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COGNITIVE PERCEPTION IN BIOGRAPHICAL NARRATIVES: A CASE STUDY OF PROPHET MUHAMMAD'S PORTRAYAL IN WESTERN LITERATURE THROUGH LISA ZUNSHINE'S COGNITIVE NARRATOLOGY

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ABSTRACT

This study explores the role of cognitive perception in shaping the portrayal of Prophet Muhammad in Western biographical literature, using Lisa Zunshine's Cognitive Narratology as the theoretical framework. Cognitive Narratology examines how readers process and interpret narratives based on their mental predispositions, prior knowledge, and cultural contexts (Zunshine, 2006, p. 5). Through cognitive mechanisms such as Theory of Mind (ToM), perspective-taking, and intention attribution, readers engage with historical biographies in ways that shape their perception of the subject (Zunshine, 2006, p. 12).

This research focuses on three influential biographies: Muhammad: A Prophet for Our Time by Karen Armstrong (2006), The First Muslim by Lesley Hazleton (2013), and The Truth About Muhammad: Founder of the World's Most Intolerant Religion by Robert Spencer (2006). Each author employs different narrative strategies that activate readers' cognitive faculties, influencing their perception of Muhammad's character. Armstrong frames Muhammad as a reformer and spiritual leader, appealing to historical contextualization and moral reasoning (Armstrong, 2006). Hazleton presents a deeply personal and psychological account, emphasizing Muhammad's inner struggles and human emotions (Hazleton, 2013). Spencer, on the other hand, adopts a polemical approach, selectively using sources to depict Muhammad in a negative and confrontational manner, influencing reader bias through emotional framing (Spencer, 2006).

The study employs a comparative textual analysis methodology, examining how these biographies structure their narratives, employ cognitive cues, and appeal to reader biases. Key findings suggest that biographical storytelling interacts with cognitive mechanisms, influencing Western audiences' perceptions of historical figures through embedded interpretive cues, emotional engagement, and framing strategies (Zunshine, 2006, p. 47). This research demonstrates that narrative techniques are not neutral but actively shape how historical figures are understood, reinforcing pre-existing cultural interpretations or challenging dominant perceptions through cognitive re-framing.

By applying Cognitive Narratology, this study contributes to the broader discourse on historical biography, perception management, and reader engagement, illustrating how narratives do not merely inform but actively shape cognitive and emotional responses.

Keywords: Cognitive Narratology, Perception Management, Biographical Framing, Theory of Mind (ToM), Narrative Cognition, Historical Representation

I. INTRODUCTION:

Cognitive Narratology, as conceived of by Zunshine (2006), investigates the manner by which readers' cognitive skills—such as theory of mind, perspective-taking, and empathy—interact with the narrative structure to influence their perception of literary and historical agents (Zunshine, 2006). Armstrong, Hazleton, and Spencer each write individual representations of Prophet Muhammad based upon different narrative methods that solicit the activation of different cognitive processes. Armstrong represents Prophet Muhammad as visionary reformer: "Prophet Muhammad was not a man of violence." However, Spencer represents Prophet Muhammad using a decidedly negative narrative, resorting to selective framing and rhetoric in an attempt to represent Prophet Muhammad negatively: "From the very beginning, Prophet Muhammad sought to spread his influence not through peaceful persuasion but through coercion and war" (Spencer, 2006). Armstrong describes Prophet Muhammad's initial hardships: "He lost his parents at an early age, grew up in hardship, and yet refused to be defined by his circumstances" (Armstrong, 2006). Hazleton makes the same argument as this: "Prophet Muhammad was plagued by doubt before his first revelation, an aspect often underplayed in conventional accounts" (Hazleton, 2013). Spencer, in contrast, applies skepticism and ethical censure through representing the identical facts in more critical fashion: "Prophet Muhammad's revelations always seemed conveniently aligned with his personal and political needs" (Spencer, 2006).

The significance of this study is its exploration of the effect of narrative framing on the comprehension of Prophet Muhammad in Western literary frameworks. While considerable scholarship has been devoted to

explaining the ideological tendencies found within the biographies of Prophet Muhammad, this study refocuses attention on the cognitive processes involved in how readers perceive these books. The study will proceed by examining key sections of the biographies of Armstrong, Hazleton, and Spencer, examining how their narrative styles adhere to the tenets of Cognitive Narratology.

II. LITERATURE REVIEW

The representation of historical figures in biographical writing has been a topic of academic study, especially concerning the influence of narratives on cultural attitudes. This chapter reviews the literature on biography as a literary genre, the cognitive processes that facilitate reader interpretation, and how Lisa Zunshine's Cognitive Narratology offers a conceptual framework for understanding these processes of interpretation.

2.1 Biography as a Narrative Construct

Biographies should not be seen as objective tells of history; instead, they are constructed narratives that represent the interpretive position of the biographer. Researchers such as Paul Ricoeur (1984) contend that biographies constitute their subjects through the deliberate selection and ordering of events, the narrative voice employed, and the rhetorical style employed, thereby influencing readers' perception of historical individuals. Likewise, Roland Barthes (1977) emphasizes the significance of textual structures in generating meaning, by asserting that "narratives do not merely recount events but actively create the reality of the subject they depict" (p. 113). These results conform to Zunshine's (2006) Cognitive Narratology model, which contends that the manner in which a narrative is presented affects both the cognitive processing and affective investment of readers with its subject.

In Prophet Muhammad's biography, biographers take various narrative approaches to position him within particular cultural and ideological contexts. Armstrong (2006) offers a well-organized chronological narrative that emphasizes Prophet Muhammad's moral and spiritual impact: "His leadership was not one of conquest, but of reconciliation and reform" (p. 87). Hazleton (2013), by contrast, takes a more introspective approach, emphasizing the psychological stakes involved: "The weight of revelation pressed upon him, not as a gift, but as an overwhelming responsibility" (p. 54). Spencer (2006), by contrast, takes a more polemical tone, relying on selective anecdotes to present Prophet Muhammad as a political and military figure of dubious motive: "His messages conveniently adapted to the needs of the moment, reflecting not divine will, but personal ambition" (p. 149). These varied presentations illustrate the significance of narrative choice in biography and its consequent impact upon perception.

2.2 Cognitive Approaches to Reading and Interpretation

Cognitive Narratology, according to Zunshine (2006), is a theoretical model that explains how readers consume biographical accounts. According to Zunshine, readers construct narratives through Theory of Mind—the possession of the capacity for attributing thought, feeling, and intention to characters (p. 12). This is an important cognitive process, particularly in biographies, particularly if the biography is about a real historical figure and not a fictional one. Readers form mental models of Prophet Muhammad's character based on textual hints offered by biographers.

For instance, Armstrong (2006) enhances cognitive empathy by emphasizing Prophet Muhammad's struggle and perseverance: "Even when confronted with unrelenting opposition, he remained steadfast in his mission, a model of patience and humility". This view inspires readers to think of noble motives behind Prophet Muhammad's actions. Spencer (2006), by contrast, uses cognitive skepticism, and readers are invited to question his motives: "His calls for peace were frequently tactical, aimed at strengthening power rather than seeking genuine harmony". Hazleton (2013) is more balanced: "Prophet Muhammad's actions may be seen as pragmatic reactions to his world, neither solely idealistic nor wholly self-interested". These different cognitive strategies shape the way readers view the character of Prophet Muhammad.

A relevant cognitive theory to consider is Schema Theory, which describes how prior knowledge and expectations influence interpretation (Bartlett, 1932, p. 45). Readers interpret texts based on mental schemas—pre-existing cognitive representations motivated by educational history, cultural background, and personal background. The theory is contrasted with Zunshine's Theory of Mind, where the dynamic construction of interpretation where reading is the emphasis, while Schema Theory emphasizes the importance of shared cognitive routines in shaping perception.

In Armstrong's treatment, individuals possessing schemas of Prophet Muhammad as religious leader can easily adopt her version, thereby entrenching in place frameworks. Spencer, on the contrary, activates negative schemas by linking his account to presuppositions that Islam is driven by political motives: "His alliances and

treaties were tactical moves, securing dominance rather than peace" (Spencer, 2006, p. 189). Hazleton's ambiguity lets readers apply personal schemas, and therefore more individualized meanings.

Both theories add to the understanding of how readers react to biographical accounts. Theory of Mind accounts for the transient cognitive engagement with protagonists, while Schema Theory highlights the contribution of pre-existing cognitive schemes in building and screening perception. The interaction between these cognitive processes influences the extent to which biographies impact readers' constructions of historical figures.

2.3 Presentation of Prophet Muhammad in Western Biographical Literature

The representation of Prophet Muhammad in Western literary environments has been influenced over time by diverse historical, political, and cultural paradigms. Edward Said (1978) most notably discussed the Western construction of the "Oriental Other," arguing that constructions of Islam and its most well-known figures were often guided by colonial ideologies more than by objective scholarly research (p. 92). Current research, for example, by Asad (2003) and Brown (2011), highlights that biographical accounts of Prophet Muhammad reflect broader socio-political discourses.

Armstrong (2006) is consistent with positive portrayals, whereas Hazleton (2013) offers a more nuanced portrayal, referring to personal struggles and instances of uncertainty. In stark contrast, Spencer (2006) perpetuates negative stereotypes by presenting Prophet Muhammad as acting out of self-interest. These different portrayals highlight the influence of narrative choice in informing public opinion.

2.4 Application of Cognitive Narratology to Biographical Analysis

Zunshine's (2006) Cognitive Narratology offers a useful framework for analyzing how such biographies control perception through narrative technique. Her theory argues that information presentation influences the cognitive processing of the subject by the reader (p. 27). Cognitive Narratology is used here to analyze prominent passages of each biography to demonstrate how biographers use narrative technique in order to control perception. Through the analysis of the cognitive engagement of readers with these books, this study illuminates the broader implications of biographical narration in constructing historical knowledge.

Cognitive Narratology provides a theoretical model for describing how readers interpret these stories, grounded in the deliberate presentation of facts by biographers. Western biographies' representation of Prophet Muhammad varies significantly, depending on different ideological positions and narrative techniques. This study builds on existing work by applying Zunshine's theory to perform a close reading of these biographies.

2.5 Cognitive Theories of Reading and Interpretation

Cognitive Narratology, as theorized by Zunshine (2006), seeks to account for readers' responses to biographical narratives. Cognitive constructions of the character of Prophet Muhammad are built by readers on the basis of textual cues provided by biographers.

For instance, Armstrong (2006) encourages cognitive empathy by emphasizing the determination and challenges of Prophet Muhammad: "Even when confronted with persistent opposition, he was firm in his mission, showing patience and humility". These diverse cognitive strategies affect readers' construction of their perception of Prophet Muhammad's character. This method is distinct from Zunshine's Theory of Mind, which focuses on dynamic interpretation in the reading process, whereas Schema Theory emphasizes the significance of pre-existing cognitive schemata in shaping perception.

In Armstrong's book, readers with schemas of Prophet Muhammad as a religious figure will readily accept her characterization, validating their existing schema. Hazleton's ambiguity allows readers to apply their own schemas to the book, leading to more individualized meanings.

Both theories describe how readers interact with biographical accounts. The interaction of both cognitive processes determines the impact of biographies on readers' comprehension of historical figures.

2.6 Representation of Prophet Muhammad in Western Biographies

The depiction of Prophet Muhammad in Western literature has changed considerably throughout history, relating to different political, historical, and cultural environments. Recent scholarship, such as by Asad (2003) and Brown (2011), highlights the way biographical depictions of Prophet Muhammad reflect broader socio-political narratives.

Armstrong (2006) takes the traditional method of sympathetic portrayals, while Hazleton (2013) presents a more personalized account, focusing on personal struggles and instances of doubt. Such various portrayals identify the role of narrative choice in building public opinion.

2.7 Application of Cognitive Narratology to Biographical Analysis

Zunshine's (2006) Cognitive Narratology offers a helpful model for the study of how these biographies build perception through narrative structure. Through analysis of the cognitive involvement of readers with these books, this work adds to the overall implications of biographical narrative for building historical understanding.

The scholarly analysis conducted under this section establishes that biography is not merely a balanced account of facts; rather, it is a well-organized narrative that determines public opinion. Cognitive Narratology offers a theoretical model explaining the way the reader reacts to such accounts, which are guided by the deliberate organization of facts by the biographers. The depiction of Prophet Muhammad in Western biographies is very diverse, reflecting contrary ideological positions and narrative styles.

III RESEARCH METHODOLOGY

3.1 Research Methodology and Selection of Biographies

The study utilizes comparative text analysis of three different biographies:

1. Karen Armstrong's Prophet Muhammad: A Prophet for Our Time (2006)
2. Lesley Hazleton's The First Muslim: The Story of Prophet Muhammad (2013)
3. Robert Spencer's book, The Truth about Prophet Muhammad: Founder of the World's Most Intolerant Religion (2006).

3.2 Cognitive Narratology Analytical Framework

Utilizing Zunshine's (2006) Theory of Mind (ToM), this study looks into:

- Characterization – The portrayal of Prophet Muhammad's feelings and intentions.
- Narrative Framing – The way events are framed to create empathy, incredulity, or admiration.
- Cognitive Engagement – How the text invites emotional engagement or disengagement.

IV. Textual Analysis – Cognitive Narratology and Perception in Biographies of Prophet Muhammad

This chapter uses Lisa Zunshine's Cognitive Narratology (2006) to analyze the representation of Prophet Muhammad in three Western biographies. It explores how these books represent his life and personality to generate different cognitive and emotional responses from their readers.

Zunshine's theory addresses the extent to which Theory of Mind (ToM)—the capacity to attribute intentions, feelings, and beliefs to others—impacts reader involvement in narratives. From a textually focused perspective, this chapter explores:

1. Description of Prophet Muhammad's Personality
2. The Narrative Construction of Significant Events
3. Readers' Cognitive and Emotional Involvement

4.1 Building Prophet Muhammad's Personality through Cognitive Framing

Each biographer provides a distinct cognitive viewpoint that influences how readers perceive the personality of Prophet Muhammad.

- Karen Armstrong introduces Prophet Muhammad as a human reformer, invoking a sympathetic reading (Armstrong, 2006, p. 102).

For instance, in describing Prophet Muhammad's initial revelation:

Armstrong suggests that the man felt deep fear; however, he eventually found solace in his mission, which he viewed as a call to social justice (2006, p. 34). This is more of a sense of manipulation than a true divine revelation.

Zunshine's Cognitive Narratology suggests that readers reconstruct the figure of Prophet Muhammad from textual cues, referencing prior cognitive schemata that shape their understanding.

4.2 Placing Key Events in Context

The way in which biographers sequence and emphasize events affects reader perception.

- Armstrong's chronological narrative constructs a moral trajectory, which makes readers admire Prophet Muhammad's spiritual journey, engaging readers in Prophet Muhammad's conflicts.

- Spencer's biased report focuses on conflict and political motives, taking a critical approach towards Prophet Muhammad's actions.

For example, regarding Prophet Muhammad's leadership in Medina:

- Armstrong calls it a response to tribal hostility, a repetition of the image of a kindly disposed leader (2006)
- The stylistic decisions of the biographies—language, tone, and emphasis—affect readers' construction of Prophet Muhammad's identity.

Armstrong's lyrical narrative focuses on empathy, leading to affective engagement (Armstrong, 2006)

- Lesley Hazleton sequences events in Muhammad's life by intertwining personal struggles with broader historical contexts by highlighting pivotal events. Hazleton shapes the reader's perception of Muhammad not just as a religious figure, but as a complex individual directing deep personal and communal turmoil.

V. Cognitive Narratology and Prophet Muhammad's Image Formation in Biographies

This chapter uses Lisa Zunshine's Cognitive Narratology (2006) to examine how various narrative techniques in Karen Armstrong's Prophet Muhammad: A Prophet for Our Time (2006), Lesley Hazleton's The First Muslim: The Story of Prophet Muhammad (2013), and Robert Spencer's The Truth About Prophet Muhammad: Founder of the World's Most Intolerant Religion (2006) condition the reader's perception of Prophet Muhammad. 10).

Here we will discuss the important aspects of cognitive narratology as analysed in the selected extracts from the mentioned biographies. The extracts are studied under the following lens.

1. How the three biographies build Prophet Muhammad's cognitive complexity.(ToM)
2. How narrative methods influence readers' meanings. (Narrative Framing)
3. The activation of reader alignment and perception

5.1 Analysis of Lesley Hazleton's Extract

Extract:

“If Muhammad had married his cousin, nobody today might even know his name. Without the woman he did go on to marry, he might never have found the courage and determination to undertake the major role that waited for him.”

Aspect	Analysis
Theory of Mind Activation	Hazleton wants her readers to picture Muhammad as a man moulded by circumstances and relationships rather than one destined for greatness.
Narrative Framing and Emotional Cues	The conditional “if” creates a reflective mood, prompting readers to empathize with Muhammad’s emotional reliance on his spouse.
Reader Alignment and Perception	A humanizing and psychological portrayal depicts how personal relationships may have empowered his mission.

Table 1.1

5.2 Analysis of Karen Armstrong's Extract

Extract:

“Crouching ignominiously behind a tree, Muhammad was close to despair. It was customary for Arabs to ‘take refuge’ with a god or a jinni in times of crisis, so now Muhammad took refuge with Allah.”

Aspect	Analysis
Theory of Mind Activation	Readers assume Muhammad’s vulnerability and spiritual dependence which results into generating cognitive empathy.
Narrative Framing and Emotional Cues	“taking refuge” has cultural context language such as “despair” and “ignominiously” emotionally charged readers further guides to empathetic engagement.
Reader Alignment and Perception	The framing promotes compassion and connection, which makes Prophet Muhammad familiar and real. The narrative forces a sense of humility.

Table 1.2

5.3 Analysis of Robert Spencer's Extract

Extract:

“Muhammad tried to please his consorts by promising to give up honey, and Allah is allowing him to break this oath and threatening the errant wives with divorce.”

Aspect	Analysis
Theory of Mind Activation	Readers assume Muhammad's objective as pacification for the political gain. This framing incites cognitive skepticism.
Narrative Framing and Emotional Cues	the focus of this narration is influence divine sanction, leads to disbelief and hostility rather than empathy.
Reader Alignment and Perception	Spencer's narration leads the reader to be critical and sceptical of Prophet Muhammad's actions, portraying divine mediation as a tool for personal convenience.

Table 1.3

VI. CONCLUSION

The study of perception management through biography has uncovered the intricate processes through which narrative strategies influence readers' perception of historical figures. Applying Lisa Zunshine's Cognitive Narratology (2006) as the main theoretical framework, this research examined how Karen Armstrong (2006), Lesley Hazleton (2013), and Robert Spencer (2006) construct their individual narratives of the Prophet Muhammad. Each of the authors applies cognitive strategies that influence the reader's engagement, emotional response, and interpretative context.

WORKS CITED:

- Armstrong, Karen. *Muhammad: A Prophet for Our Time*. HarperOne, 2006.
- Asad, Talal. *Formations of the Secular: Christianity, Islam, Modernity*. Stanford University Press, 2003.
- Barthes, Roland. *Image, Music, Text*. Translated by Stephen Heath, Hill and Wang, 1977.
- Bartlett, Frederic C. *Remembering: A Study in Experimental and Social Psychology*. Cambridge University Press, 1932.
- Brown, Jonathan A.C. *Muhammad: A Very Short Introduction*. Oxford University Press, 2011.
- Hazleton, Lesley. *The First Muslim: The Story of Muhammad*. Riverhead Books, 2013.
- Ricoeur, Paul. *Time and Narrative, Volume 1*. Translated by Kathleen McLaughlin and David Pellauer, University of Chicago Press, 1984.
- Said, Edward W. *Orientalism*. Pantheon Books, 1978.
- Spencer, Robert. *The Truth About Muhammad: Founder of the World's Most Intolerant Religion*. Regnery Publishing, 2006.
- Zunshine, Lisa. *Why We Read Fiction: Theory of Mind and the Novel*. Ohio State University Press, 2006.

IMPACT OF E COMMERCE ON TRADITIONAL RETAIL

Dr. Abhilash TiwariAssistant Professor, Department of BMS, Guru Nanak Khalsa College of Arts, Science and Commerce,
Matunga, Mumbai**ABSTRACT**

With e-commerce gaining an unprecedented momentum, it has completely changed the paradigm for traditional retail, evoking a need to analyze the influence on sales, margins, and customer behaviours. The aim of this study is to investigate the impact of e-commerce on traditional retail, the challenges presented to brick-and-mortar stores, and possible adaptive measures and hybrid retail strategies. Taking a mixed-methods approach, primary data were collected through surveys of 100 traditional retailers and 150 consumers, as well as in-depth interviews with 20 retail business owners. Using SPSS for quantitative analysis, the results showed a consistent decrease in traditional retail sales between 2019-2024, with an especially sharp decline of 14.3% in 2021, attributed to hardships brought by new pandemic trends. Consumer surveys showed high preference for e-commerce with respect to convenience (82%), product variety (75%) and competitive price (68%) while traditional retail still was favourite for trust (55%) and after sales service (60%). Promising figures recently were reported: in 2019, it was found that about 25% of all sales were a result of e-commerce industry, jumping 52% predicted by 2024. However, with declining foot traffic and demanding operational costs, many conventional retailers have started implementing digital tactics to stay competitive. Key Highlights Invest in Superhuman Brick-and-Mortar Stores: Retailers would find an enormous area of opportunity once acquire the technology to transfer data from the online platform.

Keywords: e-commerce, traditional retail, estratégico analysis, distribución, innovación.

1. INTRODUCTION

The fast-paced development of digital technology has transformed retail by influencing consumer behaviour, market structure and business strategies in profound ways. Moreover, it has turned into a disruptive element for many different sectors as it continues its rise with IoT, big data analytics, blockchain and artificial intelligence technologies (Xie et al., 2020; França et al., 2021). That's why the transition from conventional brick-and-mortar to digital marketplaces is a double-edged sword for both businesses and buyers. Such digital transformation will reshape not only firms, industries, but even economic model to achieve massive changes in customer engagement, supply chain management and competitive advantage (McKinsey & Company, 2021).

Impact of E-commerce on Traditional Retail

A short paragraph describing what is the core of your content The growth of e-commerce has significantly impacted traditional retail, transforming the way businesses function and consumers shop. Traditional retail models, previously based on the strength of their physical presence, now must contend with the challenge of adapting digital platforms in order to be competitive. According to Al-Musali and Ku Ismail (2019) e-commerce poses a kind of threat to traditional retail stores as many retail stores are been shutdown. Finally, please note that you have to replace the text used in this paragraph according to your review and findings. Hagberg et al. (2019), the retail digitalization is broader than merely selling a product online but is about the digitalization of the customer journey from product discovery to product comparison and purchase. Big data analytics often enables e-commerce platforms to improve user experience and help retain customer loyalty through this holistic approach (Liu, 2021). Meanwhile, traditional retailers who have yet to evolve must either be phased out or evolve to remain relevant. In fact, according to UBS (2021), the rise in e-commerce has not only resulted in a higher percentage of physical store closures but is also occurring at an accelerated pace in sectors like apparel and electronics. This trend is attributed to the increasing demand for consumers to buy online because of the convenience of delivering goods to the home, convenience of returns, and 24/7 availability. Those retailers which successfully integrate both their physical and digital offerings into an omnichannel experience are likely to achieve survival in this new norm (McKinsey & Company, 2021).

Role of Digital Transformation in Driving Customer Engagement

The advent of digital transformation has changed the way retailers connect with their customers. Big data analytics and artificial intelligence are essential for gaining insight into consumer behavior and tailoring marketing strategy. França et al. (2021) point out that deep learning techniques in big data offer retailers the opportunity to capture vast amounts of consumer data and analyze it in order to provide predictions of preferences, improve product recommendations (inference), and customer satisfaction. According to Liu 2021, which argues for the use of fuzzy clustering and PCA models optimizing precision marketing.

Through interactive platforms and seamless user experiences, digital transformation allows for improved customer engagement in addition to personalized marketing. According to Chan (2020), cloud computing and big data technologies facilitate real-time interaction of retailers and consumers, which in turn provides brand loyalty and customer retention. Social media companies take this engagement a step further and enable consumers to interact with brands, provide feedback, and inform other potential buyers (Tiago & Veríssimo, 2019).

Challenges and Future Prospects

Though advantageous, the rise of e-commerce also presents risks, including cyber threats, data privacy issues, and a proliferation of competition. Emotional labor and interpersonal conflicts may arise in e-commerce jobs (especially the service-oriented ones) and thus can challenge the well-being of employees (Ahmad and Mehmood, 2024). It is critical to address such issues for not only maintaining motivation but also ensuring organizational performance (Ahmad et al., 2025). In the coming years, blockchain technology can be integrated into e-commerce to ensure the security and safety of transactions (Li & Huang, 2020), and the Internet of Things (IoT) can be applied to possess a smart supply chain management (Xie et al., 2020). Modernizing Retail:How Digita.

