

# CONTEMPORARY BUSINESS PRACTICES AND SUSTAINABLE STRATEGIC GROWTH



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# **Contemporary Business Practices and Sustainable Strategic Growth**

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## PREFACE

The principal goal of the advanced world is to achieve high commercial growth. The critical requirement for achieving this objective is the presence of a sufficient and high-quality set up within a country. Infrastructure has a pivotal role in driving socio-economic development. Bad infrastructure not only hampers economic growth but also leads to various socioeconomic issues such as unemployment and saturating the living standards. Certainly, economic growth stands as a primary objective for the developing world. In numerous emerging nations like India, the condition of infrastructure in various sectors such as market dynamics, banking, agriculture, energy, transportation, and utilities, significantly falls short of the needs of the respective countries. Despite the rapid rise in infrastructure demand, the supply remains largely unchanged. In this context, it is anticipated that the private sector will contribute to the necessary investments through the Public-Private Partnership (PPP) model. Additionally, sustainable economic growth relies on maximizing the efficient utilization of scarce resources. Capital, being one of the scarcest resources, plays a crucial role in fostering sustainable economic growth in any nation. Recent advancements in finance play various roles in advancing the economic growth of a country.

Emerging technological innovations and the application of AI for sustainability and corporate growth serve as a crucial research source of fast-tracking business growth through technical advancements and knowledge generation. Numerous predominant trends indicate that the global economy is in the era of a new industrial revolution. The prolonged universal economic crisis of the early 21<sup>st</sup> century and the failure to resolve it using existing economic system mechanisms underscore the collapse of the previous technological paradigm's potential. In the realm of industrial production, this crisis initially manifested as a surplus of industrial goods, leading to challenges in selling them within domestic economies or on international markets. Globalization has expanded the present business emerging market and increased tough competition. To survive, businesses must develop cultural competence to compete in diverse regulatory environments. Again human capital is a very crucial and critical component in the knowledge economy. Effective personnel management practices that prioritize employees' well-being, and employee upgradation and engagement are the essential driving force for sustainable growth.

Innovation stands as a widely recognized global imperative for socioeconomic advancement. Over the past few decades, researchers from diverse nations have conducted studies resulting in the emergence of new technologies, predominantly focused on production technologies (technological innovations) that target the real sector of the economy. This book is the culmination of an international initiative aimed at consolidating multi- and interdisciplinary research that optimally supports innovation. This volume has focused on presenting a variety of practical applications, tools, skills, practices, models, approaches, and strategies that are proving themselves in practice demonstrating effectiveness in managing diversity and innovation.

Chapter 1 discussed that In India, crowdfunding is transforming fundraising by leveraging digital innovation and technology to support inclusive socio-economic growth. It bridges funding gaps, raises grassroots awareness, and promotes CSR initiatives in education, health, poverty alleviation, renewable energy, and gender equality. The Companies Act of 2013 mandates CSR, resulting in Indian companies raising over ₹9,300 crores for social projects since 2015. This paper examines the synergy between crowdfunding and CSR from 2015–2023, focusing on education, health, environmental sustainability, and women's empowerment. It evaluates the impact of socially driven crowdfunding on sustainable

development, success rates, challenges, and policy implications for maximizing societal welfare.

Chapter 2 focused that Understanding the role of social antecedents in shaping employee intention-to-stay remains a significant challenge, particularly in India's IT sector, where research has predominantly emphasized organizational, psychological, and contextual factors. Social antecedents, including co-worker relationships, supervisor support, organizational culture, and work environment, play a critical role in influencing employee retention. Positive social interactions foster commitment, while negative experiences contribute to dissatisfaction and attrition. This study addresses the research gap by exploring how social factors—such as supervisor support, co-worker support, external social networks, and broader social interactions—impact employee retention in IT companies in the Delhi region, offering insights for improved HR strategies.

Chapter 3 investigates The rapid growth of the technology and healthcare sectors has intensified the production of medical and electronic waste, posing significant environmental and health challenges. Sustainable natural resource management offers a holistic approach to address these issues through waste minimization, resource recovery, and circular economy principles. This study examines challenges, innovative solutions, and best practices in managing medical and e-waste, utilizing literature reviews, case studies, and empirical analyses. By integrating environmental, social, and economic perspectives, it provides actionable insights for policymakers, industries, and researchers, fostering resilient waste management systems and advancing global sustainability objectives through practical, resource-efficient strategies.

Chapter 4 focused the Augmented Reality (AR), which integrates computer-generated elements into real-world settings, has become vital in e-commerce, especially during the COVID-19 pandemic. While e-commerce offers convenience and efficiency, its lack of physical touchpoints is a limitation. AR addresses this by enabling consumers to virtually interact with products, enhancing understanding and satisfaction. This systematic review, drawing from secondary data sources, highlights AR's impact on improving purchase decisions and fostering trust. However, it also reveals overlooked technical limitations, including reliance on device hardware and connectivity. As e-commerce expands, AR emerges as a critical tool for enhancing customer experiences and maintaining market competitiveness.

Chapter 5 focused that Technological innovation in the automotive sector drives advancements in automation, connectivity, energy efficiency, safety, and performance, utilizing artificial intelligence, sensors, electric propulsion, and advanced materials. This study explores global consumer attitudes toward self-driving and electric vehicles, emphasizing safety, media influence, and trust. By analyzing secondary data from journals, research papers, and case studies, it highlights the role of sustainability and environmental awareness in shaping consumer satisfaction and brand loyalty. Manufacturers align with these preferences to develop hybrid vehicles, alternative fuels, and advanced features, ensuring competitiveness. The synergy between innovation and consumer needs fosters sustainable growth in the automotive industry.

Chapter 6 aims at This study investigates the impact of social media on hotel brand image and its role in retaining loyal customers. It examines how social media influences customer preferences in hotel selection, ultimately enhancing satisfaction. Using conventional sampling and multiple regression analysis, the study evaluates the effects of social media attributes such as e-WOM (Electronic Word of Mouth), e-Ads (Electronic Advertisements), and e-

Community (Electronic Community) on brand image and loyalty. Data from prior research and structured questionnaires reveal a positive correlation between these attributes and customer loyalty. The findings offer strategic insights for hotel management to leverage social media for enhanced brand value and profitability.

Chapter 7 focused the Job satisfaction is a key metric for assessing employee commitment and organizational belongingness, while productivity reflects the efficiency of inputs like employee effort, technology, and resources in achieving organizational objectives. The integration of technology and digitization significantly influences employee satisfaction, fostering retention and enhancing workplace happiness. In the context of West Bengal's higher educational institutes, this study examines employee satisfaction and productivity, leveraging existing data to analyze trends. The research aims to uncover factors shaping employee satisfaction in the digital age, offering insights into how organizations can optimize retention and productivity for long-term sustainability in a competitive environment.

Chapter 8 discussed that In the evolving digital marketplace, consumer shopping habits have transformed significantly, with AI-powered personalized product recommendations becoming a cornerstone of e-commerce. This study investigates the influence of AI-driven purchasing applications on consumer repurchase intention using a mixed-method approach. Data collection involved Likert's 5-point scale, with factor and multiple regression analyses applied for interpretation. The findings shed light on the relationship between AI tools and customer loyalty, addressing existing research gaps. This study provides valuable insights for the e-retail sector, helping businesses enhance user experiences, foster repurchase intentions, and adapt to dynamic consumer behaviors in the digital age.

Chapter 9 Forecasting stock market returns remains challenging due to financial markets' volatility and non-linear behavior. This research focuses on predicting the closing prices of FAANG companies (Meta, Amazon, Apple, Netflix, and Alphabet) using advanced machine learning models. Eight models—Linear Regression, KNN Regression, Decision Tree Regression, Random Forest Regression, AdaBoost, Gradient Boosting, XGBoost, and CatBoost—are evaluated using  $R^2$ , MAE, MSE, and RMSE metrics. Gradient Boosting, XGBoost, and CatBoost demonstrate superior performance, while Linear Regression is effective only for Meta and Alphabet. KNN underperforms due to data variability. The findings provide financial analysts and investors insights into selecting efficient prediction models.

Chapter 10 focused on Over the past two decades, financial inclusion has garnered significant attention from scholars and policymakers as a driver of economic growth. Rooted in earlier research linking financial development to improved resource allocation and productivity, financial inclusion enhances capital accumulation and economic output. Micro, Small, and Medium Enterprises (MSMEs) contribute significantly to employment, GDP growth, and industrial advancement. In India, digitization has accelerated financial inclusion, particularly through Udyam Registration, formalizing MSMEs. Trend analysis of initiatives like PMEGP, MSME Samadhan, and GeM Portals reveals mixed results in advancing financial inclusion. This study underscores the critical role of MSMEs in economic transformation.

Chapter 11 mentioned that Artificial Intelligence (AI) plays a transformative role in reshaping investment behavior in the digital economy. This study explores how AI-driven algorithms can optimize individual investment strategies, recognizing patterns in human behavior and enhancing decision-making. A systematic literature review of 26 articles, selected from 150, was conducted using PRISMA software to structure the research. Three key themes were developed to analyze AI's impact on investment behavior. The findings indicate that AI can

significantly influence investment decisions, strengthening the financial sector in the digital economy. The study also highlights limitations and offers insights into future research directions to expand the scope of AI in investment strategies.

Chapter 12 Pattachitra, an ancient art form of India and West Bengal, is crafted by artisans known as patuas, primarily from the Midnapore and Bankura districts. However, these artisans face significant challenges in marketing their work, lacking fixed selling spaces and being adversely affected by globalization. This study explores sustainable business development strategies to support patuas, including Artisans to Businessman (A2B), Artisans to Tourists (A2T), Artisans to Intermediaries (A2I), Artisans to Government (A2G), and Government to Tourists (G2T). A SWOT analysis of these strategies provides insights into how they can help preserve and promote pattachitra, ensuring its continuation and growth in the modern marketplace.

Chapter 13 focused on Leniency is a discretion exercised by competition regulators globally, allowing reduced penalties for cartel conspirators who provide substantial disclosure. The American Supreme Court has referred to cartels as the "supreme evil of antitrust." During the COVID-19 pandemic, enterprises in essential sectors like pharmaceuticals and groceries were allowed to share information, exempt from penalties due to public interest considerations. However, the Commission granted leniency to cartel participants in railway procurement and the domestic industrial automotive bearing markets, despite their non-essential status. This paper examines the broader implications of such leniency and its applicability under the Competition Act 2002, highlighting the complexities of public interest defenses.

Chapter 14 mentioned that This study explores the dynamics of customer behavior in interactions with service robots, focusing on metaperception processes. Through bibliometric analysis and visualization, the research identifies key themes, influential figures, and emerging trends in the field, highlighting the impact of discomfort in service interactions on customer experiences. The analysis reveals the overlooked role of discomfort and its connection to metaperception, affecting customer satisfaction. Additionally, the study examines the contributions of prominent journals, authors, and nations to the academic discourse, offering novel insights into the evolving relationship between service robots and consumer behavior. It emphasizes the importance of understanding these complex interactions for enhancing customer experiences.

Chapter 15 This study examines the impact of stressed assets on the banking sector in India, highlighting their detrimental effects on both the banking industry and economic growth. It identifies bank ownership as a significant determinant of stressed asset levels and emphasizes the importance of an effective regulatory framework for timely stress recognition. The research focuses on factors such as GNPA, NNPA, restructured loans, provisions, and total advances, which influence Return on Assets (ROA) and Return on Equity (ROE) in public and private sector banks. Utilizing secondary data from the RBI portal and regression analysis *via* SPSS, the study reveals the challenges in NPA recovery and asset quality management.

Chapter 16 focused on While everyone is busy trying to find a balance or equilibrium between work and personal life in the twenty-first century, many of them were unable to do so. The idea of work-life integration emerged as a result of everyone's desire to keep the two aspects of their lives apart. The idea of work-life integration, however, also represents a compromise for those of us attempting to strike a balance between our personal and professional lives. However, as highlighted in Donna Haeger and Lingham's (US) 2014 book, the notions of work-life fusion are already grabbing hold of society as a whole, particularly influencing Millennials. And managing professional and personal responsibilities at the same

time is the essence of this work-life integration. In light of this context of work- life, fusion needs to wire both work and life.

Chapter 17 mentioned This study explores the critical role of employee training in enhancing skills, knowledge, and attitudes within the tea industry, which is one of the largest labor-intensive sectors in India. The tea sector relies on a skilled workforce for various specialized tasks, from tea picking to packing, directly impacting the quality of the product. Despite its importance, the sector has struggled with quality issues, resulting in a loss of market share abroad. The study surveyed 33 tea estates and used SPSS to analyze data, with findings and recommendations developed through the Wilcoxon Signed Ranks Test, emphasizing the need for effective worker training to improve tea quality.

Chapter 18 mentioned This study delves into the significant role of business models in addressing the high failure rate of startups and achieving unicorn status. Startups, globally evolving through government measures and data-driven strategies, face challenges in balancing efficiency and valuation. A business model, which outlines value creation, delivery, and benefit capture, is proposed as a potential solution. The research uses PRISMA methodology to analyze literature on business models and startups, identifying critical components that influence sustainability. The study also examines the concept of "unicorn" as a benchmark, aiming to bridge gaps in existing business model literature and proposing avenues for further research.

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**CHAPTER 1**

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# **Can Crowdfunding be Instrumental to Sustainable Economic Impact on Corporate Social Responsibility? An Empirical Analysis in the Indian Landscape**

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**Abstract:** In the context of Indian socio-economic conditions, crowdfunding is emerging as a powerful tool for fostering an inclusive future platform through digital innovation and technological expertise. As an efficient and economical method of raising funds, crowdfunding has the potential to bridge the supply-demand gap, raise awareness for causes at the grassroots level, and initiate matching funds systems with organizations. Simultaneously, corporate social responsibility (CSR) supports sustainable production and consumption across various social sectors, such as education, clean water, health, poverty alleviation, renewable energy, and gender equality, addressing economic, social, and environmental dimensions holistically. With the enactment of the Companies Act of 2013, the Government of India has made CSR mandatory, imposing a statutory obligation on companies to promote CSR projects aimed at advancing social welfare. Since 2015, Indian companies have collectively raised over ₹9,300 crores for social projects, driven by the understanding that consumers increasingly trust and prefer organizations that are socially conscious and give back to society. This paper attempts to empirically analyze data on socially inclined crowdfunding initiatives and their impact on the growth of CSR activities, particularly in the areas of education, health, environmental sustainability, and women's empowerment, from 2015 to 2023. We assess the multifaceted impact of crowdfunding on CSR initiatives that promote social well-being and welfare in the Indian context over the last decade. Specifically, the paper focuses on the journey of platforms that have utilized crowdfunding beyond the materialistic goal of profit, embracing a broader vision of sustainable development for society. It also explores the success rates and challenges faced by socially inclined funding projects, aiming to inform future policy-making processes.

