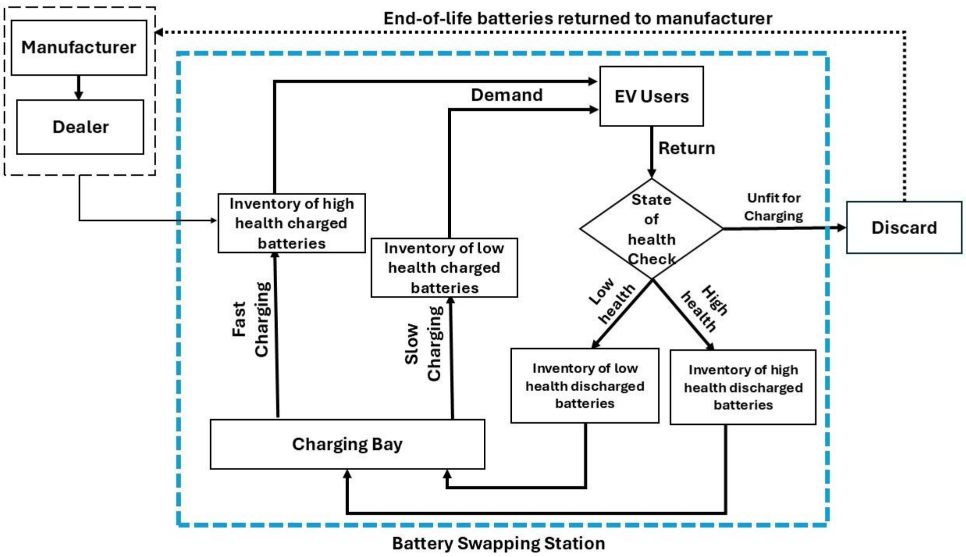

Figure 1: Model Flow

To address these gaps, the present study develops a comprehensive inventory optimization framework for a single BSS operating under dynamic, double-peaked demand, partial returns, bat-tery deterioration, and SoH-driven charging strategies. The model identifies optimal time thresh-olds at which the station transitions between slow and fast charging cycles for low and high SoH batteries respectively, while also allowing shortages and partial back-orders to reflect practical operating conditions. The objective is to minimize the total operational cost per unit time while maintaining service reliability, supporting battery longevity, and aligning operations with sustain-ability considerations.

Methodology / Approach- The study constructs a continuous-time, multi-stage inventory system that traces the evolution of four distinct battery pools: charged low-SoH, charged high-SoH, returned low-SoH, and returned high-SoH batteries. This structure captures the full battery flow within a swapping cycle, from arrival and inspection to charging, storage, allocation, and final delivery to users.

A double-humped Gaussian function is used to represent daily demand, capturing the typical morning and evening mobility peaks observed in Indian metropolitan areas. Returns are modeled as a fraction of demand to reflect occurrences where users retain batteries temporarily or delay returns. Upon arrival, each battery undergoes a mandatory inspection, after which it is classified into low or high SoH categories. A small fraction of batteries that exhibit excessive degradation are deemed end-of-life and redirected to manufacturers for recycling or second-life deployment, thus preserving circularity.

Charging decisions are explicitly tied to SoH. Low-SoH batteries are routed to slow chargers, thereby reducing thermal and electrochemical stress while prolonging usable life. High-SoH bat-teries, by contrast, are directed to fast chargers to ensure quick replenishment and high throughput. The inventory for each SoH category cycles through four phases: backlog recovery, build-up, de-pletion, and shortage. This cyclic behavior reflects realistic station operations, where periods of excess and scarcity naturally arise due to fluctuating demand and finite charging capacity.

A system of differential equations models the evolution of inventory levels over time. The model also integrates a comprehensive set of cost components, including inspection cost, holding cost for charged and returned batteries, charging and carbon costs, back-order penalties, lost-sales penalties, and charger setup costs.

The resulting optimization problem is reformulated into an unconstrained minimization with respect to total returned quantity Q. A numerical solution approach is employed, using parameter values calibrated to real BSS configurations in India. This enables practical insights into how charging strategies and SoH-based inventory control affect operational costs.

Key Findings- The optimized solution reveals that the daily operating cycle stabilizes at approximately 22.9 hours, a duration that closely matches a conventional 24-hour period. The optimal number of returned batteries is $Q \approx 355$, aligning with typical daily swapping volumes for a medium-capacity BSS in an urban setting.

The model indicates that charging for low-SoH batteries should begin immediately at the start of the cycle, with no benefit to delaying slow charging. This phase lasts approximately 5.5 hours, after which the inventory of low-SoH charged batteries naturally depletes. A controlled shortage window follows, reflecting the realistic possibility of temporarily unmet demand. Fast charging for high-SoH batteries is then initiated, lasting about 4.5 hours, and continues until the inventory once again reaches a depletion threshold near the end of the daily cycle.

A key insight is that carbon and charging costs constitute the dominant portion of operating expenses, especially in regions dependent on fossil-fuel-based electricity. Health-based charg-ing significantly reduces battery degradation, thereby avoiding premature retirement and lowering long-run replacement costs. The alignment of charging schedules with demand peaks ensures that the station maintains service reliability while optimizing resource utilization.

Originality & Contribution- This study offers several novel contributions: (1) It is among the first to incorporate real-time battery health into both inventory and charging decisions in a BSS context. (2) It simultaneously models dynamic demand, partial returns, and deterioration factors. (3) It allows for shortages and partial back-orders, thereby bridging the gap between theoretical models and real operational behavior. (4) It explicitly includes carbon costs, highlighting the interplay between environmental performance and operational efficiency. (5) It provides a unified modeling framework that draws from inventory theory, battery health, and sustainable mobility systems.

Implications- The findings expand theoretical work on deteriorating item inventory systems and open several avenues for future inquiry, such as the optimization of multi-station networks, spatial routing of swapping vehicles, and capacity planning for mixed charger configurations. For policymakers, the model underscores the importance of designing time-of-day tariffs and incentives for renew-able power procurement. For managers and operators, the model offers actionable guidelines for scheduling charging operations, minimizing shortages, and extending battery life, thereby improv-ing both cost efficiency and customer satisfaction.

Conclusion- By integrating real-time battery health, dynamic demand variation, and carbon-linked charging costs into a unified optimization framework, this study demonstrates how BSS operations can be made more efficient, reliable, and environmentally responsible. The model provides clear, implementable guidelines for scheduling charging activities and managing SoH-based inventories. Fu-ture extensions may incorporate predictive analytics, renewable-energy coupling, vehicle-to-grid (V2G) integration, and multi-station optimization to further enhance the scalability and sustain-ability of battery swapping ecosystems.