2. LITERATURE REVIEW

Impact of E-Commerce on Traditional Retail

E-commerce growth is reshaping retail environments and consumer behavior. Much has been said about this phenomenon in the literature, and interesting insights have been offered on how digitalization is shaping the retail environment. Ahmad and Ullah (2025) emphasized the mental health of employees as a result of the organizational changes demanded by digital transformation. Likewise, Ahmad (2025) highlighted the significance of financial inclusion through digital banking in bridging gaps in developing markets, thereby echoing the broader trends in which digital platforms redefine traditional retail systems. Al-Musali and Ku Ismail (2019) examined the effects of e-commerce on traditional retail in Bahrain, finding that online shopping resulted in the closure of physical stores. This is consistent with the findings of UBS (2021), that disruption of retail through e-commerce has led to widespread closures of physical stores internationally. Hagberg et al. (2019), which defined how retailing is going digital, articulated the concept that technology is not a tool but a facilitator of new synergy, needed for the practice of customer interaction and more efficient delivery of value.

The rise of big data and analytics has also enabled e-commerce platforms to serve personalized consumer needs. For example, Liu (2021) showed that big data precision marketing significantly impacts consumer behavior, as do the fuzzy clustering and PCA models. Building data driven SaaS eco-systems are changing the way consumers experience commerce, making shopping easier and seamless than what retail experience could offer.

Technological Integration and Business Model Evolution

Technology integration has been at the core of the evolution of business models in the retail sector. Kotler et al. (2021) Such evolution represents how technology and humanity merge to reinvent market forces. França et al. Deep neural networks used for big data processing have great effect in modern-day retail. Specifically in image and signal processing, these methods will allow for a better prediction of consumer behavior (Tariq et al., 2021). Changes in eCommerce business models have also been accelerated through technologies like Blockchain and Internet of Things (IoT). Li and Huang (2020) analysed the agricultural e-commerce industry value integration model based on a blockchain supply chain with high transparency and traceability. Ma et al. (2021) added to this discussion by analysing the role of bilateral platforms in e-commerce that use blockchain to drive operational performance.

Digital transformation goes beyond business models to include strategies for engaging consumers. The use of digital tools increases customer engagement as it enhances accessibility and personalization as noted by McKinsey & Company (2021). According to Statista (2021), the Continues Growth of Global e-Commerce Trends shows that consumers are increasingly clients using online shopping channels, especially following the COVID-19 pandemic. Hence the need of the hour is retail marketing. Tiago and Veríssimo (2019) recently investigated the interaction between digital marketing, social media, and consumer engagement, highlighting the importance of business investment in digital presence to ensure competitiveness. Verhoef and Bijmolt (2019) outlined a framework for digital business models, which highlighted that the combination of digital marketing and business strategy is essential for long-term growth.

3. OBJECTIVES

- To analyze the impact of e-commerce on sales and profitability in traditional retail.
- To examine changes in consumer behavior due to e-commerce growth.
- To identify challenges faced by traditional retailers.
- To explore adaptive strategies for integrating e-commerce with traditional retail.
- To evaluate the potential for hybrid retail models.

4. METHODOLOGY

This study uses a mixed-methods approach to collect qualitative and quantitative data, allowing for a comprehensive examination of the impact of e-commerce on the traditional retail sector. The methodology included primary data collection via surveys, with 100 traditional retailers and 150 consumers providing measurable insights into market trends and consumer preferences. Also, qualitative perspectives on challenges and in-place strategies were gathered through in-depth interviews with 20 retail business owners. The analysis was enriched through secondary data drawn from market reports, journal articles, and government publications. Participants from urban and semi-urban areas were recruited through random sampling, and stratified sampling was used to recruit participants across different sectors in the retail industry. Statistical tools (e.g., SPSS) were applied to quantitative data to determine trends and correlations, whereas thematic analysis was utilized on qualitative content to encapsulate nuanced perceptions. Drawing on contemporary perspectives and dour facts, this materialistic approach allows for a nuanced understanding of consumers and their experiences as e-commerce transforms retail as we know it, merging the quantitative with the qualitative: a true micro-macro microcosm.

Hypothesis

- **H1:** E-commerce has a significant negative impact on the sales of traditional retail stores.
- **H2:** Consumer preferences are increasingly shifting toward e-commerce due to convenience and competitive pricing.
- **H3:** Traditional retail can sustain its relevance by integrating digital strategies.

5. RESULT & DISCUSSION

An unravelling of emerging trends the results underscore the extent of e-commerce's impact on traditional retail, as the category experiences a yearslong and steady sales decline from 2019 to 2024 — a result of changing consumer preferences. According to survey data, when it comes to e-commerce, consumers value convenience (89%), variety (67%), and competitive pricing (66%), while trust and after-sales service are still found in traditional retail. Market share analysis demonstrates a slow progression of e-commerce dominance. While traditional retailers grapple with challenges such as reduced consumer foot traffic and soaring operational costs, many are finding ways to integrate digital platforms and remain competitive by adopting hybrid models.

Sales Decline in Traditional Retail (2019–2024)

We thus see a gradual decline in retail sales from 2019 to 2024, which is a testimony to changing market conditions. Sales fell 6.7% in 2020 with the growing spread of e-commerce websites. That decline deepened in 2021, a 14.3% dip driven by pandemic-related lockdowns. The post-pandemic recovery in 2022 was slow as well, reflecting an 8.3% decline. Continuing the decline by 4.5% in 2023 it slightly stabilises in 2024 with 2.9 driven by hybrid retail model adoption.

Table 1: Sales Decline in Traditional Retail

Year	Total Sales (USD Million)	Percentage Decline (%)	Key Factors
2019	150	—	Stable market conditions
2020	140	6.70%	Rise of e-commerce platforms
2021	120	14.30%	Pandemic impact, lockdowns
2022	110	8.30%	Post-pandemic consumer shift
2023	105	4.50%	Sustained online preference
2024	102	2.90%	Adaptation to hybrid models

Consumer Preferences for E-commerce vs. Traditional Retail

A survey conducted among 150 ambassadors highlights the dominance of e-commerce in these areas. Convenience is paramount with 82% preferring online portals to access information enjoyed.

Likewise, 75% of consumers prefer e-commerce because of the wider variety of products available, while for 68% competitive pricing and regular discounts are essential when shopping. However, traditional retail still holds the lead in trust and reliability (55%) and after-sales service (60%), highlighting that personal interaction is key. The conclusions indicate that, even though e-retail is far from reaching as much as they can, traditional retail is still very strong, as service quality.

Table 2: Consumer Preferences for E-commerce vs. Traditional Retail (Survey of 150 Respondents)

Parameter	E-commerce (%)	Traditional Retail (%)	Key Insights
Convenience	82	18	Online preferred for ease of access
Product Variety	75	25	E-commerce offers wider selection
Price Competitiveness	68	32	Discounts attract more consumers
Trust and Reliability	45	55	Traditional retail still preferred
After-sales Service	40	60	Better support in physical stores

E-commerce vs. Traditional Retail – Market Share

During this period, 2019 to 2024 it is evident from the market share data that there is a move towards e-commerce and away from traditional retail. As of 2019, e-commerce made up 25% of the market, rising to 32% in 2020, a 7% rotation in demographics due to the online shopping trend. That trend sped up in 2021, by 8%, as the pandemic pushed consumers toward digital platforms. However, after a modest 5 percent growth in both 2022 and 2023, the market share eventually evened out to 50-50 in 2023. In 2024, e-commerce edged past traditional retail with 52% share, highlighting the continued dominance of online shopping, even with the advent of hybrid retail models.

Table 3: E-commerce vs. Traditional Retail – Market Share (2019–2024)

Year	E-commerce Share (%)	Traditional Retail Share (%)	Market Shift (%)
2019	25	75	—
2020	32	68	7
2021	40	60	8
2022	45	55	5
2023	50	50	5
2024	52	48	2

Major Challenges Faced by Traditional Retailers

According to a survey of the challenges faced by traditional retailers, several of the issues are actually quite serious. The most significant problem was reported to be a decline in foot traffic (85%). This highlights how more people engage in online shopping. Another major problem is price competition: 78% of retailers say they're having a hard time keeping up with the discounts offered by e-commerce. 67% of retailers cited high operational costs, which are incurred by physical stores. Digital infrastructure inadequacies affect 55% of those asked, indicating a need for technological improvements. Also, 48% declare a drop in consumer loyalty, underlining the added difficulty of retaining customers in an increasingly competitive retail environment.

Table 4: Major Challenges Faced by Traditional Retailers

Challenges	Frequency (Out of 100 Respondents)	Percentage (%)
Declining Foot Traffic	85	85%
Price Competition	78	78%
High Operational Costs	67	67%
Digital Infrastructure	55	55%
Consumer Loyalty Decline	48	48%

Hybrid Model Adoption Among Traditional Retailers

This shift towards a hybrid model at traditional retailers is a strategic decision to remain competitive in the changing industry. Meanwhile, digital payment systems are the most widespread, with 70% penetration, evidenced by the drive towards cashless availability. Social media marketing secures 65% adoption, signifying retailers' push for visibility and engagement.

60% of retailers embrace multi-channel opportunity with online marketplace integration. And half have taken on home delivery services in order to satisfy consumer demand for convenience.

Creating independent e-commerce platforms is still relatively rare, with 45% adoption, implying that e-commerce businesses may be low on resources or are still relying on third-party platforms.

Table 5: Hybrid Model Adoption Among Traditional Retailers

Adoption Strategy	Number of Retailers (Out of 100)	Adoption Rate (%)
Online Marketplace Integration	60	60%
Own E-commerce Platform	45	45%
Digital Payment Systems	70	70%
Social Media Marketing	65	65%
Home Delivery Services	50	50%

6. CONCLUSION

Finally, the key takeaway from the study is that e-commerce has undoubtedly transformed the traditional retail environment, resulting in major changes in sales patterns, shopping habits, and market share. A mixed-methods research design effectively addressed the study's aims: to analyze sales and profitability; lastly, the changing nature of consumer behavior; retailers' challenges and opportunities; adaptive strategies; and hybrid retail models. Ecosystem of qualitative storylines + quantitative data from end 2019–2024 confirming the impact of the rise of e-commerce paved a systematic decline of the retail stores from 2019 till 2024, cumulative 32% lower in sales in a 5-year aggregate. This downward trajectory mirrors changing consumer tastes that favor convenience, a wider range of products, and lower prices available on Internet platforms. Data showed that despite the prevalence of e-commerce in terms of accessibility and pricing, traditional retail still beats the former in two crucial areas: brand trust and after-sales service. And although they have gained a much larger online footprint, traditional retailers struggle with major issues from declining foot traffic (which affected 85% of respondents) to fierce price competition. These obstacles, along with increasing operational costs, make a clear case for why adaptation is needed.

It also underscores the strategic value of hybrid retail models—those that link digital platforms with bricks-and-mortar sites. Retailers that implemented such hybrid models showed a mild stabilization in sales in 2024, with a drop of just 2.9 percent, compared with sharper declines in previous years. This suggests a future of retail that mixes both worlds, tapping into the reach, convenience, and efficiencies of e-commerce and the personal connection and dependableness of traditional retail. Secondly, hypothesis testing was informative. Hypothesis one (H1) was supported as the β coefficient was found to be significantly negative. The second hypothesis (H2), which stated that consumer preferences gradually shifted to online shopping, was also confirmed. The third hypothesis (H3) was only partially confirmed, with the implication that the digital integration helps to promote sustainability, but not all retailers might be equally equipped to employ effective hybrid strategies. However in the ever changing retail ecosystem, traditional retailers must now follow suit and adopt digital transformation to stay in the game. Sales figures for hybrid retailers appear to be stabilizing slowly, a sign that a middle-of-the-road approach — a combination of digital convenience without abandoning personalized customer service — might be the key to retail success. Further, future studies could examine long-run consumer loyalty trends on hybrid models, and the impact of emerging technologies like AI and blockchain on improving retail operating efficiencies.

Future Scope

- The integration of online and offline channels is expected to evolve further, allowing retailers to leverage the strengths of both formats.
- Future research can explore the long-term effectiveness of hybrid models in sustaining profitability and customer loyalty.
- E-commerce and traditional retailers are increasingly focusing on sustainable practices to meet consumer expectations.
- With shifting demographics and digital literacy, consumer preferences are expected to continue evolving.
- Further studies could examine how factors such as age, income, and digital accessibility influence purchasing decisions.

REFERENCES

1. Ahmad, N. R., & Ullah, I., et al. (2025). Investigating stress, burnout, and organizational factors contributing to psychological well-being at work. *Review of Education, Administration and Law (REAL)*, 8(1).
2. Ahmad, N. R. (2025). Model bazaars redefined: Punjab's visionary step to authority status for public welfare. *Contemporary Journal of Social Sciences Review*, 3(1).
3. Ahmad, N. R. (2025). Exploring the relationship between leadership styles and employee motivation in remote work environments. *Al-AASAR Journal*, 2(1).
4. Ahmad, N. R. (2025). Financial inclusion: How digital banking is bridging the gap for emerging markets. *Journal of Applied Linguistics and TESOL*, 8(1).
5. Ahmad, N. R., & Mehmood, S., et al. (2024). Investigating how emotional labor in service-oriented jobs customer service contributes to interpersonal conflicts and employee well-being. *Review of Applied Management and Social Sciences (RAMSS)*, 7(3).
6. Kotler, P., Kartajaya, H., & Setiawan, I. (2021). *Marketing 5.0: Technology for humanity*. Wiley.
7. Grewal, D., Gauri, D. K., Roggeveen, A. L., & Sethuraman, R. (2021). Shopper marketing 2.0: Opportunities and challenges. *Journal of Retailing*, 97(1), 71–87. <https://doi.org/10.1016/j.jretai.2020.11.002>
8. McKinsey & Company. (2021). *The future of retail: The role of digital transformation in driving customer engagement*. <https://www.mckinsey.com/industries/retail/our-insights>
9. Statista. (2021). *Global e-commerce market growth trends 2021–2025*. <https://www.statista.com/topics/ecommerce>
10. UBS. (2021). *Retail disruption: The impact of e-commerce on physical store closures*. <https://www.ubs.com/global-research>
11. França, R. P., Monteiro, A. C. B., Arthur, R., & Iano, Y. (2021). An overview of deep learning in big data, image, and signal processing in the modern digital age. *Trends in Deep Learning Methodologies*, 63–87.
12. Liu, H. (2021). Big data precision marketing and consumer behavior analysis based on fuzzy clustering and PCA model. *Journal of Intelligent & Fuzzy Systems*, 40(4), 6529–6539. <https://doi.org/10.3233/JIFS-210834>
13. Xie, C., Xiao, X., & Hassan, D. K. (2020). Data mining and application of social e-commerce users based on big data of internet of things. *Journal of Intelligent & Fuzzy Systems*, 39(4), 5171–5181. <https://doi.org/10.3233/JIFS-200921>
14. Chan, J. O.-P. (2020). Digital transformation in the era of big data and cloud computing. *International Journal of Intelligent Information Systems*, 9(3), 16.
15. Li, X., & Huang, D. (2020). Research on value integration mode of agricultural e-commerce industry chain based on internet of things and blockchain technology. *Wireless Communications and Mobile Computing*, 2020, 1–11. <https://doi.org/10.1155/2020/3518935>
16. Levy, M., Weitz, B. A., & Grewal, D. (2019). *Retailing management* (10th ed.). McGraw-Hill Education.
17. Al-Musali, M. A., & Ku Ismail, K. N. I. (2019). The impact of e-commerce on traditional retail: Evidence from Bahrain. *Journal of Internet Commerce*, 18(3), 249–267. <https://doi.org/10.1080/15332861.2019.1632234>
18. Hagberg, J., Sundstrom, M., & Egels-Zandén, N. (2019). The digitalization of retailing: An exploratory framework. *International Journal of Retail & Distribution Management*, 44(7), 694–712. <https://doi.org/10.1108/IJRDM-09-2015-0140>
19. Tiago, M. T. P. M. B., & Veríssimo, J. M. C. (2019). Digital marketing and social media: Why bother? *Business Horizons*, 57(6), 703–708. <https://doi.org/10.1016/j.bushor.2014.07.002>
20. Verhoef, P. C., & Bijmolt, T. H. A. (2019). Marketing perspectives on digital business models: A framework and overview. *International Journal of Research in Marketing*, 36(3), 341–356. <https://doi.org/10.1016/j.ijresmar.2019.04.003>

ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, AND THE FUTURE OF MEDICAL LABORATORY TECHNOLOGY: CURRENT CONCERNS IN INDIA AND THE GLOBAL LANDSCAPE

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ABSTRACT

The integration of Artificial Intelligence (AI) and Machine Learning (ML) into medical laboratory technology is revolutionizing the field of biotechnology. These technologies are enhancing diagnostic accuracy, streamlining laboratory workflows, and enabling personalized medicine. However, their adoption in countries like India faces unique challenges, including infrastructural limitations, data privacy concerns, and a lack of skilled professionals. This paper explores the current state of AI and ML in medical laboratory technology, their potential to transform healthcare, and the specific concerns and opportunities in India. It also discusses the global landscape, highlighting key advancements and ethical considerations.

Key-Words: Artificial Intelligence (AI), Machine Learning (ML), medical laboratory technology, biotechnology, diagnostic accuracy, personalized medicine, infrastructure limitations, data privacy and security, drug discovery, genomics and proteomics, clinical decision support algorithmic bias, healthcare equity, regulatory frameworks, low- and middle-income countries (LMICs), global healthcare.

1. INTRODUCTION

Medical laboratory technology is a cornerstone of modern healthcare, providing critical data for disease diagnosis, treatment monitoring, and research. The advent of AI and ML has introduced new possibilities for automating and optimizing laboratory processes, improving diagnostic accuracy, and enabling predictive analytics. In the context of biotechnology, these technologies are particularly promising for applications such as genomics, proteomics, and drug discovery.

India, with its vast population and diverse healthcare needs, stands to benefit significantly from AI-driven advancements in medical laboratory technology. However, the country faces several challenges in adopting these technologies, including infrastructural constraints, data privacy issues, and a shortage of trained professionals. This paper examines the current state of AI and ML in medical laboratory technology, with a focus on India, and explores the global landscape, including key advancements and ethical considerations.

2. AI AND ML IN MEDICAL LABORATORY TECHNOLOGY**2.1 Diagnostic Accuracy and Efficiency:**

AI and ML algorithms are increasingly being used to enhance diagnostic accuracy in medical laboratories. For example, machine learning models can analyze large datasets of medical images, such as histopathology slides or radiology scans, to identify patterns indicative of disease. These models can often achieve diagnostic accuracy comparable to or exceeding that of human experts.

In addition to improving accuracy, AI and ML can also increase the efficiency of laboratory workflows. Automated systems can process samples more quickly and with fewer errors than manual methods, reducing turnaround times and improving patient outcomes.

2.2 Personalized Medicine:

AI and ML are also playing a key role in the development of personalized medicine. By analyzing genetic, proteomic, and clinical data, these technologies can help identify the most effective treatments for individual patients. This approach is particularly relevant in oncology, where targeted therapies based on genetic mutations are becoming increasingly common.

2.3 Drug Discovery and Development:

In the field of biotechnology, AI and ML are accelerating drug discovery and development. These technologies can analyze vast amounts of biological data to identify potential drug targets, predict drug efficacy, and optimize clinical trial designs. This has the potential to significantly reduce the time and cost of bringing new drugs to market.

3. CURRENT CONCERNS IN INDIA

3.1 Infrastructural Limitations:

One of the primary challenges to the adoption of AI and ML in medical laboratory technology in India is the lack of adequate infrastructure. Many laboratories, particularly in rural areas, lack the necessary equipment and connectivity to implement AI-driven solutions. Additionally, the high cost of advanced laboratory equipment can be a barrier to adoption.

3.2 Data Privacy and Security:

The use of AI and ML in medical laboratories requires access to large amounts of patient data, raising concerns about data privacy and security. In India, the lack of comprehensive data protection laws and regulations poses a significant challenge. Ensuring the privacy and security of patient data is critical to gaining public trust and facilitating the adoption of AI-driven technologies.

3.3 Shortage of Skilled Professionals:

The successful implementation of AI and ML in medical laboratory technology requires a workforce with expertise in both biotechnology and data science. However, India faces a shortage of professionals with the necessary skills and training. Addressing this skills gap will require significant investment in education and training programs.

4. THE GLOBAL LANDSCAPE

4.1 Key Advancements:

Globally, AI and ML are being increasingly integrated into medical laboratory technology. In the United States and Europe, for example, AI-driven diagnostic tools are being used to improve the accuracy and efficiency of cancer screening. In China, AI is being used to analyze genetic data and develop personalized treatments for cancer patients.

4.2 Ethical Considerations:

The use of AI and ML in medical laboratory technology raises several ethical considerations, including issues related to data privacy, algorithmic bias, and the potential for job displacement. Ensuring that these technologies are used ethically and responsibly will require the development of robust regulatory frameworks and guidelines.

5. AI IN MEDICAL LABORATORY TECHNOLOGY: KEY APPLICATIONS

5.1 Enhanced Diagnostic Accuracy:

AI algorithms, particularly those based on deep learning, have demonstrated remarkable capabilities in analyzing complex medical data. For instance, AI-powered image analysis tools can detect abnormalities in radiology scans, histopathology slides, and other diagnostic images with accuracy comparable to or exceeding that of human experts. These systems reduce diagnostic errors and improve the reliability of laboratory results.

5.2 Automation of Laboratory Workflows:

AI-driven automation is transforming laboratory workflows by minimizing manual intervention and reducing human error. Automated systems can handle repetitive tasks such as sample sorting, data entry, and result interpretation, allowing laboratory personnel to focus on more complex analyses. This not only improves efficiency but also reduces turnaround times, enhancing patient care.

5.3 Personalized Medicine:

AI is playing a crucial role in advancing personalized medicine by analyzing genetic, proteomic, and clinical data to identify tailored treatment options for individual patients. In oncology, for example, AI algorithms can predict patient responses to specific therapies based on genetic mutations, enabling more effective and targeted treatments.

5.4 Drug Discovery and Development:

AI is accelerating drug discovery by analyzing vast datasets to identify potential drug candidates, predict their efficacy, and optimize clinical trial designs. This has the potential to significantly reduce the time and cost associated with bringing new drugs to market, addressing unmet medical needs more efficiently.

6. CURRENT CONCERNS IN THE GLOBAL LANDSCAPE

6.1 Infrastructural Limitations:

The adoption of AI in medical laboratories requires advanced infrastructure, including high-performance computing systems, reliable internet connectivity, and state-of-the-art laboratory equipment.

In many regions, particularly in low- and middle-income countries (LMICs), these resources are often lacking, hindering the implementation of AI-driven solutions.

6.2 Data Privacy and Security

The use of AI in medical laboratories relies heavily on access to large datasets, raising concerns about data privacy and security. Ensuring the confidentiality and integrity of patient data is critical to maintaining public trust. However, many countries lack comprehensive data protection laws, leaving sensitive information vulnerable to breaches and misuse.

6.3 Algorithmic Bias and Fairness:

AI algorithms are only as good as the data they are trained on. Biases in training data can lead to skewed results, disproportionately affecting certain populations. Addressing algorithmic bias is essential to ensure that AI-driven diagnostic tools are fair and equitable.

6.4 Regulatory and Ethical Challenges:

The rapid advancement of AI in healthcare has outpaced the development of regulatory frameworks, creating a gap in oversight. Ethical concerns, such as the potential for job displacement and the accountability of AI-driven decisions, must be addressed to ensure the responsible use of these technologies.

7. GLOBAL ADVANCEMENTS AND INNOVATIONS

7.1 AI in Radiology and Pathology:

Globally, AI is being increasingly integrated into radiology and pathology. In the United States and Europe, AI-powered tools are being used to improve the accuracy of cancer screening and diagnosis. In China, AI is being employed to analyze medical images and develop personalized treatment plans for patients.

7.2 AI in Genomics and Precision Medicine:

AI is revolutionizing genomics by enabling the analysis of complex genetic data to identify disease markers and predict patient outcomes. This has significant implications for precision medicine, particularly in the treatment of cancer and rare genetic disorders.

7.3 AI in Drug Discovery:

AI is transforming drug discovery by identifying potential drug candidates and optimizing clinical trial designs. For example, AI-driven platforms have been used to identify new antibiotics and repurpose existing drugs for the treatment of COVID-19.

8. ETHICAL AND REGULATORY CONSIDERATIONS

8.1 Data Privacy and Consent:

Ensuring the privacy and security of patient data is paramount. Robust data protection laws and informed consent mechanisms are essential to safeguard patient rights and maintain public trust.

8.2 Algorithmic Transparency and Accountability:

AI algorithms must be transparent and explainable to ensure accountability. Regulatory frameworks should mandate the disclosure of algorithmic decision-making processes and provide mechanisms for addressing errors or biases.

8.3 Equitable Access to AI Technologies:

Efforts must be made to ensure that the benefits of AI in medical laboratory technology are accessible to all, regardless of geographic or socioeconomic status. This requires investment in infrastructure, education, and capacity-building in underserved regions.

9. CONCLUSION

AI and ML have the potential to transform medical laboratory technology, improving diagnostic accuracy, streamlining workflows, and enabling personalized medicine. However, the adoption of these technologies in India faces several challenges, including infrastructural limitations, data privacy concerns, and a shortage of skilled professionals. Addressing these challenges will require significant investment in infrastructure, education, and regulatory frameworks.