**Keywords:** Corporate social responsibility, Crowdfunding, Sustainable development.

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## INTRODUCTION

'Instant and economical method of raising funds' and 'limitless potential audience reach' are two strong pillars on which the very foundation of 'Crowdfunding' is based in the present socio-economic scenario. It has the potential momentum to minimize the demand-supply gap in a developing economy, as mentioned by Bruton *et al.* (2015). With the enactment of the Companies Act, 2013, the Government of India made 'Corporate Social Responsibility' (CSR) mandatory, imposing a statutory obligation on companies to invest in CSR projects promoting social welfare activities. This is one of the world's largest experiments in linking social causes with corporate efforts. Since 2015–16, Indian companies have collectively raised over ₹9,300 crores for social projects, driven by the understanding that consumers increasingly trust and prefer organizations that are socially conscious and contribute to the society in which they operate. During the same timeline, there has been significant growth in 'reward-based' and 'donation-based' crowdfunding platforms like Impact Guru, Milaap, and Ketto. Crowdfunding is emerging as a powerful tool for fostering an inclusive future through digital innovation and technological advancements. It is increasingly becoming a sustainable medium for large-scale CSR activities by various Indian firms.

Crowdfunding, as an immediate economic method of raising funds, has the potential to bridge the supply-demand gap and raise awareness for grassroots causes. It can also create a matching funds system with organizations, helping to promote sustainable production and consumption across various social sectors like education, clean water, health, poverty alleviation, renewable energy, and gender equality. Crowdfunding techniques generally serve as a bridge between:

- CSR Contributors
- CSR Opportunities

While crowdfunding is not directly involved in the CSR implementation process, its absence would compel companies to seek alternative sources for funding CSR activities, potentially slowing the pace of projects and decreasing their efficiency. Given the vastness of India and CSR being a mandatory activity, crowdfunding platforms have established a strategic base that provides informational asymmetry without directly engaging in project implementation.

The rapid growth of many companies has come at an economic and social cost. Consequently, corporate social responsibility has become a vital concern for business managers, as companies are now evaluated not only on their products or financial performance but also on their social and environmental impact. This

shift has led to a substantial increase in the volume and size of CSR activities reported over the past decade. This trend reflects a rising consumer awareness of the externalities of human activities on education, livelihood, sanitation, gender inequality, health, and the broader ecosystem.

A frequently asked question is how crowdfunding supports corporate social responsibility in promoting social sustainability and well-being. To address this, we should consider various crowdfunding techniques, such as:

- **Lending-based Crowdfunding:** This approach has evolved as an alternative to traditional banking. Leveraging digital innovations and smartphones, it aims to alleviate poverty by lending to low-income individuals who lack access to conventional credit sources, as noted by Jenik, Lyman, and Nava (2017). The platform is divided into (i) non-profit lending, (ii) socially-oriented lending, and (iii) commercial lending. Non-profit lending platforms, like 'Kiva' and 'Zidisha,' focus on financially excluded communities without expecting returns. They often operate on voluntary work, donations, or grants.
- **Donations-based Crowdfunding:** In this model, donors contribute funds to people or projects that benefit underprivileged communities, with no expectation of financial return. This platform primarily supports social and environmental causes in the non-profit sector, generating revenue from fees associated with specific donations.
- **Equity-based Crowdfunding:** This platform allows individual and institutional investors to fund small-scale entrepreneurs, typically start-ups and SMEs, in exchange for ownership shares. This model stimulates sustainable economic growth by providing capital to marginalized groups.
- **Debt-based Crowdfunding:** This platform supports Sustainable Development Goals (SDGs) related to clean energy, rural industrialization, and infrastructure development.

This paper focuses on the journey of crowdfunding platforms that prioritize broader sustainable development goals over pure profit. It also discusses the successes and challenges of socially oriented crowdfunding projects, offering insights for policymakers in crafting future strategies for 'Our Common Future.' Both crowdfunding and CSR present a win-win proposition for individuals, companies, and the nation. Recognizing grassroots realities—such as household characteristics, financial literacy, and their impact on financial behavior and participation in CSR schemes—can assist policymakers and regulators to:

- Address micro and distributional aspects,
- Design and implement measures to close existing gaps,

## CHAPTER 2

## Impact of Social Factors on Employee Intention-to-Stay: A Study on Selected Information Technology Organizations

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**Abstract:** The difficulty in understanding the impact of social antecedents on employee intention-to-stay is a challenge that many HR professionals face. This challenge becomes particularly pronounced in the context of Information Technology (IT) companies in India, where the focus has traditionally been on organizational, psychological, and contextual factors affecting employee retention. Social antecedents, which encompass variables like relationships with co-workers, supervisors, organizational culture, and the overall work environment, have often been overlooked in research within this industry. Social antecedents play an important role in shaping employee behavior and intentions in the workplace. Positive relationships with co-workers and supervisors, a supportive organizational culture, and a conducive work environment can significantly impact an employee's decision to stay with their organization. Conversely, negative social interactions or a toxic work environment can lead to dissatisfaction and ultimately drive employees to seek opportunities elsewhere. Most of the prevailing research have mainly revolved around organizational, psychological, and contextual factors as drivers affecting employee intention to stay. Considering the logic that there is an existing gap in whether social factors have any role in influencing employee intention to stay, this study aimed to explore the role of specific social factors—such as “support from the supervisors”, “co-worker support”, “external social support”, and “social networks”—on employees' intentions to remain with Information Technology companies located in and around Delhi.

Through a questionnaire survey distributed among 300 employees representing various IT organizations in and around Delhi, the research uncovered that support received from the supervisors played a mediating role in influencing the link between “co-worker support”, “social networks”, and employees' intention-to-stay.

**Keywords:** Employee retention, External social support, IT organizations, Social networks.

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## **INTRODUCTION**

The global information technology (IT) sector has been profoundly impacted by numerous global change events, leading to a reevaluation of strategies to attract, engage, and retain key employees. Given this reality, it has become increasingly crucial for organizational policymakers to explore innovative approaches and human resources practices aimed at retaining talent over the long term. The concept of employee retention has garnered significant attention from researchers and management scholars, reflecting its enduring relevance and importance in contemporary discourse (Gonçalves, Farcas, Leitão, Giorgakis, Valeriu, Traian, & Kovacs, 2017). Recent studies, such as those conducted by Ahmad, Khan, & Haque (2020), have highlighted that employee retention is akin to a commitment to maintain ongoing relationships or transactions with a specific organization.

## **RATIONALE OF THE STUDY**

Decoding the causal factors behind employee intention-to-stay perspectives in an organization has long been regarded as a significant indicator in research concerning employee retention. Currivan (2000) defined intention-to-stay for employees as the inclination of employees to remain attached to their current organizations. These perspectives are influenced by various factors, including individual, job-related, and organizational factors within the work environment, like supervisor support, organizational culture, and organizational justice (Meyer and Allen, 1991). While contemporary researchers widely acknowledge the increasing influence of contextual variables in employee retention, signifying a shift from traditional organizational and behavioral antecedents, the social perspective of organizational life and its influence on employee willingness to remain with their organizations or leave them has often been overlooked (Gonçalves *et al.*, 2017).

This research acknowledges a notable gap in the existing literature and seeks to bridge it by highlighting the influence of social support perspectives, along with exploring the impact of social variables influencing employee intention-to-stay within selected Indian Information Technology (IT) organizations. Specifically, the study aims to understand these dynamics among employees working in and around Delhi, providing valuable insights into the unique context of this region. By delving into the realm of social support within IT organizations, the research aims to shed light on the often-overlooked factors that contribute to employee retention. Additionally, by considering the influence of social networks, the study seeks to uncover whether interpersonal relationships and connections within the workplace environment may affect employees' intentions to stay with their organizations. Overall, this research endeavors to fill the impending gap in the



existing literature by offering a comprehensive examination of the impact of social support and social tie perspectives in shaping employee retention within the Indian IT sector, particularly in the context of the Delhi region. Through its findings, the study aims to provide actionable insights for HR practitioners and organizational leaders striving to enhance employee retention strategies and cultivate supportive work environments in this dynamic industry.

## **LITERATURE REVIEW**

Researchers have previously sought to illustrate the interrelationship between social antecedents and sociological issues encountered by individuals. Social factors refer to the various aspects of social interaction, relationships, and structures that influence individuals' behavior, attitudes, and decisions. These factors are inherent in social environments and can have a crucial impact on individual employees' lives, including their choices in employment, relationships, and well-being. Specially, considering the context of emerging workplaces of today, social factors play important roles in shaping organizational culture, employee engagement, and retention.

### **External Social Support**

Social support, as defined by Terrance, Albrecht, and Adelman (1987), involves a communication process aimed at helping individuals feel secure and at ease in a given situation, thereby reducing uncertainty (Aronsson *et al.*, 2000). Support received from others in this regard is more of an interaction or engagement occurring between individuals, encompassing emotional concern, assistance, enhancement of self-efficacy, and information sharing (John & Shafi, 2020; Bandura, 1982). House and Kahn (1985) categorized social support into three types: instrumental, informational, and emotional, highlighting its multifaceted nature. Additionally, Thoits (1995) explained the relevance of social support perspectives in managing interpersonal relationships and coping with stress within organizations.

### **Supervisor Support**

The study conducted by Stephanie Payne and Ann Huffman (2005) provided compelling evidence revealing the importance of support received from supervisors for mentoring relationships in organizations. Similarly, the research conducted by Chien-Cheng Chen, Su-Fen Chiu (2008), and Chieh-Peng Lin, Wei-Ting Hung, and Chou-Kang Chiu (2008) unveiled that support from the superiors significantly impacted employees' organizational commitment behavior. Additionally, the study conducted by Brigitte and Charissa (2013) revealed that there exists a significant negative correlation between employee turnover

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**CHAPTER 3**

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# Harmonizing Sustainable Management of Medical and E-Waste with AI in the Face of Climate Change

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**Abstract:** The rapid expansion of technology and healthcare sectors has triggered a notable upsurge in waste production, notably in medical and electronic forms, posing significant environmental and public health dilemmas globally. Consequently, the concept of sustainable management of natural resources has emerged as a comprehensive approach to mitigate the adverse impacts of waste generation and disposal. This research endeavours to pinpoint challenges, innovative solutions, and best practices in sustainable natural resource management, particularly concerning medical and e-waste. Employing a thorough examination of literature, case studies, and empirical analysis, this study delves into the intricacies of waste management, placing emphasis on principles such as waste minimization, resource recovery, and circular economy approaches. By elucidating the interplay of environmental, social, and economic factors in shaping waste management strategies, the research probes the implications for broader environmental sustainability objectives. Offering practical insights, this study seeks to empower policymakers, industry stakeholders, and researchers in devising sustainable strategies for the management of medical and e-waste. Drawing from diverse geographic regions and sectors, current scenarios are analysed to provide actionable recommendations for establishing resilient and resource-efficient waste management systems. Ultimately, this research adds to the ongoing conversation on sustainable waste management practices, paving the way for a more resilient and resource-efficient future.

**Keywords:** Colour coding waste management, E-waste management, Medical waste management, Natural resources, Sustainable management.

## INTRODUCTION

In an era characterized by rapid technological advancements and burgeoning healthcare needs, the management of waste, particularly medical and electronic

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waste (e-waste), has emerged as a critical environmental and public health concern. In addition to posing serious threats to human health and ecosystems, the unsustainable disposal of these waste streams depletes natural resources and exacerbates environmental problems worldwide. The idea of sustainable management of natural resources has gained popularity in response to these urgent problems, highlighting the necessity of integrated strategies that strike a balance between environmental, social, and economic factors. When improperly disposed of, discarded electrical and electronic equipment can harm both the environment and public health. Furthermore, the exploitation of certain naturally existing resources—some of which are becoming harder to come by—is necessary for the growth of the electronic sector. Recycling is an alternative in this case when trying to recover commercially valuable commodities like metals, which are plentiful in used electrical and electronic equipment (Tamires Augustin Silveira, 2019). Medical waste, on the other hand, may contain pathogenic agents, making it potentially dangerous. Consequently, medical waste management necessitates organizations to make decisions and implement various actions to mitigate health risks (E. Insa a, 2010). According to (Jade Megan Chisholm R. Z., 2021), policies, possible recommendations, and solutions pertaining to medical waste management and sustainability can help decision-makers create strategies for sustainability by utilising eco-friendly technologies for efficient medical waste treatment and disposal methods. This can create a link between the healthcare system, decision-makers, and stakeholders in the development of health policies and programs. The demand for healthcare facilities is increasing alongside the increase in medical waste. A systematic approach to healthcare waste management is required to minimize risks to both occupational and public health (Joshi, 2013). The sustainable development of humanity necessitates strict regulations for the management of natural resources, including their extraction, use, and introduction of waste produced during exploitation. Medical waste is constantly growing in volume and has numerous implications across a range of industries. Due to its effects on human health as well as the environment, economy, and society, waste continues to be a complex issue for human society. More specifically, medical waste needs to be handled carefully since it affects the well-being of the community and the environment (Costel Bucătaru, 2021). Highly hazardous substances comprise a significant amount of healthcare waste. Poor waste management in the healthcare industry can pose major dangers to both human and environmental health. Asian developing nations are heavily populated, and some of them have limited resources. These nations frequently do not manage medical waste in a proper manner. Lack of training courses in waste management breeds ignorance among employees and handlers, which results in dangerous waste handling and poses various health hazards (Bilal Ahmed Khan, 2019). One of the potential adverse consequences of biomedical waste is the spread of

diseases such as HIV, dengue, and Hepatitis B, C, and E through contaminated sharps that have not been appropriately treated. The disposal of untreated biomedical waste results in the multiplication and mutation of pathogenic microbial populations in municipal waste, which causes physical injury and health hazards (Sandip Chakraborty, 2014). According to (Ziyuan Liu, 2021), improving the efficiency of medical waste transmission and treatment has emerged as a major priority for all tiers of government health and environmental protection ministries.

E-waste refers to the disposal of obsolete, damaged, or broken electrical and/or electronic equipment by its original users. E-waste can be classified as hazardous trash because it contains heavy metals (including lead, cadmium, and mercury), brominated flame retardants (BFRs), and other substances that are potentially hazardous. If handled improperly, these substances can pose a major risk to human and environmental health (Kaya, 2016). E-waste is presently the type of solid waste that is expanding most rapidly. E-waste is classified as hazardous waste and may represent a risk to public health and the environment if improperly disposed of. To minimise the dumping of this toxic waste type into landfill sites, alternatives such as exporting, landfilling, and recycling (based on various economic, social, technical, and environmental criteria) are of interest (Badreya Gharib Khamis Mohammed Alblooshi, 2022). Handling of biological and e-waste has received special attention. Provisions of the 2016 solid waste management (SWM) regulations have emphasized this particular type of waste management (Subhadeep Biswas, 2023).