Paper Code MDRC0206

Machine Learning–Enhanced Genetic Algorithm for Portfolio Optimization in India's APY Pension System

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Abstract

This study develops an advanced optimization framework to determine the most efficient asset allocation for India's Atal Pension Yojana (APY), a hybrid defined-benefit pension scheme. Using annual return data from 2012–2024 across the five PFRDA-mandated asset classes, the research formulates a constrained non-linear portfolio optimization model designed to maximize risk-adjusted returns while ensuring strict regulatory compliance. To address the non-convex and high-dimensional structure of the allocation problem, a hybrid Genetic Algorithm–Machine Learning approach is employed, where a Random Forest model functions as a surrogate to enhance search efficiency and solution accuracy. The hybrid framework demonstrates improved capability in identifying stable, robust, and efficient portfolio allocations compared with conventional optimization techniques. The findings offer evidence-based insights for strengthening fund sustainability and enhancing long-term return performance within defined-benefit pension systems.

Keywords: Pension fund optimization; Genetic Algorithm – Machine Learning (GA - ML) Algorithm; Asset allocation; Atal Pension Yojana (APY)

Paper Code MDRC0208

Green Supply Chain Management Research: A Bibliometric and Systematic Review

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Abstract

Green Supply Chain Management (GSCM) has emerged as an important approach for integrating environmental considerations into procurement, production, logistics, and reverse supply chain activities. Although the global GSCM literature has expanded considerably, research in the Indian context remains fragmented, with limited synthesis of its intellectual structure, thematic evolution, and research maturity. This study addresses this gap by providing an India-specific bibliometric and systematic review of GSCM research. Bibliometric analysis was conducted using 374 Scopus-indexed publications covering the period 2005–2025, identified through a structured screening and filtering

process. The dataset comprises 183 sources, 813 authors, 1,036 author keywords, and 2,704 references, with an annual publication growth rate of 21.72%.

The findings indicate a substantial growth in Indian GSCM research, particularly after 2015, with considerable emphasis on green supply chain practices, sustainability, environmental and business performance, supplier selection, and green manufacturing. Keyword co-occurrence and thematic analyses further reveal an evolving research landscape, moving from barrier identification, supplier selection, and decision-making models such as ISM, MICMAC, and AHP toward sustainability integration, circular economy, digitalization, artificial intelligence, blockchain, and technology-enabled supply chains.

The study also identifies influential authors, institutions, journals, and thematic clusters shaping Indian GSCM scholarship. Overall, the findings suggest a maturing but evolving research ecosystem, while highlighting the need for greater empirical validation, industry-specific applications, interdisciplinary research, and implementation-oriented studies. The review provides a structured foundation for researchers, practitioners, and policymakers and proposes directions for strengthening future GSCM research in India.

Keywords: Green Supply Chain Management; Sustainable Supply Chain; Bibliometric Analysis; Systematic Review; Sustainability; India; Circular Economy; Supply Chain Management.

Paper Code MDRC0251

Hybrid Work and the New World of Talent: Strategies for a Changing Workforce
The Future of Work: Rethinking Talent Strategies in the Age of the Hybrid Workforce

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Purpose / Objective

The objective of this paper is to explore how the evolution of hybrid work models is transforming talent management strategies in the modern workplace. It seeks to understand how organisations can effectively balance flexibility, technology integration, and human engagement to sustain productivity and well-being. Drawing on recent academic and professional literature, the paper aims to identify how leadership, organisational culture, and workplace design can adapt to the post-pandemic hybrid era to build resilient, inclusive, and performance-driven workforces.

Study Design / Methodology / Approach

This research follows a literature review methodology, integrating multidisciplinary findings from organisational psychology, human resource management, and design studies. It synthesises insights from Choong (2024) on socio-technical frameworks of hybrid work, McDonald (2023) on architectural and environmental design principles for hybrid workplaces, and Pal (2021) on virtual employee engagement strategies. The review categorises findings into three key dimensions: (1) the structural evolution of hybrid work; (2) the psychological and cultural foundations of employee engagement in hybrid contexts; and (3) emerging trends in digital talent strategies. Sources were selected from peer-reviewed journals, industry white papers, and organisational reports published between 2016–2024, ensuring theoretical and empirical balance.

Findings

The literature consistently identifies hybrid work as a socio-technical transformation blending human adaptability with digital infrastructure. Choong (2024) demonstrates that hybrid work has evolved beyond emergency adaptation to a sustainable, human-centered model emphasizing flexibility, inclusivity, and autonomy. Around 27% of global full-time employees now operate in hybrid systems, reflecting a permanent shift in organisational dynamics. Studies grounded in socio-technical systems theory suggest that technological readiness must align with psychological safety and social cohesion for hybrid models to succeed.

Employee engagement remains central to this transformation. Pal (2021) highlights that virtual environments require redesigned engagement strategies focusing on communication, trust, and recognition. Challenges such as isolation, digital fatigue, and inequitable access to technology can reduce motivation and performance. Conversely, McDonald (2023) shows that adaptive workplace design—emphasizing biophilic, flexible, and activity-based environments—can counteract these issues, supporting collaboration and well-being. The intersection of physical design and organisational empathy forms a holistic framework for hybrid work success.

Talent strategies are shifting from hierarchical and task-based structures toward agile, skills-based models. Capelli and Tavis (2018) argue that continuous learning, adaptability, and cross-functional collaboration are vital for workforce resilience. Deloitte (2023) and PwC (2022) find that organisations investing in upskilling, leadership empathy, and flexible policies report improved retention and innovation. Gratton (2021) further emphasizes that intentional design and leadership trust underpin effective hybrid work cultures. Hence, hybrid workforce strategies demand integrated approaches uniting technology, empathy, and continuous learning.

Originality and Contribution

This review contributes by integrating behavioural science, human resource management, and workplace design to present a unified understanding of hybrid work as both an architectural and strategic transformation. Unlike prior studies focusing on either digitalisation or HR practices, this paper combines insights from psychology, design, and management to establish an actionable framework for talent strategy in hybrid contexts. The originality lies in framing hybrid work as a long-term organisational evolution rather than a pandemic response, highlighting leadership empathy, employee empowerment, and design innovation as the cornerstones of sustainable hybrid ecosystems.

Keywords: Future of Work; Hybrid Workforce; Employee Engagement; Talent Strategy; Digital Transformation; Organisational Culture; Leadership; Flexibility; Workplace Design; Socio-Technical Systems

Paper Code MDRC0252

Bridging Servant and Academic Leadership through the Conservation of Resources Theory: A Comprehensive Review and Research Agenda

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Abstract:

This review examines the relationship between Servant Leadership (SL) and Academic Leadership (AL) through the perspective of Conservation of Resources (COR) theory. It investigates effective leadership styles within higher education institutions (HEIs), highlighting academic leaders' challenges and the relevance of SL principles. The study identifies critical gaps by synthesizing current literature and introduces a conceptual framework that combines SL traits with AL dimensions, influenced by organizational climate and employee empowerment. The results emphasize SL's vital role in promoting collaboration, empowering faculty, and strengthening institutional resilience. This work presents a new theoretical framework for leadership development in HEIs and proposes research ideas for empirical testing. The study offers significant practical insights for academic professionals aiming to navigate the changing educational environment with effective leadership strategies.