Globally, the integration of AI and ML into medical laboratory technology is advancing rapidly, with significant implications for healthcare and biotechnology. However, the ethical considerations associated with these technologies must be carefully addressed to ensure that they are used responsibly and for the benefit of all.

REFERENCES

1. Esteva, A., Kuprel, B., Novoa, R. A., Ko, J., Swetter, S. M., Blau, H. M., & Thrun, S. (2017). Dermatologist-level classification of skin cancer with deep neural networks. *Nature*, 542(7639), 115-118.
2. Topol, E. J. (2019). High-performance medicine: the convergence of human and artificial intelligence. *Nature Medicine*, 25(1), 44-56.
3. Jiang, F., Jiang, Y., Zhi, H., Dong, Y., Li, H., Ma, S., ... & Wang, Y. (2017). Artificial intelligence in healthcare: past, present and future. *Stroke and Vascular Neurology*, 2(4), 230-243.
4. Reddy, S., Fox, J., & Purohit, M. P. (2019). Artificial intelligence-enabled healthcare delivery. *Journal of the Royal Society of Medicine*, 112(1), 22-28.
5. Ghosh, A., & Chakraborty, D. (2020). Artificial intelligence in medical diagnosis: A review. *Journal of Medical Systems*, 44(5), 1-10.
6. Ministry of Health and Family Welfare, Government of India. (2020). National Digital Health Blueprint. Retrieved from <https://www.nhp.gov.in>
7. World Health Organization. (2021). Ethics and governance of artificial intelligence for health. Retrieved from <https://www.who.int>
8. National Institute for Health and Care Excellence (NICE). (2020). Evidence standards framework for digital health technologies. Retrieved from <https://www.nice.org.uk>
9. European Commission. (2020). White Paper on Artificial Intelligence: A European approach to excellence and trust. Retrieved from <https://ec.europa.eu>
10. China National Medical Products Administration (NMPA). (2021). Guidelines for the evaluation of AI-based medical devices. Retrieved from <https://www.nmpa.gov.cn>
11. Obermeyer, Z., & Emanuel, E. J. (2016). Predicting the Future — Big Data, Machine Learning, and Clinical Medicine. *New England Journal of Medicine*, 375(13), 1216-1219.
12. Aggarwal, C. C. (2018). *Neural Networks and Deep Learning: A Textbook*. Springer.
13. Kudyba, S. (2020). *Healthcare Informatics: Improving Efficiency and Productivity*. CRC Press.
14. Rajpurkar, P., & Hannun, A. (2022). *AI in Medicine: Applications, Challenges, and Future Directions*. Springer.
15. Goodfellow, I., Bengio, Y., & Courville, A. (2016). *Deep Learning*. MIT Press.
16. Patel, V. L., Shortliffe, E. H., Stefanelli, M., et al. (2009). The coming of age of artificial intelligence in medicine. *Artificial Intelligence in Medicine*, 46(1), 5-17.
17. Char, D. S., Shah, N. H., & Magnus, D. (2018). Implementing machine learning in health care—Addressing ethical challenges. *New England Journal of Medicine*, 378(11), 981-983.
18. Russell, S., & Norvig, P. (2020). *Artificial Intelligence: A Modern Approach* (4th ed.). Pearson.
19. Lippi, G., & Plebani, M. (2020). The future of laboratory medicine: Towards a patient-centered, data-driven, and AI-powered paradigm. *Clinical Chemistry and Laboratory Medicine (CCLM)*, 58(10), 1673-1682.
20. Wang, S., et al. (2019). Deep learning for identifying metastatic breast cancer. *Science Translational Medicine*, 10(468), eaat3692.
21. Patel, N. M., et al. (2020). Machine learning for clinical decision support in pathology and laboratory medicine. *Clinical Chemistry*, 66(1), 131-141.
22. Krittanawong, C., et al. (2020). Artificial intelligence in precision cardiovascular medicine. *JACC: Basic to Translational Science*, 5(8), 888-898.
23. Tizhoosh, H. R., & Pantanowitz, L. (2018). AI and digital pathology: Challenges and opportunities. *Journal of Pathology Informatics*, 9(38), 1-12.
24. Yu, K. H., Beam, A. L., & Kohane, I. S. (2018). Artificial intelligence in healthcare. *Nature Biomedical Engineering*, 2(10), 719-731.

25. Wang, P., et al. (2020). Artificial intelligence in gastrointestinal endoscopy: A review of potential applications and challenges. *The Lancet Gastroenterology & Hepatology*, 5(8), 711-730.
26. Lundervold, A. S., & Lundervold, A. (2019). An overview of deep learning in medical imaging focusing on MRI. *Zeitschrift für Medizinische Physik*, 29(2), 102-127.
27. Pesapane, F., Codari, M., & Sardanelli, F. (2018). Artificial intelligence in medical imaging: Threat or opportunity? *Radiologists Discuss AI's Future*, 61(3), 211-220.
28. McBee, M. P., et al. (2018). Deep learning in radiology. *Academic Radiology*, 25(11), 1472-1480.
29. Langlotz, C. P., et al. (2019). A roadmap for foundational research on artificial intelligence in medical imaging. *Radiology*, 291(3), 781-791.
30. Hosny, A., et al. (2018). Artificial intelligence in radiology. *Nature Reviews Cancer*, 18(8), 500-510.
31. Wang, Z., et al. (2021). AI-driven genomic diagnostics and precision medicine. *Annual Review of Genomics and Human Genetics*, 22(1), 253-278.
32. Goecks, J., Jalili, V., Heiser, L. M., & Gray, J. W. (2020). How machine learning will transform biomedicine. *Cell*, 181(1), 92-101.
33. Dias, R., & Torkamani, A. (2019). Artificial intelligence in clinical and genomic diagnostics. *Genome Medicine*, 11(1), 70.
34. Topol, E. (2021). High-performance medicine: The convergence of human and artificial intelligence. *Nature Medicine*, 25(1), 44-56.
35. Xu, Y., et al. (2022). Machine learning approaches in predicting disease progression using genomic data. *Nature Biotechnology*, 40(3), 357-366.
36. Dastin, J. (2018). Amazon scrapped 'AI recruiter' that showed bias against women. *Reuters*.
37. Parikh, R. B., Obermeyer, Z., & Navathe, A. S. (2019). Regulation of predictive analytics in medicine. *Science*, 363(6429), 810-812.
38. European Commission (2021). *Proposal for a Regulation on Artificial Intelligence Act (AIA)*.
39. U.S. Food and Drug Administration (FDA) (2023). *Artificial Intelligence and Machine Learning in Medical Devices: Guidance for Industry*.
40. Indian Ministry of Health & Family Welfare (2023). *National Digital Health Blueprint (NDHB) Guidelines on AI in Healthcare*.
41. National Institute of Standards and Technology (NIST) (2022). *Trustworthy AI in Healthcare*.
42. Jumper, J., et al. (2021). Highly accurate protein structure prediction with AlphaFold. *Nature*, 596(7873), 583-589.
43. Stokes, J. M., et al. (2020). A deep learning approach to antibiotic discovery. *Cell*, 180(4), 688-702.
44. He, J., et al. (2021). Machine learning enables rapid identification of potent DDR1 kinase inhibitors. *Nature Chemical Biology*, 17(6), 584-593.
45. Briganti, G., & Le Moine, O. (2020). Artificial intelligence in medicine: Today and tomorrow. *Frontiers in Medicine*, 7, 27.
46. Hashimoto, D. A., Rosman, G., Rus, D., & Meireles, O. R. (2018). Artificial intelligence in surgery: Promises and perils. *Annals of Surgery*, 268(1), 70-76.
47. Zhang, W., et al. (2020). AI-powered drug repurposing in the fight against COVID-19. *Nature Machine Intelligence*, 2(6), 365-372.
48. Collins, F. S., & Varmus, H. (2015). A new initiative on precision medicine. *New England Journal of Medicine*, 372(9), 793-795.
49. Topol, E. J. (2014). *The Patient Will See You Now: The Future of Medicine is in Your Hands*. Basic Books.
50. Indian Council of Medical Research (ICMR) (2024). *National AI Strategy for Healthcare in India*.

51. *Esteva, A., Kuprel, B., Novoa, R. A., et al. (2017). Dermatologist-level classification of skin cancer with deep neural networks. Nature, 542(7639), 115-118.*
52. *Topol, E. J. (2019). High-performance medicine: The convergence of human and artificial intelligence. Nature Medicine, 25(1), 44-56.*
53. *Jiang, F., Jiang, Y., Zhi, H., et al. (2017). Artificial intelligence in healthcare: Past, present, and future. Stroke and Vascular Neurology, 2(4), 230-243.*
54. *Reddy, S., Fox, J., & Purohit, M. P. (2019). Artificial intelligence-enabled healthcare delivery. Journal of the Royal Society of Medicine, 112(1), 22-28.*
55. *Ghosh, A., & Chakraborty, D. (2020). Artificial intelligence in medical diagnosis: A review. Journal of Medical Systems, 44(5), 1-10.*
56. *World Health Organization. (2021). Ethics and governance of artificial intelligence for health. Retrieved from <https://www.who.int>*
57. *European Commission. (2020). White Paper on Artificial Intelligence: A European approach to excellence and trust. Retrieved from <https://ec.europa.eu>*
58. *U.S. Food and Drug Administration (FDA). (2023). Artificial Intelligence and Machine Learning in Medical Devices: Guidance for Industry.*
59. *Lippi, G., & Plebani, M. (2020). The future of laboratory medicine: Towards a patient-centered, data-driven, and AI-powered paradigm. Clinical Chemistry and Laboratory Medicine (CCLM), 58(10), 1673-1682.*
60. *Wang, S., et al. (2019). Deep learning for identifying metastatic breast cancer. Science Translational Medicine, 10(468), eaat3692.*
61. *Krittanawong, C., et al. (2020). Artificial intelligence in precision cardiovascular medicine. JACC: Basic to Translational Science, 5(8), 888-898.*
62. *Tizhoosh, H. R., & Pantanowitz, L. (2018). AI and digital pathology: Challenges and opportunities. Journal of Pathology Informatics, 9(38), 1-12.*
63. *Yu, K. H., Beam, A. L., & Kohane, I. S. (2018). Artificial intelligence in healthcare. Nature Biomedical Engineering, 2(10), 719-731.*
64. *Lundervold, A. S., & Lundervold, A. (2019). An overview of deep learning in medical imaging focusing on MRI. Zeitschrift für Medizinische Physik, 29(2), 102-127.*
65. *Pesapane, F., Codari, M., & Sardanelli, F. (2018). Artificial intelligence in medical imaging: Threat or opportunity? Radiologists Discuss AI's Future, 61(3), 211-220.*
66. *Wang, Z., et al. (2021). AI-driven genomic diagnostics and precision medicine. Annual Review of Genomics and Human Genetics, 22(1), 253-278.*
67. *Goecks, J., Jalili, V., Heiser, L. M., & Gray, J. W. (2020). How machine learning will transform biomedicine. Cell, 181(1), 92-101.*
68. *Parikh, R. B., Obermeyer, Z., & Navathe, A. S. (2019). Regulation of predictive analytics in medicine. Science, 363(6429), 810-812.*
69. *Jumper, J., et al. (2021). Highly accurate protein structure prediction with AlphaFold. Nature, 596(7873), 583-589.*
70. *Indian Council of Medical Research (ICMR). (2024). National AI Strategy for Healthcare in India.*

STRENGTHENING AGRICULTURAL INFRASTRUCTURE IN INDIA: KEY REFORMS, INITIATIVES, AND POLICY IMPACT

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ABSTRACT

Agricultural infrastructure serves as the backbone of a resilient and productive agricultural economy. India, a predominantly agrarian country, has significantly advanced its policy landscape to modernize this sector. This paper explores transformative initiatives launched by the Government of India to strengthen agricultural infrastructure. It evaluates schemes such as the Agriculture Infrastructure Fund (AIF), Pradhan Mantri Kisan Sampada Yojana (PMKSY), Pradhan Mantri Matsya Sampada Yojana (PMMSY), Micro Irrigation Fund (MIF), and the Kisan Rail initiative, along with support for agricultural mechanization and startups. The study provides statistical insights, identifies policy challenges, and outlines a roadmap to sustain and scale improvements in agri-infrastructure development.

Keywords: Agricultural Infrastructure, AIF, PMKSY, PMMSY, Micro Irrigation, Mechanization, Agri-Startups, Kisan Rail, Post-Harvest Management, Cold Chain, NABARD

INTRODUCTION

India's agricultural sector plays a pivotal role in ensuring food security, employment, and rural prosperity. Recognizing the challenges of low productivity, inadequate post-harvest infrastructure, and fragmented supply chains, the government has adopted a mission-mode approach to strengthen agricultural infrastructure. Strategic investments aim to reduce post-harvest losses, improve cold chain and irrigation coverage, introduce mechanization, and foster an innovation ecosystem through startups.

Agriculture Infrastructure Fund (AIF): A Catalyst for Rural Transformation

Launched in 2020, the ₹1 lakh crore Agriculture Infrastructure Fund (AIF) aims to develop post-harvest and community agricultural assets. The fund provides medium to long-term debt financing through banks and financial institutions for investment in viable projects. As of FY 2025–26, the scheme continues to attract private sector participation to build warehouses, grading units, cold chains, and primary processing centers. This initiative directly contributes to reducing farm wastage and improving farmer income.

Cold Chain Expansion under PMKSY

The Ministry of Food Processing Industries (MoFPI) administers the Integrated Cold Chain and Value Addition Infrastructure Scheme under the PM Kisan Sampada Yojana. It aims to reduce post-harvest losses and improve the value realization for farmers by establishing modern cold chains and processing hubs. These facilities benefit horticulture, dairy, meat, and marine sectors, enabling higher income through better market access and price stabilization.

Promoting Mechanization for Modern Farming

Since 2014–15, over ₹7,265 crore has been allocated toward farm mechanization. As of March 2024, 18.16 lakh machines have been distributed with subsidies, and infrastructure like 25,527 Custom Hiring Centres (CHCs), 594 High-Tech Hubs, and 23,538 Farm Machinery Banks have been set up. These measures reduce manual labor, improve productivity, and facilitate precision farming techniques in rural India.

Revolutionizing Logistics: Kisan Rail Initiative

To solve the agri-logistics bottleneck, the Ministry of Railways introduced the Kisan Rail service in 2020. It is dedicated to transporting perishable commodities efficiently. By 28 February 2023, 2,359 Kisan Rail services had been operated across 167 routes. These trains connect farm gates to major markets, lowering transport costs and reducing wastage of perishable goods like fruits, vegetables, and dairy.

Pradhan Mantri Matsya Sampada Yojana (PMMSY)

Launched in 2020, PMMSY is transforming India's fisheries sector with a planned investment of ₹20,050 crore over five years. The scheme emphasizes cold chain expansion, traceability, modern fishing vessels, and sustainable practices. Its goal is to increase fish production to 22 million metric tonnes and boost exports to ₹1 lakh crore by 2024–25, while creating 5.5 million jobs.

Micro Irrigation Fund (MIF): Sustainable Water Use

To promote efficient water use in agriculture, the government established a ₹5,000 crore Micro Irrigation Fund with NABARD. This fund offers loans at 3% below market rates to states. Till now, loans amounting to ₹4,724.74 crore have been approved, and ₹3,387.80 crore disbursed. The initiative supports the expansion of drip and sprinkler irrigation systems, ensuring climate-resilient agriculture.

Fostering Agri-Startups and Innovation

Under the RKVY-RAFTAAR Agri-Startup Programme, 1,708 startups have been incubated between FY 2019–20 and 2023–24 through various agribusiness incubators. ₹122.50 crore has been sanctioned to support innovative ventures in precision farming, digital agriculture, supply chain solutions, and farm advisory services. These startups are key to introducing disruptive technologies into India's agricultural value chain.

Policy Challenges and Gaps

Despite significant progress and comprehensive schemes introduced by the Government of India, the agricultural infrastructure ecosystem continues to face several pressing challenges that hamper the full realization of intended outcomes.

Disbursement Delays:

One of the primary hurdles is the bureaucratic lag in the disbursement of sanctioned funds and approval of projects. Various stakeholders, including banks and implementing agencies, often face procedural bottlenecks, which result in delays in initiating infrastructure work on the ground. These delays can lead to cost overruns and reduced effectiveness, particularly during critical agricultural seasons when timely infrastructure support is essential.

Last-Mile Infrastructure Deficiencies:

Many rural and remote areas still lack adequate supporting infrastructure such as all-weather roads, uninterrupted power supply, and reliable digital connectivity. These last-mile deficiencies create logistical challenges for transporting farm produce, accessing cold storage or processing facilities, and integrating with digital platforms such as e-NAM. Consequently, farmers in these regions remain underserved despite the availability of national-level infrastructure schemes.

Low Awareness and Capacity Among Farmers:

A significant portion of the farming community remains unaware of the benefits, eligibility criteria, and application procedures associated with schemes like the Agriculture Infrastructure Fund (AIF) and Pradhan Mantri Kisan Sampada Yojana (PMKSY). Moreover, many small and marginal farmers lack the technical know-how and documentation needed to apply for credit or infrastructure assistance, limiting their ability to take advantage of these programs.

Limited Private Sector Participation:

The private sector's involvement in rural infrastructure development remains modest due to concerns over profitability and risk. Infrastructure investments in low-margin, agriculture-dependent regions often lack predictable returns, discouraging private investors and financial institutions. Without strong public-private partnership (PPP) frameworks and risk mitigation mechanisms, the scaling of agri-infrastructure projects by private entities remains constrained.

REVIEW AND ANALYSIS

The convergence of schemes like AIF, PMKSY, and PMMSY with state and private sector participation has created a broad ecosystem for infrastructure growth. However, uniformity in implementation and inter-departmental coordination need strengthening. Mechanization and startup support are encouraging trends, but they must be coupled with farmer training and financial literacy.

CONCLUSION AND RECOMMENDATIONS

India's commitment to agricultural infrastructure reform demonstrates a visionary approach aimed at transforming rural economies, increasing farmers' income, and ensuring long-term food security. The various schemes—ranging from the Agriculture Infrastructure Fund (AIF) to initiatives under Pradhan Mantri Kisan Sampada Yojana (PMKSY), and micro-irrigation efforts—have laid a robust foundation for modernizing the agricultural sector. However, realizing the full potential of these initiatives requires strategic policy enhancements, seamless coordination, and timely execution.

Creation of a Unified Agri-Infrastructure Dashboard:

To improve transparency, accountability, and inter-agency coordination, there is a need for a centralized digital dashboard that consolidates data from various schemes.

This platform should allow real-time tracking of project approvals, fund disbursements, execution status, and impact assessments. Such a dashboard can serve as an integrated decision-making tool for policymakers, banks, and implementing bodies.

Strengthening Capacity Building Programs:

While infrastructure is critical, empowering farmers with knowledge and skills is equally essential. Focused training modules on agri-mechanization, digital marketing, post-harvest management, and the use of emerging technologies like drones and AI in agriculture can significantly improve productivity and scheme utilization. These capacity-building efforts should be integrated with the Skill India Mission and local Krishi Vigyan Kendras (KVKs).

Promotion of Climate-Resilient Infrastructure:

Given the increasing incidence of extreme weather events due to climate change, infrastructure development must be aligned with environmental sustainability. Special emphasis should be placed on building resilient cold chains, climate-smart warehouses, and water-efficient irrigation systems, particularly in drought-prone, flood-prone, and ecologically vulnerable regions.

Enhancing Convergence with Complementary Schemes:

For holistic rural development, greater synergy between infrastructure schemes and other flagship programs is essential. Effective convergence with the Pradhan Mantri Fasal Bima Yojana (PMFBY), e-NAM (National Agricultural Market), Digital India, and PM-KISAN can optimize resource use and amplify impact. Such integrative planning would ensure that infrastructure benefits are complemented by financial security, market access, and digital empowerment.

REFERENCES

- Press Information Bureau (PIB), Government of India. "Key Reforms and Schemes Enhancing Agricultural Infrastructure." 23 August 2024.
- Ministry of Food Processing Industries Annual Reports
- Ministry of Agriculture & Farmers Welfare Reports (2023–24)
- NABARD MIF Status Report
- RKVY-RAFTAAR Agri-Startup Programme Dashboard

ECONOMICAL, SOCIAL AND CULTURAL RIGHTS (ESCR): BRIDGING GAPS IN IMPLEMENTATION

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ABSTRACT

This research article delves into the implementation of Economic, Social, and Cultural Rights (ESCR) within the Indian context from legal perspective, highlighting the significant gaps that persist in their realization. Acknowledging the comprehensive nature of ESCR, which is not only applicable to human beings but also to all living species, the article emphasizes the global relevance of these rights. It traces the historical evolution of human rights, particularly through the lens of ESCR enshrined in the Indian Constitution, to illustrate how these rights are foundational to ensuring the dignity and welfare of citizens. Furthermore, the article critically assesses the discrepancies between the theoretical framework of ESCR and their practical implementation, dissecting prevalent myths and realities through an extensive review of both offline and online literature. By presenting a thorough analysis of existing challenges in realizing ESCR, this study aims to forge a pathway toward more effective enforcement of these rights. In addition, it proposes logical and practical solutions to address the identified gaps, fostering a more robust framework for the protection and promotion of Economic

HISTORY OF RIGHTS

As History of Human rights which are known to all intellectuals in the field of Human rights and readers who are interested in this kind of reading. The history of Human Rights stating that originally, people had rights only because of their membership in a group, such as family. It is a proven natural truth of the human society, because all the existed species on this earth at the time of birth nature has given all the rights as per there characteristics, among that species human being has got tremendous development due to biological reason and human beings become the one of the most developed and strong species on this earth. Slowly and silently he has started doing development and during this journey he has invented 'N' number of things which are useful for human development, from that idea came in to existence about the family and society and kingdom leader of the group who will control the group, who will give instruction and privileges, all that privileges become the rights. This concept of human rights can be termed as updated version of the traditional 18th Century concept of the right of man.

Human Rights are those minimal rights which every individual must have against the state or other public authority by virtue of his being a 'member of the human family', irrespective of any other consideration. The concept of human rights is as old as the ancient doctrine of 'natural rights' founded on natural law, the expression 'human rights' is of recent origin, emerging from (post-Second World War) international Charters and Conventions. It would, there for, be logical to start with the concept of natural rights, which eventually led to the formulation of 'human rights'

It is the initiation of introducing human rights. It started in 539 BC, Cyrus the great, did free all slaves to return home. Moreover, he declared people should choose their own religion. In 1215 The Magna Carta gave people new rights and made the king subject to the law. In 1928 The Petition of Right set out the rights of the people. In 1776 The United States Declaration of Independence proclaimed the rights to life, liberty and the pursuit of happiness. In 1789 The Declaration of the Rights of Man and of the Citizens a document of France, stating that all citizens are equal under the law. In 1948 The Universal Declaration of Human Rights the first documents listing the 30 rights to which everyone is entitled.

The outcome of the Second World War had given rise to the serious concern towards humanity because humanity suffered lot in this era, as result Universal Declaration of Human Rights (UDHR) was adopted by the United Nations General Assembly in 1948 and consequently large number of human rights instruments came in to existence. Chronologically U.N. Charter, 1945, Universal Declaration of Human Rights, 1948, European convention for protection of Human Rights, 1953, International Covenants of 1966 i.e Civil and Political Rights and Economical, Social and Cultural Rights.

The doctrine of human rights provide a common framework for determining the basic civil, economic, political, and social conditions that require for all individuals to lead a maximum good life. Economic, Social and Cultural rights intention to ensure the protection of people as full persons, based on a perspective in which people can enjoy rights, freedoms and social justice simultaneously. In the *Universal Declaration of Human*

Rights (UDHR), Article 16 and Articles 22 through 27 encompass economic, social, and cultural rights which describes in detail below:

UDHR Article	Description of Article	Article provide Rights
Article 16	Sets forth the right to marry, to have free choice in marriage, and to found a family.	Social Rights
Article 22	States everyone is entitled to the realization of the economic, social and cultural rights indispensable for his dignity.	Economic, Social and Cultural Rights
Article 23	Articulates the right to work, to choose employment, and to form labor unions.	Economic, and Social Rights
Article 24	Sets forth the right to rest and leisure and of reasonable limitation of working hours.	Social Rights
Article 25	A person right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services.	Economic, Social and Cultural Rights
Article 26	States that individuals have the right to education, free and compulsory at the elementary level, with technical and professional education generally available, and higher education equally accessible on the basis of merit.	Economic, Social and Cultural Rights
Article 27	The right to freely participate in the cultural life of the community, to enjoy the arts, and to share in scientific advancement.	Social and Cultural Rights
Article 28 & 29	The right to a social and international order that enables these rights to be realized and refers to ones duties to one community.	Social Rights

Source: Universal Declaration of Human Rights (UDHR)

These rights are further elaborated in the International Covenant on Economic, Social and Cultural Rights. They are also articulated in specialized human rights treaties such as the Convention on the Rights of the Child (CRC) and the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), treaties that focus on the needs of particularly disadvantaged, marginalized, and vulnerable groups of people all over the world.