### **Review of Literature**

Biomedical waste remains a persistent issue in both affluent and developing nations, with its volume and complexity steadily increasing over time. Improper management of medical waste disposal poses significant risks to both the environment and public health. Typically, systems for collecting and processing medical waste, such as dumpsters and separate trash containers, are found to be in poor condition (Manga, 2011). The importance of proper biomedical waste management has been increasingly recognized due to the significant health risks associated with improper practices, including exposure to infectious agents and toxic substances (A. Prem Ananth, 2010). Improper handling of medical waste has been demonstrated to adversely affect animals, and water quality, and increase the risk of disease transmission. Besides the disposal costs, factors like contamination and pollution must be carefully considered when determining the best methods for storing and transporting such waste materials (Jade Megan Chisholm, 2021). Effective healthcare waste management necessitates a collaborative, holistic, and ongoing approach involving multiple stakeholders.

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**CHAPTER 4**

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## The Role of Augmented Reality in Shaping Online Shopping Preference: A Systematic Review

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**Abstract:** Augmented reality, a technology that merges computer-generated content with real-world environments, has gained popularity due to the surge in e-commerce, particularly during the COVID-19 pandemic. E-commerce offers convenience, global reach, and cost efficiency for businesses and consumers, but lacks physical touchpoints. Augmented Reality (AR) has transformed consumer happiness by allowing them to virtually experience a product, providing a better understanding of its potential for purchase. This systematic review investigated the role of Augmented Reality (AR) in enhancing the online shopping experience.

### Research Methodology

Secondary data resources such as journals, books, research papers, appropriate websites, and newspapers were contemplated for this study.

### Research Gap

The review reveals that studies have overlooked the technical limitations of Augmented Reality (AR), as it heavily relies on device hardware and connectivity, affecting customer experiences.

### Results

Augmented Reality enhanced online shopping experiences by allowing customers to try products, improving purchase decisions, and increasing customer satisfaction which fostered trust between organizations and customers.

### Conclusion

The COVID-19 pandemic has accelerated e-commerce growth, necessitating the use of Augmented Reality to improve customer shopping experiences and stay competitive in the digital world.

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**Keywords:** Augmented reality, Customer satisfaction, COVID-19, Online shopping, Virtual.

## INTRODUCTION

In the modern era, with the rise of technology, online shopping has witnessed exponential growth, especially during COVID-19. The nationwide lockdown forced people to stay at home and the only way to fulfil their needs was online shopping. Customers have preferred online shopping for multiple reasons including convenience, wide options, time-saving, and better prices. Online shopping has offered numerous benefits, but it also has drawbacks, such as product variations from the image displayed. The main reason customers questioned online shopping was the perceived lack of physical interaction with products. The primary cause of customer dissatisfaction and high return rates was this. For that reason, customers believed in physically going to visit shops to buy products. Therefore, to bridge this gap, the technology called Augmented Reality (AR) came into existence and is now widely used. Online shopping platforms have provided their customers with a virtual experience of their product that helped them gain their customers' trust and provide them transparency.

Augmented Reality (AR) is an interactive experience that combines the real world and computer-generated content. AR can be defined as a system that incorporates three basic features: a combination of real and virtual worlds, real-time interaction, and accurate 3D registration of virtual and real objects. Augmented reality (AR) began in the 1960s with the creation of the “Sword of Damocles” head-mounted display system. It gained popularity in the late 20<sup>th</sup> century, with applications expanding across industries. AR gained popularity in military and industrial contexts, and mobile AR became feasible with smartphones. Google Glass and Pokémon Go showcased AR's potential in gaming, and it is now integrated into various fields like education, healthcare, entertainment, *etc.*

Today Augmented Reality (AR) has become an integral part of online shopping as it enriches user interactions by overlaying digital content on the real world. Customers are privileged to have a virtual try-on of the product they wish to purchase. This helped to avoid any kind of confusion in the minds of the customers while purchasing the product and as a result, high customer satisfaction was observed which also decreased the return rate. Most of the online websites have implemented this tool to obtain their goals and have increased customer satisfaction and the online businesses that have not implemented this tool have lagged. Augmented Reality has provided online businesses with a competitive edge in a market filled with intense competition. In this paper, we discussed how

Augmented Reality (AR) is the new emerging trend and its contribution to shaping online shopping preferences.

### **STATEMENT OF THE PROBLEM**

This study aimed to explore the impact of Augmented Reality on customers' preference for online shopping. This study discussed how the COVID-19 pandemic was one of the causes of the emergence of Augmented Reality. This study also aimed to discuss the other factors that are driving the growth of Augmented Reality as an emerging and potentially future-leading tool in online shopping. Additionally, included in this study is the way that Augmented Reality has increased customer satisfaction.

### **RESEARCH METHODOLOGY**

The study examined the impact of Augmented Reality on online shopping preferences. To conduct this systematic review, secondary data from various websites, books, journals, articles, and publications were contemplated, focusing on the COVID-19 pandemic as a significant cause for the rise in online shopping.

### **REVIEW OF EXISTING LITERATURE**

**Tobias Richter and Krystof Raska (2017)** conducted a study to explore the influence of augmented reality (AR) on purchase intention in the furniture industry. It compares the IKEA AR application to a website-based product experience. The results showed that the AR application is highly enjoyable and useful, leading to higher purchase intentions. The main driver was the engaging experience and unique product knowledge. AR, part of the mixed reality continuum, combines real and virtual worlds into a single interface. It gained popularity due to technological advancements, cost reduction, internet spread, GPS, and increased mobility.

**Johannes Egger, and Tariq Masood (2019)**, suggested that Augmented Reality (AR) is a key component of Industry 4.0, enabling human interaction with smart factories. While not yet ready for industrial deployment, AR was already used in some areas. Future research will focus on intelligent manufacturing applications of AR. The manufacturing industry has evolved significantly since the first industrial revolution, incorporating digital technologies like AR, virtual reality, predictive maintenance, cloud computing, IoT, big data, and digital twins. AR facilitates collaboration between humans and production systems based on digital data.

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**CHAPTER 5**

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## **Driving The Future: The Interplay between Consumer Preferences and Technological Innovation in the Automobile Industry**

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**Abstract:** In the automotive sector, technological innovation is the ongoing creation and application of novel and cutting-edge technologies to improve a range of vehicle attributes. This covers enhancements to automation, connectivity, energy efficiency, safety features, and general performance. Artificial intelligence, sensors, electric propulsion, and advanced materials are some examples of innovations that can be used to create safer, more environmentally friendly, and feature-rich vehicles that satisfy changing consumer and regulatory requirements.

In this study, we gathered secondary data sources from all over the world, including journal articles, case studies, research papers, and newspaper pieces about some market automobile leaders. This study examines consumer attitudes and views of self-driving cars, electric vehicles, and brand preference, focusing on how public opinion is shaped by safety concerns, media attention, and trust. Consumer tastes and environmental awareness are the main topics of this study. Examining the impact of sustainability and environmental friendliness on consumer happiness and brand loyalty can affect consumer choices, including the need for hybrid and alternative fuel vehicles as well as advanced connectivity capabilities and entertainment Systems, utilizing consumer preferences, manufacturers create innovative technologies that satisfy market demands and boost industry competitiveness, customer satisfaction, and the uptake of cutting-edge features. The successful and sustainable growth of the automotive industry is ensured by the interaction between technological innovation and consumer preferences, resulting in the creation of vehicles that meet consumer needs.

**Keywords:** Automobile, Consumer, Consumer Preferences, Industry, Market, Technology.

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**Rakesh Kumar Dhar Dubey, Indranil Mutsuddi, Sulagna Das, Surjyasikha Das & Nilanjan Ray (Eds.)**  
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## **INTRODUCTION**

The manufacturing and retailing of automobiles, including cars, trucks, motorbikes, and other motorized vehicles, is referred to as the automobile industry. It is a broad, ever-evolving industry that includes everything from car design and manufacture to sales and maintenance. Incorporating technological innovations across a range of domains to improve vehicle performance, safety, and efficiency is known as technology management in the automotive industry. In order to align technology with customer preferences, the automotive sector carries out comprehensive market research to ascertain the features, performance, and sustainability that consumers desire. Furthermore, the business keeps a careful eye on changes in customer behavior, including the growing desire for connectedness, autonomous driving, and electrified cars. In order to remain competitive and satisfy changing demands, manufacturers make an effort to match their technical innovations with these preferences.

### **Customer Preferences When Purchasing a Car**

Based on their priorities, way of life, and financial situation, middle-class and wealthy consumers may have different tastes when it comes to buying cars. These are some important variables that could affect these two segments' preferences.

#### ***Aristocracy Consumers***

Rich people, also known as upper-class people, are usually defined as those who have a large amount of wealth, high income, and financial resources. Individuals in the upper class frequently possess the financial resources to purchase upscale goods and services, make investments in upscale real estate, and lead lives that are distinguished by exclusivity and privilege. Business executives, entrepreneurs, business leaders, and those with significant inherited wealth can all be considered members of the upper class.

#### ***Capitalist Consumers***

The middle class is a broad socioeconomic group that falls between the upper and lower classes. Members of the middle class usually have moderate to comfortable incomes, engage in professional or skilled occupations, and may own homes and vehicles. The middle class is diverse and includes a range of professions, such as teachers, healthcare professionals, engineers, and small business owners. The middle class often seeks financial stability, home ownership, and educational opportunities for their families. Their preferences:

## BACKGROUND OF THE STUDY

Since its inception in 1886, when Leonardo da Vinci first conceived of the concept of a self-propelled car, to the present day, a number of industry pioneers and leaders have shaped the field. During its history, the automobile industry has undergone significant technological innovations, transitioning from antiquity to the current era of electric vehicles (EVs). Important market leaders like Tesla, General Motors, Toyota, and Ford have shaped the industry over the years.

**Table 1. Patterns of consumers.**

<sup>1</sup> Aristocracy Consumers	<sup>2</sup> Capitalist Consumers
Luxury and Prestige	Affordability and Value for Money
Performance	Fuel Efficiency
Technology and Innovation	Practical Features
Customization	Safety Features:
Exclusive Services	Resale Value
Environmental Impact	Financing Options

**Source:** International Journal of Marketing and Technology.

Henry Ford introduced the assembly line to manufacturing at the beginning of the 20<sup>th</sup> century, revolutionizing the industry and lowering the cost of automobiles. To improve driving comfort, General Motors introduced automatic transmissions in the 1930s. Japanese automaker, Toyota, which gained recognition for its effective production systems and pioneered hybrid technology with the Prius, rose to prominence in the latter half of the 20<sup>th</sup> century.

Vehicles have changed dramatically in recent decades due to advances in electronics and connectivity. Elon Musk's Tesla has been a major player in the electric vehicle industry, pushing the boundaries of autonomous driving, battery technology, and environmentally friendly transportation. Nowadays, the automotive sector leads the way in innovation, emphasizing connectivity, smart mobility solutions, and electric and autonomous vehicles see Table 1.

### Market Players

#### *In Terms of the Global Market*

**Tesla:** The founding members of Tesla were *Elon Musk, Ian Wright, Marc Tarpenning, JB Straubel, and Martin Eberhard*. When Tesla Motors was established in 2003, Elon Musk joined the company soon after. In the automobile business, especially in the electric vehicle (EV) market, Tesla is a game-changer

## CHAPTER 6

## The Impact of Social Media on Brand Image and Brand Loyalty in the Hotel Industry

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**Abstract:** This paper examines the impact of social media on hotel brand image, which aids in retaining loyal customers. It also explores how social media influences customer preferences in selecting a specific hotel, leading to overall satisfaction. Data was collected using conventional sampling, and multiple regression analysis was employed to assess the influence of various social media attributes on brand image and brand loyalty in the hotel industry. Secondary data was gathered from previous research, while primary data was collected through a structured questionnaire. The analysis reveals that attributes such as e-WOM (Electronic Word of Mouth), e-Ads (Electronic Advertisements), and e-Community (Electronic Community) positively impact brand image, thereby strengthening customer loyalty. This research provides hotel management with insights on leveraging social media to enhance brand value and profitability, while also highlighting potential risks associated with social media used to foster a stronger brand image and enhance guest loyalty.

**Keywords:** Brand image, Brand loyalty, Brand value, Customer satisfaction, Electronic word-of-mouth (E-WOM).

### INTRODUCTION

In the current digital era, where tasks can be completed with just a click of a button, digitalization has greatly impacted the hospitality industry. From front-of-house to back-of-house operations, digitalization plays a key role in shaping the day-to-day operations of the hotel industry. Social media plays a key role in increasing an organization's brand value and profitability. Therefore, the study titled "The Impact of Social Media on Brand Image and Brand Value in the Hotel Industry" is highly relevant given the current situation.

To understand the impact of social media on brand image and brand loyalty in the hotel industry, we must consider the following research questions:

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- How does the use of social media platforms by hotels influence customers' perceptions of brand image?
- To what extent does engagement with a hotel's social media content correlate with customer loyalty?
- What key factors drive customer engagement with hotel brands on social media, and how do these factors relate to brand loyalty?

## **THEORETICAL FRAMEWORK**

### **Social Media**

Social media has become an integral part of our daily lives. The way we communicate and share information has changed (Boyd & Ellison, 2007; Amir *et al.*, 2022). Various online platforms like Facebook, Twitter, *etc.*, enable users to share information and connect to the world virtually (Mònica *et al.*, 2023). It has not only helped many businesses grow and reach their customers directly (Phua *et al.*, 2017), but it has also enabled people to educate themselves about global events (Junco, 2012; Ana *et al.*, 2023). Since there is a lot of information available online, the validity of that information can at times be questionable (Acquisti & Gross, 2006; Vosoughi *et al.*, 2018). In addition, excessive use of social media has been found to have a negative impact on the psychology of the user when used excessively (Verduyn *et al.*, 2017), often resulting in feelings of loneliness and depression (Shensa *et al.*, 2017).

### **Brand Image**

The brand image reflects how a brand is perceived by its consumers and stakeholders. There are different dimensions of brand image (Keller, 2003), such as sincerity, excitement, competence, sophistication, and ruggedness, which influence customers' perceptions (Aaker, 1997). Many researchers have developed models to measure brand image (Kapferer, 2009; Keller, 1993). Factors such as perceived quality, brand credibility, and advertising influence an organization's brand image (Kim & Kim, 2005; Sen & Bhattacharya, 2001). Customers also emotionally associate with a brand, adopting it as part of their identity (Fournier, 1998). This influences customers' perceptions of brand image, which in turn enhances brand loyalty, purchase intention, and willingness to pay a premium price (Erdem & Swait, 2004).