Methodology/Approach/Design: This literature review study is an attempt to introspect the philosophy, phenomena, and principles of leadership styles to emphasize their applications in the contemporary academic environment. Each section ends with an understanding of the current problems and possible solutions from the research world. In the end, the study presents appropriate research propositions and a theoretical model that connects the dimensions of academic leadership style with servant leadership traits with appropriate moderators and mediators. The application of conservation of resources theory has been thoroughly checked with the help of past research studies.

Findings: The study identifies research gaps between Academic Leadership Styles (ALS) and Servant Leadership (SL) and presents a framework for a research agenda. Key findings emphasize the necessity of adapting servant leadership dimensions for effective academic leadership in higher education institutions (HEIs) and a deep understanding of the roles played by organizational climate, employee empowerment, and personal resources in facilitating this adaptation.

Research Limitations: This research encompasses articles released from 2000 to 2023, focusing on academic and servant leadership styles.

Practicality: The study is intended to help any academic professional who aspires to become an effective leader in an educational environment. It helps them understand the trends and theoretical knowledge regarding leadership styles that they need to acquire.

Originality/Value: The research presents a novel approach within its chosen scope, introducing a unique theoretical model to the educational sector. Additionally, this model can be empirically evaluated and tailored for use in academic settings.

Paper type: Conceptual

Keywords: Academic Leadership (AL), Servant Leadership (SL), Conservation of Resources Theory (COR), Higher Education (HE).

"In traditional leadership, people often focus on whether followers trust their leader. However, a deeper and more meaningful question is: Does the leader trust and believe in their followers?" (Gardner, 1990)

Paper Code MDRC0253

An Empirical Investigation into the Integration of Sustainable Human Resource Management and Learning & Development in boosting organizational performance in the Indian IT Sector

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Abstract

This research delves into a compelling dynamic within India's IT sector: the powerful synergy between Sustainable Human Resource Management (SHRM) and Learning & Development (L&D). Grounded in the Resource-Based View and Human Capital Theory, this study proposes that SHRM practices are not just ethical choices but strategic ones that cultivate a rich soil for a sustainability-oriented learning culture. This culture, in turn, becomes a primary driver of enhanced organizational performance. Using a quantitative survey of 250 IT professionals and Structural Equation Modeling, we investigated this relationship. The findings are clear: SHRM practices exert a strong, positive influence on L&D initiatives. More importantly, L&D plays a significant mediating role, acting as the crucial conduit through which much of SHRM's impact on performance is realized. This partial mediation model explains a substantial portion of performance variance, offering a powerful theoretical and practical lens. For leaders, this research provides a compelling blueprint: integrating compassionate, forward-thinking HR with strategic learning investments is a verifiable pathway to building a resilient, innovative, and high-performing organization.

Keywords: Sustainable Human Resource Management (SHRM), Learning and Development (L&D), Organisational Performance

Paper Code MDRC0255

On Spirituality and Mindfulness: The Context of Indian Knowledge Systems (IKS)

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Abstract

The advocacy of Indian Knowledge Systems (IKS) majorly imbibes sustainability and development and put simply as *satat vikas* or sustainable development. The connectedness of IKS and SDGs (Sustainable Development Goals) at the global level throws a major light on the fact that writings/readings and knowledge in totality from the past have a significant reflection upon the present. India being a multicultural, multilingual and a country with multiple religions holds within itself a terrain of arts, architecture, culture, language, literature and beyond. The objective of this paper is to revisit a significance of spirituality and mindfulness in India through a reading of Sri Aurobindo's writings who writes extensively on them amongst other subjects. The research methodology used is descriptive and analytical method. In this context, this paper seeks to address few central questions: How is religion and spirituality connected with each other? How a study of religious art and architecture promotes IKS? How do IKS and SDGs connect with each other in the Indian context? As discussed above, spirituality and religion are interconnected in the Indian context to a great extent. However, spirituality goes beyond religion. In this light, Aurobindo argues that spirituality is not only larger than a major aim of human existence but the significance of it implies an entire humanity based on various spiritual connotations. Spirituality goes above and beyond religious worshipping, symbolism, images, forms and facts and more. Indian culture to its deepest level of spirituality may be understood through attainment of an eternal religiosity or what is known as *Sanatana dharma*. The differences between west and India in terms of religions imply a deep study of philosophical connotations of a spiritual life. The religion in west majorly revolves around intellectual approaches written, read, orally narrated and more. The notion