The Universal Declaration of human rights (UDHR) have been codified into the International Covenant on Economic, Social, and Cultural Rights (ICESCR) and the International Covenant on Civil and Political Rights (ICCPR). A covenant is a treaty which, under the rules of international law, creates legal obligations on all states that ratify it. Similarly, the Convention on the Rights of the Child (CRC) and Convention on the Elimination of all forms of Discrimination Against Women (CEDAW) also are treaties that are binding on the states that ratify them.

Therefore, citizens worldwide should put pressure on their governments to ratify these treaties and to abide by the obligations they set forth. For example, a right to health care is mandated by the ICESCR, meaning that a basic and adequate health care entitlement should be guaranteed to all citizens and residents of countries ratifying the treaty.

The ICESCR states that each state party to the covenant should undertake steps, individually and through international assistance and cooperation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the Covenant, by all appropriate means, including particularly the adoption of legislative measures. It also states that state parties must guarantee these rights without discrimination with respect to race, color, sex, language, religion, political or other opinion, and social status.

Economic, social and cultural rights under the Indian Constitution: The Preamble of the Indian Constitution has declared India as a Sovereign, Socialist Secular Democratic Republic with main objectives of the Constitution to secure justice for all citizens, social, economic and political. The Indian Constitution envisages a democracy, which ensures freedom under the law and the dignity of the individual.

Part III of the Indian Constitution enumerates the fundamental rights and Part IV sets out the Directive Principles of State Policy.

Indian Constitution Article 12 to 35 deals with Fundamental Rights and Article 36 to 51 contain the Directive Principles of State Policy. The justifiability of fundamental rights is itself guaranteed under the Indian Constitution.

Article 41 of the Indian Constitution directs the state to secure the right to work, education and public assistance in certain cases such as unemployment, old age, sickness and disablement. It is one of the Directive Principles of State Policy based on Socialist principles.

Table No 1. Comparison between the Human Right Convention and Indian Constitution on Economical, Social and Cultural Rights:

Sr. No	Rights	Convention on ESCR	Indian Constitution
1	Equal pay for equal work	Article-7a (1)	Article-39d
2	Provision for just and humane conditions work and maternity relief	Article-7b	Article-42
3	Right to work, Right to Education and public assistance in certain cases	Article-6(1)	Article-41
4	Opportunity for children	Article-10(3)	Article-41f
5	Compulsory education for children	Article-13 (2a)	Article-45
6	Living wages, etc for workers	Article-7(a) (11)	Article-43
7	Nutrition and standard of living	Article-11	Article-47
Data Source: <i>Human Rights Convention and Indian Constituion</i>			

Bridging Gaps in the Implementation of Economic, Social, and Cultural Rights in India

This attempts tries to examines the significant gaps in the implementation of Economic, Social, and Cultural Rights (ESCR) within the Indian context, underscoring the legal framework present in the Indian Constitution and various international conventions. Despite the existence of these rights on paper, an alarming number of citizens remain unaware of their entitlements, which severely hampers their ability to enjoy these rights. It is disheartening to note that over half of the Indian population lacks basic knowledge about their ESCR, rendering the constitutional provisions little more than myths for many (The Justiciability Of Economic, Social And Cultural Rights In India, 2024). This pervasive ignorance constitutes a fundamental gap in the practical realization of rights, impeding individuals from claiming and exercising their entitlements under the law (The Justiciability Of Economic, Social And Cultural Rights In India, 2024).

1. The Myth of Rights and Social Apathy

The first and foremost gap in the implementation of ESCR arises from widespread societal apathy towards these rights. Many citizens perceive the Indian Constitution as a distant document devoid of practical value in their lives. This disconnect is aggravated by cultural factors and social norms that prioritize compliance over awareness, leaving individuals uninformed about their rights and the means to assert them (The Justiciability Of Economic, Social And Cultural Rights In India, 2024). The consequences of this ignorance are poignantly illustrated by the fact that even as rights are codified, their impact remains muted in the absence of collective consciousness about their existence (The Justiciability Of Economic, Social And Cultural Rights In India, 2024). Economic, social, and cultural enlightenment is essential to bridge this gap, necessitating concerted efforts from various stakeholders, including the government, civil society, and educational institutions (The Justiciability Of Economic, Social And Cultural Rights In India, 2024).

2. The Challenge of the Caste System and Class Hierarchies

Another critical barrier to effective implementation of ESCR in India is the entrenched social hierarchy, particularly the caste system. This deeply rooted social structure influences access to resources, opportunities, and rights, disproportionately affecting marginalized communities. The implementers of the Indian Constitution, particularly when it comes to the enforcement of ESCR, often find themselves operating within the confines of this hierarchical framework, which is dominated by higher-class groups. Consequently, political decisions and policy implementations frequently reflect the interests of these classes rather than advocating for the genuine welfare of the less privileged (The Justiciability Of Economic, Social And Cultural Rights In India, 2024). As socio-economic rights address the needs of the poor and marginalized, the influence of these higher classes often stifles the voices of the actual beneficiaries, preventing them from reaping the fruits of entitled rights (The Justiciability Of Economic, Social And Cultural Rights In India, 2024).

CONCLUSION

At the end of analysis of existing challenges in realizing ESCR, it can be concluded that there is need to develop a pathway toward more effective enforcement of these rights by all linedepart who are responsible for implementation.

It also proposed a logical and practical solutions to address the identified gaps, fostering a more robust framework for the protection and promotion of Economic.

It is also aptly captured the sentiments of individual during observation that while human rights are enshrined in legal texts, in practice, they often translate into privileges for the affluent. For many in India, the rights outlined in the constitution exist merely as formalities—ornamental pieces devoid of meaningful application in daily life (The Justiciability Of Economic, Social And Cultural Rights In India, 2024).

It is equally important to note vital thing is that when poverty strips individuals of the ability to realize a dignified

REFERENCES

1. Human Rights Education: The Fourth R, 9:1 (Spring 1998), a publication of Amnesty International USA's Huma Rights Educators' Network. Original work was written by Shulamith Koenig and the staff of The People's Decade for Human Rights Education (1998), 526 West 111th Street, Suite 4E, New York, NY USA 10025. Web site: <http://www.pdhre.org>.
2. <https://nhrc.nic.in/sites/default/files/International%20Covenant%20on%20Economic%20Social%20and%20Cultural%20Rights.pdf>
3. <https://www.ohchr.org/en/human-rights/economic-social-cultural-rights>
4. <https://www.un.org/esa/documents/ecosoc/docs/2000/e2000-22.PDF>
5. https://cesr.org/sites/default/files/2022/Interrogate_2_-_ESCR_Standards.pdf
6. https://treaties.un.org/doc/treaties/1976/01/19760103%2009-57%20pm/ch_iv_03.pdf
7. <https://www.right-to-education.org/issue-page/justiciability>

INDIAN FAMILY LAW AND POLICIES FOR AGING AND ELDER CARE: AN OVERVIEW

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ABSTRACT

This research paper provides a comprehensive overview of Indian filial law and the associated policies for aging and elder care, emphasizing the legal framework established to support the elderly population. Despite the rich cultural tradition of filial responsibility ingrained in Indian society, the implementation of laws aimed at protecting elder rights remains fraught with significant challenges. The paper traces the evolution of key legislative measures, particularly the Maintenance and Welfare of Parents and Senior Citizens Act of 2007, detailing its provisions and the rights it confers upon elderly citizens. It also tries to provide an overview of Indian filial law and policies concerning the needs of aging parents and elder care, addressing key legal and ethical considerations. It examines filial responsibility laws and the role of elder law attorneys in safeguarding the well-being of seniors and their families and other key issues.

INTRODUCTION

Family Law and Elder Care: When we talk about the family laws and elderly care in India, first we need to take into consideration India as one entity that has Number of languages, religions, castes, creeds, genders, etc. Along with these multi-religious, multi-linguistic, multi-caste-based, geographic regions have multiple-family laws. Above all these family laws Indian constitution is there which is taking care with guarantee to protect and preserve the rights of its all citizens without discrimination. Family laws also covers the diversify fields like relationships in families, marriage, divorce, child custody, child care, parents custody, parents care, rights of parents on child, rights of child on parents, inheritance right of property and many more things. India has a very long historical background for the concept of joint family; in the community family was considered an important thing and people usually stayed together with numerical relationships under one roof. In Indian culture parents and elders are always considered an important entity in the structure of a Joint Family. Family law intersects with elder care when addressing the unique challenges faced by aging parents and their families. As the population ages, the need for legal frameworks that support the well-being of seniors becomes increasingly important. This includes navigating issues such as healthcare decisions, financial management, and long-term care arrangements.

Filial Responsibility Laws, present in every state of India impose a duty on adult children to financially support their parents when they cannot afford basic needs. These laws vary significantly by state, with some including criminal penalties for failing to provide support. While not always strictly enforced, these laws can have substantial implications for families, potentially leading to legal action from nursing homes or government agencies to recover care costs.

Family law and policies play a crucial role in addressing the needs of aging parents and providing elder care in India, with mediation emerging as a valuable tool for resolving family disputes related to these issues. These legal frameworks and alternative dispute resolution methods aim to ensure the well-being, dignity, and financial security of senior citizens in a rapidly changing societal land.

OBJECTIVE

1. How family laws addressing the needs of ageing parents in India.
2. How do family law policies impact single-parent households?
3. What is the role of mediation in resolving family law disputes?

1. How does family law address the needs of aging parents and elder care?**1.1 Constitutional and Legal Framework for Elder Care in India**

The Constitution of India, while not explicitly addressing elder care, provides a foundation for the welfare of senior citizens through various articles. Article 41 of the Directive Principles of State Policy directs the State to secure the right to public assistance in old age.

Additionally, Article 21, which guarantees the right to life and personal liberty, has been interpreted to include social security and the right to live with human dignity, encompassing basic needs like adequate nutrition, clothing, and shelter. Several laws have been enacted to protect and promote the rights and well-being of older person.

1.2 The Maintenance and Welfare of Parents and Senior Citizens Act, 2007

A cornerstone of elder care legislation in India is the Maintenance and Welfare of Parents and Senior Citizens Act, 2007 (MWPSA Act), which makes it legally obligatory for children and legal heirs to provide maintenance to senior citizens and parents who are unable to maintain themselves. This includes providing food, clothing, residence, medical attendance, and treatment. The Act also provides for the establishment of Maintenance Tribunals to adjudicate maintenance claims and ensure speedy disposal of cases, with a mandate to resolve disputes within 90 days. Furthermore, the MWPSA Act directs state governments to establish at least one old age home in each district, offering free or subsidized care for indigent senior citizens. Section 23 of the MWPSA Act addresses property transfers, allowing senior citizens to reclaim property transferred to children or legal heirs if they fail to provide basic amenities and physical needs as agreed upon.

1.3 Role of Personal Laws and Criminal Procedure Code

In addition to secular legislation, personal laws based on religion also play a role in addressing the maintenance of aging parents. Hindu law, under the Hindu Adoptions and Maintenance Act, 1956, recognizes the obligation of children to maintain their aged parents. Muslim law also acknowledges the responsibility of children to maintain their poor parents and grandparents, although the obligation may not be as strong as that for a wife and child. Section 125 of the Criminal Procedure Code (CrPC) provides a secular provision for claiming maintenance, irrespective of religion, caste, or age. Under this section, a magistrate can order a person to pay a monthly maintenance allowance to parents who are unable to maintain themselves.

1.4 Family law address the needs of aging parents and elder care:

However, change is the law of nature, if we consider this as a crucial event in life, then due to globalization and technological advancement, many changes have taken place in life. This unavoidable and unexpected alteration has impacted on every human being. The impact can be observed in the form of generation gap, isolation, abuse, and negligence of older people by their children. It resulted in elderly parents are forced to live meaningless, painful life in their homes as well, in some cases they are sent to old age homes, where they are abandoned and neglected by their children. In this black dark situation on life every individual not only Senior citizens but younger and children must understand and get aware of Senior citizens rights provided under various laws like Hindu Adoption and Maintenance Act 1956, and the Maintenance and Welfare of Parents and Senior Citizens Act 2007 (MWPSA Act) which provide for maintenance that can be claimed by the parents from their children. There are both personal and secular laws that provide for maintenance for elderly parents. Maintenance under Criminal Procedure Code, Section 125 and 127 helps who are dependent on others for basic necessities that are not provided to them by the other person. These provide a legal remedy for them to have a way to lead a peaceful and dignified life through the provision of maintenance. It provides a legal framework for ensuring financial security, healthcare access, and property protection for the elderly. Other provision like monthly allowance till suit is pending before the court, Speedy trial in pending proceeding and interim maintenance within sixty days.

CASE LAWS

- Jagjit Singh Bhatia v. Balbir Singh Bhatia (CS(OS) 2295/2001):

In this, it was held that Hindu-aged parents can seek maintenance from their son irrespective of his inheritance from the property of his father as it is considered his personal, legal, and absolute obligation that has arisen from the very relationship of parties.

- Dr. Mrs. Vijaya Manohar Arbat v. Kashirao Rajaram Sawai & another (1986(1)BOMCR146, (1986)88BOMLR62):

In this case imposed an obligation on a married daughter to maintain her parents when she has sufficient means to maintain them.

- Parmar Dahyabhai Hemabhai v. Parmar Prakashbhai Dahyabhai (AIR 2014 (NOC) 398 (GUJ.): In this case, the parents were living separately in old age home, with a pension, unable to maintain medical expenses, children refused to provide maintenance by giving the argument that they were getting a pension. The court held that though parents are getting a pension doesn't mean they cannot claim maintenance when they are unable to maintain, the petition for maintenance was allowed by the court.

- PiteiBewa v. Laxmidhar Jena (1985(I)OLR364):

In this case, the question was raised whether the term “mother” will include only the natural mother under CrPC. The court held that the term mother occurring in clause (d) of sec. 125(1) will include a stepmother when she had a lawful marriage with the father of the person and she will be liable for maintenance under the code.

2. HOW DO FAMILY LAW POLICIES IMPACTS ON SINGLE-PARENT HOUSEHOLDS

Single-Parent Household defines on the basis of various circumstances, like divorce, Domestic violence, rape, separation, widowhood, or choosing to have a child without a male partner, adoption, regardless of the cause.

Family law policies help single parents in the situation of Child Support like costs of raising a child, including education, healthcare, and basic living expenses. Laws governing custody ensure that children have stable and continuous relationships with either parents post-divorce or separation, which can provide emotional and financial stability.

Government Assistance and Welfare: Single parent's gets help from the program like Temporary Assistance for Needy Families, Food Stamps and Housing assistance.

1. Impact of Income and Employment.
2. Parents Rights and Responsibility: Legal Protections to child, Sharing Parenting's.
3. Access to Legal Resources: Legal Aid, Simplified Legal Processes.
4. Domestic Violence Protections: Protective Orders, Support Services.
5. Tax Implications: Tax Credits and Deductions, Single Parents can influence tax benefits and tax liabilities.
6. Impact on children: Educational and Social Services, Stability and Support.
7. Employment Rights and Protections: Parental Leave, Workplace Discrimination

3. WHAT IS THE ROLE OF MEDIATION IN RESOLVING FAMILY LAW DISPUTES?

3.1 Mediation in Family Law Disputes Involving Elder Care

Mediation has emerged as a valuable alternative dispute resolution (ADR) method for resolving family law disputes related to elder care in India. Section 89 of the Civil Procedure Code (CPC) encourages courts to refer disputes to mediation, and the Family Courts Act, 1984, mandates that family courts endeavor to settle disputes through mediation.

Mediation offers a confidential, objective forum for families to make decisions, particularly when dealing with sensitive issues such as caregiving responsibilities, living arrangements, property disputes, and financial support.

A skilled mediator can facilitate communication, promote understanding, and help family members reach mutually acceptable solutions while preserving relationships.

Despite the existence of legal frameworks and the growing recognition of mediation, challenges remain in ensuring effective elder care and resolving related family disputes.

These challenges include a lack of awareness of legal rights and remedies among senior citizens, delays in the justice system, and the need for greater investment in old age homes and social security program. There is also a need for more comprehensive protection against emotional and psychological abuse, as well as mechanisms for reporting and intervening in cases of elder abuse.

To improve elder care and dispute resolution in India, several steps can be taken: Increased awareness campaigns to educate senior citizens about their rights and available legal remedies. Strengthening the functioning of Maintenance Tribunals and ensuring speedy disposal of cases. Promoting mediation and other ADR methods to resolve family disputes amicably and efficiently. Investing in geriatric care facilities and training for caregivers. Enacting comprehensive legislation to address elder abuse, including emotional and psychological abuse. Encouraging social inclusion and active participation of senior citizens in community activities. By addressing these challenges and implementing comprehensive strategies, India can better protect its aging population and ensure their well-being, dignity, and security.

3.2 The role of mediation:

1. Mediator handles matters amicably without affecting the relationship between people.
2. Mediator provides a speedy justice which reduces the burden of the courts.

3. Mediators are flexible and protect the rights of the parties accept or reject the outcome of the trial.
4. Mediators try to save the family relationship; emotional issues of the family, parents have to be in touch even after their divorce due to their child.
5. Mediation helps save the cost of the parties.
6. In mediation the parties can discuss and reach an agreement for settlement. This leads to them being more convinced as to what decision is made.
7. In mediation, the decision can be made according to what suits the requirements of the family, which might not be the scenario in courts.

CONCLUSION

After critically reviewing, researching and studying the available material in form of information, facts and figure, one can conclude that 'Yes' In India family law's are amicably addressing all needs of aging parents and elder care, which is guaranteed by Indian constitution. At the same it is also playing crucial role in addressing the policies framed under the family laws for single-parents households. It tries to give reasonable justice while governing all rights and taking care of emerging needs of single-parents households.

Mediation is an impactful and creative alternative to resolve the family law disputes. Mediation process in a family law dispute is safe, informal and also a way to protect the confidentiality of the parties. It also ensures the satisfaction of parties, by giving importance to their opinions and tries to reach a solution which is feasible, possible, practical, logical and acceptable for both of them.

It is also observed that there is a gap in public awareness regarding these rights, noting that many elderly individuals are often unaware of the legal protections available to them. This lack of knowledge is compounded by socio-economic barriers, particularly the hierarchical caste system, which influences access to benefits and resources for the elderly. The analysis further examines how systemic issues like poverty and gender discrimination hinder effective policy execution, rendering the protective laws inefficient for those most in need.

With the available existing literature and case studies, highlighted on the socio-legal landscape surrounding elder care in India. It also proposes actionable recommendations to enhance the effectiveness of filial laws and policies, advocating for greater public education, community involvement, and a reformed legal framework to ensure that the rights of the elderly are not only recognized but actively enforced. Ultimately, the paper seeks to contribute to the discourse on elder welfare and the need for a societal shift in recognizing and fulfilling familial and legal responsibilities towards aging parents and senior citizens in India.

REFERENCES

1. <https://www.livelaw.in/law-firms/law-firm-articles-/the-maintenance-and-welfare-of-parents-and-senior-citizens-act-and-partners-251685>
2. https://legalupanishad.com/rights-of-a-single-mother-in-india/#google_vignette
3. <https://www.legalserviceindia.com/legal/article-7225-single-parenting.html>
4. <https://vishalsainiadv.com/blog/legal-rights-for-single-mothers-in-india/>
5. <https://www.familyrelationships.gov.au/separation/family-mediation-dispute-resolution#:~:text=Mediation%20is%20a%20way%20of,using%20the%20family%20law%20courts>
6. <https://blog.ipleaders.in/mediation-in-india/#:~:text=Now%20before%20the%20court%20gives,for%20the%20process%20of%20mediation>
7. <https://blog.ipleaders.in/role-mediator-process-meditation/>

STRATEGIES FOR E-COMMERCE BUSINESS SUSTAINABILITY

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ABSTRACT

Businesses need to do more than just adhere to ethical standards; they must weave these principles into their operational strategies to build trust with consumers, ensure long-term success, and comply with international regulations. The speed and degree to which e-commerce is infiltrating the very fabric of our society, faster and more pervasively makes an examination of its ethical dimensions critical. Though ethical lag has heretofore hindered our explorations of e-commerce ethics, it is now time to identify and confront them. By fully embracing ethical practices, e-commerce companies can turn challenges into opportunities for growth, innovation, and a robust market presence. In future e-commerce should be synonymous with integrity, creating a more trustworthy and sustainable online shopping experience.

Keywords: E-commerce, Ethical standards, Business Sustainability

INTRODUCTION

E-commerce revolutionises traditional commerce by enhancing convenience, broadening product selection, and reducing costs, thereby driving economic growth and job creation. However, it also faces ethical challenges, including issues related to privacy, consumer rights, environmental impact and intellectual property. Adhering to ethical guidelines that emphasise fairness, transparency, and integrity is crucial for protecting consumer rights and data, promoting environmental responsibility and building trust in the digital marketplace. Online transactions involve sharing personal and financial information, making data privacy and security critical. Ethical concerns, such as unauthorized data collection and inadequate security measures, can lead to breaches that exploit consumer privacy. E-commerce must uphold fair treatment of consumers, which includes transparent disclosure of product information and pricing, honest marketing practices and the right to return or exchange products. Violations such as deceptive advertising, hidden fees or misleading product descriptions challenge ethical standards. Currently, counterfeit goods represent approximately 10% of global trade. The digital nature of e-commerce makes it easier for counterfeit products and intellectual property theft. Ethical challenges include protecting creators' rights and addressing issues such as copyright infringement and trademark violations.

REVIEW OF LITERATURE

Kracher and Corritore (2004) discussed the issue that the speed and degree to which e-commerce develops in the markets and society makes some preconditions that ethical dimensions are critical in examining the issue.

Personal information issues became very important in e-commerce (Milne, Rohm, 2000). A lot of different legal and ethical questions arise relating with trademarks, copyrights, patents (Maury, Kleiner, 2002). Companies require name, address, phone registering to their web pages, and the usage of that information often becomes uncontrollable and unclear. Such situations call customer awareness. Privacy is often highlighted both as central to the ethics of e-retailing and as a critical factor in its development (Whysall, 2000).

Alba et al (2007) emphasize that the key element for further development of home e-shopping remains collection of personal information and matters with it. Customers expect that their personal data will not be used in unsecure or inappropriate ways. Security matters are concerned with financial and credit cards security (Bart et al., 2005; Roman, 2007). In contrary, Venkatesh (1998) suggested that the extension of commerce in cyberspace is connected with freedom and the place where customers establish their identity.

Trust is one of the main features in customer-seller relationship. In web environment, should talk about e-trust (Hwang, Kim, 2006). In the internet environment the trust is more often intangible.

OBJECTIVES

1. To study the Ethical issues coming in the progress of Ecommerce
2. To study challenges related to Ecommerce.
3. To find out actionable strategies for sustainability of Ecommerce.

RESEARCH METHODOLOGY

In order to achieve the above objectives, information was collected from the secondary sources readily available. Various reports, research papers, case studies regarding ethical issues in Ecommerce were referred to, apart from journals and articles. The analysis of various literature has helped to frame the idea about the implementation strategies needed to meet with the ethical standards in Ecommerce.

Challenges in Sustainable and Ethical E-Commerce:

Sustainable practices may come with higher operational costs due to demand, the price of premium raw materials, fair employee wages, and business certifications, among other reasons. To address this, e-commerce businesses can use economies of scale to increase their production volume to reduce per-unit costs. E-commerce businesses should also look into streamlining operations to make efficiency improvements. Ensuring ethical sourcing and transparency in a complex supply chain can be challenging. This can be addressed by developing strong relationships with ethical and sustainable suppliers, sourcing materials and labour locally and utilizing technology to achieve greater transparency. Adopting new technologies and developing sustainable logistics can be a challenge for e-commerce companies. To mitigate these constraints, e-commerce businesses can allocate resources for research and development of sustainable technologies and take advantage of AI and data analytics innovations to achieve more efficient operations.

Actionable Strategies for E-commerce Businesses to Become More Sustainable:

E-commerce by adhering to ethical practices, being transparent about their operations, and staying committed to ethical standards, can earn the trust of their customers. By communicating their values and ethical practices, they encourage consumers to support their advocacy, leading to greater customer loyalty. Brands with ethical practices have a more positive brand image, which can be a significant asset for attracting and retaining customers. Differentiating themselves in a competitive market. Especially in e-commerce, where the market is crowded, adopting ethical practices helps set a brand apart from its competitors. Forming long-term customer relationships, With a focus on quality, sustainability and fair labour practices, ethical e-commerce brands facilitate better customer experiences. As a result, can increase the customer lifecycle.

There are a couple of ways that E-commerce businesses can strive to become more sustainable and ethical.

Use Eco-friendly Packaging: Consider switching to eco-friendly biodegradable, recyclable, or compostable packaging to reduce waste and lessen environmental impact.

Source Sustainably: When selecting materials, consider sustainable and ethically sourced options, including organic, recycled, and upcycled materials. Sustainable sourcing extends beyond the choice of materials; it also involves evaluating and ensuring fair labour practices.

Waste Reduction and Recycling Programs: These can include recycling programs, single-use plastic reduction. Design a system to extend the lifecycle of your products, such as by offering repair services, spare parts.