### **Brand Loyalty**

Brand loyalty is a key aspect of marketing and consumer behavior, reflecting a customer's desire to return to the brand repeatedly. The customer connects with the brand emotionally and psychologically (Hollebeek, 2011). Multiple elements,

such as customer satisfaction (Oliver, 1999) and trust (Alhaddad, 2015), contribute to the establishment of brand loyalty. When customers find that a brand meets or exceeds their expectations, they tend to remain loyal (Oliver, 1999). Programs like loyalty programs and personalized interactions strengthen the bond between the customer and the brand. Jacoby and Chestnut (1978) identified behavioral loyalty, attitudinal loyalty, and cognitive loyalty as the three dimensions of brand loyalty.

### **Conceptual Framework and Hypothesis**

Social media has transformed the way brands connect with their customers, shaping both brand image and brand loyalty. E-communities, e-advertising, and e-WOM (Electronic Word of Mouth) are key features in the digital marketing scenario. E-communities serve as platforms for e-advertising and e-WOM. Positive e-WOM enhances the impact of e-advertising, while negative e-WOM necessitates management. Brands that effectively navigate this ecosystem can harness the power of engaged e-communities to strengthen their e-advertising strategies and cultivate positive e-WOM, contributing to enhanced brand perception and consumer loyalty (Tawfeeq *et al.*, 2023).

Electronic communities (e-communities) wield a substantial influence on both brand image and brand loyalty. These digital platforms allow brands to engage directly with consumers, shaping perceptions and fostering authentic connections (Park & Lee, 2009; Rand *et al.*, 2023). Through active participation and content sharing (Zhu *et al.*, 2017), brands can mold a favorable brand image within e-communities, conveying values and credibility (Anaya-Sánchez *et al.*, 2018). E-communities also play a pivotal role in cultivating brand loyalty by providing a space for consumers to bond over shared interests and experiences (Muniz *et al.*, 2001), leading to deeper emotional connections and heightened loyalty (Wirtz *et al.*, 2013). Successful navigation of e-communities can lead to a strengthened brand image and a loyal customer base that advocates for the brand (Seo *et al.*, 2020). The following hypotheses are concluded after reviewing the literature:

**H1:** Social Media has a significantly positive impact on the brand image of an organization.

**H2:** Social Media has a significantly positive impact on the brand loyalty of an organization.

**H3:** Brand Image has a significantly positive impact on Brand Loyalty.

Electronic word-of-mouth (e-WOM) has emerged as a transformative force in the digital scenario, significantly impacting both brand image and brand loyalty.

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**CHAPTER 7**

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## **Employee Satisfaction and Productivity in the Digital Era in the Higher Educational Institutes of West Bengal: An Empirical Study**

**Priyanka Chakraborty<sup>1,\*</sup> and Indranil Mutsuddi<sup>1</sup>**

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**Abstract:** Job satisfaction is an exclusive way to measure an employee's sense of belonging and dedication to the company. Contrarily, productivity is the ratio of inputs that an individual or organisation invests in and outputs that the organisation can acquire through funds, employee potential and expertise, efforts, profit-making ability, and other resources in exchange for achieving its objectives. The use of technology and Digitisation in the workplace has a significant impact on employee satisfaction. Employees who are satisfied with their jobs will be more likely to stay with a company and be happier in their work life. With the ever-changing nature of the competitive market, every organisation must have a positive outlook towards the overall productivity rate for their long-term sustainability. In this study, some higher educational institutes in West Bengal were considered to analyse the overall scenario of their employee satisfaction and productivity rate. For this purpose, some existing data have been taken into account throughout the study. The main objective is to explore the different facets of employee satisfaction and the various factors affecting the entire scenario in this digital era.

**Keywords:** Employee potential, Employee commitment, Digitization, Job satisfaction, Long-term sustainability, Productivity rate.

### **INTRODUCTION**

For any organisation, job satisfaction and productivity are the two sides of a coin. Job satisfaction ignites employee productivity in terms of innovativeness, potential growth, level of commitment, and effort which can be considered one of the key elements of a productive work structure. In addition to this, various tools and techniques like Artificial Intelligence (AI), Machine Learning (ML), Data Analytics, *etc.* for educators have been employed by multiple higher educational institutes like schools, colleges, and universities to provide various facilities like

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library access, Learning Management System (LMS), Employee Database Management System, Attendance Management System, *etc.* which can help to provide learning experience in higher educational institutes (Cox *et al.*, 2019). Education “is said to act as a multiplier of rights, meaning that all other human rights can be enhanced when it is enjoyed fully and impacted negatively when it is not” (Lundy 2021) and it also suggests that there is a need for employee satisfaction.

Further research is needed on the development of technology-assisted systems and usage of digitisation that can handle more complex and dynamic scenarios, as well as in the field of Human-Technology interaction. Along with that, we have tried to analyse the effectiveness of digitisation as the relationship of education with digitisation (AIED) is not a myth. The amalgamation of new technologies like AI (Artificial Intelligence), and ML (Machine Learning) with education and learning has now become a flexible zone for educators, learners, and researchers through various segments of its implications on education (Holmes *et al.*, 2019). In this study, we have considered 6 higher educational institutes *i.e.* private colleges, and universities among Kolkata and its suburb zones have been considered and a pre-structured questionnaire has been shared among 410 people comprised of 214 teaching staff members and 196 non-teaching staff members among which 385 responses were collected and analysed to explore the impact of job satisfaction on the level of productivity in this era of digitization.

## **THEORETICAL BACKGROUND**

It is also a very common challenge to the educators and learner community to get perfect data to meet their expectations as the majority of the datasets are pre-determined in their digitalised version which may cause bias and inappropriate results (Karnowski *et al.*, 2019).

### **Job Satisfaction**

Reaching the highest possible degree of employee satisfaction is truly a utopia for any organisation. It is the internal urge of an employee that always gives a positive outlook on their productivity and potential. A satisfied employee always performs better than others, satisfaction motivates him/her to bring maximum efficiency and potential to accomplish the overall objectives that’s why in every management approach, job satisfaction is considered an essential part (Wolniak *et al.*, 2019).

### Effect of Digitisation on Employee Satisfaction and Productivity

The new pattern of education plays a pivotal role in bringing significant changes in higher education sectors through the emergence of digitisation (Bogdandy *et al.*, 2020; Kang, 2021). In other terms, it can be said that HEIs have amalgamated the new paradigm shift in the educational framework through the intervention of digitisation and its adoption in a greater manner. There is a wealth of evidence indicating that the recent pedagogical approaches and additional changes have been integrated into the new education policy, along with its reforms and challenges (García-Morales *et al.*, 2021). Some experts have raised a question regarding the overall impact of digitisation in educational sectors in terms of the quality of a teaching-learning system and its feasibility shortly (Kovalchuk *et al.*, 2019). In education, digitisation is less about improving what is attempted and tested in the analogue world with digital technology (Wekerle *et al.*, 2022).

Overall, the education system during the period after COVID-19 changed swiftly and efficiently, substituting online learning for traditional classroom teaching methodology.

COVID-19 has certainly been challenging for education, but it has undoubtedly contributed to the adoption of digitisation in the HEI system. Several researchers have found the adoption and usage of digitisation very significant in the sector of the higher education system (Hughes *et al.*, 2020; Morgan, 2020).

It has been suggested by experts that schools, colleges, and other higher educational institutes should adopt digital innovations very carefully within their workplace to get the expected outcome (Alnagrat *et al.*, 2022). After the COVID-19 pandemic, all higher educational institutes should be more focused on the implications of digitization in their teaching-learning system so that more accessibility can be provided to all learners effectively. Some institutes have already worked on this matter and they have successfully reformed their existing structure through some interventions like- online teaching, remote learning systems, changing classroom teaching patterns, reforming the curriculum structure, reviving the examination pattern, accessibility towards study materials and other resources, change in the overall management system, *etc.* To improve the quality of the teaching-learning system some innovative concepts have been designed and implemented as core components of the new pedagogical structure like- Didactic Design and its applications which enable the learners to design their learning process which helps them to better understand the lessons by providing different array of environments, resources and other necessary equipment (Kergel *et al.*, 2020). As a component of didactic design, the adoption of digitisation also helps students enhance their comprehension and other learning skills through



## CHAPTER 8

## AI-Enhanced Retail Experiences and its Impact on Customer Repeat Purchase Intention

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**Abstract:** Amidst the myriad changes unfolding in the realm of digital markets and consumer behavior, individuals' shopping habits have undergone a profound transformation. Leveraging the purchase history of customers, personalized product recommendations are now ubiquitous across the web, courtesy of Artificial Intelligence (AI). However, the extent of AI's impact on fostering customer repurchase intention remains a pertinent question. This study aims to elucidate the influence of AI-driven purchasing applications on consumer repurchase intention, employing a comprehensive methodology that integrates both qualitative and quantitative approaches. Data were gathered using Likert's 5-point scale and subsequently analyzed through factor analysis and multiple regression analysis. The results of this research make a significant contribution to the e-retail sector, offering valuable insights into user behavior and addressing gaps in academic research.

**Keywords:** Artificial intelligence, AI-backed shopping application , Customer repurchase intention , Digital marketing , E-retail sector .

### INTRODUCTION

Digitalisation has brought the world into our palms, and the business world is no different. It is opening many new avenues for executing one simple task. Especially, with the emergence of Artificial Intelligence (AI), keeping the focus of this paper in mind, in online marketing, customers and their purchase journey have become seamless. Scholars (Zealley *et al.*, 2018; Zhang and He, 2020) have discussed that the sustainability of any business depends upon the degree of satisfying the most relevant need of a customer by providing a good customer experience. In general, this influences consumer behaviour to a great extent (Białowolski, 2019; Hamilton *et al.*, 2019). In the age of AI-driven marketing consumers have a growing preference for products that fulfill their immediate needs and become less attached to a brand (Sarwar *et al.*, 2019). In this context,

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the reputation and visibility of a brand in the market are determinants in the choice of repurchase by customers (Geraldine and Laurent, 2019). Additionally, it is possible to observe a clear positive correlation between trust, satisfaction, and the intention of repurchase (Chen *et al.*, 2016; Mahfuzra *et al.*, 2019).

It is becoming crucial to understand the transforming customer journey in emerging e-markets based on advanced technologies with associated software and hardware (Hoyer *et al.*, 2020; Singh *et al.*, 2021; Rana *et al.*, 2022). AI-based software improves functionality, and practitioners have experienced improved retail performance, thereby leveraging reinforcement that leads to positive customer feedback (Malodia *et al.*, 2021). AI can efficiently close the gap between a business and its understanding of its prospective market needs, provide information, and develop a grievance-resolving system that leads to a positive customer experience (Dwivedi *et al.*, 2020; Paschen *et al.*, 2019). It develops a positive attitude among customers (Zanker *et al.*, 2019). Among so many theoretical debates, there is vividness in understanding how customer experience generated by AI-backed shopping applications can lead to customer repurchase intention. This study intends to address the issue and bring insights into the relationship between AI shopping applications and the repeat purchase intention of users.

## **Literature Review**

The key determinant of the success or failure of a digital store depends on the quality of customer experience (Bilgihan *et al.*, 2016). Interaction between a digital company and its customers can be revolutionized by AI and its features (McLean and Osei-Frimpong, 2019; Paschen *et al.*, 2019). This helps to develop a better customer experience by providing good e-service (Evans, 2019). Scholars have defined that customer experience, based on both the affective and cognitive domains of customer behaviour, helps to develop a positive customer attitude, and at present, AI's personalization is the prime factor in it (Prentice and Kadan, 2019; Scheidt and Chung, 2019; Suhartanto *et al.*, 2019; Prentice *et al.*, 2020). Previous studies have shown that a good experience for users or customers, due to personalized suggestions, helps to develop a high level of belongingness with a positive perception (Komiak *et al.*, 2006; Shen and Ball, 2009; Aguirre *et al.*, 2015). Researchers (Deng *et al.*, 2010; Srivastava and Kaul, 2016) have stated that providing a good positive experience, based on the cognitive and affective domains, to customers is very important for developing a favorable customer attitude. They have further stated that customer experience helps to build satisfaction, trust, and customer repurchase. Technological stimuli can lead to both cognitive and affective arousals; this helps to improve e-service quality and customer experience (Bilro *et al.*, 2018; Shobeiri *et al.*, 2018). In the domain of

online shopping for goods, customer experience plays an important role in developing customer repurchase intention (Shang and Wu, 2017; McLean *et al.*, 2018). Researchers Hoyer *et al.* (2020) have stated that a better customer experience can be provided by AI. A good customer experience is based on three dimensions: Cognitive (receiving the recommendations), Sensory (exploring the recommendations), and Social (social connectivity). This will help the company to develop customer experience based on both the cognitive and affective domains, thereby improving customer repurchase intention. Further, presentation, navigation, security, privacy, fun, entertainment, excitement, familiarity with the technology, user expertise, online shopping experience, technology usage experience, customization, convenience, enjoyment, and perceived ease of use, *etc.*, play an influential role in improving customer experience about their purchase journey and chances of customer repurchase intention in the digital market (Bart *et al.*, 2005; Kim *et al.*, 2012; Wu *et al.*, 2016; McLean *et al.*, 2018; Viswanathan *et al.*, 2018). However, this developed repurchase attitude does not always result in a purchase; rather, it increases the usage of mobile applications (Pansari and Kumar, 2017). AI, with its personalizing capability, is the most efficient technology for deducing market preferences and constructing a trust element (Yin and Qiu, 2021), such as the intelligent push part of any digital store's "deals only for you" section.

Depending on the discussion, it can be clearly understood that customer experience based on customer preference leads to positive customer behaviors and also to customer repurchase intention. However, hardly any literature has tried to identify the underlying factors of customer experience and their relations with customer repurchase intention, especially in the AI marketing scenario. Based on the noted research gap, an attempt has been made to explore the dimensions of customer experience and their impacts on customer repeat purchase or repurchase intention in the era of AI marketing.

### **Research Question**

In order to bridge the mentioned gap, the following research question was developed:

1. In the era of AI marketing, do the explored dimensions of Customer experience have any influence on customer repurchase intention?