of religion in the west is more logical. However, Indian minds have gone beyond towards the philosophical attainment of soul and spirit of a human body. Religion in India necessitates a belief to a deep conscious level, preparing oneself towards reaching inner consciousness of spirit, wherein spiritual knowledge is treated as infinite and a space to grow and develop a human body through a disciplined socio-religious life. Spirituality creates a feeling of oneness amongst all strata. The feeling that there is an Absolute entity, binds the spiritual self. A human-environment relationship emerges with an advent of Eternal/Absolute. A human feels his soul and brings himself/herself close to nature and beyond. The existence of a Supreme is a Truth in Indian religion. In a belief towards spirituality, realizing one's self equals realizing one's God. The existence of humanity and nature is derived through essence of a God and removal of this essence will imply removal of entire eco-humanism. Aurobindo considers *Maya* (spirit), *Prakriti* or *Shakti* (power of nature) and *Jiva* (soul) as three truths guiding religion in India. The essence of spirituality in Indian culture is such that it guides an entire existence of human beings. Spiritual culture in India provides it a unique identity from the rest of the world. The idea of *Maya* (spirit) and *Lila* are familiar not only to the monks in India but also to the common crowd through various poems and proses, old tales and more. In India, it may be observed that even less religious individuals are close to a reality of spirituality in existence. The forces which guide spiritual consciousness are *Maya, Prakriti, Shakti* or *Karma*. For a number of devotees in India, religious symbolism is not *Maya* or illusion but a Truth or *Satya*. The *svabhava* (behaviour) of a human guides him towards *adhikara* (right) of attaining the conscious level of spirituality. The aim is to break the barrier of ignorance and reach the level of a Divine within oneself. The essence of spirituality seeks to develop a connection between human and God. For Aurobindo, being mindful is only the first step towards knowledge. His approach of knowledge moves towards a state of not just a state of consciousness but a state of supramental consciousness which will gain global knowledge in totality. He explains the evolution of a human from a subconscious to a conscious mind. Drawing upon teachings from the Veda, a Supermind may be experienced which imbibes consciousness with being truthful. Spirituality carves a human of knowledge above the state of mindfulness. The power of consciousness or what may be termed as *chit shakti* involves a conscious mind as one of the components and includes a conscious eye which observes colours (invisible to a subconscious or an unconscious mind) and a conscious hearing which may be inaudible otherwise. A sense of a physical world may be challenged by the existence of world of imaginations which our mind creates, a world where souls meet each other creating a psychic world. These are often world of our own and may not be observed by the world physically. The differentiation of physical from the imaginary is what makes a human achieve a state of mindful consciousness. It is not only the mind that guides our being but Yoga explains different forms of nature that makes us sense and feel knowledge and these natural forces often go beyond physical explanations. Aurobindo defines inner mind and outer mind as two states of being. Outer mind imbibes feelings of a body being conscious and inner mind is what brings about change in personalities of a human. Meditation or *sadhana* provides *sadhak* with a better vision of his/her inner domains of life and feelings. Environmental consciousness is what brings about pleasures, desires in the mind and body of an individual. Nature or *prakriti* defines adaptations of worldly knowledge by an individual. A certain sense of material consciousness brings upon darkness of character or *tamas* which may be erased by what is known as *Ananda* or happiness imbibed in spirituality of mind, soul or body. A larger *satya* truth of knowledge is found by maintaining the practice of yoga in totality. The mind defines cognitive capabilities of a human being and may be categorized into three – thoughtful which entails knowledge, dynamic in nature with each new realization of mental abilities, and externally imbibed with expressions of a human. A mechanical mind is accustomed to function in certain specific manners. A complete knowledge of one's divine self brings an individual at a stage of his/her central being or *Jivatman*. This stage of *Jivatman* helps an individual attain a certain sense of spirituality. The central or *Jitvatman* can be categorized into three parts of one's being – mental being or *manomaya purusa*, vital being or *pranamaya purusa* and physical being or *annamaya purusa*. In totality, *Jivatman* defines a significant part of self or *Atman*. A soul or *Atma* of *Jiva* or self grows into what is known as psychic being or *caitya purusa*. Intuitive consciousness comes in the form of a range of emotions of the self or *Jiva*. A stage of supermind only captures *satya* or truth of knowledge. The stage of overmind is in close contact with an aspect of what is known as ignorance. *Sachchidananda* talks about *sat* (being), *chit* (consciousness) and *ananda* (happiness of existence of self) defining modes of self or *Jiva*. A higher nature will evolve as *daivic* or divine and put an end to *Asuro-Rakshaso-Pishachic prakriti* or nature. This will be an ultimate state of supramental evolution of self or *Jiva*.

Keywords: Indian Knowledge Systems; Mindfulness; Spirituality; Sri Aurobindo; Sustaina

Paper Code MDRC0256

Managing Employee Well-Being and Sustainability: Enhancing Work Performance in the IT Sector

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Abstract

Employee well-being is a critical factor in the IT sector, directly influencing work performance, job satisfaction, and organizational productivity. Through a combination of literature review and case studies, this research identifies key strategies for enhancing employee well-being and fostering a positive work environment in the IT industry. It also tries to understand that how important wellbeing initiatives are for an employee is. In the context of employee wellness in particular, technology-facilitated wellness initiatives have gained momentum as organizations work to promote their employees' quality of life in the workplace while also pursuing sustainability initiatives. Wearable devices, AI-driven health apps, and mobile wellness platforms are digital tools that promote personalized health assessments and behavioral interventions, all of which lead to better physical and mental health. In addition to a healthier workforce, these solutions promise increased productivity, cost savings, and an opportunity to drive Corporate Social Responsibility (CSR) goals. However, technostress, digital divide, and data privacy remain contentious issues that complicate equitable and sustainable implementation. Considering these aspects, this review aims to relate the existing body of knowledge regarding employee wellness, digital technologies and organizational sustainability. This shows the need for a system that adopts a holistic and inclusive approach to avoid pitfalls in the concept of digital wellness programs. Some of these are accessibility, responsible data handling, and strategic alignment with organizational goals. Although the initial results are promising, significant gaps remain in research, particularly regarding the long-term effects of these interventions on employee engagement, retention, and business performance. The study also suggests a conceptual typology and provides focused recommendations for future research and real-world implementation. It requires systematic, longitudinal studies that track sustained changes in behavior, changing employee sentiments, and longer-term organizational outcomes such as innovation, performance, and financial return. This knowledge contributes to improving wellness programs to address diverse employee needs and encourage a culture of well-being that is crucial for long-term, nourished success in the digital age.

Keywords- Corporate Social Responsibility (CSR), Digital age, Employee engagement, Employee wellness, Organizational sustainability, Technology-facilitated wellness

Paper Code MDRC0257

Culture Eats Engagement for Breakfast: Exploring How Organizational Culture Fuels or Destroys Employee Engagement

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Abstract

Purpose

Organizational culture is an unseen yet influential framework of shared meanings, values, and assumptions that directs employee actions and shapes the life of an organization (Schein, 2010). It serves as the social framework through which strategy is implemented, and where employee engagement either thrives or falters. Despite organizations investing heavily in designing engagement initiatives, they frequently neglect the cultural context that can either support or weaken these efforts. This study empirically examines whether “culture eats engagement for breakfast,” expanding on Peter Drucker’s well-known statement about strategy, by investigating how culture can both drive and hinder

employee engagement. Employee engagement a positive, fulfilling work-related state marked by vigor, dedication, and absorption (Schaufeli et al., 2002) is now regarded as essential for competitive advantage and employee well-being. However, global data continues to reveal disengagement as a widespread issue, with only 21% of employees actively engaged worldwide (Gallup, 2023). The gap between engagement strategies and their outcomes indicates that organizational culture, rather than HR programs alone, determines whether employees feel psychologically connected and motivated at work. Drawing on Schein's (1985) three-level model of culture, Denison's (1990) organizational culture framework, and Kahn's (1990) engagement theory, this paper combines cultural and psychological perspectives to explain engagement dynamics. Schein highlighted that culture functions at three levels artifacts, espoused values, and underlying assumptions which together establish behavioral norms. Denison (1990) identified four essential cultural traits of effective organizations: involvement, consistency, adaptability, and mission. Kahn (1990) conceptualized engagement as reliant on three psychological conditions meaningfulness, safety, and availability. This study links these frameworks, suggesting that culture shapes these psychological conditions and thus determines employee engagement levels.

Design/methodology/approach

A quantitative, cross-sectional survey approach was utilized to examine how cultural characteristics affect employee engagement in various organizational environments. The study gathered data from 310 participants working in the manufacturing, IT, and healthcare industries in India, encompassing both public and private sectors. A stratified random sampling technique was used to ensure that different job levels, such as middle managers, technical experts, and administrative personnel, were adequately represented.