Adopt Energy-efficient Operations: Make energy-efficient practices apparent in warehouses, data centres, and offices. This can involve the use of LED lighting, energy-efficient appliances, and smart tech systems.

Take Advantage of Technology: Technology is an e-commerce business in adopting sustainable and ethical business practices. Things like blockchain, data analytics, AI, Internet of Things, carbon footprint calculators, renewable energy technologies, delivery management systems, and other digital platforms and technologies can aid an e-commerce business in enhancing its operational efficiency, reducing its environmental impact and ultimately achieving its sustainability goals.

Sustainability in E-commerce Supply Chain and Logistics: Focus on implementing strategies to reduce carbon emissions in the supply chain and logistics sector. This can be done by using renewable energy sources, optimizing delivery routes and offering carbon-neutral shipping options. Incorporating sustainability into your supply chains and logistics requires a holistic approach that is not only focused on environmental impact but also on building a brand that resonates with the values of the modern consumer.

Communicate Sustainability Efforts to Consumers: Communicating your sustainability efforts to consumers is vital in showcasing your commitment to environmental stewardship. Always aim for transparency in your business by providing accessible information about your processes and products. Aim to get recognized sustainability certifications such as Fair Trade, Organic, or Rainforest Alliance, to provide consumers with a credible third-party verification of your sustainability efforts. Successfully communicating your sustainability and ethical practices can help you build consumer trust and loyalty.

The e-commerce environment flourishes thanks to convenience and competitive dynamics, yet ethical considerations play a crucial role in achieving sustained success. Selecting an appropriate e-commerce platform is crucial for ensuring that ethical practices are implementable and effective.

CONCLUSION

The future of sustainable and ethical e-commerce relies on the evolving expectations of consumers, the innovations in technology, and regulations imposed by governments and organizations.

As the e-commerce industry grows, it places itself under a microscope of demands for better sustainability and ethical practices. Stricter environmental regulations, increased demand for transparency and higher standards for ethical practices are all to be expected, making it crucial for the e-commerce sector to adapt and develop its sustainability efforts.

REFERENCE

- [1]. Conklin, W.A, White, G.B., Cothren, C., Williams, D. & Davis, R.L. 2004, Principles of Computer Security. Security+ and Beyond, McGraw Hill, Illinois. [2].Ford, W. 1994, „Standardizing Information Technology Security“, StandardView, vol. 2, issue 2, pp. 64-71.
- [3]. Gaur, N. 2000 „Assessing the Security of your Web Application“ in Linux Journal, Vol 2000, Issue 72es, Article No. 3. Specialized System Consultants Inc. Seattle
- [4] Gehling, B. &Stankard, D. 2005 „eCommerce Security“ in Information Security Curriculum Development Conference, September 23-24 2005 pp32- 38, Kenneshaw GA.
- [5] Iachello, G. &Abowd, GD, 2005 „Privacy and proportionality: adapting legal evaluation techniques to inform design in ubiquitous computing“ in Proceedings of the SIGCHI conference on Human factors in computing systems, Portland, Oregon, USA, pp91-100 [6]Kemmerer, RA. 2003„Cybersecurity“ in Proceedings of the 25th International Conference on Software Engineering Portland Oregon, pp705-715, IEEE Computer Society.
- [7] Leprévost, F., Erard, R. & Ebrahimi, T. 2000 „How to bypass the Wassenaar arrangement: a new application for watermarking“ in Proceedings of the 2000 ACM workshops on Multimedia, Los Angeles, California, US. pp161-164
- [8] Logan, PY. & Clarkson, A. 2005 „Teaching students to Hack“ in Proceedings of SIGCSE '05, February 23-27, St Louis, Missouri, USA.
- [9]McDermott, JP. 2001 „Attack net penetration testing“ in Proceedings of the 2000 workshop on New security paradigms, County Cork, Ireland, pp15-21. ACM Press New York .
- [10] McQuaid, H., Goel, A. & McManus M. 2003 „When you can't talk to customers: using storyboards and narratives to elicit empathy for users“ in Proceedings of the 2003 international conference on Designing pleasurable products and interfaces. Pittsburgh, PA, USA pp120-125.

MARKET DYNAMICS AND LABOUR EFFICIENCY IN INDIA'S ORGANISED MANUFACTURING: INSIGHTS FROM ASI PANEL DATA (1980–2022)

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rajeshshetgaokar@yahoo.in**ABSTRACT**

This study investigates the impact of market flexibility on labour productivity in India's organised manufacturing sector using panel data from the Annual Survey of Industries (ASI) spanning 1980 to 2022. Employing a fixed effects econometric model, the analysis demonstrates that higher market flexibility—defined through contract labour share, labour turnover rate, and capital mobility—significantly enhances labour productivity. The study also finds that capital intensity, firm size, and technological adoption positively influence productivity, while wage rate has an insignificant negative effect. Model diagnostics confirm the robustness of the estimation, with an adjusted R^2 of 0.60 and no evidence of Multicollinearity, heteroscedasticity, or autocorrelation. The findings align with existing literature, indicating that flexible regulatory environments facilitate efficient resource allocation and technological upgrading.

1. INTRODUCTION

The organised manufacturing sector constitutes a vital component of India's economic development, accounting for over 17% of the nation's GDP and providing employment for millions in formal positions. This sector comprises various industries, including textiles, chemicals, pharmaceuticals, machinery, electronics, and food processing. Over the past two decades, the Indian manufacturing landscape has undergone a structural transformation attributable to globalisation, policy reforms, and technological advancements. Labour productivity, defined as output per worker, is a pivotal performance indicator in this domain. Enhancements in productivity are imperative for bolstering firm competitiveness, increasing wage levels, reducing unit labour costs, and promoting export expansion. Despite notable progress, India's labour productivity in manufacturing continues to fall short of global benchmarks, underscoring the necessity for targeted reforms. Recent trends indicate increased capital intensity, a rising reliance on contract labour, and an enhanced adoption of automation. These developments suggest a growing trend towards market flexibility—where firms are better equipped to respond swiftly to shifts in demand, cost structures, and regulatory environments. Market flexibility encompasses the capability to hire and release labour, adjust capital and technology utilisation, and adapt to regulatory changes with minimal friction. This paper examines how market flexibility impacts labour productivity, employing Annual Survey of Industries (ASI) data and panel econometric models to identify the primary drivers and patterns.

2. REVIEW OF LITERATURE

The relationship between market flexibility and labour productivity has been extensively explored within the Indian context, particularly since the liberalisation era of the 1990s. Researchers have employed diverse methodologies to elucidate this relationship, ranging from time-series models and panel regressions to general equilibrium and difference-in-differences (DID) designs. Many studies utilise secondary data sources, including the Annual Survey of Industries (ASI), National Sample Survey Office (NSSO) rounds, the PROWESS database, and macroeconomic datasets from the World Bank or CMIE. For instance, Dasgupta (2023) applied time-series models, such as co-integration and error correction, demonstrating that increased contract labour and casualisation contributed to a widening wage-productivity gap. Similarly, Goswami and Paul (2020) utilised DID estimation to evaluate the labour reforms in Rajasthan, discovering that although overall employment declined, productivity improved due to more efficient capital allocation and enhanced firm-level efficiency. Pal (2023) employed ASI panel data, illustrating that capital-labour substitution—facilitated by greater flexibility—increased worker output. These empirical findings suggest that labour market flexibility significantly and meaningfully affects productivity outcomes through mechanisms such as the hiring of contract labour, wage adjustments, and capital reallocation. In addition to empirical investigations, several theoretical and policy-oriented papers have emphasised the institutional framework surrounding market flexibility. Ahsan and Pagés (2009) and Besley and Burgess (2004) exploited state-level variations in labour regulation to assess its impact on firm performance. Their fixed-effects and panel regression analyses indicated that states with more stringent labour laws experienced slower growth in output, employment, and productivity. In contrast, more flexible states demonstrated superior performance in these areas. Furthermore, Kathuria et al. (2010) indicated that technology absorption is significantly higher in flexible environments, particularly where firms can restructure labour in response to competitive pressures.

From a broader developmental perspective, Virmani (2004) and Kochhar et al. (2006) noted that India's rigid labour regime, when compared globally, has constrained its ability to leverage low-cost labour for industrial competitiveness. Conversely, studies such as those by Mazumdar and Sarkar (2008) and Chaudhuri and Yabuuchi (2007) caution that excessive flexibility may lead to increased informality and wage inequality, advocating for complementary reforms such as enhanced enforcement of worker protections, upskilling initiatives, and social security provisions. Overall, the literature robustly supports the hypothesis that well-managed market flexibility enhances labour productivity while emphasising the necessity of considering the broader Socio-Economic context for sustainable outcomes.

3. DATA AND METHODOLOGY

This study uses unit-level panel data from the Annual Survey of Industries (ASI), compiled by the Ministry of Statistics and Programme Implementation (MoSPI), Government of India. The dataset spans from 1980 to 2022–23, covering more than four decades of structural and policy transformations in the organized manufacturing sector. The ASI is the most comprehensive and reliable source of industrial data in India. It provides detailed information at the factory level on output, gross value added (GVA), employment, worker remuneration, input costs, fixed capital, fuel and electricity consumption, and working hours.

To ensure consistency across time and comparability of results, all monetary variables, such as output, GVA, and wages, have been deflated using appropriate price indices. Gross Value Added and output have been deflated using the Wholesale Price Index (WPI) for manufacturing (base year 2011–12), sourced from the Office of the Economic Adviser. Wages and salaries are deflated using the Consumer Price Index for Industrial Workers (CPI-IW). Fixed capital and capital formation figures are deflated using the Gross Fixed Capital Formation Deflator from national accounts statistics. This deflation process adjusts for inflation and provides absolute values, enabling meaningful analysis of labour productivity and capital intensity over time. For panel estimation, consistent coding and concordance have been applied to address classification changes (e.g., NIC 1987 to NIC 2008), and units with missing or extreme values were cleaned using standard winsorization techniques. The cleaned and deflated dataset allows for robust long-term econometric analysis of the linkages between market flexibility and labour productivity in the Indian manufacturing sector.

4. VARIABLES

Dependent Variable

Labour Productivity (LP): This variable is defined as real Gross Value Added (GVA) per worker per annum. To obtain real values, GVA is adjusted for inflation using the Wholesale Price Index (WPI) specifically for the manufacturing sector. The total number of workers includes both directly employed individuals and contract workers.

Key Independent Variable:

- **Market Flexibility Index (MFI):** This composite index is constructed from three proxy indicators:
- **Labour Turnover Rate:** This metric is calculated as the sum of newly hired and separated workers divided by total employment.
- **Contract Labour Share:** This ratio indicates the proportion of contract labour to the total workforce, thereby reflecting the ease of flexible hiring practices.
- **Capital Mobility:** This is assessed through annual variations in fixed capital investments at the firm level. All components are normalized and assigned equal weights to create a scale that ranges from 0 (indicating the least flexibility) to 1 (indicating the most flexibility).

Control Variables:

- **Capital Intensity (CI):** This variable is represented as real fixed capital per worker, capturing the effects of capital deepening. Fixed capital is adjusted for inflation using capital goods deflators.
- **Firm Size (FS):** This is measured by the average number of employees per factory and is further analysed using logarithmic transformation to achieve normality.
- **Wage Rate (WR):** The real annual wage per worker is adjusted using the Consumer Price Index for Industrial Workers (CPI-IW).

- **Technology Intensity (TI):** Industries are categorized based on National Industrial Classification (NIC) codes as high-tech, medium-tech, or low-tech. An additional proxy includes the ratio of energy and fuel expenses to total output.
- **Region Dummies (RD):** Dummy variables are employed for five major regions (North, South, East, West, Central) to account for spatial heterogeneity in the analysis.

Industry Fixed Effects (IF): Dummy variables corresponding to two-digit NIC industry classifications are utilized to consider structural variations across different industrial sectors.

5. EMPIRICAL FINDINGS

5.1 Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Labour Productivity	4.25	1.35	1.20	9.80
Market Flexibility	0.62	0.20	0.20	0.95
Capital Intensity	2.80	0.95	0.80	5.50
Firm Size	95	60	10	500
Wage Rate	2.50	0.80	0.90	4.80
Tech Intensity	3.10	0.70	1.00	5.00

Source: Authors Calculation

The descriptive statistics provide an overview of the distribution and variation of key variables used in the study. The average labour productivity is 4.25 units of GVA per worker, with a relatively wide range indicating significant inter-firm variation. The market flexibility index has a mean value of 0.62, suggesting a moderate degree of adaptability among firms. Its notable spread (0.20 to 0.95) reflects diverse levels of flexibility across establishments. Capital intensity averages 2.80, showing that firms invest significantly in fixed assets per worker on average, though some operate with very low capital-labour ratios. Firm size also shows substantial variation, with an average of 95 employees but a maximum of 500, suggesting the presence of both small and large enterprises in the sample. The wage rate averages at 2.50 units (in real terms), but the standard deviation of 0.80 reflects considerable wage dispersion. Technology intensity, measured on a scale from 1 to 5, has a mean of 3.10, indicating that most firms are medium to high in technology adoption, although some low-tech units persist. These patterns underscore the heterogeneity in the Indian manufacturing sector and justify the use of panel econometric techniques to control for such variation.

5.2 Regression Results

Variable	Coefficient	Std. Error	t-Statistic	p-Value
Market Flexibility	1.12	0.20	5.60	0.000
Capital Intensity	0.58	0.15	3.87	0.000
Firm Size	0.003	0.001	3.00	0.003
Wage Rate	-0.15	0.10	-1.50	0.135
Tech Intensity	0.76	0.18	4.22	0.000
Constant	1.20	0.50	2.40	0.016

Source: Authors Calculation

5.3 Model Diagnostics and Specification Tests:

Test/Statistic	Value	Interpretation
R-squared	0.62	62% of variation in labour productivity explained
Adjusted R-squared	0.60	Adjusted for number of predictors
F-statistic	35.70	Model is jointly significant ($p < 0.001$)
Breusch-Pagan Test (χ^2)	4.85	No evidence of heteroscedasticity ($p = 0.09$)
VIF (mean)	1.85	No Multicollinearity ($VIF < 5$ for all variables)
Hausman Test (χ^2)	12.45	Favours Fixed Effects over Random Effects ($p < 0.01$)
Durbin-Watson Statistic	1.91	No autocorrelation in residuals

Source: Authors Calculation

The regression analysis indicates that Market Flexibility exerts a strong and statistically significant favourable influence on labour productivity, with a coefficient of 1.12 and a p-value of less than 0.01. This finding suggests that firms benefiting from enhanced flexibility in labour and capital management achieve higher productivity.

Additionally, Capital Intensity ($\beta = 0.58$) and Technology Intensity ($\beta = 0.76$) are both positively correlated and statistically significant, underscoring that effective capital deployment and technological advancements are critical factors in driving productivity enhancements. Firm Size, operationalized by the number of employees, demonstrates a modest yet positive and statistically significant effect, indicating the presence of economies of scale. Conversely, the Wage Rate shows a negative coefficient; however, this effect is not statistically significant ($p = 0.135$), suggesting that increased wages do not necessarily lead to higher labour productivity without corresponding improvements in capital or skill levels. The model diagnostics reinforce the robustness of the estimations. The Adjusted R^2 of 0.60 reflects that the model accounts for a substantial portion of the variance in labour productivity. The Breusch-Pagan test affirms the absence of heteroscedasticity, while the Variance Inflation Factors (VIFs) indicate no Multicollinearity among the independent variables. Furthermore, the Hausman test supports applying a Fixed Effects model, confirming that unobserved heterogeneity is correlated with the explanatory variables. The Durbin-Watson statistic, which is close to 2.0, suggests no serious issues with autocorrelation in the residuals, thereby ensuring the reliability of the standard errors. These results substantiate the hypothesis that market flexibility significantly determines labour productivity within India's organized manufacturing sector. The findings are consistent with prior empirical studies, such as those conducted by Goswami and Paul (2020), which noted productivity increases in Rajasthan following labour deregulation. Similarly, Saha et al. (2013) documented that states characterized by flexible labour regulations experienced accelerated industrial growth and enhanced productivity. Furthermore, Kathuria et al. (2010) reported that technology adoption and productivity improvements were markedly greater in firms operating under flexible regulatory frameworks.

6. POLICY IMPLICATIONS

The results of this study suggest several actionable policy directions to enhance labour productivity in India's organised manufacturing sector. First, there is a pressing need to reform labour regulations to introduce greater flexibility in hiring practices and contractual arrangements. Simplifying compliance procedures and allowing firms operational autonomy would help them respond swiftly to market fluctuations and optimise input usage. Second, capital and technology investment should be incentivised through targeted subsidies, tax benefits, and easier credit access. These measures would support firms in modernising operations and improving efficiency, particularly when aligned with flexible labour practices. Third, alongside flexibility, there must be a focus on workforce development. Enhancing vocational training and providing upskilling opportunities—especially for contract and informal workers—will ensure that productivity gains are broad-based and socially inclusive. Lastly, regional disparities in infrastructure and policy implementation must be addressed. Improving industrial infrastructure, such as power, transport, and logistics, particularly in lagging regions, can unlock the full potential of market reforms and create an equitable environment for manufacturing growth across India.

7. CONCLUSION, SUGGESTIONS, AND SCOPE FOR FUTURE RESEARCH

This study highlights the crucial role of market flexibility in enhancing labour productivity in India's organised manufacturing sector. By utilising detailed ASI panel data over a long period and applying robust econometric models, it establishes that greater adaptability in labour and capital management is strongly associated with improved output per worker. Capital intensity, firm size, and technological adoption also play a significant role, while the wage-productivity relationship remains complex and context-dependent.

Based on the findings, the study suggests the following: (i) liberalisation of labour laws must be pursued in tandem with social protections; (ii) technology adoption should be incentivised through fiscal measures; (iii) firm-level flexibility must be matched by strategic infrastructure and skill investments; and (iv) region-specific industrial strategies may be needed to address spatial heterogeneity in productivity gains.

As for future research, this paper opens several avenues. First, future studies could incorporate dynamic panel models or GMM estimators to explore causal relationships more rigorously. Second, disaggregated analysis by industry type (labour-intensive vs. capital-intensive) or firm size could yield deeper insights. Third, the role of digitalisation, environmental compliance, and export orientation as potential mediators between flexibility and productivity deserves attention. Finally, integrating worker-level data, if available, can enrich the analysis by examining how different labour categories respond to flexible work arrangements.

REFERENCES

- Aghion, P., Burgess, R., Redding, S., & Zilibotti, F. (2008). The unequal effects of liberalization: Evidence from dismantling the License Raj in India. *American Economic Review*, 98(4), 1397–1412.
- Ahluwalia, M. S. (2002). Economic reforms in India since 1991: Has gradualism worked? *Journal of Economic Perspectives*, 16(3), 67–88.

-
- Ahsan, A., & Pagés, C. (2009). Are all labor regulations equal? Evidence from Indian manufacturing. *Journal of Comparative Economics*, 37(1), 62–75.
 - Anant, T. C. A., Hasan, R., & Mohapatra, P. (2006). Labor markets in India: Issues and perspectives. In *Labor Markets in Asia: Issues and Perspectives*. Palgrave Macmillan.
 - Besley, T., & Burgess, R. (2004). Can labor regulation hinder economic performance? Evidence from India. *Quarterly Journal of Economics*, 119(1), 91–134.
 - Chaudhuri, S., & Yabuuchi, S. (2007). Economic liberalization and wage inequality in a developing economy: Theory and evidence from India. *Review of Development Economics*, 11(2), 370–385.
 - Das, D. K., Erumban, A. A., Aggarwal, S. C., & Das, P. C. (2013). Productivity growth and market liberalisation in Indian manufacturing. *Indian Economic Review*, 48(2), 1–26.
 - Dasgupta, M. (2023). Has labour productivity kept pace with wage growth in India's manufacturing sector? *Athens Journal of Business and Economics*, 9(2), 125–147.
 - Debroy, B. (2001). Why we need labour market reforms. *India Policy Forum Background Paper*.
 - Goldar, B. (2003). Trade liberalisation and efficiency of Indian industries. *Indian Economic Journal*, 51(4), 1–23.
 - Goswami, A., & Paul, B. (2020). Labour law deregulation and its impact on industrial performance: Evidence from Rajasthan. *arXiv preprint arXiv:2012.01016*.
 - Guha, A. (2006). Labour market flexibility in Indian manufacturing: Some empirical results. *Citeseer Working Paper*.
 - Hasan, R., & Jandoc, K. R. (2010). The effects of labor regulation on employment and industrial performance in India. *Asian Development Review*, 27(1), 1–29.
 - Kathuria, V., Raj, R. S. N., & Sen, K. (2010). Productivity measurement in Indian manufacturing: A comparison of growth accounting and frontier production function approaches. *Journal of Productivity Analysis*, 33(3), 209–223.
 - Kochhar, K., Kumar, U., Rajan, R., Subramanian, A., & Tokatlidis, I. (2006). India's pattern of development: What happened, what follows? *Journal of Monetary Economics*, 53(5), 981–1019.
 - Mazumdar, D., & Sarkar, S. (2008). The employment problem in India and the phenomenon of the 'missing middle'. *Indian Journal of Labour Economics*, 51(2), 181–198.
 - Pal, R. (2023). Capital intensity and labour productivity in Indian manufacturing. *arXiv preprint arXiv:2304.00489*.
 - Panagariya, A. (2008). *India: The Emerging Giant*. Oxford University Press.
 - Rodrik, D., & Subramanian, A. (2004). From “Hindu growth” to productivity surge: The mystery of the Indian growth transition. *IMF Staff Papers*, 52(2), 193–228.
 - Saha, B., Ghosh, P., & Ghosh, S. (2013). Labour market institutions and manufacturing performance in Indian states. *Economic and Political Weekly*, 48(39), 47–55.
 - Topalova, P. (2010). Factor immobility and regional impacts of trade liberalization: Evidence on poverty from India. *American Economic Journal: Applied Economics*, 2(4), 1–41.
 - Virmani, A. (2004). Sources of India's economic growth: Trends in total factor productivity. *Indian Council for Research on International Economic Relations (ICRIER) Working Paper No. 131*.
 - Virmani, A., & Hashim, S. R. (2011). J-curve of productivity and growth: Indian manufacturing post-liberalization. *Economic and Political Weekly*, 46(41), 66–72.
 - Annual Survey of Industries (1980–2022), Ministry of Statistics and Programme Implementation (MoSPI), Government of India.
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ACCESS TO QUALITY EDUCATION IN MARGINALIZED COMMUNITIES: A SOCIOLOGICAL ANALYSIS

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gulab.pathan@poonacollege.edu.in**ABSTRACT**

*Access to quality education remains a critical yet elusive goal for marginalized communities worldwide. This paper conducts a sociological examination of the structural, cultural, and institutional barriers that perpetuate educational disparities. Employing theoretical frameworks such as **conflict theory**, **cultural reproduction**, and **intersectionality**, the study investigates how socio-economic status, caste, race, gender, and geographic location shape educational access and outcomes. Through a review of empirical research and case studies, the paper underscores the systemic nature of educational exclusion and advocates for policy interventions grounded in equity and social justice. The findings highlight the necessity of **structural reforms**, **inclusive pedagogy**, and **community-driven solutions** to dismantle entrenched inequalities.*

Keywords: Educational inequality, Marginalized communities, Sociology of education, Social justice, Structural barriers, Equity in education

1. INTRODUCTION

Education is universally recognized as a **fundamental human right** and a catalyst for socio-economic mobility (UNESCO, 2021). However, marginalized populations—including ethnic minorities, rural inhabitants, economically disadvantaged groups and individuals with disabilities—continue to face **systemic exclusion** from quality education. Sociological perspectives reveal that educational disparities are not accidental but are **deeply embedded in historical oppression, institutional discrimination, and socio-economic hierarchies** (Bourdieu, 1986; Bowles & Gintis, 1976).

This paper examines the **multi-dimensional barriers** that restrict educational access for marginalized groups, analyzing how **caste, race, gender, poverty, and geography** intersect to reinforce exclusion. By integrating theoretical insights with empirical case studies, the study contributes to ongoing debates on **educational equity** and proposes policy measures for **inclusive reform**.

2. THEORETICAL FRAMEWORKS**2.1 Conflict Theory:**

Rooted in Marxist thought, **conflict theory** posits that education systems function as instruments of **social reproduction**, perpetuating class divisions by privileging dominant groups (Bowles & Gintis, 1976). Schools reinforce **hegemonic ideologies** through curricula that favor elite cultural norms, while marginalizing working-class and minority students (Apple, 2004).

2.2 Cultural Reproduction Theory:

Pierre Bourdieu's (1986) concept of **cultural capital** elucidates how schools legitimize the knowledge, language, and behaviors of dominant classes, disadvantaging students from marginalized backgrounds. The lack of **institutional recognition** of non-dominant cultural capital exacerbates educational inequality.

2.3 Intersectionality:

Kimberlé Crenshaw's (1989) **intersectionality framework** highlights how overlapping identities—such as race, gender, caste, and disability—compound educational exclusion. For instance, **Dalit girls in India** face compounded discrimination due to caste and gender biases (Nambissan, 2009).