### **Objective**

The following research objectives were developed to address the developed research questions:

## CHAPTER 9

# Stock Closing Price Prediction of FAANG Companies: A Comparative Analysis of Selected Machine Learning Models

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**Abstract:** Forecasting stock market returns poses a formidable challenge due to the inherent volatility and non-linear dynamics of financial markets. The main objectives of this research are to predict the stock closing price of FAANG companies where FAANG is the acronym for five of the best-performing techs-centric stocks of the past decade: Facebook (now Meta Platforms), Amazon, Apple, Netflix, and Google (now Alphabet). Harnessing strides in artificial intelligence and heightened computational capacities, this research deploys intricate predictive methodologies to augment the precision of stock price prediction. In this work, we have utilized 8 different Machine Learning models such as Linear Regression, KNN Regression, Decision Tree Regression, Random Forest Regression, AdaBoost Regression, Gradient Boosting Regression, XGBoost Regression and CatBoost Regression for predicting the closing price of FAANG companies. The models are evaluated on the basis of  $R^2$  score, MAE, MSE, and RMSE. Low values of MAE, MSE, and RMSE and a high score  $R^2$  score indicate the high efficiency of the model. Gradient Boosting, XGBoost, and Catboost excel in MSE and MAE metrics. Linear Regression excels for Google and Meta but falters elsewhere. Decision Tree and Random Forest exhibit diverse performance, while K Nearest Neighbors Regressor performs inadequately, suggesting unsuitability for this dataset. It has been observed that greater data variability, as indicated by a wider range, is associated with lower prediction accuracy in the model. This study aims to help financial analysts, investors, and managers get a wider perspective of the performance of the various machine learning models based on the various error metrics and how they are effective for next-day prediction.

**Keywords:** Decision Tree Regression, FAANG companies, Linear regression, Machine learning, Random forest regression, XGBoost regression.

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## INTRODUCTION

Efforts to forecast stock market movements for financial gain have persisted since its inception, encountering inherent difficulty due to the volatile factors influencing stock values. Employing data mining techniques, particularly in analyzing historical stock data, has been attempted for predictive purposes. While some favorable results have been observed, the method is considered erratic due to the perceived unpredictability of stock market price shifts. To mitigate this unpredictability, it is crucial to investigate and analyze it in conjunction with historical data to refine and improve predictive models. Recognizing that stock prices hinge on supply and demand dynamics, leveraging breaking news datasets allows for gauging public sentiment and its impact on specific stock prices. Furthermore, analyzing internet traffic related to specific stocks, including sentiment analysis, emerges as an additional avenue for stock market prediction (Dondio, 2012). The acronym FAANG represents five major and high-performing technology companies in the stock market *viz.* Facebook (now Meta Platforms), Amazon, Apple, Netflix, and Google (now Alphabet). Apple, Microsoft, Alphabet, and Amazon constitute the foremost quartet in terms of market capitalization within the S&P 500 index, with each exceeding a market cap surpassing \$1 trillion. In contrast, Meta Platforms, with a market capitalization of \$263 billion, presently holds a position just beyond the top 20 stocks in the S&P 500 (Duggan, What Happened To FAANG Stocks? They Became MAMAA Stocks, 2023). In today's landscape, advanced intelligent methods rooted in technical or fundamental analysis play a crucial role in predicting stock prices. Stock market analysis, characterized by extensive and often non-linear datasets, requires efficient models to navigate and unveil hidden patterns. Machine learning techniques have significantly improved efficiency in this domain, showing a notable 60% to 86% enhancement compared to traditional methods. This transformation highlights the impactful strides achieved by leveraging advanced computational approaches to extract valuable insights from the complex realm of stock market data (Li, 2017). In this paper, we have utilized the financial data of FAANG companies like open, low, volume, and high prices to predict the closing price using various machine learning models and then we compared these models for best performance based on various metrics.

## Literature Review

(Mehak Usmani, 2016) in their research, aimed to predict Karachi Stock Exchange (KSE) performance at day closing using diverse machine learning techniques. The model incorporates input attributes such as oil rates, gold and silver rates, interest rates, foreign exchange rates, NEWS, and social media feeds. Traditional statistical methods like Simple Moving Average (SMA) and

Autoregressive Integrated Moving Average (ARIMA) are also included. Comparative analysis reveals that the Multi-Layer Perceptron (MLP) algorithm outperforms others, with oil rates identified as the most influential attribute. This suggests the feasibility of predicting KSE-100 index performance through machine learning approaches. (M Umer Ghani, 2019), in their research, employed machine learning algorithms such as Linear Regression, Three-Month Moving Average, Exponential Smoothing, and Time Series Forecasting to predict stock market trends for Amazon, AAPL, and Google stocks. Utilizing data from Yahoo Finance, the study emphasized the importance of accurate predictions in the dynamic stock market, particularly post-financial crises. Linear Regression was successfully implemented to forecast trends for the next month, and accuracy was measured using MS Excel for representation. The research aimed to contribute insights into predicting non-linear signals in the stock market using advanced machine learning and AI. (Sharma, 2019) conducted a comprehensive study on stock market behavior, evaluating various traditional machine learning algorithms—Random Forest (RF), Support Vector Machine (SVM), Naive Bayes, K-Nearest Neighbor (KNN), and Softmax—for prediction purposes. Employing technical indicators on data from sources like Yahoo and NSE-India, they observed that Random Forest yielded optimal results for large datasets, while Naive Bayesian exhibited superior accuracy for smaller datasets. Notably, a reduction in the number of technical indicators correlated with a decrease in model accuracy, highlighting the importance of feature richness in predictive modelling. (Shunrong Shen, 2012) introduced a novel stock market prediction algorithm leveraging temporal correlations among global markets and financial products, employing a support vector machine (SVM). Achieving accuracies of 74.4%, 76%, and 77.6% in NASDAQ, S&P500, and DJIA respectively, the algorithm's effectiveness was also assessed in a trading model comparison. (Hui Liu, 2020) in their study pioneered a deep learning approach, employing a novel hybrid framework featuring empirical wavelet transform preprocessing and outlier robust extreme learning machine post-processing. The core, a long short-term memory network, was optimized through dropout and particle swarm optimization. Experimental results demonstrated superior accuracy across three challenging datasets, validating its potential for stock market monitoring and financial analysis. (Yingjun Chen, 2017) in their paper introduced a hybridized framework combining feature-weighted Support Vector Machine (SVM) and feature-weighted K-Nearest Neighbor for effective stock market index prediction. It developed a detailed theory of feature-weighted SVM, determining feature importance through information gain. The proposed model demonstrates superior prediction capabilities for Shanghai and Shenzhen stock exchange indices in the short, medium, and long term, offering adaptability for other stock market indices predictions. (Michel Ballings, 2015) in their paper compared ensemble methods

## Financial Inclusion of the MSME Sector in India

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**Abstract:** Over the past 20 years, scholars and policymakers have focused more on financial inclusion as a possible source of economic advantages. From a research perspective, the investigation of financial inclusion can be seen as a natural progression from the early 1990s literature, which revealed favourable macro and microeconomic effects of more effective financial service delivery overall. For instance, it has been demonstrated that the wide process of financial development encourages economic growth at the business, industry, and national levels in addition to improving resource allocation and productivity growth, which in turn has some bearing on capital accumulation.

Micro, Small, and Medium Enterprises (MSMEs) play a significant role in driving economic development through their significant contributions to employment generation, Gross Domestic Product (GDP) growth, and overall industrial advancement. These enterprises, often characterized by their agility, innovation, and local focus, have a profound impact on various aspects of an economy.

The government of India right from the beginning through different stakeholders started financial inclusion programmes. Although there was an initiative on behalf of the Government of India with different stakeholders from time to time for financial inclusion, the process got a major Philip with the onset of digitisation. With the system being online, any sort of registration has become easier compared to earlier times and MSMEs have become more formalised with Udyam Registration thus leading toward financial inclusion. The result of trend analysis with 5 factors *e.g.*, popular government schemes like PMEGP, MSME Samadhan Portal-“MSME-SAMBANDH Portal”-GeM Portal on financial inclusion shows mixed results.

**Keywords:** Financial inclusion, GDP, MSME.

### INTRODUCTION

Ensuring that individuals, particularly those in poverty, have access to fundamental financial services within the official financial system is known as

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financial inclusion. For four reasons, financial inclusion has drawn a lot of interest from academics and policymakers. First, financial inclusion is thought to be a key tactic in achieving the Sustainable Development Goals of the United Nations. Secondly, financial inclusion contributes to the improvement of social inclusion in many nations. Finally, financial inclusion offers further socioeconomic advantages. Thirdly, it can aid in bringing poverty levels down to a desired minimum. Finally, the socio-economic benefit is translated through financial inclusion.

The concept of financial inclusion has been a top priority since 2008 after the government realized that it must be the primary engine of the nation's economic expansion. India's strategy for financial inclusion aims to involve MSMEs and underserved, unbanked people in order to foster inclusive financial growth. According to the World Bank's 2014 Global Financial Development Report, almost 50 countries have put special laws into place to promote financial inclusion. According to the Economist Intelligence Unit's Global Microscope analysis of policy frameworks in 55 emerging market economies, around two-thirds of these countries have defined National Financial Inclusion Strategies in 2014.

By providing formal financial institutions with easy provision to basic financial products like bank accounts, remittances, bill payment services, government-sponsored insurance, pension products, and formal credit at reasonable prices, as well as by including unbanked and under-supported individuals and MSMEs, India's vision for financial inclusion aims to enhance inclusive financial growth. A growing amount of studies have demonstrated how financial inclusion has a compounding effect that lowers income inequality and poverty while raising national economic production.

Sincere efforts are being made, in particular, to combine widespread formal banking channels with cutting-edge financial technology to create a viable and vibrant ecosystem that will drive accessibility of formal financial products to underserved and unbanked segments of Indian society, especially with the advent of the "Digital India Movement" and telecom penetration to deep rural areas.

Significantly greater internet connection is available in the most remote places, enabling real-time beneficiary enrolment, transactions, and Aadhaar-based authentication to be carried out in the field. Service delivery occurs through last-mile channels such as mobile phones, tablets, point-of-sale (PoS) devices, kiosks, and micro ATMs. For UPI-based financial transactions to be completed, the beneficiary account must be linked to the customer's phone and opened under the PM JDY scheme. Banks began conducting UPI-based transactions utilizing



recently opened accounts. A little over 470 million people (34.47%) in India were urban inhabitants as of January 2019. However, more than 65% of people live in rural and semi-urban areas, where access to digital services is less than in large cities.

### Micro Small & Medium Enterprise

With an estimated 630.52 lakh businesses, the micro sector makes up more than 99% of all MSMEs. The estimated number of MSMEs in the small and medium sectors was 3.31 lakh and 0.05 lakh, respectively, making up 0.52% and 0.01% of the total estimated MSMEs. 324.88 lakh MSMEs (51.25%) are located in rural areas, whereas 309 lakh MSMEs (48.75%) are located in urban areas, out of the projected 633.88 number of MSMEs.

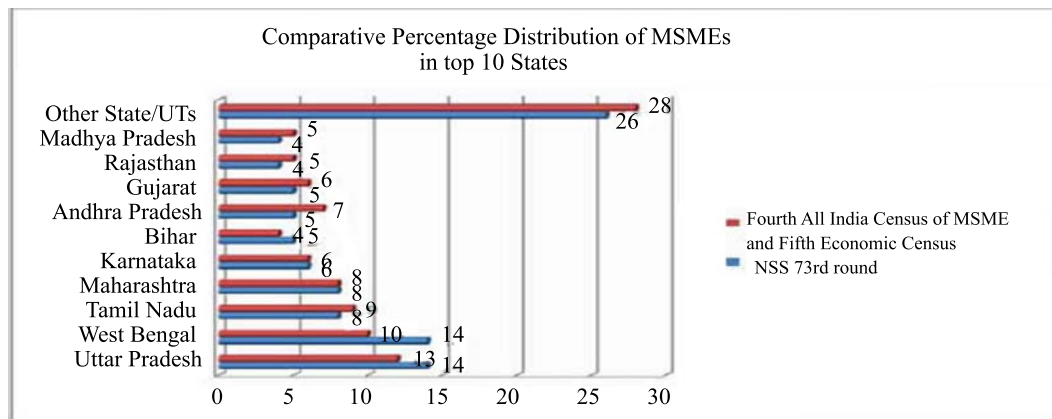


Fig. (1). Comparative percentage distribution of msme in india (source: Econ survey 2023).

It is evident that the service sector recorded 68% registration followed by the manufacturing sector (32%) in the case of udyam registration. Moreover, the number of registrations in the case of medium, small, and micro categories is 34090, 214150, and 6062213, respectively (Figs. 2 and 3).

The Global Partnership for Financial Inclusion (GPFI) is dedicated to promoting financial inclusion on a global scale by improving access to and utilization of sustainable formal financial services. This will increase opportunities for marginalized and underserved households and businesses, particularly Micro, Small, and Medium-Sized Enterprises (MSMEs) owned by women. In order to promote financial inclusion and productivity benefits, India's G20 presidency has placed a high priority on the creation of an open, accessible, and responsible digital financial ecosystem built on the existence of a reliable and efficient digital public infrastructure (DPI) (see Fig. 1).

## Role of AI in Reshaping the Investment Behaviour of Individuals in Digital Economy

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**Abstract:** In today's society, the role of AI or Artificial Intelligence is undeniable. In this data-driving world, the financial sector is also not an exception to technological advancements. This article will focus on the role of AI in reshaping the investment behaviour of individuals in the era of the digital economy. The researchers have introduced the concept of AI and how it can impact the investment landscape. From this study, one would understand that AI can make strong strategies for individuals to invest correctly and in the way it can be managed. The researchers have conducted a systematic literature review to complete this study. A total of 26 articles have been selected at the final stage for being reviewed among 150 articles. The researchers used PRISMA software to structure the database for this study. Moreover, the research protocol has been made which shows the research objectives along with the conceptual boundaries as well as some inclusion criteria. Considering those inclusion and exclusion criteria, researchers have developed three themes to understand how AI can reshape an individual's investment behaviour. The results of this study show that AI can influence the investment landscape and recognise the pattern of human investment behaviour by using AI-driven algorithms. This can further strengthen the position of the financial sector across the digital economy. This study is also supported by the research limitations and future scope that can reduce the research scope positively.

**Keywords:** Artificial intelligence, Digital economy, Financial sector, Investment behaviour, Investment landscape, Technological innovation.

### INTRODUCTION

#### Background

In today's technology-driven society, Artificial Intelligence plays an important role. As society advances, individuals have understood the need to understand human intelligence and AI can be one of the biggest discoveries in history. This discovery has helped society to transform industries, reshape people's employ-

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ment opportunities as well as enhance economic productivity (Ashta & Herrmann, 2021). Artificial Intelligence or AI can help human beings with these whole investment procedures. It can be seen that sometimes human financial analysts might overlook the numbers or crucial information and data, but at the same time, using AI can help investors identify the appropriate stocks or assets (Zhang, Ashta & Barton, 2021). Investment decision-making involves different types of activities, like, as assisting the investors to make effective decisions, proper optimisation of the investment portfolios, execution of large orders, informing investors about the updated condition of the financial market, and more. It can streamline the data processing for more efficient creditworthy evaluation of the borrowers and optimise the underwritten processes.