Measurement Instruments:

Organizational Culture: Evaluated through the Denison Organizational Culture Survey (DOCS), which assesses four key areas involvement, consistency, adaptability, and mission (Denison & Mishra, 1995). Employee Engagement: Assessed with the Utrecht Work Engagement Scale (UWES-9) created by Schaufeli et al. (2006). Perceived Organizational Support (POS): Evaluated using the 8-item scale by Eisenberger et al. (1986). Trust and Communication Openness: Measured with items adapted from Mishra (1996) and Clampitt & Downs (1993). All items utilized a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Data reliability was confirmed with Cronbach's alpha ($\alpha > 0.80$). The analysis employed SPSS 26 and AMOS 24 for confirmatory factor analysis (CFA), regression analysis, and Structural Equation Modeling (SEM). Mediation and moderation effects were examined using the methods of Baron and Kenny (1986).

Hypotheses:

H1: Organizational culture positively influences employee engagement.

H2: Cultural traits of involvement and adaptability significantly predict engagement.

H3: Perceived organizational support mediates the culture engagement relationship.

Findings

Descriptive and Reliability Results:

All measurement scales showed satisfactory reliability, with α values ranging from 0.82 to 0.91. The average engagement score was 3.74 with a standard deviation of 0.62, indicating that respondents generally experienced moderate to high levels of engagement. The cultural dimensions of involvement and adaptability received the highest ratings, with means of 3.89 and 3.81, respectively, suggesting that environments fostering participation and learning boost engagement. In contrast, the dimension of consistency had the lowest score at 3.42, indicating that inflexible structures and excessive bureaucracy may limit engagement potential.

Correlation and Regression Analysis:

The relationship between organizational culture and engagement was found to be strongly positive, with a correlation coefficient of 0.68 ($p < 0.01$). The regression analysis indicated that both involvement ($\beta = 0.34$, $p < 0.001$) and mission ($\beta = 0.28$, $p < 0.01$) were significant predictors of engagement. In contrast, consistency ($\beta = –0.19$, $p < 0.05$) had a notable negative impact. This implies that cultures characterized by participation, a clear purpose, and adaptability enhance engagement, whereas those that are bureaucratic and focused on control diminish it.

Mediation and Moderation Effects:

SEM findings demonstrated that perceived organizational support partially mediated the relationship ($\beta = 0.23$, $p < 0.01$), suggesting that employees in supportive environments experience greater engagement. Furthermore, the connection was moderated by trust and open communication ($\beta = 0.31$, $p < 0.01$). In cultures characterized by high trust, the positive impact of culture on engagement was enhanced, whereas in low-trust settings, engagement significantly diminished.

Research limitations/implications

The cross-sectional nature of this study limits the ability to draw causal conclusions. Since the data were self-reported, there is a risk of common method bias and social desirability bias. Future research should explore longitudinal or mixed-method designs to examine how cultural changes impact engagement over time.

Theoretical Implications:

The research enhances the connection between cultural and engagement studies by empirically associating Denison's (1990) culture model with Kahn's (1990) engagement theory. It illustrates how cultural characteristics affect the psychological conditions of meaningfulness and safety that are fundamental to engagement. Furthermore, recognizing perceived organizational support as a mediator bolsters social exchange theory (Blau, 1964), suggesting that employees reciprocate organizational care with increased engagement.

Practical implications

In short, engagement is not a program it is a cultural outcome. To sustain engagement, organizations must build environments where employees feel valued, trusted, and aligned with shared goals. This study highlights for professionals that engagement efforts are unsuccessful when they lack cultural alignment. To foster engagement, it is essential to integrate supportive values into the organization's fundamental operations. Managers and HR experts should: Boost participation and empowerment by involving employees in decision-making processes. Clearly define the organization's mission to establish purpose and alignment. Promote adaptability and learning to enhance agility in rapidly changing environments. Eliminate bureaucratic obstacles that hinder creativity and autonomy.

Originality/value

This research is one of the pioneering efforts to empirically investigate the metaphor "Culture eats engagement for breakfast" using data from Indian organizations, characterized by hierarchical structures and a collectivist mindset. The study advances engagement theory by framing culture as a psychological ecosystem that can either enhance or undermine engagement, contingent on the levels of trust, adaptability, and shared goals. While previous research has explored the link between culture and performance or satisfaction, this study uniquely illustrates that engagement flourishes only when culture fosters psychological safety, learning, and mutual respect. On the other hand, when culture becomes political, inflexible, or control-oriented, it depletes employees' motivational energy, regardless of incentive schemes. The novelty of this paper lies in reinterpreting Drucker's dictum not merely as a warning but as a strategic insight: Culture not only consumes strategy but also engagement for breakfast.

Keywords: Organizational Culture, Employee Engagement, Perceived Organizational Support, Trust, Communication

Paper Code MDRC0258

Technostress and Employee Productivity: A Systematic Literature Review using TCCM Framework

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Abstract:

Purpose/Objective

The study systematically reviews the relationship between technostress and employee productivity, addressing fragmentation in existing literature. By applying the TCCM (Theory, Context, Characteristics, Methodology) framework, it aims to synthesize diverse perspectives and identify research gaps to guide theoretical advancement and practical interventions.

Study Design/Methodology/Approach

Following PRISMA guidelines, a systematic literature review was conducted using the Scopus database for the period 2015–2025. 70 relevant documents were analysed using the TCCM framework to examine theoretical foundations, contextual settings, technostress characteristics, and methodological approaches.

Findings

The review reveals that technostress negatively affects productivity through creators such as techno-overload, techno-invasion, and techno-complexity, though emerging evidence suggests positive outcomes such as innovation through techno-eustress. Dominant theories include JD-R, Coping, and Transactional Theory of Stress. Research is concentrated in Asia and Europe, with banking, healthcare, and higher education as focal sectors. Methodological diversity exists, but longitudinal and cross-cultural studies remain limited.

Originality and Contribution

This review contributes theoretically by advancing understanding of technology-induced stressors through the TCCM framework synthesis. Practically, it provides organizations with evidence-based insights for designing technological implementations and support systems that maximize productivity benefits while minimizing technostress consequences, particularly relevant given increasing organizational reliance on digital technologies and emerging paradigms like artificial intelligence and algorithmic management.