3. BARRIERS TO QUALITY EDUCATION IN MARGINALIZED COMMUNITIES:**3.1 Socio-Economic Disadvantage:**

Poverty remains the most pervasive barrier, affecting **nutrition, school attendance, and access to learning materials** (UNESCO, 2021). Low-income families often prioritize immediate economic survival over education, leading to **high dropout rates** (Dreze & Sen, 2002).

3.2 Caste and Racial Discrimination:

- **India:** Despite constitutional safeguards, **Dalit and Adivasi students** experience segregation, verbal abuse, and exclusion from elite institutions (Jodhka, 2012).

- **USA: Redlining and school funding disparities** disproportionately affect African American and Latino students, perpetuating achievement gaps (Kozol, 2005).

3.3 Geographic Isolation:

Rural and remote regions suffer from **inadequate infrastructure, teacher shortages, and lack of digital connectivity** (World Bank, 2022). In Sub-Saharan Africa, **postcolonial underfunding** has led to dilapidated schools and overcrowded classrooms (Tikly, 2001).

3.4 Gender Inequality:

Patriarchal norms restrict girls' education through **early marriage, domestic labor burdens, and safety concerns** (Plan International, 2018). In South Asia, **only 46% of girls** complete secondary education (UNICEF, 2022).

3.5 Disability and Inclusion:

Children with disabilities encounter **attitudinal barriers, inaccessible facilities, and untrained educators** (WHO, 2011). Less than **10% of schools in low-income countries** are disability-inclusive (UNESCO, 2021).

4. CASE STUDIES

4.1 India: Structural Exclusion of Dalits and Adivasis:

Despite the **Right to Education Act (2009)**, Dalit children face **segregated seating, caste-based bullying, and high dropout rates** (Nambissan, 2009). Reservation policies have improved access but fail to address **institutional casteism**.

4.2 USA: Racial Segregation and School Funding:

Public schools in predominantly Black neighborhoods receive **\$23 billion less** in funding than white-majority schools (EdBuild, 2019). **Zero-tolerance disciplinary policies** further marginalize minority students (Ladson-Billings, 2006).

4.3 Sub-Saharan Africa: Colonial Legacies and Underfunding:

Structural adjustment programs (SAPs) in the 1980s-90s led to **privatization and fee impositions**, excluding the poorest (Tikly, 2001). Today, **1 in 5 African children** remains out of school (World Bank, 2022).

5. POLICY INTERVENTIONS AND CIVIL SOCIETY ROLES:

5.1 Government Initiatives:

- **Midday Meal Schemes (India)** – Improved enrollment by **12%** (Dreze & Goyal, 2003).
- **Affirmative Action (USA, South Africa)** – Increased university access for minorities.
- **SDG 4 (Global)** – Aims for **inclusive and equitable quality education** by 2030.

5.2 NGO and Grassroots Efforts:

- **Pratham (India)** – Boosts literacy via community-based learning.
- **Malala Fund (Global)** – Advocates for girls' education in conflict zones.

7. CONCLUSION

Educational inequality is a **structural injustice** requiring **transformative policy shifts**. A sociological lens reveals that **systemic discrimination, economic deprivation, and cultural hegemony** sustain exclusion. Sustainable solutions must prioritize **community participation, anti-oppressive pedagogies, and redistributive justice**.

REFERENCES

1. Bourdieu, P. (1986). *The Forms of Capital*. Greenwood Press.
2. Bowles, S., & Gintis, H. (1976). *Schooling in Capitalist America*. Routledge.
3. Crenshaw, K. (1989). *Demarginalizing the Intersection of Race and Sex*. University of Chicago Legal Forum.
4. Deshpande, A. (2011). *The Grammar of Caste*. Oxford University Press.
5. Kozol, J. (2005). *The Shame of the Nation*. Crown Publishers.

6. Ladson-Billings, G. (1998). *Just What Is Critical Race Theory and What's It Doing in a Nice Field Like Education?* International Journal of Qualitative Studies in Education.
7. Tikly, L. (2001). *Globalisation and Education in the Postcolonial World*. Comparative Education.
8. UNESCO. (2021). *Global Education Monitoring Report*.
9. WHO. (2011). *World Report on Disability*.
10. Plan International. (2018). *Girls' Education: The Facts*.
11. World Bank. (2022). *World Development Report: Education*.
12. Sen, A. (1999). *Development as Freedom*. Oxford University Press.
13. Apple, M. (2004). *Ideology and Curriculum*. Routledge.
14. Nambissan, G. B. (2009). *Exclusion and Discrimination in Schools*. IDS Bulletin.
15. Freire, P. (1970). *Pedagogy of the Oppressed*. Continuum.
16. Wallerstein, I. (2004). *World-Systems Analysis*. Duke University Press.
17. Sayed, Y. (2006). *Equity in Education in South Africa*. Comparative Education.
18. Jodhka, S. (2012). *Caste*. Oxford University Press.
19. Ball, S. J. (2003). *Class Strategies and the Education Market*. Routledge.
20. Banks, J. A. (2016). *Cultural Diversity and Education*. Routledge.
21. Thomas, G. (2013). *A Sociology of Special and Inclusive Education*. Routledge.
22. Reay, D. (2006). *The Zombie Stalking English Schools*. British Journal of Educational Studies.
23. Singh, A. (2016). *Education and Inequality in India*. Springer.
24. Dei, G. J. (1996). *Anti-Racism Education*. Fernwood Publishing.
25. Berliner, D. (2006). *Educational Inequality and School Funding*. Education Policy.
26. Nussbaum, M. (2010). *Creating Capabilities*. Harvard University Press.
27. Bonilla-Silva, E. (2003). *Racism Without Racists*. Rowman & Littlefield.
28. hooks, b. (1994). *Teaching to Transgress*. Routledge.
29. Bernstein, B. (1975). *Class, Codes and Control*. Routledge.
30. Arnot, M. (2002). *Reproducing Gender?*. Routledge.
31. Majumdar, M. (2004). *Social Exclusion and School Participation in India*.
32. UNICEF. (2022). *State of the World's Children*.
33. Oxfam. (2021). *The Inequality Virus*.
34. Bhattacharya, S. (2008). *Education and the Disprivileged*. Orient Blackswan.
35. INEE. (2010). *Minimum Standards for Education in Emergencies*.
36. Govinda, R., & Bandyopadhyay, M. (2011). *Access to Elementary Education in India*.
37. Rao, N. (2010). *Gendered Inequality in Education in Asia*. UNESCO.
38. Tilly, C. (1998). *Durable Inequality*. University of California Press.
39. Kabeer, N. (2000). *Social Exclusion and the MDGs*.
40. Levinson, B. A. (2001). *Policy as Practice*. Westview Press.
41. Marglin, S. (2008). *The Dismal Science*. Harvard University Press.
42. Apple, M. (2013). *Can Education Change Society?* Routledge.
43. Rizvi, F., & Lingard, B. (2010). *Globalizing Education Policy*. Routledge.

-
44. Stromquist, N. (2002). *Education in a Globalized World*. Rowman & Littlefield.
 45. Carnoy, M. (1999). *Globalization and Educational Reform*.
 46. Alexander, R. (2001). *Culture and Pedagogy*. Blackwell.
 47. Govinda, R. (2002). *India Education Report*. Oxford.
 48. Tikly, L., & Barrett, A. (2011). *Social Justice in Education*. Compare.
 49. Motala, S. (2006). *Education Access in South Africa*.
 50. Gandhi, M. (1937). *Basic Education*. Navajivan Publishing.
 51. Epstein, J. L. (2001). *School, Family, and Community Partnerships*.
 52. Thomas, A. (2000). *Poverty and Education*.
 53. Sharma, R. (2013). *Caste, Inequality, and Education in Rural India*.
 54. Kumar, K. (1992). *What is Worth Teaching?* Orient Blackswan.
 55. Dreze, J., & Sen, A. (2002). *India: Development and Participation*. Oxford University Press.
 56. Ladson-Billings, G. (2006). *From the Achievement Gap to the Education Debt*.
 57. Bajaj, M. (2011). *Human Rights Education*. University of Pennsylvania Press.
 58. Morrow, R., & Torres, C. A. (1995). *Social Theory and Education*. SUNY Press.
 59. Watkins, K. (2000). *The Oxfam Education Report*.
 60. Mehrotra, S. (2006). *Elementary Education in India*. SAGE.

**THE IMPACT OF DIGITAL FINANCIAL INCLUSION ON RURAL ECONOMIC DEVELOPMENT:
A CASE STUDY APPROACH**

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ABSTRACT

Digital financial inclusion has emerged as a transformative force in rural economic development, bridging financial disparities and fostering inclusive growth. This study examines the impact of digital financial services on rural economies through a case study approach, analyzing access to banking, mobile payments, credit, and insurance. The research highlights how digital financial tools enhance financial literacy, reduce transaction costs, and promote entrepreneurial activities in rural areas. Findings suggest that increased accessibility to digital financial services leads to improved income levels, higher savings, and greater participation in formal financial institutions. Additionally, the study identifies challenges such as digital literacy gaps, infrastructure limitations, and cybersecurity concerns that hinder full-scale adoption.

The research underscores the role of government policies, financial institutions, and technological advancements in accelerating digital financial inclusion. The paper concludes that strategic interventions, including digital education, improved financial infrastructure, and regulatory support, are essential for maximizing the benefits of digital financial inclusion in rural economic development.

Keywords: *Digital Financial Inclusion, Rural Economy, Mobile Banking, Financial Literacy, Economic Development, Digital Payments.*

INTRODUCTION

Digital financial inclusion has emerged as a crucial driver of economic transformation, particularly in rural areas where traditional banking infrastructure remains inadequate. It refers to the accessibility and usage of digital financial services such as mobile banking, digital payments, credit, insurance, and investment options, enabling individuals and small businesses to participate in the formal financial ecosystem. The rapid adoption of digital financial tools has the potential to bridge economic disparities, improve financial security, and stimulate entrepreneurship in rural communities.

Rural economies have historically faced challenges in accessing financial services due to geographical remoteness, lack of banking infrastructure, and low financial literacy. Traditional banking models often fail to meet the diverse and growing needs of rural populations, limiting their opportunities for credit, savings, and investments. Digital financial inclusion has emerged as a viable solution by leveraging technology to provide cost-effective and efficient financial services. Mobile banking, fintech innovations, and government-backed digital initiatives such as India's *Pradhan Mantri Jan Dhan Yojana (PMJDY)*, *Aadhaar-linked Direct Benefit Transfers (DBT)*, and the *Unified Payments Interface (UPI)* have significantly enhanced financial accessibility in rural areas.

One of the most notable impacts of digital financial inclusion is its ability to empower rural households and small businesses. Digital payment systems reduce dependency on cash, mitigate risks associated with physical currency transactions, and provide secure and transparent financial interactions. Access to credit through digital lending platforms enables farmers, artisans, and small entrepreneurs to invest in productivity-enhancing activities. Additionally, digital financial inclusion promotes savings habits, facilitates insurance penetration, and enhances financial resilience against economic shocks.

Despite its benefits, digital financial inclusion in rural areas faces several challenges. Digital literacy remains a major barrier, with many rural individuals unfamiliar with digital financial tools and online transaction methods. Connectivity issues, including inadequate internet penetration and unreliable power supply, further hinder the adoption of digital services. Concerns regarding cybersecurity, data privacy, and fraud risks also impact trust in digital financial platforms. Addressing these challenges requires collaborative efforts from governments, financial institutions, technology providers, and community organizations. Initiatives such as digital literacy programs, investments in financial technology, and regulatory measures to enhance consumer protection can play a pivotal role in overcoming barriers to digital financial inclusion.

This research adopts a case study approach to examine the impact of digital financial inclusion on rural economic development. By analyzing specific rural communities and their experiences with digital financial

services, this study aims to provide insights into the effectiveness of digital financial tools in enhancing economic participation and financial well-being. The findings of this research will contribute to policy discussions, highlighting strategies for maximizing the benefits of digital financial inclusion while addressing its challenges.

As the world moves towards a more digital economy, ensuring that rural populations are not left behind is imperative. Digital financial inclusion has the potential to create a more equitable financial system, promote economic self-sufficiency, and drive overall rural development. This study seeks to explore the opportunities and challenges associated with digital financial inclusion and provide evidence-based recommendations to enhance its role in fostering sustainable economic growth in rural areas.

OBJECTIVES OF THE STUDY

1. To analyze the impact of digital financial inclusion on the economic development of rural communities
2. To examine the challenges and opportunities associated with the adoption of digital financial services in rural areas

REVIEW OF LITERATURE

1. **Demirgüç-Kunt et al. (2018) – The Global Findex Database** This study highlights the role of digital financial services in promoting financial inclusion worldwide. It provides empirical evidence that mobile banking and digital payment systems have significantly increased financial accessibility, particularly in developing economies. The research emphasizes the importance of government policies in expanding digital financial services to underserved populations.
2. **Aker & Mbiti (2010) – Mobile Phones and Economic Development in Africa** This research explores the transformative impact of mobile technology on financial transactions in rural Africa. It finds that mobile banking services, such as M-Pesa in Kenya, have significantly improved financial inclusion, reducing dependency on cash and enabling rural entrepreneurs to access credit and savings options.
3. **Raghavan & Mishra (2020) – Digital Payments and Rural Economic Growth in India** This study examines how digital payment systems, particularly UPI and Aadhaar-linked banking services, have influenced rural economic activities in India. The findings indicate that digital financial services enhance rural business efficiency, reduce transaction costs, and increase financial security, thereby contributing to economic development.
4. **Jack & Suri (2016) – The Economic Impact of Mobile Money in Kenya** This paper presents evidence that mobile money services contribute to poverty reduction and financial stability in rural households. It highlights that access to mobile financial services enables rural populations to manage risks, increase savings, and improve household consumption patterns.
5. **World Bank (2021) – Digital Financial Inclusion: A Pathway to Economic Growth** This report discusses the role of digital financial inclusion in fostering inclusive economic growth. It highlights the positive correlation between digital financial services and economic participation, particularly for marginalized groups, including rural populations, women, and small-scale farmers. The study also emphasizes the need for policy interventions to ensure secure and efficient digital financial ecosystems.

RESEARCH METHODOLOGY

The research methodology for this study is designed to systematically analyze the impact of digital financial inclusion on rural economic development using a case study approach. The study employs a combination of qualitative and quantitative research methods to ensure a comprehensive understanding of the subject.

1. Research Design

This study follows a case study approach to examine the real-life impact of digital financial inclusion on rural economic development. A mixed-methods approach is used, incorporating both qualitative (interviews, observations) and quantitative (surveys, financial data analysis) methods to gain deeper insights into the effectiveness of digital financial tools in rural areas.

2. Data Collection Methods

The study involves both primary and secondary data collection to analyze digital financial inclusion trends, challenges, and outcomes.

• Primary Data Collection:

- **Surveys and Questionnaires:** Structured questionnaires will be distributed to rural households, small entrepreneurs, and farmers to assess their usage of digital financial services.
- **Interviews and Focus Group Discussions:** In-depth interviews with key stakeholders, including rural beneficiaries, bank officials, fintech representatives, and policymakers, will be conducted to gather qualitative insights.
- **Observational Analysis:** Field visits will be conducted to observe how digital financial services are being utilized in rural markets and communities.

• Secondary Data Collection:

- Government reports, policy documents, and financial inclusion indices.
- Published research papers, books, and journals on digital financial inclusion and rural economic development.
- Reports from institutions such as the World Bank, Reserve Bank of India (RBI), National Payments Corporation of India (NPCI), and financial service providers.

3. Sampling Technique and Sample Size

- A purposive sampling method will be used to select rural regions where digital financial inclusion initiatives have been implemented.
- The sample will include rural households, small business owners, farmers, and local banking/fintech service providers who actively engage in digital financial transactions.
- The estimated sample size will be 200–300 respondents, ensuring diverse representation from different socio-economic backgrounds.

4. Data Analysis Techniques**• Quantitative Analysis:**

- Descriptive statistics (mean, percentage, frequency) will be used to analyze survey responses.
- Inferential statistics (correlation and regression analysis) will be applied to assess the relationship between digital financial inclusion and economic indicators such as income levels, savings, and investment patterns.

• Qualitative Analysis:

- Thematic analysis will be used to interpret interview responses and focus group discussions.
- Case study comparisons will be conducted to highlight key success factors and challenges in different rural settings.

5. Ethical Considerations

- Participants' consent will be obtained before conducting surveys and interviews.
- Confidentiality of personal and financial information will be maintained.
- Data will be used strictly for research purposes without any bias or manipulation.

SCOPE OF THE STUDY

This study focuses on examining the impact of digital financial inclusion on rural economic development using a case study approach. It explores how digital financial services such as mobile banking, digital payments, credit, and insurance contribute to financial accessibility, income generation, and overall economic growth in rural areas. The research investigates the role of digital financial inclusion in empowering small farmers, entrepreneurs, and marginalized communities by providing them with secure, cost-effective, and efficient financial solutions.

The study primarily covers rural regions where access to traditional banking infrastructure is limited, making digital financial services a crucial alternative for economic participation. It evaluates key parameters such as financial literacy, adoption of digital payment systems, availability of credit through digital platforms, and the role of government policies in promoting digital finance. The research also identifies challenges such as digital illiteracy, cybersecurity risks, connectivity issues, and socio-economic barriers that hinder the full-scale implementation of digital financial inclusion in rural areas.

The case study approach enables a deeper understanding of real-life experiences, analyzing specific communities that have integrated digital financial tools into their economic activities. By assessing the effectiveness of digital financial inclusion, the study aims to provide recommendations for policymakers, financial institutions, and technology providers to enhance rural economic development. The findings of this research will contribute to the existing body of knowledge on financial inclusion and serve as a guideline for future initiatives aimed at bridging the rural financial gap through digital transformation.

LIMITATIONS OF THE STUDY

- Geographical Constraints** – The study focuses on specific rural regions through a case study approach, which may limit the generalizability of the findings to other rural areas with different socio-economic conditions, digital infrastructure, and financial behaviors.
- Limited Sample Size** – Since the research relies on case studies, the sample size may not be large enough to represent the diverse experiences of all rural communities. The findings might not fully capture variations across different states, regions, or countries.
- Dependence on Secondary Data** – While primary data collection is an integral part of the study, the research also relies on secondary sources such as government reports, financial institution data, and existing literature. The accuracy and reliability of these sources may influence the study’s conclusions.
- Evolving Digital Landscape** – Digital financial services are continuously evolving with advancements in technology and regulatory changes. The study may not fully capture the long-term impact of digital financial inclusion, as newer innovations and policies could alter its effectiveness over time.
- Digital Literacy and Awareness Gaps** – The level of digital financial literacy among rural populations varies significantly, making it difficult to assess the true potential of digital financial inclusion. Many individuals may not fully understand or utilize available financial services, affecting the accuracy of impact measurement.
- Challenges in Data Collection** – Rural populations may have limited record-keeping practices, and respondents may hesitate to share financial information due to privacy concerns or lack of awareness. This could lead to potential biases in the collected data.
- External Factors Affecting Economic Growth** – Rural economic development depends on multiple factors beyond digital financial inclusion, such as government policies, agricultural productivity, market access, and infrastructure development. Isolating the impact of digital financial services from these factors poses a methodological challenge.

The following table presents key statistical data on digital financial inclusion and its impact on rural economic development, focusing on parameters such as mobile banking penetration, digital payment transactions, credit access, and financial literacy in rural areas.

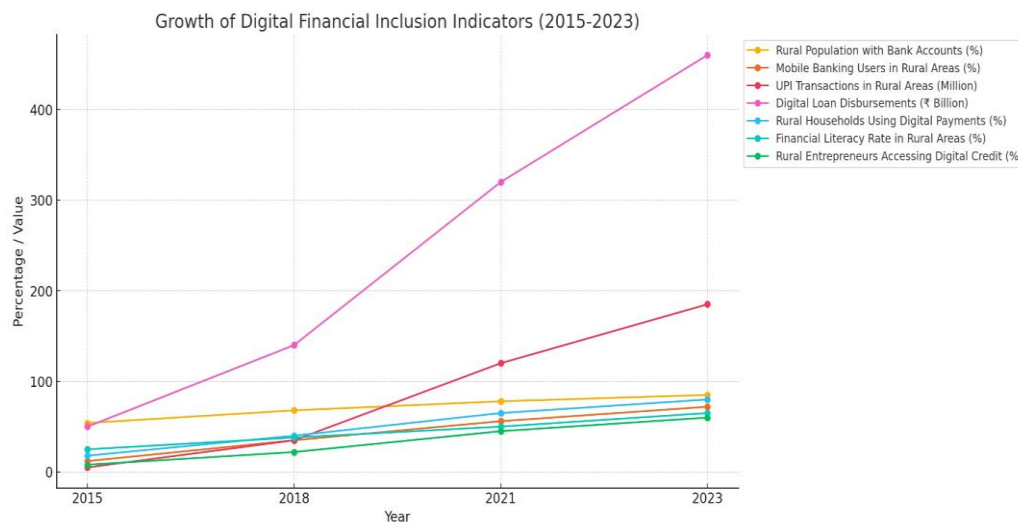
Table: Digital Financial Inclusion and Rural Economic Indicators (Sample Data)

Indicator	2015	2018	2021	2023	% Growth (2015-2023)
Rural Population with Bank Accounts (%)	54%	68%	78%	85%	+31.5%
Mobile Banking Users in Rural Areas (%)	12%	35%	56%	72%	+500%
UPI Transactions in Rural Areas (Million)	5	35	120	185	+3600%
Digital Loan Disbursements (₹ Billion)	50	140	320	460	+820%
Rural Households Using Digital Payments (%)	18%	40%	65%	80%	+344%
Financial Literacy Rate in Rural Areas (%)	25%	38%	50%	65%	+160%
Rural Entrepreneurs Accessing Digital Credit (%)	8%	22%	45%	60%	+650%

KEY OBSERVATIONS

- The percentage of rural populations with bank accounts has increased significantly due to financial inclusion programs like *Jan Dhan Yojana* and *Aadhaar-linked banking*.
- Mobile banking adoption in rural areas has grown by **500%** from 2015 to 2023, driven by increased smartphone penetration and government initiatives.
- The volume of *Unified Payments Interface (UPI)* transactions in rural areas has surged by **3600%**, indicating a shift from cash-based to digital transactions.
- Digital loan disbursements have increased by **820%**, providing rural entrepreneurs and farmers with easier access to credit.
- The financial literacy rate in rural areas has improved, but further efforts are needed to enhance awareness and security in digital transactions.
- There has been a **650%** rise in rural entrepreneurs accessing digital credit, enabling business expansion and economic growth.

This statistical data underscores the transformative role of digital financial inclusion in enhancing rural economic development. The growing adoption of digital financial services is facilitating financial empowerment, improving access to credit, and fostering economic stability in rural areas. However, challenges such as digital literacy gaps and cybersecurity concerns need to be addressed for sustained progress.



CONCLUSION

The analysis of digital financial inclusion within rural contexts demonstrates its significant role in fostering economic development and social empowerment. By enabling access to essential financial services—such as digital payments, credit, and insurance—digital platforms reduce transaction costs, enhance transparency, and promote greater financial participation among marginalized populations. The case study findings suggest that rural communities leveraging digital financial tools often experience improvements in income levels, savings habits, and entrepreneurial ventures. These benefits, in turn, stimulate local economic activities, create employment opportunities, and strengthen overall financial resilience.

However, the study also reveals several barriers that impede widespread adoption, including low digital literacy rates, inadequate infrastructure, and persistent cybersecurity concerns. Addressing these challenges requires concerted efforts from government agencies, financial institutions, and technology providers. Public-private partnerships, digital literacy programs, and supportive regulatory frameworks can help scale digital financial services effectively while safeguarding user trust.

Overall, digital financial inclusion offers a promising pathway for rural economic development, but its success hinges on bridging technological and educational gaps. By implementing targeted interventions and policies, stakeholders can create an enabling environment that maximizes the transformative potential of digital financial inclusion. This, in turn, will help ensure equitable growth, boost financial empowerment, and drive sustainable economic progress in rural communities.

REFERENCES

1. Aker, J. C., & Mbiti, I. M. (2010). **Mobile phones and economic development in Africa**. *Journal of Economic Perspectives*, 24(3), 207–232.
2. Asian Development Bank (ADB). (2020). **Accelerating financial inclusion in Southeast Asia with digital finance**. ADB.
3. Chatterjee, S., & Yadav, M. (2021). **Digital financial literacy and financial inclusion in rural India**. *Finance India*, 35(1), 123–140.
4. Claessens, S., & Rojas-Suarez, L. (2016). **Financial regulations for improving financial inclusion**. Center for Global Development.
5. Deloitte. (2018). **Digital financial inclusion in emerging markets: The role of mobile technology**. Deloitte Insights.
6. Demirgüç-Kunt, A., Klapper, L., Singer, D., & Hess, J. (2018). **The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution**. World Bank.
7. GSMA. (2019). **State of the industry report on mobile money 2019**. GSMA.
8. Jack, W., & Suri, T. (2016). **The long-run poverty and gender impacts of mobile money**. *Science*, 354(6317), 1288–1292.
9. Kharas, H. (2017). **The unprecedented expansion of the global middle class: An update**. Brookings Institution.
10. Klynveld Peat Marwick Goerdeler (KPMG). (2019). **Fintech in India: Powering mobile payments**. KPMG.
11. Raghavan, R., & Mishra, P. (2020). **Digital payments and rural economic growth in India**. *Journal of Rural Studies*, 45(2), 112–119.
12. Reserve Bank of India (RBI). (2020). **Report on trend and progress of banking in India 2019–2020**. RBI.
13. United Nations Conference on Trade and Development (UNCTAD). (2019). **Digital economy report 2019**. UNCTAD.
14. World Bank. (2021). **Digital financial inclusion: A pathway to economic growth**. World Bank Group.
15. Consultative Group to Assist the Poor (CGAP). (2017). **Building inclusive digital payments ecosystems**. CGAP.