### **Research Gaps**

Based on the above discussion it can be stated that there is limited research relating to the role of AI in reshaping or redesigning the investment decisions of individuals in today's digital economy. Furthermore, as there is limited research, most people are unaware of the challenges, which can be faced by individuals while making their investment decisions by utilising AI. This study therefore will try to focus on these gaps and will perform the research accordingly.

### **Research Questions**

The research questions in this research study are as follows, such as,

- What is the role of AI in reshaping human investment behaviour in the digital economy?
- What are the factors which influence the investment behaviour of individuals while adopting AI?
- What are the challenges encountered by human beings while utilising AI for making investment decisions?

## **THEORETICAL FRAMEWORK AND DISCUSSION**

Artificial Intelligence (AI) has demonstrated its capacity to provide comprehensive analysis of any data set, which is a significant improvement over its traditional role as a text-based, generative technology. According to Milana & Ashta, (2021) in a field that is heavily reliant on data, complexity, and patterns, such as investing, AI has the potential to revolutionize the investment process. It will be more beneficial to briefly explore some of the areas in which AI can be of assistance (Kumar, Srivastava & Gupta, 2022). The discussion is as follows:

### **Predictive Modelling**

AI can make predictions about the stock market after analysing a collection of data (Durodola, 2021). These predictions can be based on a variety of factors, such as market trends, stock prices, and even key investment performance. This allows investors to identify AI investment opportunities.

### **Portfolio Management**

Investing with Artificial Intelligence (AI) offers an additional advantage in the form of portfolio management. According to Nicoletti (2021), AI-powered systems can optimise the distribution of investments, the proportions of investments, and rebalance investments as needed. These needs may be based on predetermined investment strategies and the current market conditions.

### **Assessment of Risks**

Investors' decisions are influenced by a variety of things, like macroeconomic conditions, a company's financial health, changes in regulations, and market fluctuations. Mor & Gupta, (2021) state that AI can keep track of these factors, analyse them, and break them down into easy-to-understand and quantifiable categories. That way, investors can compare the risks and rewards of their investments.

### **Fraud Detection**

Artificial Intelligence is continually analyzing vast amounts of data. Additionally, it examines the data for correlations. As a result, Petrelli & Cesarini, (2021) define AI-driven systems that can identify potential fraudulent activities or market manipulation early on. Protecting one's interests has never been so exciting.

### **Customer Focused**

Investing with Artificial Intelligence (AI) puts the customer's needs first. According to Srivastava & Dhamija, (2022) through the use of various tools, such as chatbots and virtual assistants, AI can achieve this goal. AI can assist in responding to customer inquiries, providing tailored investment recommendations, and aiding in financial planning.

The implementation of Artificial Intelligence (AI) in investment decisions can lead to a paradigm shift in the financial sector. Artificial Intelligence (AI) is capable of analysing large volumes of financial information and recognising patterns that may be difficult for human beings to identify (Murinde, Rizopoulos & Zachariadis, 2022). This could potentially lead to more precise predictions of

## CHAPTER 12

## Sustainable Business Development Models of Rural Handicraft: A Study on Pattachitra

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**Abstract:** Pattachitra is an ancient art and craft of India as well as West Bengal. The artisans who engage in this craft work are known as patuas. Most of the patuas originate from the Midnapore and Bankura districts in West Bengal. Patuas face significant problems in selling their beautiful craftwork. They have no fixed places or shops to demonstrate and sell their pattachitra. The curse of globalization has also hit them hard, making it difficult to continue their scroll painting. In this study, the researcher focuses on some sustainable business development strategies like Artisans to Businessman (A2B), Artisans to Tourists (A2T), Artisans to Intermediaries (A2I), Artisans to Government (A2G), and Government to Tourists (G2T). These strategies help patuas in developing and continuing their ancestral artwork. In this study, the researcher focuses on the strategies that should be adopted by the patuas for the development of their ancestral artwork and craft business, *i.e.*, pattachitra. This paper also focuses on the SWOT analysis of those strategies.

**Keywords:** Ancestral, Pattachitra, Patuas, Strategies, Sustainable, SWOT.

### INTRODUCTION

In recent years, there has been a growing recognition of the economic potential embedded within rural handicrafts, not just as cultural artifacts but as viable business opportunities. Rural handicrafts represent the artistic heritage and skill of communities, often passed down through generations. With globalization and increased connectivity, there has been a resurgence of interest in these traditional crafts, presenting a unique avenue for economic development in rural areas. The business model surrounding rural handicrafts encompasses various facets, including production, marketing, distribution, and sustainability. Rural handicrafts are more than just commodities; they are embodiments of cultural heritage and artistic expression. Each craft carries the stories, traditions, and values of the

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community that creates it. By preserving and promoting these crafts, we not only support local economies but also safeguard cultural diversity. For many rural communities, handicrafts serve as a vital source of income. By engaging in craft production, artisans can leverage their skills to generate sustainable livelihoods. Moreover, the revenue generated from the sale of handicrafts can contribute to poverty alleviation and economic empowerment, particularly for women and marginalized groups who often dominate the artisan sector.

Despite their cultural and economic significance, rural handicrafts face numerous challenges. Production processes may be labor-intensive and require specialized skills, making it difficult to scale operations. Additionally, artisans often lack access to modern technologies and marketing channels, limiting their reach and profitability. However, advancements in technology and innovative business models offer promising solutions to these challenges. Digital platforms enable artisans to showcase their products to a global audience, bypassing traditional barriers to market access. Furthermore, collaborations with designers and brands can inject fresh perspectives into traditional crafts, creating products that resonate with contemporary consumers. As consumers become increasingly conscious of ethical and sustainable consumption, there is a growing demand for handmade, ethically sourced products. Rural handicrafts, with their emphasis on craftsmanship and local production, align well with these values. By prioritizing sustainable practices and fair trade principles, the handicraft sector can not only ensure its own longevity but also contribute to environmental conservation and social development.

Pattachitra, the word, can be divided into ‘pat’, *i.e.*, canvas on which scroll paintings are made, and ‘chitra’, which means pictures painted by the artisans known as patuas. Patuas make their scroll paintings using natural resources like tree leaves, ashes, rubbing stones, and gum from trees. They make canvases using pieces of cloth and paper. When they create their beautiful scroll paintings, they sing ‘pater songs’ narrating the themes of their art, which is very unique in nature and helps customers make choices to purchase pattachitra among rural art and craft items. They sell them in the local market; when tourists visit the spots, they will be their customers, as well as in trade fairs and exhibitions in which some of them participate. Only in Naya village, West Midnapore, one of the famous chitrakars, Bhadur Chitrakar, has a personal museum, *i.e.*, ‘Pattachitra Sangrahasala,’ and Shyamsundar Chitrakar has a personal workshop for their scroll painting. Most of the patuas face financial scarcity to continue their artwork. They do not get sufficient revenue from their Pattachitra. Most of the patuas are unable to participate in various trade fairs and exhibitions due to participation charges and transportation costs. Lack of awareness among the people and tourists about pattachitra also makes it a hindrance to continuing their

scroll painting. The West Bengal Government, as well as the Central Government of India, makes various policies for the development of artisans like 'Shilpi Bhata,' 'Viswakarma exhibition,' *etc.*. But most of the patuas of Bankura district lack awareness about this. They sell their pattachitra mostly in the winter season because this is when most of the tourists come to visit various tourist spots. All of these reasons lead patuas to migrate their work into other sectors.

## Review of Literature

Handicrafts represent a rich cultural heritage and contribute significantly to economic development, particularly in rural areas. This literature review explores various dimensions of handicrafts, including their cultural significance, economic impact, marketing strategies, sustainability, and artisan empowerment. Handicrafts serve as tangible expressions of cultural heritage and identity (Kaul, 2015). They embody traditional knowledge, craftsmanship, and artistic skills passed down through generations, reflecting the unique cultural narratives of communities (Anwar & Abdullah, 2019). Furthermore, handicrafts play a crucial role in preserving intangible cultural heritage and fostering cultural continuity within societies (Adhikary & Vispute, 2018).

The handicraft sector contributes significantly to employment generation and income diversification, particularly in rural economies (UNESCO, 2018). Dolan & Johnstone (2018) highlight the role of handicrafts in poverty alleviation and women's empowerment in developing countries. Additionally, Das (2016) emphasizes their importance as a source of livelihood for marginalized communities, promoting socio-economic inclusion and resilience. Effective marketing is essential for promoting handicrafts and expanding market reach (Sreedharan & Nair, 2017). Sharma & Suhag (2019) stress the significance of branding, storytelling, and digital platforms in enhancing the marketability of handicraft products. Moreover, certifications such as Fair Trade and Geographic Indications play a crucial role in building consumer trust and market differentiation (Dangi & Acharya, 2020).

There is a growing emphasis on sustainability in the handicraft sector, driven by consumer demand for ethically produced and environmentally friendly products (Jabbar & Rahman, 2020). Sharma *et al.* (2021) highlight the importance of sustainable raw material sourcing, waste reduction, and eco-friendly production techniques. Collaborative initiatives involving stakeholders from government, NGOs, and industry are essential for promoting sustainable practices and standards (Singh *et al.*, 2019). Empowering artisans through skill development, fair wages, and access to social services is critical for ensuring sustainable livelihoods (Biswas & Bandyopadhyay, 2017). Rajesh & Babu (2018) emphasize

## CHAPTER 13

## Providing Leniency to the Cartel Offenders Amid Pandemic: An Error or Covid Pass?

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**Abstract:** Providing leniency is one of the discretions of competition regulators across the world. The commission, after being satisfied with the disclosure furnished by cartel conspirators, can provide a lesser penalty. Once the American Supreme Court commented, “Cartel is the supreme evil of antitrust”. Amid Covid-19 we noticed that enterprises dealing with essential commodities like pharmaceuticals, groceries, milk, *etc.* were allowed to share their information freely. Sharing information between competitive enterprises is anti-competitive under the purview of the Competition Act 2002. The essential commodities market had been exempted from punishment by nations across the world for the sake of public interest. Thus the public interest turned out to be the valid defence behind the operation of the cartel. However, the Commission ordered leniency (lesser penalty) to cartel conspirators belonging to the railway's procurement and the domestic industrial automotive bearing market. Surprisingly, the duration of operation of the cartels in the railway's procurement market was from 2009 to 2017 and in the domestic industrial automotive bearing manufacturer market was from 2009 to 2014. Although, both of them were allowed leniency due to Covid-19. It is difficult to consider any of these two as the essential commodities market. This paper intends to emphasize relevant broader perspectives and their applicability under existing law.

**Keywords:** Cartel, Covid-19, Essential commodities, Leniency, Public interest.

### INTRODUCTION

The Competition Commission took very qualitative steps during the pandemic. It created two websites for filing information. One was [atdregistry@cci.gov.in](mailto:atdregistry@cci.gov.in) and the other was [comb.registry@cci.gov.in](mailto:comb.registry@cci.gov.in). The CCI continued hearing through online mode in this hard situation which was very commendable. The Commission came into power to adjudicate the matter related to competition law in 2009 after repealing the old Monopolistic Restrictive Trade Practices Act, 1969. The aim of the Competition Act 2002 is to promote fair competition in the

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market. The directive principle of state policy prescribes that states should make policies so that the economic system cannot be concentrated. A concentrated economy may cause common detriment. The Competition Act wants to wipe out the economic devil to save not only the competitors in a market but also the consumers as well. Indeed, the objective of this Act is to prevail just and fairness in the competitive market. The old MRTP Act became obsolete due to a change in the economic system of India. Since the year 1991, India has stepped towards a liberalized economy from a nationalized economic policy. In a changing scenario, the Indian competition regime has shifted its objective. The Competition Act is more concerned with promoting competition rather than curbing monopolies. In the *Brahm Dutt vs. Union of India* case, the adjudicating authority of the Commission was challenged on the ground of separation of power. Mostly in this kind of body, which has adjudicatory power, the chairman is appointed from the Supreme Court or the High Court judiciary with the satisfaction of the Chief Justice of India. The chairman of the Commission is not appointed by the judiciary. It was the issue of the aforementioned case. The Supreme Court observed that an expert in the economic field is required to solve the economic disputes but one appellate tribunal is required which should be chaired by the Judiciary to save the separation of power doctrine.

Competition regulators have given so many relaxations towards the enterprises' reason to a hard time. These relaxations can be granted for a limited time and renewed as needed. On 19<sup>th</sup> April 2020, the CCI proclaimed an advisory. It allowed information sharing, which was one of the anti-competitive practices between competitors, associated with pharmaceuticals, essential commodities, and services like logistics, tests, *etc.* market. Nevertheless, in the railway procurement market, so many zonal departments filed complaints. The allegation was that some railway vendors created cartels in the railway procure market from 2009 to 2017. The railway vendors rigged the bid and successfully continued the cartel. In another case, CCI took *suo-motu* action in the domestic automotive bearing market. In this case, the cartel was also being continued from 2009 to 2014. The CCI, after receiving a disclosure regarding the cartel, reduced the penalty as per Section 46 of the Indian Competition Act 2002. Section 46 denotes that the CCI may provide a lesser penalty to a producer, distributor, seller, trader, or service provider if they furnish full and true disclosure before the CCI.

During this pandemic, the CCI issued an advisory towards the medical and healthcare markets, essential commodities markets, and some service provider markets like logistics, testing, *etc.* to protect the interest of the public at large. However, cartel took place in the aforementioned markets almost a decade ago. Despite that leniency is given to them by CCI. Is it justifiable? How other nations

are handling this cartel dispute amid the pandemic? This paper is dedicated to answering these questions.

## **RESEARCH METHODOLOGY**

This paper will be formulated from e-repositories, articles, books, case studies, and available data on the internet source. So that it can be called qualitative, descriptive, and analytical. Mostly, this paper is dedicated to finding out the justifiability of the leniency, given to cartel conspirators, based on doctrinal sources. The gravamen of those studies have helped the researcher to walk on the path of rules of the research methodology. Moreover, this paper gives credit to all the references and the persons who have helped the researcher to accomplish it.