Keywords: Technostress; Employee Productivity; TCCM Framework; Systematic Literature Review

Paper Code MDRC0260

Prosocial Behavioral Factors, Diversity Beliefs, and Job Satisfaction: A Conceptual Framework for Enhancing Faculty Well-being in Indian Engineering Colleges

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Abstract:

Context: Faculty well-being is an essential part of institutional quality, retention, and academic quality that has been extensively researched in the last few years within higher education institutions. In the case of Indian higher education, a distinctive and varied academic ecosystem is available in engineering colleges, which is supportive of the implementation of the workplace inclusivity, prosocial behaviour, and job satisfaction - all of which can influence motivation and performance. Nevertheless, very few researches have conceptually pored over the intersection of prosocial behavioural factors and beliefs about diversity to guide job satisfaction and faculty well-being. Purpose: The aim of the current study is to develop a comprehensive conceptual model or framework that connects prosocial behavioural factors, beliefs about diversity, and job satisfaction to support faculty well-being in the Indian engineering college context. An empirical model is also proposed to explore the relationship among these constructs in the Indian context; thus, offering theoretical and practice implications relevant to higher education policies and management. Methodology: This draft discussion draws its ideas from Social Exchange Theory, Positive Organizational Behaviour, and an Inclusivity Framework. Based on a systematic review of literature available between 2015 and 2025, a structured model is presented that points to prosocial behavioural factors and inclusivity beliefs as primary drivers of job satisfaction which, faculty well-being, in turn, gets supported. A quantitative methodology is suggested to be used for confirming the model through a nation-wide survey of participants utilizing existing and agreed upon scales (Grant 2018a). Results: The systematic review reveals that inclusivity and prosocial behaviours have a direct impact on overall job satisfaction and emotional wellbeing that result in the creation of safe and cooperative academic spaces. Consequently, inclusive institutional cultures will probably be instrumental in strengthening individual commitment, engagement, and professional satisfaction of faculty. Implications and Conclusion: Universities and colleges should implement institutional policy changes that include the adoption of inclusionary practices, prosocial leadership development, and recognition programs as a means of creating an academic environment that is both equitable and caring. The framework is explicit in stating that practices in the areas of faculty inclusion and prosocial behaviours constitute the basis for faculty wellbeing as well as institutional health. Future Research: Future research should formally investigate the initial framework across a variety of institutional contexts, while also considering possible cross-cultural comparisons to facilitate generalization beyond the Indian context.

Keywords: Prosocial Behavior, Diversity Beliefs, Job Satisfaction, Faculty Well-being, Inclusivity, Higher Education, India.

Paper Code MDRC0261

Exploring the Impact of Sleep Patterns on Health and Well-Being Among Adolescents: A Cross-Sectional Study

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Abstract

Purpose

Sleep is a vital physiological requirement that plays a crucial role in the healthy growth, development, and overall well-being of adolescents aged 10 to 19 years. According to the United Nations Children's Fund (UNICEF), children aged 6 to 12 years need approximately 9 to 12 hours of sleep per night, while teenagers should aim for 8 to 10 hours to facilitate optimal physical and psychological development. Adolescence is a critical evolving phase marked by swift physical, emotional, cognitive, and psychosocial transformations, which heighten the importance of maintaining sufficient and good-quality sleep.

However, emerging research implied a concerning shift in adolescent sleep patterns. Several young individuals are experiencing reduced sleep duration, erratic sleep schedules, and compromised quality of sleep due to augmented academic demands, digital engagements, and lifestyle factors. Such disturbances have been empirically associated with an array of adverse consequences. It comprised diminished academic performance, emotional dysregulation, weakened immune functions, and an increased risk of long-term mental and physical health complications.

In this developmental context, adolescent well-being is observed as a condition where young individuals have the necessary support, confidence, and resources to thrive in secure and healthy relationships, enabling them to reach their full potential and exercise their rights. Given the complex relationship between sleep and well-being, the study enumerates and emphasises the importance of examining how sleep patterns impact various aspects of adolescent health. By synthesising prevailing evidence, the review intends to seek the significance of adequate and consistent sleep for adolescents and to advocate for the promotion of healthier sleep practices within this age group.

Objective of the Study

The primary aim of this study is to evaluate the underlying factors contributing to adolescents' inability to achieve the recommended sleep duration and quality. It is also to examine the impact of insufficient or irregular sleep on the adolescent's physical and mental well-being. Ultimately, the study aspires to provide a deeper understanding of the multifaceted consequences of inadequate sleep during this critical stage of human development and to inform strategies that promote better sleep hygiene and holistic adolescent well-being.

Methodology

The study was conducted in Durgapur between June 8th and 18th, 2025, among the parents or guardians of adolescents aged 10–19 years attending schools and colleges. There were 134 respondents. Face-to-face personal interviews using a structured, pre-tested quantitative questionnaire covering sociodemographic data, habitual sleep patterns, screen use, and physical and mental health, along with the behaviour changes and well-being. Inclusion required parental consent and adolescent assent. In this study, a comprehensive set of methodologies and tools was utilised to ensure rigorous data analysis and validation. The primary programming language employed was Python (version 3.14.0). The analysis was conducted within Jupyter Notebook, providing an interactive environment conducive to exploratory data analysis. Descriptive statistics were applied to summarise the main characteristics of the dataset, while Pearson correlation analysis facilitated the assessment of linear relationships between variables. To further examine associations, cross-tabulation analysis was implemented, allowing for the exploration of categorical data relationships. Machine learning techniques, specifically decision trees and logistic regression, were employed to develop predictive models based on the gathered data. Additionally, thorough data quality and validation procedures were established to ensure the integrity and reliability of the results, thereby enhancing the overall validity of the research findings.

Findings

The research study comprised a total of 134 respondents, encompassing 68 females (50.75%) and 66 males (49.25%), all aged between 10 and 19 years. Notably, the adolence from high-income families have their own personal phones. The rest of them share devices with their parents. Sleep duration revealed that 93.2% of participants did not comply with recommended sleep guidelines (UNICEF). An average study time of 2.43 hours was recorded, with 64.3% studying for 3 to 4 hours. Leisure time distribution demonstrated a concerning trend, as the majority of the target audience engaged in insufficient physical activity and were prone towards mobile phone usage. Correlation analysis indicated a negative relationship between phone usage and sleep quality ($r = -0.2219$, $p = 0.0401$). A critical finding emerged from the data: all children reporting less than five hours of sleep exhibited irritability, highlighting a dose-response relationship. Behavioural impacts were ranked, revealing irritability as the predominant issue, followed by tiredness and difficulties with concentration due to insufficient duration of sleep. Parental concern was significant, with 72.9% expressing worry.

Correlation analysis suggests that phone usage is a primary driver of these concerns. Regarding model performance, the decision tree model achieved an accuracy of 92.59%, with a precision and recall both at 92.59% and 100%, respectively, alongside an F1-score of 96.15%. The model's robustness was further validated through 5-fold cross-validation, yielding an accuracy of 93.96% ± 1.79%.

Originality and contribution.

The authors affirm that this research paper is original and has not been published or submitted for publication elsewhere.

The first author played a key role in conceptualising the study, designing the questionnaire, and managing the data collection. The second author assisted in shaping the study's concept, interpreting the results, conducting a critical review, and preparing the initial draft of the manuscript. The third author conducted formal statistical and mathematical analyses, contributed to the interpretation of data, and engaged in critical review. The fourth author was involved in data acquisition, data collation, and drafting sections of the manuscript. The fifth, sixth, and seventh authors contributed to data collection and the drafting process of the manuscript.