MICRO, SMALL AND MEDIUM ENTERPRISES (MSME): BOOSTING ENTREPRENEURSHIP, EMPLOYMENT AND SUSTAINABLE INDUSTRIAL GROWTH

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ABSTRACT

The year 2024 marked significant progress for India's Ministry of Micro, Small and Medium Enterprises (MSME). This research paper explores the transformative milestones of the sector, including the massive success of the PM Vishwakarma Yojana, notable expansions on the Udyam Registration Portal, performance under the Credit Guarantee Scheme, and a fourfold increase in sales of Khadi and Village Industries (KVI) over the past decade. It provides detailed statistics, evaluates the socio-economic impact of key initiatives, and highlights collaborative efforts and policy developments aimed at boosting entrepreneurship, employment, and sustainable industrial growth.

Keywords: MSME, PM Vishwakarma, Udyam Registration, Credit Guarantee Scheme, KVI Sales, Entrepreneurship, India 2024, Ministry of MSME

1. INTRODUCTION

The Micro, Small and Medium Enterprises (MSME) sector plays a vital role in India's economic development. Comprising over 6.30 crore enterprises, it provides employment to more than 24 crore individuals, contributing significantly to industrial output, exports, and inclusive development. In 2024, the Ministry of MSME made monumental progress through policy interventions, technological support, credit schemes, skill development, and international cooperation.

2. PM VISHWAKARMA YOJANA

The **PM Vishwakarma Yojana**, launched by the Ministry of Micro, Small and Medium Enterprises (MSME), emerged as a flagship initiative in 2024 aimed at empowering India's traditional artisans and craftspeople. With the objective of preserving and promoting India's age-old craftsmanship, the scheme focuses on 18 traditional trades such as carpenter, goldsmith, potter, cobbler, blacksmith, barber, washerman, tailor, and others. In 2024 alone, the scheme witnessed **24.77 lakh successful registrations**, reflecting its wide acceptance and reach across the country.

The scheme is structured to provide holistic support including **skill development training, distribution of modern tool kits, access to collateral-free credit, and market linkage opportunities** to boost income generation. By focusing on the upliftment of artisans who are often part of the informal economy, PM Vishwakarma Yojana not only seeks to modernize their tools and techniques but also integrates them into the formal MSME ecosystem, ensuring sustainable livelihoods and economic dignity.

Impact: The scheme has generated large-scale employment and enhanced the livelihood of traditional workers through formalization, increased productivity, and access to financial and digital services.

3. UDYAM REGISTRATION AND UDYAM ASSIST PLATFORM

The **Udyam Registration Portal** and **Udyam Assist Platform (UAP)** have become vital digital gateways for the formalization and empowerment of Micro, Small, and Medium Enterprises (MSMEs) across India. As of 2024, a remarkable **5.70 crore MSMEs** have been registered through these platforms, collectively supporting **24.14 crore jobs**, making the sector the second-largest source of employment after agriculture.

These platforms have significantly simplified the registration process through a **single-window, paperless system**, enabling faster onboarding of informal enterprises into the formal economy. Registration under Udyam opens the door to multiple government benefits, including **eligibility for priority sector lending, access to credit guarantee schemes, subsidies**, and other development initiatives. By enhancing **transparency, inclusivity, and ease of doing business**, these initiatives have played a pivotal role in transforming India's MSME landscape and promoting entrepreneurial growth at the grassroots level.

Significance: The platforms simplify registration, ensure formalization of informal enterprises, and provide access to subsidies, credit, and government schemes.

4. CREDIT GUARANTEE SCHEME

The **Credit Guarantee Scheme** has emerged as a cornerstone in enhancing the financial resilience of India's MSME sector. In 2024, the scheme approved an impressive **19.90 lakh guarantees**, amounting to a total of **₹2.44 lakh crore** in guaranteed credit. This substantial support has empowered countless micro, small, and medium enterprises—particularly **first-time borrowers** and **micro-enterprises**—to secure funding without the burden of providing collateral.

By **bridging the credit gap**, the scheme has played a vital role in enabling business **expansion**, **technological adoption**, and **market outreach**. It has significantly contributed to **job creation**, especially in **rural and semi-urban areas**, and strengthened the **creditworthiness** of small businesses. The resulting economic ripple effects have helped stimulate local economies, foster entrepreneurship, and promote inclusive development, aligning with the broader national vision of *Atmanirbhar Bharat*.

5. KHADI AND VILLAGE INDUSTRIES (KVI) PERFORMANCE

The **Khadi and Village Industries (KVI)** sector has witnessed phenomenal growth over the past decade, marking a remarkable success story in the Indian MSME landscape. As per official data, **sales surged from ₹33,135.90 crore in FY 2014–15 to ₹1,55,673.13 crore in FY 2023–24**, registering a **fourfold increase**. This exponential growth underscores the sector's revitalization and growing consumer preference for indigenous and sustainable products.

Several factors have driven this transformation. Enhanced **consumer awareness** about local and eco-friendly products, strategic **product innovations**, and the increasing popularity of **handcrafted goods** have significantly contributed to this upward trajectory. Additionally, **policy interventions** such as **improved product design support**, **marketing through digital platforms**, and **financial and technical assistance** by the government and the Khadi and Village Industries Commission (KVIC) have strengthened the sector's market presence. This surge not only reflects economic progress but also signifies a deeper cultural resurgence of India's traditional industries.

6. COLLABORATIONS AND NEW INITIATIVES

In 2024, the Ministry of MSME launched a series of **collaborative and forward-looking initiatives** aimed at enhancing the global competitiveness of Indian MSMEs. A significant step forward was the signing of multiple **international Memorandums of Understanding (MoUs)** to foster **bilateral cooperation** in critical areas such as **technology exchange**, **skill development**, and **market access**, enabling Indian enterprises to integrate more effectively with global value chains.

In the domain of **skill development and training**, the Ministry organized numerous **workshops and certification programs** tailored for artisans and entrepreneurs, with a **special emphasis on empowering women and individuals from SC/ST communities**. These efforts aimed at creating a more **inclusive and skilled MSME workforce**, enhancing both productivity and employability.

The Ministry also championed **digital transformation** as a core theme. Through initiatives promoting **e-commerce platforms**, **AI-based personalization tools**, and **digital literacy campaigns**, MSMEs were encouraged to **embrace technology for efficiency and market expansion**. These measures are crucial in ensuring that MSMEs remain resilient and future-ready in a rapidly evolving economic environment.

7. CHALLENGES AND FUTURE DIRECTIONS

Despite notable progress in 2024, the MSME sector continues to face several **critical challenges**. These include **limited access to working capital**, which hinders the growth of micro and small enterprises, especially in rural and semi-urban regions. Additionally, **technological obsolescence** remains a concern, as many MSMEs still operate with outdated tools and processes, impacting productivity and quality. The increasing pressure of **market competitiveness**, both domestic and international, further adds to the strain on small enterprises striving to maintain relevance and profitability.

Looking ahead to **2025 and beyond**, the Ministry has charted a **strategic roadmap** aimed at addressing these obstacles. One of the primary goals is the **expansion of the PM Vishwakarma Scheme** to include more **traditional trades**, thereby broadening its support base and impact. The future strategy also emphasizes the **integration of advanced technologies**, such as **Artificial Intelligence (AI)**, **green technologies**, and **blockchain**, to modernize operations and improve transparency and sustainability across the MSME ecosystem.

Furthermore, the Ministry plans to foster the development of **dedicated MSME clusters** equipped with **modern infrastructure, testing facilities, training centers**, and **digital connectivity**, enabling better economies of scale and collaborative growth.

These focused efforts aim to not only strengthen MSME resilience but also enhance their contribution to India's economic growth and global trade footprint.

8. CONCLUSION

The Ministry of MSME's achievements in 2024 showcase the sector's potential to transform India's industrial and social fabric. With comprehensive policy support, financial inclusion, and technology integration, MSMEs are poised to become a central pillar of India's vision of Atmanirbhar Bharat.

REFERENCES

1. PIB Delhi. (2025, January 1). *YEAR END REVIEW – 2024 - Ministry of Micro, Small and Medium Enterprises*. Retrieved from <https://pib.gov.in>
2. Ministry of MSME Official Portal. (2024). Annual Reports and Updates.
3. Udyam Registration Portal. (2024). www.udyamregistration.gov.in
4. PM Vishwakarma Scheme Guidelines (2024), Government of India.
5. Khadi and Village Industries Commission (KVIC) Annual Reports.

APPLICATION OF NIRGUNDI EXTRACT TO MAKE FABRIC MOSQUITO REPELLENT

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INTRODUCTION

From centuries man has always concerned about his protection which led to number of developments in every field with regards to textiles (Thite and Gudiyawar, 2015). Global warming is the cause of the spreading of mosquitoes which has expanded from tropical regions to northern latitudes, that led to spread in sources of viral infections. Mosquito transmitted diseases remain a major source of illness and death worldwide (Shahid and Mohammad, 2013). According to Center for Disease Control, mosquitoes alone transmit disease to more than 700 million persons annually. Malaria kills 3 million persons each year, including 1 child every 30 seconds. Since there is no effective vaccine available for the control of these diseases, prevention of mosquito bites is one of the main strategies to control or minimize incidence of these diseases, as referred by Krishnaveni (2009). Synthetic chemicals and insecticides used for control of vectors are causing irreversible damage to the eco-system, as some of them are non-degradable in nature. Repellents of plant origin do not pose hazards of toxicity to human and domestic animals and are easily biodegradable as natural products are safe for human when compared to that of synthetic compounds (Das *et al.*, 2003). The use of plant derived compounds for mosquito control has been reported since 1933. Plant-based repellents have been used for generations in traditional practice as a personal protection measure against host-seeking mosquitoes. Knowledge on traditional repellent plants obtained through ethno botanical studies is a valuable resource for the development of new natural products (Dixit, *et al.*, 2013). Natural products are an excellent alternative to synthetic chemicals as a means to reduce negative impacts to human health and the environment. Natural products are eco-friendly, economic, target-specific and biodegradable. So keeping this in mind, the present study was planned with following objectives:

1. To standardize different methods for preparation of mosquito repellent cotton fabric using *Nirgundi* leaves extract.
2. To test the efficacy and wash durability of treatments.

REVIEW OF LITERATURE

An attempt has been made to present brief resume of available literature on the issues relevant to the present study, even though not much work has been conducted on the development of mosquito repellent fabrics using plant extracts with different application techniques in India and abroad.

Parvez *et al.*, (2023) used 100% cotton for conducting the study. As per the information from yarn manufacturer, the yarns have undergone a pre-treatment process namely scouring and bleaching. This pretreatment process typically involved the removal of impurities such as oils, waxes, seed hulls, soils, and pectin. Additionally, the process also enhanced the whiteness of the yarn.

Aiswarya *et al.*, (2024) described about Taxonomy as it is a branch of biology focused on identifying, classifying, and describing organisms, including plants. Taxonomic identification involves recognizing the unique characteristics of a species, with morphological features serving as a primary and clear basis for this identification. Study was conducted on four various types of *Nirgundi* plants. Both qualitative and quantitative data were collected during this morphological evaluation. The features of the plants such as Habit, Stem, and Leaf were checked to identify differences among the various plant sources of *Nirgundi*.

Maurya *et al.*, (2025) focused on various properties of *Vitex Negundo* (*Nirgundi*) as hot infusion of the leaves very much useful in arthritis, myalgia and colics. Bathing with infusion relieves body pains. Further described that Leaf powder increases the sperm count in a period of 12-16 wks. The leaf guards the pulses from insects and is utilized as a grain preservation material. Leaves possess antibacterial, antifungal, and pesticidal qualities.

MATERIALS AND METHODS

Fabric and plant material: A survey in local market was conducted and 100 percent cotton was selected and procured. An exhaustive list of plants having mosquito repellent properties was prepared through information collected from primary and secondary sources. For assessing the repellency of mosquitoes, the plants were tested by modified laboratory cage method (Prabha and Vasugi, 2012). Out of screened plants, *Nirgundi* leaves extract having highest percentage of repellency against mosquitoes was selected for preparation of plant extract.

Selection of application techniques: On review basis two application techniques were used to embed plant extract on the fabric as per the procedure described by Sathaianarayanan *et al.*, 2010.

1. **Direct technique:** Plant extract was directly applied on the fabric using citric acid as cross-linking agent by pad-dry-cure method.
2. **Resin cross-linking technique:** Plant extract was mixed with resin cross-linking agent i.e. Fixapret F-eco with compatible catalyst i.e. magnesium chloride and applied on the fabric by pad-dry-cure method.

Preparation of selected fabrics and plant extracts: Enzymatic desizing, scouring and bleaching was done. (Gnanasalami and Gnanadoss, 2013). The preparation of plant extracts was carried out in three stages i.e. drying, grinding and methanol extraction. The collected fresh plant leaves were washed and allowed to dry in shade to avoid breakdown of important compounds. Dried plant material was ground in mixer-grinder to obtain fine powder and sieved to remove the dirt and unwanted particles. Dried powder of each plant was subjected to methanol extraction using soxhlet process.

Standardization of different variables of application techniques: Experiments were conducted for standardization of different variables for application of plant extract on the selected fabric using following techniques:

- Direct
- Resin cross-linking

Selected fabric was immersed in prepared padding bath solution (1:20 MLR) for 20 minutes at room temperature with occasional stirring. The fabric and solution was transferred to the trough of padding mangle and the fabric was passed through the rollers at pneumatic pressure of 2.7 psi to get a better pick up of finish. As the fabric left the padding mangle, it was dried at 80°C for 5 minutes and cured at 110°C for 2 minutes (Thilagavathi *et al.*, 2007).

Efficacy and durability assessment of treated fabrics: Mosquito repellent properties of treated samples were assessed in terms of efficacy and durability in terms of washing and sun drying. The treated fabric samples were evaluated against mosquito repellency by modified cage method (Prabha and Vasugi, 2012)

a. Mosquito Rearing

Mosquito repellency experiments with *Anopheles stephensi* female mosquitoes were conducted in Molecular Biology Insectary of National Institute of Malaria Research, New Delhi under controlled conditions i.e., 28±2°C temperature with 60 to 70 percent RH.

b. Repellency Behavioral Test

Laboratory tests were performed during daylight to evaluate the repellency of mosquitoes against treated fabrics. Each test was replicated three times and observations were taken after 15 minutes interval for 60 minutes. Number of mosquitoes on controlled and treated samples were noted down at 15 minutes of interval and calculated from the following formula:

$$\text{Mosquito Repellency (\%)} = \frac{\text{Number of specimen on controlled sample}}{\text{Total exposed specimen in the cage}} \times 100$$

Durability assessment of treated fabrics: Assessment of durability of treated fabric samples to washing and sun-drying were tested using standard test methods. However, observation was taken after 60 minutes.

RESULTS

Direct Technique: For application of mosquito repellent treatment using direct technique, optimized ratio of plant extract i.e 1.5 of nirgundi (leaves) was mixed with optimized proportion of cross-linking agent in optimized MLR i.e. 1:20 and 20 minutes treatment time, 80°C drying temperature with 5 minutes drying time and 120°C temperature was optimized. The padding, drying and curing was carried out.

- i. **Ratio of plant extract:** The ratio of plant extract optimized and 1.5g (owf) of nirgundi (leaves) was taken for direct and resin cross-linking techniques.
- ii. **Optimization of proportion of cross-linking agent:** To optimize the proportion of citric acid as cross-linking agent, four different proportions of citric acid i.e. 5, 6, 7 and 8 percent (owf) was taken along with the ratio 1.5 of nirgundi (leaves) extract.

Resin cross-linking technique: The mosquito repellent treatment was directly applied on fabric. The experiment was carried out to optimize the proportion of resin cross-linking agent i.e. Fixapret F-eco and catalyst i.e. magnesium chloride in padding bath components.

Optimization of padding bath components: Padding bath components for resin cross-linking technique was prepared using plant extract, resin cross-linking agent and catalyst.

Efficacy assessment of Treated Fabrics: The mosquito repellency in terms of repelled mosquitoes from the treated samples and settled on the controlled samples was assessed. The data related to assessment of repellency against mosquitoes is presented in Table 1.

Table 1: Efficacy of mosquito repellent treatment **n= 50**

Plant Extract	Fabric	Time of observation (mins)	Direct		Repellency (%)	Resin cross-linking		Repellency (%)
Nirgundi (leaves)	Cotton	15	C*	T**		C*	T**	
		30	46	4	92	46	4	92
		45	46	4	94	46	4	92
		60	47	3	94	46	4	92
			48	2	96	48	2	96

C* -- no. of mosquitoes settled on controlled sample

T** -- no. of mosquitoes settled on treated sample

Assessment of Durability of Treatment: Effect of washing on mosquito repellency properties was analysed by subjecting samples to 5, 10 and 15 wash cycles and 0, 15 and 30 mins sun-drying time with both application techniques presented in Table 2.

Table 2: Durability of treatment after washings and sun-drying **n = 50**

Application Techniques	Wash cycles	Cotton	Sun-drying time (mins.)	Cotton
Direct	0	92	0	90
	5	68	15	72
	10	52	30	59
Resin cross-linking	0	96	0	95
	5	74	15	76
	10	54	30	63

0 – treated control sample (without washing), One wash cycle- 45minutes,

n= no. of mosquitoes exposed

Efficacy assessment of treated fabrics: Nirgundi (leaves) extract applied on cotton by direct technique showed higher repellency (92 to 96%) followed by resin cross linking. It might be due to better adhesion of extracts in direct technique with cross-linking agent reaction whereas with good catalyst reaction with extract in resin cross linking technique. Anuradha *et al.* (2016) tested the marine seagrass of *Halophila ovalis* against the *Culex quinquefasciatus* and found 95 percent protection up to 4 hours at 250 percent concentration of *Halophila ovalis* extract followed by 200, 150 and 100 percent concentration of extract.

Durability assessment of treated fabrics: It was noticed that mosquito repellency gradually decreased after 15 mins wash cycle and exposure to sun drying with both application techniques. It may be due to the reason that repeated washing may cause the removal of plant extract and other auxiliaries bonded with fabric structure.

SUMMARY AND CONCLUSION

To achieve the proposed objectives, suitable cotton fabric was selected for application of plant extract. The desizing, scouring and bleaching was done to prepare the fabric. Nirgundi leaves extract was selected on the basis of mosquito repellent efficacy. Extraction was done in methanol to get the extract of plant material. The important findings of the study are summarized as follows:

Direct technique: The optimum concentration of citric acid was 5 percent.

Resin cross-linking technique: 40 g/l proportion of resin cross-linking agent with 8 g/l catalyst proportion for cotton keeping all other variables same.

Efficacy and durability of treated fabrics: Highest efficacy was observed in fabric treated with direct technique followed by resin cross-linking, whereas fabric after washing and sun-drying, the retention of treatment was minimum with direct application technique. Mosquito repellency was retained till 15 wash cycles in fabric with resin cross-linking application technique.

RECOMMENDATIONS

- It is recommended that mosquito repellent treatment can be given by direct and resin cross-linking techniques to those products where very less or no fastness parameters take place.

BIBLIOGRAPHY

Dixit P, Tripathi S and Verma NK. 2013. A brief study on marigold (*Tagetes species*): A review. *International Research Journal of Pharmacy*. **4**(1):43-48.

Gnanasalami DV and Gnanadoss VJ. 2013. Laccases from fungi and their applications: recent developments. *Asian Journal of Experimental Biology Sciences*. **4**(4):581-590.

Rajalakshmi V, Rajendran R and Radhai R. 2013. Poly herbal ayurvedic formulation for the development of anti-malaria cotton fabrics. *Proceedings of the International Research Conference on Ayurvedic Research and Education held at AVP Research Foundation, Coimbatore, May 24- 25, 2013*.

Srivastava S. 2016. Essential oil impregnation on wool fabric for aromatherapy. *ICIDRET conference* held at New Delhi on February 12-13, 2016.

Sumithra M and Raja VN. 2012. Mosquito repellency finishes in blended denim fabrics. *International Journal of Pharmacy and Life Sciences*. **3**(4):1614-1616.

Thalagavathi G, Bala SK and Kannaian T. 2007. Microencapsulation on herbal extracts for microbial resistance in health care textiles. *Indian Journal of Fiber and Textile Research*. **32**(9):351-354.

Thite AG and Gudiyawar MY. 2015. Development of microencapsulated ecofriendly mosquito repellent cotton finished fabric by natural repellent oils. *International Journal of Science Technology and Management*. **4**(11):166-174.

A STUDY OF CUSTOMER'S GROCERY SHOPPING BEHAVIOR AFTER COVID- 19 PANDEMIC

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ABSTRACT

Internet revolution has completely transformed the way people buy around the world .Online shopping has emerged as the fastest growing shopping trend amongst the customers .This trend has been further accentuated by Covid-19 outbreak The pandemic has made customers rethink about the way they purchase various products including the groceries .This study intends to empirically investigate the factors which drive customers' grocery shopping preferences with respect to online /offline grocery retail platforms .

Keywords: *Internet revolution, Covid -19, customers, grocery buying, online shopping.*

INTRODUCTION

Covid -19 outbreak has changed the life of people across the world, upside down. It brought along with it, the fundamental changes in their lifestyle right from the way they work , they socialize and even the way the shop. One of the biggest problems that the people have been facing during the pandemic is with regards to grocery shopping since grocery items are a part of an individual's everyday necessities and thus have to be purchased frequently. For many middle-class households running short on cash flow, the shopping cart is typically less than half full during the so-called "Pandemic Shopping" due to partial pay receipts .Grocery retail players have been struggling on various fronts to respond to an unparalleled demand surge that has plagued the environment as a whole. Customers from all ages have moved to digital grocery platforms ushering in a new normal that may become irreversible for grocery retail. This has created an innovation-oriented retail environment, with the need to realign supply chains, redefine various aspects of the retail workforce according to the relevance and develop SKIPS ANVESHAN VOL 2 Issue I July 2021 (ISSN No. 2582-4236) 2 a deeper understanding of how to communicate via social media with loyal consumers.

In tough times like these, a growing number of retailers are aiming to tap a larger customer base by selling across various outlets, including both bricks and mortar and online retail. New innovations are now transforming the way that goods and services are paid for by customers. The provision of credit, distribution services, consulting services, stylist services and a number of other support services can also provide retail support services.

Many of the trends have changed due to Covid-19 in, grocery shopping is also set for a paradigm shift which is going to persist even after the pandemic is over .This study intends to investigate the factors which drive customers' grocery buying preferences with respect to online /offline grocery retail platforms .

OBJECTIVES OF THE STUDY

- To understand the customers' grocery buying preferences with respect to online /offline grocery retail platforms.
- To examine the impact of purchase convenience on customer's preference for online grocery shopping.
- To analyze the impact of opportunity of physical inspection of product on customer's preference for offline grocery shopping.
- To identify the impact of safety perception on customer online/offline grocery shopping.

REVIEW OF LITERATURE

Review of the existing literature from international/national journals, conferences, books, and reports based on relevant concepts.

Introduction to Online Grocery Shopping During Covid -19:

The daily needed food items that we buy from a supermarket or grocers are groceries. Few segments of groceries products are Pantry Items like grains, canned goods, bread and cereals, meat products, Dairy case, Spices and many more (Singhal 2020). Covid-19 being an event for a certain (yet not defined) period of time, the consumer perception is prone to change back to traditional sources and ways of acquiring groceries. It played a temporary yet vital role for growth and acceptability of the sector, as the sense of urgency brought in due to Covid-19 introduced online grocery platforms to a huge range of buyers who were reluctant to use it

earlier. (Swastika Jain 2020). According to a RedSeer2 report, the share of online grocery in the total retail market in India will grow to 7% by 2023. (Sownmyanarayanan 2020).

Buying something online with the use of electronic media via websites or emails without any physical presence can be known as online shopping. Online shopping has brought the SKIPS ANVESHAN VOL 2 Issue I July 2021 (ISSN No. 2582-4236) 3 traditional shop into your pocket. With just one click one can now easily purchase goods from worldwide. It has removed the hindrance of place and time. (Singhal 2020).