## **DEFINITION OF CARTEL**

Section 3(2) of the Competition Act 2002 denotes agreement becomes void if it is made by “enterprise” or “association of enterprises” or “person” or “association of persons” to cause or likely to harm competition within India. The Competition Act has also mentioned that cartels can be made in the production, supply, distribution, storage, acquisition, or control of goods or provision of services. Section 2(c) of the Competition Act 2002 identifies three objects of a cartel and those are limit, control, and attempt to control. In the case of *Union of India v, Hindustan Development Corporation* Supreme Court said “A cartel was a group of producers that agreed to control the production, sale, and prices of a product to gain a monopoly in a specific sector or commodity. This amounts to a shady business activity that isn't in the public's best interests.” According to the Competition Act, an agreement is “any arrangement or understanding, or action in concert, which is formal or writing or legally enforceable”. The enterprises form a combination of one another to control sales and prices of the market. This combination can restrain the market. The basic objective of the cartel is to combine enterprises restraining the output level of the market, fixing prices, and imposing an adverse effect on competition. In UK Enterprises Act 2000 cartel is stipulated as a criminal offense. The Act says that “it is a criminal offense for individuals those dishonestly take part in any form of a cartel which can fix prices, shares markets, the limit of production of supply and rigs bid” (Gallop & Roberts, 1979). Chapter 1 and Chapter 2 of the Competition Act 1998 in the UK prohibit anti-competitive-agreement (Preeti Machen, 2011). Article 81 of the European Community Treaty also prohibits anti-competitive- agreement. After the enactment of the Function of Treaty on the European Union (FTEU), the EC Treaty was repealed. Now, Article 101 of FTEU prohibits anti-competitive-agreement. Cartel is one of the formal written or legally enforceable anti-competitive agreements that can be divided as horizontal and vertical.

## CHAPTER 14

## Redefining Customer Behaviour with Service Robots: A Metaperception Lens *via* Bibliometric Analysis

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**Abstract:** This study investigates the intricate dynamics of customer behaviour during interactions with service robots, focusing on the role of meta-perception. It aims to identify major themes, influential figures, and emerging trends in the field while shedding light on the implications of discomfort in service interactions for customer experiences and its relation to meta-perception processes. This study uses bibliometric analysis and visualization methods to examine the academic discourse surrounding service robots and consumer Behaviour. It analyzes various scholarly literature to pinpoint key themes, prominent contributors, and evolving trends. The research reveals significant insights into the relationship between service robots and customer Behaviour. It highlights the concept of discomfort in service interactions, which has been relatively overlooked, and its impact on customer experiences through meta-perception processes. Additionally, the study elucidates the influential role of various factors, such as eminent journals, authors, nations, and platforms, in shaping academic discourse in this field. This study contributes to understanding service robots and consumer Behaviour by uncovering novel insights and emphasizing the importance of comprehending complex interactions in service contexts. Bridging the gap between human cognition, emotional reactions, and technological advancements offers a nuanced perspective on the evolving landscape of service robots and their implications for customer experiences.

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**Keywords:** Bibliometric analysis, Consumer behaviour, Discomfort, Metaperception, Service robots.

## INTRODUCTION

Customers may become anxious when they stare at the menu and struggle to make a selection in a busy restaurant where the server is impatient. Even without any fault on the part of the customer, such scenarios can induce unease. The question then turns to what would happen if a robot were employed for such a service. The core focus of our study lies in investigating the complex psychological mechanisms that underlie customer interactions with service robots.

Service robots, described as autonomous, system-based interfaces that facilitate customer interactions (Wirtz *et al.*, 2018), are becoming more and more prevalent in the tourism and hospitality industries (Borghini *et al.*, 2023; Liu *et al.*, 2024). The presence of robots underscores the urgent need to understand the impact on customer experiences, as evidenced by AMY's hotel services (Hou *et al.*, 2021) and Pepper's adaptable roles in restaurants, airports, and cruise ships (Chi *et al.*, 2020; Lu *et al.*, 2021). Prior research studies primarily focused on consumers' attitudes toward service robots (de Kervenoael *et al.*, 2020; Kim *et al.*, 2022), with little attention paid to how people respond emotionally and behaviourally (Bagozzi *et al.*, 2022).

Based on the previous research (Kim *et al.*, 2023; Crolic *et al.*, 2022; Holthower & van Doorn, 2022; Pitardi *et al.*, 2021) addressing emotions such as guilt, anger, and embarrassment during service robot interactions, discomfort is emphasized as an emotional response that has received less attention. Discomfort, in contrast to embarrassment, can occur during everyday service interactions and it is not always the result of breaking social norms (Liu *et al.*, 2023). The core of our research is meta-perception, which is the process by which people assess the opinions that others might have of them (Albright *et al.*, 2001).

In tourism and hospitality contexts, where social connections hold paramount importance, the significance of meta-perception, an inherent process within all social interactions, gains significance (Giebelhausen *et al.*, 2014). It is suggested that consumers' meta-perception processes may be affected by their engagements with service robots, particularly in uncomfortable interactions (Spake *et al.*, 2003). It is hypothesized that during such interactions, robots, perceived as having low agency because they cannot demonstrate autonomous intentions, will lessen meta-perception processing, resulting in more favorable service outcomes (Grey & Wegner, 2012).

Bibliometric analysis has been used in this study, augmenting its novelty. Analyzing service robot-customer interactions from the perspective of metaperception theory offers a fresh viewpoint that differs from anthropomorphism and social cognition. Furthermore, analyzing typical yet potentially uncomfortable encounters advances the conversation around customer discomfort in the hospitality and tourism industries. As a result, our research highlights the critical role that metaperception plays in determining customer experiences by illuminating the complex dynamics of human-robot interactions in service settings.

With these considerations in mind, the study aims to shed light on the following research questions:

**RQ1:** What is the latest research direction regarding customer behaviour with service robots from the perspective of metaperception?

**RQ2:** Which authors, organizations and countries have made the most substantial contributions to the existing literature?

**RQ3:** Which journals have the greatest influence, highest impact, and exhibit dominance within the realm of customer behaviour with service robots, focusing on the perspective of metaperception?

**RQ4:** What are the common themes that frequently emerge as predominant in the study of customer behaviour with service robots?

## **THEORETICAL BACKGROUND**

### **Uncomfortable Customer Experiences**

According to Spake *et al.* (2003), pleasant service interactions are essential to fostering positive client experiences and enhancing loyalty towards service providers. Numerous studies highlight the critical role that comfort plays in increasing customer satisfaction and fostering loyalty and trust (Borghi *et al.*, 2023; Gaur *et al.*, 2019). According to Becker *et al.* (2023), recent studies have illuminated the revolutionary potential of humanoid robots to improve comfort levels by developing rapport with clients. This can lead to positive service outcomes.

On the other hand, discomfort during customer interactions can have a negative impact, resulting in discontent, mistrust, and unfavourable word-of-mouth communication (Spake *et al.*, 2003). Although consumer research has historically focused on the feeling of embarrassment in awkward situations (Wu & Mattila,

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**CHAPTER 15**

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## **Impact of Stressed Assets on Bank's Performance: A Study of Indian Banks Using Panel Data Analysis**

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**Abstract:** Continuously high stressed asset levels have a detrimental effect on the banking industry and, in turn, on economic expansion. Risk associated with the banking sector is therefore thought to have a significant influence on macroeconomic stability and sovereign credit risk. While there may be a variety of factors influencing the amount of stressed assets, this study explicitly examines and concludes that bank ownership in India is a significant determinant, and the effectiveness of the regulatory framework is crucial for prompt stress recognition. The recovery of non-performing assets (NPAs) requires proper credit assessment and recovery management mechanisms. Banks tend to extend credit during periods of excess liquidity and economic expansion, leading to concerns about asset quality and the potential risk of adding NPAs to the portfolio. The Indian banking sector's performance on NPA recovery routes is not up to par, primarily due to improper due diligence, inadequate legislation, and macroeconomic variables. The present paper is an analytical one, it discusses the probable factors that significantly impact the Return on Assets and Return on Equity of the Public Sector and Private Sector Banks. The independent factors identified for the study are GNPA, NNPA, Restructured Loans, Provisions, Stressed Assets, Total Advances, & Stressed Assets to Total Advances. The study is completely dependent on the secondary data, published in the RBI Portal. The statistical tool used is Regression Analysis, with the help of SPSS.

**Keywords:** Non-performing assets, Public sector banks, Private sector banks, Stressed assets, Total advances.

### **INTRODUCTION**

India's banking industry faces a significant concern due to the rise in economic risk due to the increasing amount of Non-Performing Assets and Restructured Assets. This trend indicates a deterioration in asset quality, leading to an

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increase in stressed assets. These assets consist of loans and credits given by banks, representing lending services and investments made by banks. Asset Quality indicates how much loan repayments are made by the borrower. The increase in non-performing assets indicates that the borrower has not paid back loans within a specified time period, increasing the amount of bad assets. These bad assets are further divided into substandard, doubtful, and loss assets, which remain as non-performing assets. Sometimes, these loans are restructured, offering the borrower an opportunity to repay them within an extended time period and reduced interest rates. Stressed Assets has three elements:

1. Non-Performing Loans
2. Restructured Loans
3. Written Off Loans

Non-performing loans are assets with overdue interest or principal for 90 days. Restructured loans offer extended periods, reduced interest rates, and additional financing. These bad loans are restructured into new loans, indicating poor asset quality in banks. However, the borrower's repayment risk remains a concern. The third element of stressed assets is the written-off asset, which is not counted by the bank but compensated through other means. The ratio of Non-Performing Assets and stressed assets to gross advances is rising, with the highest trend observed in public sector banks compared to private sector banks in the Indian Banking Industry. This research examines the profitability of Indian banks, focusing on Public Sector Banks, and Private Sector Banks. Several studies have been conducted on the profitability of Indian banks, but few have considered a panel of countries for reviewing determinants. Return on assets (ROA) and return on equity (ROE) are identified as profitability indicators, with internal and external factor variables considered. ROA is important for investors, analysts, and managers, while ROE is more important for equity holders. ROE measures the financial performance of banks by dividing net income by shareholders' equity, with shareholders more concerned about the bank's earnings on their equity investment. (Maiti, *et al.*, 2017) The study aims to provide a comprehensive understanding of the profitability of Indian banks. The study is based on the public sector banks and private sector banks in India.

- Public sector banks, which hold over 50% of the total stock, are managed by the Government of India and operate under their authority to ensure depositors' trust in their financial security. The Indian government merged ten banks into four to optimize functionality and increase profits. The State Bank of India is one of the largest banks in India and globally. Currently, there are 12 Indian public sector banks, listed by their headquarters and year of establishment.

- Private sector banks, owned by private companies or individuals, are financial institutions that operate for profit for shareholders. They significantly impact the banking industry in India, with 22 currently operating. These banks have evolved through innovative methods and a client-focused approach, transforming the industry with their extensive offerings and significant impact on the banking sector.

## LITERATURE REVIEW

Different papers have been published on non-performing assets, restructured loans, and stressed assets in the Indian scenario and abroad. In his paper (Yadav, 2016) tried to analyse the stressed assets scenario in the Indian banking industry to identify the causes of poor asset quality and suggestions to improve asset quality in banks. According to (Dhananjaya, 2021), a weak corporate balance sheet increases the amount of stressed assets in the banking sector, which in turn makes it very difficult for the sector to lend to even strong businesses, thus obstructing future economic progress. The term “dual balance sheet problem” refers to this occurrence, which mixes business difficulty with the banking sector crisis. From this perspective, the study seeks to understand the extent of business distress following the Great Financial Crisis and how it affected public sector banks' (PSBs') and private sector banks' asset quality. (Goyal, *et al.*, 2018) found the major reasons for the growing stress on the asset quality in banks in the global competitive markets, and he observed that the asset quality review (AQR) has a strong negative effect on advances but gross NPAs did not. The high interest rate and low growth resulted in the rise of NPA. (Bhasin, 2017) observed that the NPA is very high in case of public sector banks, as compared to private sector banks and foreign banks, and some banks have already started adopting predictive and pre-emptive measures to improve the asset quality to minimize the problem of Non-Performing Assets levels. A suggestion has been given to all banks to adopt and implement the regulatory policy measures to recover in the long run. (Goel, *et al.*, 2023) in their study highlight the negative impact of high levels of stressed assets on the financial sector, hindering economic growth. (Agarwal, *et al.*, 2017) It suggests that banking industry risk significantly affects sovereign credit risk and macroeconomic stability. The study identifies bank ownership as a significant factor in stress asset quantity, emphasizing the importance of efficient regulatory frameworks for early stress detection in India. The country's economic growth has been impeded by the problem of non-performing assets (NPAs), which makes a comprehensive assessment of the banking sector's performance with respect to economic development determinants imperative. (Kattadiyil, *et al.*, 2020) An effective credit assessment and recovery management system is crucial for resolving non-performing assets (NPAs) in banks. Banks' tendency to lend more during periods of excess liquidity and economic expansion raises concerns about



## Fusion: A Global Approach for Generation Z

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**Abstract:** While everyone is busy trying to find a balance or equilibrium between work and personal life in the twenty-first century, many of them are unable to do so. The idea of work-life integration emerged as a result of everyone's desire to keep the two aspects of their lives apart. The idea of work-life integration, however, also represents a compromise for those of us attempting to strike a balance between our personal and professional lives. However, as highlighted in Donna Haeger and Lingham's (US) 2014 book, the notions of work-life fusion are already grabbing hold of society as a whole, particularly influencing Millennials. Managing professional and personal responsibilities at the same time is the essence of this work-life integration. In light of this context of work-life, fusion needs to wire both work and life.

**Keywords:** Administration, Fusion, Integration, Millennials, Simultaneous, Work-life balance.

### INTRODUCTION

The way that generations are evolving, along with our perceptions of the workplace and life skills, is affecting employment and work patterns. This has a significant impact on the generations that the organization is currently managing, as well as on how the younger generations will manage various aspects of their own lives and the workplace. Within this framework, work-life fusion, or WLF, has become an important component in creating a healthy work environment and a healthy personal life for all employees. Additionally, how engaged and capable are the Millennials, or Generation Y, in handling their independence and flexibility, happiness at work as well as with their families, organizations, and society at large? Research conducted in the United States on working professionals by Donna Haeger and Tony Lingham provided compelling evidence of the merging of work and life. "*A Trend toward WLF: A Multigenerational Shift in Technology Use at Work*" is the findings of their study. Their study's goal was to show how people utilize technology and how its enhanced features and applications affect

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the management of their personal and professional lives. Accordingly, their research reveals a “WLF” tendency that is important to Gen Y and that is not limited to this unique generational cohort of Millennials but also extends to Gen X, who are transitioning towards change. Everyone desired to keep the two aspects of their lives apart, which gave rise to the idea of work-life integration. However, since we all attempt to strike a balance between our personal and professional lives, the idea of work-life integration also serves as a compromise. Work-life integration and development are important tasks for researchers, psychologists, and organizational leaders. The idea of equal rights for women and education for everyone has led to the evolution of the work-life balance issue, which now includes rights and regulations developed by organizations. As a result, work-life integration constantly aims to garner greater equality and sharing in the office and among household chores within the firm. However, those days of juggling work and life are long gone. These days, the millennial generational cohorts pursue a fused approach, seeking and achieving a specific area to focus on through simultaneous administration and concurrent management in both work-life elements. Therefore, the term “work-life fusion” refers to an organizational or transitional movement brought about by Generation Y in the twenty-first century. (Ladge & Harrington, 2009).