Keywords: Adolescents, Sleep Hygiene, Sleep Deprivation, Wireless and Mobile Communication, Well-being, Mental Health

Paper Code MDRC0264

AI DISRUPTION AND EMPLOYEE WELL-BEING: ROLE OF DIGITAL RESILIENCE AND PSYCHOLOGICAL CAPITAL

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Abstract:

Purpose

The integration of artificial intelligence into organizational workflows introduces unprecedented workplace stressors that differ fundamentally from previous technological disruptions. Unlike earlier automation waves that primarily affected manual tasks, AI threatens cognitive work, raises existential concerns about human relevance, and creates continuous adaptation pressures through algorithmic management. While extensive research examines employee well-being under traditional workplace stressors, existing frameworks inadequately address AI's unique psychological demands—particularly identity threats from automation, technostress from human-AI collaboration, and ambiguity about future work roles.

This conceptual paper addresses three interrelated gaps. First, theoretical specification of psychological capital (PsyCap) based mechanisms buffering AI-specific stressors. Second, introduction of digital

resilience as a distinct, domain-specific adaptive capacity, conceptually differentiated from general resilience, digital literacy, or technological self-efficacy. Third, an integrative framework explaining how these psychological resources interact to enable differential adaptation to AI disruption.

The primary aim is to develop a theoretically grounded framework explicating how PsyCap and digital resilience function as complementary psychological resources promoting employee well-being in AI-disrupted environments. Specifically, this paper: (1) reconceptualizes AI disruption as a multidimensional stressor comprising automation threat, augmentation demands, and transformation uncertainty; (2) theorizes how PsyCap dimensions differentially address each stressor dimension; (3) positions digital resilience as a mediating psycho-technical capability translating general psychological strength into AI-specific adaptive performance; (4) proposes synergistic interaction effects between PsyCap and digital resilience; and (5) formulates explicit, theoretically derived propositions for empirical validation.

Study Design

This paper adopts a systematic conceptual theory-building approach drawing on Whetten's (1989) model of theory development and Jabareen's (2009) framework-building methodology. The process involved four stages.

First, an interdisciplinary synthesis of literature from organizational behavior, positive psychology, information systems, and future-of-work research was conducted to identify theoretical convergences and conceptual voids related to PsyCap, employee well-being, AI disruption, and digital resilience.

Second, framework development was anchored in Conservation of Resources (COR) theory and the Job Demands-Resources (JD-R) model, extending both by specifying how AI disruption simultaneously functions as a job demand, existential threat, and uncertainty amplifier.

Third, systematic construct analysis resulted in the reconceptualization of AI disruption into three core dimensions: automation threat, augmentation demands, and transformation uncertainty. PsyCap components (hope, efficacy, resilience, optimism) were mapped onto these dimensions, while digital resilience was conceptualized as a self-regulatory, adaptive capacity enabling sustained engagement with AI systems under psychological strain.

Fourth, the framework generated structured theoretical propositions categorized into direct, mediated, and moderated pathways, supported by logic modeling to demonstrate relational flows and causal assumptions.

Findings

The proposed framework offers several significant theoretical advancements.

Core Theoretical Contribution

Digital resilience emerges as a critical mediating construct operating through cognitive appraisal and adaptive coping mechanisms, translating PsyCap into sustained technology engagement and well-being. This two-stage resource pathway extends COR theory by distinguishing between general psychological resource reservoirs and domain-specific adaptive enactment.

Novel Interaction Effects

The model proposes synergistic effects between PsyCap and digital resilience, where their interaction generates resource gain spirals that enhance adaptive confidence, experimentation, and emotional stability. Conversely, dual deficiencies result in resource depletion and avoidance behaviors.

Differential Pathway Specification

Each AI disruption dimension activates distinct psychological responses: identity threats trigger PsyCap resilience and optimism; competence challenges invoke hope and self-efficacy; while uncertainty requires integrated activation of all PsyCap dimensions alongside digital resilience.

Boundary Conditions

The effectiveness of psychological resources is moderated by psychological safety, leadership support, AI readiness, and job replaceability perceptions, indicating context-dependent impact.

Practical Implications

This framework offers both theoretical and practical contributions to managing AI transformation. Theoretically, it advances COR and JD-R theories by identifying AI-specific psychological demands and introducing digital resilience as a mediating construct bridging general and technology-specific resources.

Practically, the framework suggests evidence-based strategies for HR and organizational leadership: (1) targeted PsyCap interventions addressing specific AI disruption dimensions; (2) phased AI implementation allowing gradual digital resilience development; (3) organizational policies promoting psychological safety for technology experimentation; and (4) differentiated support based on employees' psychological resource profiles. The framework emphasizes that sustainable AI integration requires deliberate investment in employees' psychological infrastructure—both general resources and technology-specific capacities—to enable human-centered organizational development.

Keywords: artificial intelligence, AI disruption, employee well-being, psychological capital, digital resilience, technostress, workplace adaptation, Conservation of Resources theory, Job Demands-Resources model, future of work.

Paper Code MDRC0266

Digital Dexterity as a Competitive Advantage in the Future of Work: A Strategic Framework and Empirical Investigation

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Abstract

Digital Dexterity is going to be the new norm in the future of work. It is defined as the ability and ambition of employees to adopt new digital technologies thus ensure themselves productive and direct their efforts towards organizational success. Digital transformation is no longer one of many options. It underpins competitive agility, innovation, and resilience in dynamic markets. This paper proposes a conceptual framework and empirical investigation into how digital dexterity endows competitive advantage through augmented individual performance, collaborative capacity, and organizational adaptability. We have used a mixed-method research design to gather data using digital surveys, digital adoption analytics techniques were used, and relevant performance indicators were collected through digital workplace tools (e.g., Microsoft Teams usage data, digital adoption platforms etc.,). Quantitative data was analyzed using structural equation modeling (SEM) technique. We also proposed a structural framework for organizations to build digital dexterity among its employees through targeted training interventions, digital tools adoption, and organisational culture change initiatives to demonstrate that digital dexterity is a sustainable competitive advantage in the future of work.

Paper Code MDRC0267

Scaffolding Critical Thinking: A Conceptual Framework for Using Generative AI to Develop Metacognitive Skills in Management Education

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Purpose/Objective: -

The advent of Generative Artificial Intelligence (GenAI) in higher education has triggered a pedagogical paradox within management disciplines. While celebrated for operational efficiency, its dominant application in content generation risks fostering intellectual passivity, thereby contradicting the essential objective of advanced management education: to develop metacognitively aware and critically reflexive practitioners. This highlights a critical divergence between GenAI's instrumental use and its underexplored potential as a constructivist learning tool. Addressing this gap, the purpose of this conceptual paper is to theorize a pedagogical framework that systematically leverages GenAI as a

scaffold (Vygotsky, 1978) for metacognitive skill development. Specifically, the study aims to: (1) conceptualize GenAI not as an oracle but as a dialogic partner in the learning process; (2) delineate specific mechanisms through which

AI-student interactions can model, provoke, and catalyze critical reflection; and (3) propose actionable integrations for postgraduate management curricula. The objective is to shift the discourse from mitigating AI's threats to strategically harnessing its capability to build the cognitive architectures required for leadership in complex, ambiguous business environments.

Study Design/Methodology/Approach

This study employs a rigorous conceptual research design, synthesizing theory from educational psychology, management learning, and human-computer interaction to construct a novel framework. The methodology involves a three-stage, iterative process of analysis, synthesis, and theorization. First, a structured narrative synthesis of literature is conducted across three domains: (a) the capabilities and limitations of GenAI in educational dyads, (b) established models of metacognition and critical thinking (e.g., Flavell, 1979; Facione, 1990), and (c) the pedagogical principle of “scaffolding” and its digital adaptations. This analysis identifies core tensions and synergistic potentials at their intersection. Second, through an abductive reasoning process (Timmermans & Tavory, 2012), we synthesize these elements to propose core design principles for AI-as-scaffold. Third, these principles are operationalized into a structured framework comprising specific, actionable components. The framework’s internal logic and pedagogical validity are evaluated against criteria of theoretical coherence, practical applicability in management education contexts (e.g., case discussion, doctoral research supervision), and its potential to resolve the identified paradox.

Findings / Proposed Framework

The analysis yields a conceptual framework titled the Generative AI Metacognitive Scaffold (GAIMS). The GAIMS framework is built on two core axioms: (1) GenAI must be positioned as a *subordinate tool in a pedagogy-led process*, and (2) its value lies in *externalizing and interrogating cognitive processes*. The framework comprises four integrated components, each targeting a specific metacognitive function:

Cognitive Modeling Partner: GenAI is tasked with generating "chain-of-thought" outputs, making its reasoning transparent. Students are guided to critique this reasoning, compare it with their own, and identify logical gaps, thereby learning to model and evaluate thinking patterns.

Socratic Provocateur: Instructors design prompts where GenAI assumes roles (e.g., a skeptical stakeholder, a competitor) to challenge student assumptions, propose counterarguments, and deepen dialectical engagement in case analyses and strategy formulations.

Reflective Catalyst: GenAI analyzes a student's previous written or verbal arguments (e.g., a draft literature review) and generates targeted meta-questions ("What underlying bias might be influencing your source selection?") to prompt self-regulated learning and revision.

Dynamic Simulator: GenAI creates branching, complex business scenarios where decisions trigger cascading consequences. This allows students to test strategic thinking in a low-risk environment and then reflect on their decision-making heuristics.

The educator's role is redefined as that of a pedagogical architect, strategically deploying these GAIMS components within a flipped or studio-based classroom model to create a cycle of action, AI-mediated feedback, and guided reflection.

Originality and Contribution

This work makes three distinct contributions to the literature on management education and educational technology. First, it provides a crucial theoretical reconceptualization, moving beyond the dominant narrative of GenAI as a productivity tool or a source of academic integrity concerns, and instead theorizing it as a structured scaffold for cognitive development. This shifts the discourse from defense to strategic pedagogical offense.

Second, it offers a novel, actionable framework (GAIMS) that translates abstract learning theory into specific, implementable practices for management educators. The four-component structure provides a clear typology for designing AI-integrated learning activities that target metacognition directly, filling a gap in practical guidance for postgraduate teaching.

Third, the paper contributes a critical, educator-centric perspective on technology integration. By insisting on the educator's role as the "pedagogical architect" and GenAI as a subordinate tool, the framework safeguards against passive consumption and promotes intentional, critical engagement. This positions the work as essential reading for institutions navigating the ethical and effective integration of AI into advanced management curricula, with direct implications for doctoral training and leadership development.

Keywords: Generative AI, Metacognition, Critical Thinking, Management Education, Pedagogical Scaffolding, Conceptual Framework.

Paper Code MDRC0268

A Study on Motivation and Social Security of the Food Delivery Platform Worker in South and Central Kolkata

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Abstract

Purpose: The basic purpose of the study is to observe the factors of motivation which influences the food delivery gig workers who are employed in the platform economy. The study shall also consider on what factors the social security for the contingent work for both the part time and full-time workers are dependent. The study shall also aim to find out the constraints faced by those food delivery gig workers with special reference to South and Central Kolkata.

Design / Methodology/Approach: Qualitative Thematic Data Analysis research technique have been used. Structured questionnaire & recorded interviews with their permission has been collected from the food delivery workers in South Kolkata. A small sample of five to ten platform workers is sufficient for the phenomenological study. The gig worker experiences were coded by going through line-by-line transcriptions to form sub-themes and border themes. From the themes, the analysis has been done to identify that the motivation and social security is considered to be most important factor for their survival. The study has used Alderfer's ERG Theory of Motivation, to identify the factors of motivation for the delivery partners. Using NVIVO 14, the word clouds have been formed to find out the coherence between the words to find the importance of the factors of motivation and social security for the delivery partners.

Findings: The analysis shall show the impact of the motivational factors and social security measures using qualitative data analysis program by using the codes to undertake the phenomenological study. Freelance Economy provides benefits for employment of the gig workers. The study shall focus on implementing of public policies for the support of the contingent workers to increase their psychological wellbeing.

Practical Implications: Understanding the current scenario of wellbeing of the gig workers and sustainability practices of the gig workers that shall gain an insight on the growth of the gig economy.

Originality/Value: The current research shall contribute to the understanding of the platform workers sustainability in this economy and highlights the potential areas for future research.

Key Words: Gig Economy, Gig Workers, Motivational Factors, Social Security, Contingent Work

Paper Code MDRC0269

From Microaggressions to Exclusion: Lived Experiences of Homosexual folks at Indian Workplaces

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The stigma against people of alternate sexualities is quite prevalent in Indian society. Even workplaces are not untouched by these negative social attitudes toward lesbian and gay people.

Despite the presence of inclusive policies, sexual minorities still face significant challenges and discrimination at workplaces in India. This is likely to affect employees' psychological well-being, job satisfaction, and career progression. The study explores the lived experiences of homosexual adults to document their lived experiences in professional settings. Using a qualitative approach, semi-structured interviews with 12 homosexual professionals provided insights into their experiences at the workplace. Five themes emerged: stressors at work, protective factors, identity concealment, expectation of rejection, and performance outcomes. The minority stress framework may be used to explain these results. It posits how external stressors (e.g., workplace discrimination, microaggressions, and exclusionary policies) and internalized stressors (e.g., identity concealment) impact parameters such as employee well-being and retention. Findings highlight the connection of minority stress to productivity, job satisfaction, and broader organizational consequences. The study highlights the need for inclusive workplace policies, diversity initiatives, and psychological safety measures to foster a high-performing, sustainable, and equitable workforce.

Keywords: Workplace Sustainability, Minority Stress, Homosexual, Homophobia

Glimpses of MDRC 2025

Team MDRC 2025