## **BACKGROUND STUDY**

### **Concept on Generations and Generational Cohorts**

The term generation is defined as the individuals within the same age group sharing the same culture, same societal impact, same beliefs, same experiences, and same significant events within the same period of time. The word ‘Cohort’ is generally used in Social Science which means a generational group of the same age, same culture, and some significant events that happened in their different events of work and life. The generations of the Indian workforce are nicely categorized in this paper: Veterans (1920-1945); Free- gens (1945-1960); Gen X (1961- 1970); E-gens (1971-1980); Gen Y (1981-1990). (Ekambaram, 2014). Since generations are group cohorts that relate to the same time period, the Pew Research Center uses a study of generations in which many scholars have recommended various generations for analysis and study. We refer to this as the generational analysis. There are four, five, or even six generations in some studies, according to different research. Here, the six generations—the greatest generation, the silent generation, baby boomers, Generation X, Millennials, and Generation Z—are tallied using data from American society from the 20th century (Iyer *et al.*, 2016). Different generational cohorts like traditionalists, baby boomers, generation X, millennials, or Generation Y have different time periods of birth: Generation Traditionalists were born between 1925 and 1945, whereas

baby boomers were born between 1946 and 1964, generation X, born between 1965 and 1980, millennials or generation Y born between 1980 and 2000, and generation Z include those born between 2001 and 2020.

### **Traditionalists or Silent Generations**

According to American history, traditionalists, or those who fit this description, were extremely rare. They also framed the largest generational leaps in life expectancy and education in history. However, their childhood was marked by an unknown fear of world war and by severe economic depressions. In their later years, however, they were able to enjoy full employment following the post-war economic boom of the 1950s. (The “Silent Generation,” or traditionalists, 1945) Even though the economic slump has had a significant impact on their generations over the years, traditionalists, also known as the silent generation, have been observed to be incredibly devoted to their upbringing and have never left their home or family alone. They used to be extremely timely and disciplined, which was reflected in various studies conducted by the researchers. They also respected the positions of other members and acknowledged them with formal gestures. (Abrams and von Frank; 2014).

### **Baby Boomers**

The baby boomer generation, sometimes referred to as the post-war baby boomers, was the first to pass through a major revolution that altered popular culture and way of life. According to a study, the baby boomers were blamed for creating instability in social security and pension plans, a concept that spread throughout the US in the late 1980s. Gendered disparities were also being caused by baby boomers. Numerous articles give a range of theoretical and empirical viewpoints regarding the baby boomer generation. During that period, they also employed conventional methods to comprehend their political irrationality on aging or the role that consumerism played in their lives. The difficulties faced by the baby boomer generation are widespread across national boundaries. These boomer generations are very difficult which is relevant across the countries. (Phillipson, 2008).

### **Generation X**

The study found that the size of the Generation X population, which corresponds to the years 1965 to 1980 and concludes with the year of birth 1980, varied between 61.2 million and 65.6 million. This information was reported by CNN. First, these generations were introduced to malls from their older counterparts, and they were the first to become fixated on their resources. According to several studies, these generations were the first to use technology, and they also had

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**CHAPTER 17**

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## **Impact of Training on the Performance of the Worker: Study of the North Bengal Region of the Indian Tea Industry**

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**Abstract:** Enhancing workers' abilities, knowledge, and attitudes requires training. It is usually a value-adding activity that the company does to increase the value of its resources, which are its people. Tea is one of the labor-intensive industries. The second-largest employer of skilled, semi-skilled, and unskilled workers in India is the tea sector. A large workforce is needed for everything from setting up the beds for the tea siblings to packing the finished tea. Every task involved in the manufacture and picking of tea is specialized. Hence, skilled work is required to produce tea. Furthermore, the type of personnel used has a big impact on the quality of tea. Thus, employee training is essential to creating high-quality tea. However, because of the quality issue, the Indian tea sector has lost its market share abroad. Examining the entire situation of the tea workers' training and their efficacy from this angle has been attempted. Total 33 sample tea estates were surveyed for the study purposes, and the gathered data was then examined using SPSS. The study's conclusions and suggestions have been developed using the non-parametric Wilcoxon Signed Ranks Test.

**Keywords:** Quality of tea, Tea industry, Trained worker, Training.

### **INTRODUCTION**

Folklore suggests that in 2737 B.C., the renowned Chinese king and herbalist Shen Nung made the first discovery of tea in China (Roy, 2022a). The history of the Indian tea industry dates back to 1823, when Scottish explorer Robert Bruce discovered the indigenous tea plant in Assam (Roy and Biswas, 2021). According to the Tea Board of India (TBI), India is the world's second-largest tea producer, following China. By 2022, India produced 1,365.23 million kilograms of tea, making it the second-largest producer and the fourth-largest exporter of tea, accounting for 12.39 percent of global tea exports (Tea Board India, 2023).

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The Indian tea industry is divided into two segments: North and South (Roy *et al.*, 2023). By the end of the previous year, the North Indian tea sector produced 1,149.50 million kilograms of tea, accounting for the majority of India's total tea production. In 2022-23, the study region's combined output was 418.84 million kilograms, with 237.47 million kilograms produced in Dooars, 174.57 million in Terai, and 6.80 million kilograms in the Darjeeling hills. According to the Indian Tea Association, small tea growers contributed 52% of India's tea production in 2023 (Indian Tea Association, 2023). West Bengal's tea industry is located in the northernmost part of the sub-Himalayan region (Roy and Biswas, 2018).

Training is undoubtedly essential for improving employees' skills, knowledge, and attitudes (Cole, 1997). Businesses typically engage in value-addition activities to enhance the value of their most important asset, which is their human capital (Durai, 2018). Current literature indicates that tea workers have not received formal training to improve their skills in using fertilizers, sprays, and other materials to prevent health issues (Roy and Biswas, 2016). Welfare centers provide leadership training (Biswas, 2012) on tea workers' rights through tea estates. The goal of this training is to strengthen leaders' bargaining power to improve their performance in collective bargaining situations (Roy, 2022b). To raise public awareness about health, nutrition, and sanitation practices, tea garden authorities must implement appropriate training programs. Workers who receive proper training will develop the skills and knowledge needed to perform their jobs effectively (Roy and Biswas, 2019). Both workers and the tea industry as a whole stand to benefit from increased productivity in tea production, harvesting, and processing. Improving the quality of tea produced could be a primary objective of training programs. Employees trained in proper plucking and processing techniques are more likely to produce higher-quality tea leaves, which can command higher prices and improve India's reputation in the global tea market (Roy, 2022c). Unfortunately, various factors—such as aging tea bushes, unpredictable weather, and inadequate government mechanisms—are currently affecting the financial health of India's tea plantation industry (Mitra, 2010). In light of this, the present study aims to examine the state of worker training in India's tea plantation sector.

## **OBJECTIVES OF THE STUDY**

A survey of the literature served as the foundation for the development of the following study objectives:

1. To present the North Bengal region's entire tea industry training scenario.
2. To evaluate the effectiveness of the training courses offered by the various types of tea plantation businesses.

## METHODOLOGY

### Population of the Study

There are 276 tea plantations in the study area (Labour Department, Government of West Bengal, 2014). Thus, the study's target population consists of those 276 tea estates.

### Sample Size Determination

The following formula has been applied to ascertain the sample size for the study:

$$\text{Sample Size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left( \frac{z^2 \times p(1-p)}{e^2 N} \right)}$$

Where, *Population Size* = *N* | *Margin of error* = *e* | *z-score* = *z*

The number of population in the study is known to be 276. As a result, the sample size calculated using the above formula is 31. However, we purposefully added one additional sample for each Partnership Company and Public Sector Company, bringing the total to 33, or around 12% of the target population.

### Sampling Technique

In this study, the stratified random sampling technique was used. Based on the ownership structure of the tea estates, strata have been selected. The selection of ownership as a stratum makes sense because the items within each stratum are homogeneous while the ownership pattern of tea plants is varied. Nonetheless, the North Bengal region's tea companies mostly consist of four kinds of tea estates. These have been classified as strata in our study and are Public Ltd. Companies, Proprietorship Companies, Partnership Companies, and Public Sector Undertakings.

All of the tea estates in the study region have been listed, and they have been divided into groups according to their ownership patterns, or homogeneity, and then allocated accordingly. To select the proper sample, a random number table has been created for this purpose.

### Identification of Sample

Total 33 tea plantations in the North Bengal region provided the primary data, which was collected *via* questionnaires. Information pertaining to employees has been taken into consideration in the study. Since tea requires a lot of labor and

## Business Model, Startup and Unicorn: A Systematic Literature Review

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**Abstract:** With high government measures, data-driven business, and in quest of becoming a successful startup both in terms of efficiency (value addition) and effectiveness (valuation), enterprises have been evolving globally and getting the ‘unicorn status’ in a rapid way. However, the high failure rate of the startups is putting a great question mark and thus generating an area of interest for the research world. Entrepreneurial ecosystems and related research work indicate a ‘business model’ that can be a probable solution for the problem. A business model is an architecture of value creation, its delivery, and capturing the benefits of the enterprises. Hence it is the need of the hour to scan the works on business model and startups to know what exactly drives the startup to organize their business model to be sustainable. The major components of the business model as a result of the study would be tested with the research works on unicorns, a benchmark for the startup to gain, to know the real gap among the business model literature that can be solely healed with further research works. In this study, we analyze the relevant research papers (using PRISMA), taking “business model” and “startup” as keywords from different journals. Also, a literature review is done with the keyword “Unicorn.”

**Keywords:** Business Model, Startup, Unicorn.

### INTRODUCTION

Startup activities are not new now in the field of research. Drawing the line from the OECD report 2015-16, which states that “startup activities are the engine of job creation and an innovative contributor in economic development,” from developed to developing, every economy has been trying to develop this employment generation machinery.

In such a race, India also reframed its startup policies with Startup India Mission—2016 with 19-point action plans with measures like simplification and

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handholding; funding and incentivization; industry-academia partnership; and incubation. It has also revised the definition of a startup in 2019, which now states that “a startup may be a Pvt. Ltd., partnership firm, LLP, a business model that is scalable, can generate employment, and can create wealth. It must not exceed 100 crore turnovers in any prior financial year and which has been functional for ten years, and no such entity will be considered a startup if formed by splitting up or reconstruction of an existing business.” Progressing in the field of startup, liberal policies like waiting time for changing status from one-person company (OPC) to a public company or a private company; seed fund disbursement by incubators to eligible startups up to ₹20 lakhs for validation of proof of concept/prototype development/product trials and up to Rs. 50 lakhs of investment for market entry, scaling up besides tax benefits (as per the 2021-22 budget), benefitted India to achieve the status of the 3rd largest startup ecosystem globally with 74,684 startups, 7.68 lakhs of job creation, more than 100 unicorns, and more than 30% contribution in Indian GDP with 8-10% yoy growth in Indian startup funding. But with all such accomplishments, the survival rate of Indian startups is only 18-22% in the first 5 years (NASSCOM & Zinnov, 2016). Out of the 20 most significant reasons for the failure of startups observed from the reports of CB Insight, 2010, no market need (42%), running out of cash (29%), and not the right team (23%) are the major barriers. With such statistics, in quest of finding the effectiveness of startups, two broader aspects of research works are identified: 1) entrepreneurial traits, nurturing, and motivation drives (Ana Rosado-Cubero *et al.*, 2022) and 2) business models and organizational activities (Zott *et al.*, 2024; Weber *et al.*, 2022; Giesen *et al.*, 2010; Morris *et al.*, 2005). Here in this research work, we are focusing mainly on the business model construct of the issue.

### Unicorns

The effectiveness of the startup ecosystem in India can be measured by the number of unicorns India produces. “A unicorn company, or unicorn startup, is a private company with a valuation over \$1 billion” (a term coined by Aileen Lee, a Venture Capitalist in 2013). As of July 2022, there are over 1,100 unicorns around the world (CB Insight, 2022). India witnessed 105 unicorns and 104 soonicorns (a company soon to become a unicorn). As per Hurun India Future Unicorn Index, there is most likely to be 122 new unicorns in India in a year span of 2-3 years from now.

### Business Model

It may be referred to as the design or architecture of the value creation (entices customers to pay for values), delivery (delivers value to customers), and capture mechanism (converts those payments to profit) a firm employs” (Teece, 2010,



2017). A business model carries a high correlation with different aspects of a business and thus overall business performance (Zott, Amit, & Massa, 2011; Cortimiglia *et al.*, 2016; Abe *et al.*, 2009; Claus, 2016; Wirtz, 2016). Business model-based research works are done primarily based on business model components like value propositions (Haaker *et al.* 2017). Standard templates are also being tried to be framed for the business model, like Business Model Canvas (Osterwalder and Pigneur, 2010); STOF model (Bouwman, Faber, *et al.*, 2008); VISOR (El-Sawy & Pereira, 2013); BM Navigator (Gassmann, Frankenberger, & Csik, 2014), *etc.* Though the success of startups is highly dependent upon the optimum business model, which is yet to be identified, very little research work is available in this direction (Weking *et al.*, 2017).

Here in this research work, major components of a business model are tried to be found from the previous literature works. The observed components are then tested with the research work held in the unicorn category to find the status of research direction in the space of startups. This research work will also be helpful to know how the business model affects the activities of unicorns and which components of a business model could be comprehended to gain a sustainable competitive advantage.

## **PURPOSE**

Considering the low survival rates of startups, the struggle for growth for survived startups, and the exponential growth of rare startups in the form of unicorns, it is important to focus on the value deliverables of the startups, which revolve around the business model of the startups. Hence, with the following objectives, the ‘business model-centric’ literature review is done.

- To study the business model components through existing literature;
- To find the components of the business model that can explain the growth of startups;
- To compare the study on unicorn startups with the suitable components of a business model;

## **RESEARCH METHODOLOGY**

In this study, we used the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method to sort the research works previously published in major relevant journals. For the study, the keyword business model with the filter of peer-reviewed language and articles only was applied in the journals of Science Direct, and 1383 numbers of articles were obtained out of

## SUBJECT INDEX

### A

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