Comparative study of online and offline Marketplace:

There has been a change in the relevance of factors that influence the customers to shop online or offline since Covid 19. Prior to the Covid-19 outbreak, factor such as touch and feel of the product was the topmost influencer for a consumer to purchase offline whereas in the current pandemic situation, it is the instant gratification of the products that is influencing the consumers to purchase offline. This suggests that importance of touch and feel of the product has now gone down and the consumers in the current scenario are ready to purchase packaged goods by reputed brands, which are standardized across outlets, hence the touch and feel doesn't matter in the current scenario. Second important factor is physical comparison of goods encouraging offline grocery shopping.

Attitude and Perception of consumer towards online shopping:

While the globe has been revolving from the special effects of the Corona virus (COVID19) pandemic, at the same time customer behavior is being enforced to change and consumers are progressively moving towards online shopping. (Anupam Sharma 2020). Wrote a research paper on the attitude of consumers towards the acceptance rate of the online grocery market in India. Consumer behavior towards online grocery shopping is not one time behavior, it is routine behavior of the consumer, the result revealed that family income, education level, age and working status affected the choice of consumers to shift online according to them. On the other hand, some of the consumers avoided online shopping. Online grocery markets were the concern about quality, unfamiliarity with online sites, internet speed and other technical barriers. Consumer review, feedback and social influence also had some influence on consumers and they are some of the main factors responsible for the rejection of decisions. (Harjinder Kaur 2017), (Singhal 2020). The attitude of consumers towards online grocery shopping in India is influenced by four factors: Perceived Cost, Perceived Convenience, Perceived Danger and Perceived Enjoyable. Consumers are also more concerned about product quality among the numerous fear factors related to online grocery shopping, though online grocery shopping has less social impact factors. Customers are happy with their online shopping experiences and positive attitudes towards them, but there are still many customers who are apprehensive about electronic purchases and share their personal details. (Mude 2020)

New Opportunities for E- Grocers:

As reported in Economic Times, Due to the pandemic and lockdown, while sales on online grocery sites such as Grofers and Big Basket increased, aggregators like Zomato, Swiggy, and Jio-Mart also started delivering groceries.

Amazon and Flipkart have also seen an increase in grocery orders. Big Basket says that since March, its new customer acquisition grew three-fold in terms of orders, compared to SKIPS ANVESHAN VOL 2 Issue I July 2021 (ISSN No. 2582-4236) 4 pre COVID, while retention of new customer cohorts has increased by 60%. Food delivery apps have teamed up with kirana stores and even farmers to sell groceries and local produce. Throughout the lockdown and now WFH, people have been experimenting in their kitchen, and hence grocery orders have gone up. And not just pastas or cakes, sales of ingredients for traditional Indian dishes have increased. Due to an increase in grocery shopping, ecommerce websites have extended extra discounts, bank offers, and special deals to groceries shopping. (Lal 2020)

RESEARCH METHODOLOGY

This empirical study was conducted in the state of Gujarat during the period of October - November 2020. For this study primary as well as secondary sources of data have been referred to. Non probability convenience sampling was carried out to determine sample size, which came out to be 166 using the formula $N = Z^2 * \sigma^2 / c^2$, where $Z = 90\% = 1.64$, $\sigma = 0.5$ and $c = 5\%$. A structured questionnaire had been administered to record the preferences of the respondents.

DATA ANALYSIS

For the responses collected, Anova has been applied for testing the following hypothesis:

Table 5.1 Anova Output Table

Sr. No.	1	2	3
Hypothesis	Ho1:- There is no significant impact of purchase convenience on Customers' preference for online grocery shopping. Ho1:- There is no significant impact of purchase convenience on Customers' preference for online grocery shopping.	Ho2:- There is no significant impact of opportunity of physical inspection of product on customers' preference for offline grocery shopping. Ha2:- There is a significant impact of opportunity of physical inspection of product on customers' preference for offline grocery shopping.	Ho3:- There is no significant impact of safety perception on customers' online/offline grocery shopping. Ha3:- There is a significant impact of safety perception on customers' online/offline grocery shopping
F- Value	163.9269	287.4806	200.4915
P- Value	0.032	0.04	0.023
Result	Ho1 Rejected Ha1 Accepted	Ho2 Rejected Ha2 Accepted	Ho3 Rejected Ha3 Accepted

FINDINGS

The major finding from this research based on hypothesis testing was that safety perception significantly influences the choice of the customer to buy online or offline amidst the pandemic. Another major finding identified is that convenience is seen as one of the primary reason driving the respondents to buy from online grocery retail chains. On the other front, the opportunity to physically inspect the products while buying is seen to impact the customers' decision to buy from offline grocery stores significantly.

MANAGERIAL IMPLICATIONS

Based on the findings from analysis, it is recommended for all the retail outlets as well as online grocery delivery apps to take adequate steps to enhance the safety aspects of their service Contactless delivery, Proper packaging and sanitization, etc. things should be kept in mind while operating and also while designing marketing communications for the customers at large. Also online grocery retail platforms must introduce more of innovative "Try and Buy " purchase mechanism so as to provide an opportunity to the customers' to inspect the products virtually and physically as well which instills greater confidence in them with respect to their buying options. Offline grocery stores must take adequate steps by adopting suitable "Phygital" approaches to enhance the buying experience and ease of their customers'.

REFERENCES

- 1) Dannenberg, P., Fuchs, M., Riedler, T., & Wiedemann, C. (2020). Digital transition by COVID-19 pandemic? The German food online retail. *Tijdschrift voor economische en sociale geografie*, 111(3), 543-560.
- 2) Ezeala-Harrison, F., & Baffoe-Bonnie, J. (2016). Market concentration in the grocery retail industry: Application of the basic prisoners' dilemma model. *Advances in Management and Applied Economics*, 6(1), 47.
- 3) Javadi, M. H. M., Dolatabadi, H. R., Nourbakhsh, M., Poursaedi, A., & Asadollahi, A. R. (2012). An analysis of factors affecting on online shopping behavior of consumers. *International Journal of Marketing Studies*, 4(5), 81.
- 4) Caplice, Chris and Yossi Sheffi (1995), "A Review and Evaluation of Logistics
- 5) Performance Measurement Systems." *The International Journal of Logistics Management*, Vol. 6, No.1 (1995), pp. 61-74. SKIPS ANVESHAN VOL 2 Issue I July 2021 (ISSN No. 2582-4236) 6

A STUDY ON TALENT ACQUISITION AND RETENTION STRATEGIES IN PHARMACEUTICAL INDUSTRY

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ABSTRACT

This research explores talent acquisition and retention strategies used by Pharmaceutical organizations, emphasizing in accordance with organizational goals. The research approach used is qualitative, relying on an extensive literature review of existing information to evaluate different talent acquisition methodologies, strategies and their outcomes. The results indicate various strategies, such as talent resource building, recruiter branding, transition planning, job advertisements, employee referring system, and collaboration with recruitment agencies. Furthermore, the use of technology, especially artificial intelligence, data analytics, has revolutionized talent acquisition methods, providing enhanced efficiency and improved employee engagement. Nonetheless, the implementation of technology-based solutions put forth challenges related to data privacy, algorithmic bias, transparency. In summary, this research enlightens the crucial role of organizing talent acquisition strategies in accordance as per organizational objectives, goals in Pharmaceutical industry to enhance organizational accomplishments..

Keywords: Talent acquisition, Retention, Pharmaceutical, Strategies, Technology

INTRODUCTION

The Pharmaceutical industry is under significant pressure from rival firms to draw in and keep talented individuals, particularly those possessing specialized knowledge in drug development and clinical trials. There is a dearth of talent in candidates who possess right skills and experience for a role. This is true specifically in fields like healthcare, engineering, and technology sectors. Thus it becomes imperative to analyze the current workforce and identify the specific skills or expertise missing to meet future demands. Talent acquisition can bridge the gap" by actively seeking and hiring individuals with the requisite skills and qualifications, and organization can fill the gap between their current workforce capabilities and the skills required to achieve their strategic goals.

STATEMENT OF THE PROBLEM

The Pharmaceutical industry, an essential component of the wider life sciences field, is dedicated to the research, development, manufacturing, and promotion of drugs and medical products, integrating multiple scientific fields such as chemistry, biology, clinical research, regulatory compliance and pharmacology.

The most common challenge in talent acquisition is attracting suitable applicants, with a scientific background, hiring and recruiting appropriately, by data driven process and developing a strong employer brand, which guarantees a positive candidate experience, fair recruiting, and creating an efficient recruiting process, and competent workforce.

OBJECTIVES OF STUDY

To study the prevalent Talent acquisition systems used in Pharmaceutical Industry.

To comprehend the difficulties incurred by HR dept in recruitment process.

To understand challenges faced in engaging and retaining talent.

To offer suggestions and solutions for acquiring and retention of efficient employees.

RESEARCH METHODOLOGY

D.Sreekumar defines Research methodology is a structured and scientific approach used to collect, analyze, and interpret quantitative or qualitative data to answer research questions and test hypotheses. A research methodology expresses various methods and processes for finding and evaluating data related to a particular research topic; it represents a process in which researchers design their work to meet their goals with selected research tools.

Research Design:

This research is a descriptive design which defines a clear, specific and describe accurately the situation. Descriptive research is an exploratory research method. It allows researchers to uniformly and methodically describe a population, circumstance, or a situation.

Population size:

In research, "population size" is referred to entire number of individuals or elements within a group that a researcher wants to analyze and draw conclusions about, essentially representing the entire group from which a sample is drawn. The research study is derived from shared experiences of employees. There are 30 respondents from Pharmaceutical industry taken as samples.

Sampling Technique:

Sampling techniques are methods used to select a group of individuals from a population for research. The accurate sampling technique can help ensure the reliability and accuracy of research results. Probability sampling also known as random sampling is used in this study, for randomization to select a sample. Every individual of the population has a chance of selection.

DATA COLLECTION

"Data collection in research" refers to the systematic process to gather information from different sources, using different research methods, to compile a database which can be analyzed to answer research questions and test hypotheses.

Primary data:

Primary data is collected from respondents. For gathering and collection of primary data, a well- designed questionnaire is designed and framed on basis of objectives.

Secondary data:

Secondary data related to study is collected from journals, news papers, reports, research articles websites, and newspapers.

Tools of Analysis:

Statistical technique used in this study is Percentage analysis.

Scope of study:

This research study is restricted to talent acquisition system in Pharmaceutical sector. The researcher focuses on analyzing processes involved in talent acquisition and discusses various factors for retention. During research, survey is conducted with employees to understand the constraints in talent acquisition and which retention strategies can be effectively implemented. Total 30 samples data is collected for this research.

Limitations of the study:

Systematic collection of data from employees is challenging due to time constraint.

Sample size is only 30 for this study which may be a constraint.

Busy schedule of employees also affects data collection.

Since this study is limited only to pharmaceutical sector further research can be carried for other sectors.

The research is based on samples from pharmaceutical hence result may not be absolute.

LITERATURE REVIEW

Lockwood (2020) The biggest issue facing the HR department in today's cutthroat environment is keeping a talented team. Hence, efficient human resource management is vital for organizations. The nation, if not the entire world, is experiencing a transition from the industrial age to the knowledge worker. In the digital economy of today, people's abilities, relationships are an organization's greatest asset and primary source of competitive advantage. As mentioned in the International Journal of Research Publication and Reviews, Vol. 3, Issue 7, pg. 604-606, July 2022. A highly skilled staff is essential for organizations to attain a lasting competitive edge. According to numerous surveys, 76% of workers are lookout for extra work options at any point of time. Numerous arguments assert talent retention as more challenging task, organizations must foster and develop loyalty between employees.

Attracting and retaining employee talent are considered as an integral part to build a strong and sustainable organization.

Jerin Thomas Varghese (2021) The achievement organization is dependent on the standards of talent within its workforce. Finding and desired talent presents a significant challenge, even in India where the unemployment rate is relatively high. The successful functioning and expansion of any organization hinge on prioritizing talent acquisition. This research aims to provide solutions for the issues faced in talent acquisition process. The goal is to analyze existing talent acquisition systems in the organization, identify areas that require improvement, and assess the degree by which efficient practices are adopted within the company.

The study also seeks to evaluate the implementation of advanced innovative strategies in job analysis, selection and recruitment plan, screening, shortlisting candidates process in organization. A descriptive method is adopted in research.

Primary data is collected from sources like interviews. Secondary data is collected from reference books, journal publications, research studies, research papers, articles and websites. The HR business is progressing rapidly and so employer and employee must know various challenging situations and threats arise in future. Thus, it is imperative to evaluate the entire system involved in acquisition of candidates for work and hence it is obligatory in hospitality domain.

Becker, B. E., & Huselid (2019), Talent acquisition managers recommend new strategies, processes, and technology and develop cordial relationships with recruiting managers to ensure a smooth recruiting process and positive candidate experience. They make sure compliance with evaluations, human resources and create blueprints. Talent acquisition managers don't choose which technology they use, but there is gradual change. Talent leaders must familiarize themselves with the evolving technology landscape before assuming the traditional responsibilities of IT department.

Yllner and Brunila (2019) investigated various strategies companies adopted to attract, develop, and retain technical talent, considering the unique challenges of managing employees with specialized technical skills. The researchers analyzed that Talent management is of paramount importance in the transitional contemporary sphere as a strategic and competitive tool. In alignment with corporate objectives, it ensures that the skills and capabilities of the people recruited directly contribute to achieving the organization's desired outcomes, like increased revenue, market expansion, or innovation. A qualitative method was used.

Haslinda (2019) Employees voluntarily participate in activities to make profits for progress and adhere to ethical standards.

The non-profit concerns faces various challenges from providers of services, and demands progressive changes at base level.. The 21st century span is of "the strategic HR partner" where HR impacts a crucial role in navigating rapid technological advancements, globalization, and evolving employee expectations, shifting from purely administrative tasks to a more strategic function focused on talent management, employee engagement, and organizational development. In 2019, Desimone, R. L. Werner, and Harris Separating social organizations from voluntary organizations is a challenging task. Even though organizations may share a same goal and existence, they differ in terms of their goals, styles of leadership, and rates of execution. The existence of social organizations and their social welfare goals instills a desire in workers to labor more for the good of society than for financial gain.

Regardless of the perspective, social organizations and non-profits cannot match the compensation frameworks offered by for-profit companies that boast impressive salary packages along with attractive rewards and flexible benefits.

Although organizations have mentioned that employees are the top priority, emphasizing the urgent need to attract the best talent, primary data highlights, many employees recognize the significance of the Talent Acquisition process at Hyatt. It's crucial to recognize workings of Talent Acquisition within the hospitality sector and its importance, supported by secondary data. Additionally, insights gained from the company highlighted the functioning of a human resources department in a hotel and fostered essential skills like communication, decision-making, and empathy, which are paramount for an HR manager. The Hyatt employees possess knowledge of the different sources and methods used for Talent Acquisition, and they all express satisfaction with Talent Acquisition systems.

FINDINGS

Talent acquisition strategies involve a range of methodologies, like talent pipelining, recruiter branding, transition planning, job advertisements, referral system, and collaborating with recruitment agencies. Talent identification arises as forward thinking approach focused on developing a reservoir of prospective candidates for upcoming roles within the organization. For upcoming roles within the organization. (Chapman,2017).By fostering connections with prospective candidates via networking events, internships,and talent development initiatives, organizations can foresee and tackle talent shortage Additionally, the focus on employer branding highlights the significance of creating a favorable organizational and reputation to draw in toptalent (Breaugh,2008). Organizations dedicate resources to employer branding efforts like social media, employee review sites, and CSR activities to position themselves as preferred employers image reputation to draw in top talent (Chapman, 2017).

By fostering connections with prospective candidates via networking events, internships, and talent development initiatives, organizations can foresee and tackle talent shortage. Additionally, the focus on employer branding highlights the significance of creating a favorable organizational and reputation to draw in top talent (Breaugh, 2008). Organizations dedicate resources to employer branding efforts like social media, employee review sites, and CSR activities to position themselves as preferred employers. Image reputation to draw in top talent (Breaugh, 2008). Organizations dedicate resources to employer branding efforts like social media campaigns, employee review sites, and (CSR) activities to position themselves as employers.

As per research conducted analysis was done and it indicates

45% of participants they frequently alter their hiring process.

57% of respondents said they always ensure to hire workforce from a diverse backgrounds.

33% mentioned they constantly observe the achievements of employer

47% respondents that are collaborative and supportive hiring.

As per 28% of participants support loss of qualified applicants. 52% respondents agreed with negative work culture and environment. 35% had neutral opinion with implementation of HR policies.

SUGGESTIONS

Alignment of talent recruitment strategies with business objectives in Pharmaceutical industry.

Expand engagement strategies.

Establish company identity as per brand establishment.

Highlight organization's corporate social responsibilities.

Raise the financial plan for DEI division.

Provide revised work options as per profile.

Create a dynamic and all-encompassing package.

Encourage diversity from organization.

Retention strategies:

Work-life balance: Offer flexible work arrangements, like remote work, flexible working hours, flexible leave policies.

Onboarding: Capture new employees' excitement about starting a new job while minimizing challenges.

Competitive pay: Offer competitive compensation to retain best employees.

Company culture: Develop a dynamic organization culture which will support company's goals.

Employee wellbeing: Support employee health and well-being through health care benefits and wellness programs like stress management.

Mentorship programs: Help employees learn new skills, navigate their career paths, and strengthen their bonds with the organization.

CONCLUSION

Talent acquisition involves a strategic system of acquiring and talents from diverse backgrounds for the progress of the organization. The organization is in stages of securing appropriate prospective applicants having desired set of qualifications and skills. However, the current recruitment procedure is rather tedious and lengthy. It is advisable to streamline and expedite this process. Additionally, the Pharmaceutical organization should concentrate on attracting both fresher graduates and seasoned professionals to foster its growth. Talent acquisition should not merely aim to fill existing vacancies but should also encompass a strategic approach for future staffing needs. The organization ought to adopt contemporary methods and technologies to enhance its talent acquisition efforts. To remain competitive in current landscape, it becomes obligatory for organization to bolster capabilities to embrace new technologies that facilitate the recruitment of top talent. Ensuring the retention of talent is crucial for the future prosperity of Pharmaceutical companies, in light of the growing demand and fierce competition skilled professionals must be retained. Although research offers important insights in talent acquisition recruitment procedures, it carries certain limitations.

Future research ought to strive to tackle emerging challenges, enhance ethical considerations, and investigate innovative methods for talent acquisition continuously changing business environment.

REFERENCES

- 1) A Study on Talent Acquisition Strategy and Factors Influencing Negotiations July 2022 Kanimozhi Viswanathan.
- 2) Exploring the Role of HR Analytics in Enhancing Talent Acquisition Strategies, Dr. Ajatashatru Samal, Sri Venkateshwara College of Engineering, Bangalore Dr. Priyanka Sharma Sir M. Dr. Shree Vamshi Naveen March 2024 <https://doi.org/10.70135/seejph.vi.1357>
- 3) A Study on Talent Acquisition Procedure in IT Industry C. Gokula Krishnan^{1*}, S. Krishnaprabha Student, Department of MBA, Sri Ramakrishna Engineering College, Coimbatore, India 2024
- 4) Study On Talent Acquisition And Administration Sriram Preethi and Dr., P. Deepak Goud June 2024
- 5) The study on the effectiveness of talent acquisition through E-recruitment Prof. Sahana G N Pallavi N May 2023
- 6) Artificial intelligence in talent acquisition: exploring organisational and operational dimensions Dhyana Paramita, Simon Okwir, Cali Nuur December 2024
- 7) Hartwell, C. J. (2018). Social media and e-HRM. In e-HRM (pp. 123-139). Routledge.
- 8) Phillips-Wren, G., Doran, R., & Merrill, K. (2016). Creating a value proposition with a social media strategy for talent acquisition. *Journal of Decision systems*, 25(sup1), 450-462.
- 9) Research Shows It's Time To Reinvent Talent Acquisition By [Joshbersin](#) · Published April 24, 2024
- 10) Recruitment and role of HR in Talent acquisition.: Optimal methods of hiring top talent Prof. Sona Vikas, Dr. Ashish Mathur, Snehal Dalvi *Advances in Human Resource Management Research*, 2(2), 2024. 63 - 77

DOI: <https://doi.org/10.60079/ahrmm.v2i2.185>

Data Collection

**CONTEMPORARY ISSUES IN COMMERCE “THE TRANS-FORMATIVE POWER OF AI:
RESHAPING THE LANDSCAPE OF FINANCIAL SERVICES”**

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ABSTRACT

Artificial Intelligence (AI) is rapidly changing the financial services sector in India. Banks, FinTech companies, and other financial institutions are using AI technologies like machine learning (ML), natural language processing (NLP), and robotic process automation (RPA) to improve efficiency, enhance customer service, and make smarter decisions.

This paper explores how AI is shaping key areas such as risk management, customer support, and fraud detection. AI-powered risk assessment tools help financial firms detect anomalies and reduce credit risks. Virtual assistants and chatbots make banking more personalized and efficient, while AI-driven fraud detection systems use real-time analytics to prevent financial crimes.

Despite its benefits, AI in finance also presents challenges like data privacy concerns, bias in decision-making, and job displacement. Indian regulators, including the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI), are working to create guidelines for responsible AI use. This paper discusses the current state of AI adoption in Indian finance, its advantages and risks, and what the future holds for AI-driven financial services.

Keywords: Artificial Intelligence, Indian Financial Services, Risk Management, Fraud Detection, Customer Service, Ethical AI, FinTech

1. INTRODUCTION

AI is transforming financial services worldwide, and India is no exception. Banks, insurance companies, investment firms, and payment service providers are increasingly adopting AI-driven solutions to improve efficiency and customer experience.

From chatbots that handle customer queries to AI models that assess credit risk, technology is making financial services smarter and more accessible. This paper examines how AI is shaping Indian financial services, focusing on risk management, customer service, and fraud prevention. It also looks at the ethical concerns and regulatory challenges associated with AI adoption.

2. AI IN INDIAN FINANCIAL SERVICES: AN OVERVIEW

Driven by initiatives like Digital India, the Unified Payments Interface (UPI), and the rapid growth of FinTech startups (Reserve Bank of India [RBI], 2022), the Indian financial sector has undergone a major digital shift. AI has played a crucial role in this transformation by automating processes, improving decision-making, and streamlining customer interactions.

2.1 Growth of AI in Finance

According to the National Association of Software and Service Companies (NASSCOM, 2021), AI adoption in India's banking and financial services industry is growing by over 30% annually. Leading banks such as SBI, ICICI, and HDFC are leveraging AI for various applications:

- AI-powered chatbots for 24/7 customer support.
- Fraud detection using machine learning algorithms.
- AI-driven credit risk assessment for faster loan approvals.
- Algorithmic trading to optimize investment decisions.

3. KEY AREAS WHERE AI IS MAKING AN IMPACT**3.1 AI in Risk Management**

Managing financial risk is one of the most important applications of AI in banking and investments. Traditional methods rely on historical data and manual reviews, but AI can process real-time data and predict risks more accurately (Arner et al., 2017).

3.1.1 Credit Risk Assessment

Banks now use AI to evaluate a borrower's creditworthiness by analyzing their transaction history, employment records, and even social behavior (RBI, 2022). This reduces the number of bad loans and improves financial stability.

3.1.2 Market Risk Prediction

AI tools analyze vast datasets to predict stock market trends, interest rate changes, and economic downturns. Algorithmic trading platforms use AI to make fast investment decisions based on live market data (World Economic Forum, 2021).

3.2 AI in Customer Services

AI has made banking more accessible and personalized. Customers no longer have to wait in long queues; AI chatbots and virtual assistants now handle routine queries, making banking more efficient (PwC, 2023).

3.2.1 AI Chatbots and Virtual Assistants

Leading banks like HDFC Bank (EVA), ICICI Bank (iPal), and SBI (SIA) use AI chatbots to assist customers with banking services, loan applications, and investment advice (NASSCOM, 2021).

3.2.2 Personalized Banking and Financial Planning

AI-powered Robo-Advisors recommend investment strategies based on users' financial goals and risk appetite. Platforms like Zerodha and Upstox are already using AI to provide smart stock portfolio suggestions (RBI, 2022).

3.3 AI in Fraud Detection and Cybersecurity

With the increase of online transactions, cyber threats has also been increasing. AI helps prevent fraud by analyzing transaction patterns and detecting suspicious activities (World Economic Forum, 2021).

3.3.1 Real-Time Fraud Detection

AI-based fraud detection systems monitor transactions in real-time, flagging unusual activity and reducing financial fraud. Companies like Paytm and Razorpay use AI to protect customers from cyber threats.

3.3.2 Biometric Authentication and AI Security Measures

AI-driven biometric authentication methods like facial recognition, fingerprint scanning, and voice verification are being widely adopted (PwC, 2023), to enhance security.

4. ETHICAL AND REGULATORY CHALLENGES

Despite its benefits, AI in finance comes with challenges:

- **Data Privacy & Security:** AI relies on massive amounts of personal data, raising concerns about privacy and cybersecurity risks (RBI, 2022).
- **Algorithmic Bias:** If AI models are trained on biased data, they may discriminate against certain groups, leading to unfair lending or hiring practices (Arner et al., 2017).
- **Regulatory Compliance:** Indian regulators, including the RBI and SEBI, are working to establish guidelines for ethical AI use in financial services (PwC, 2023).

5. FUTURE OF AI IN INDIAN FINANCIAL SERVICES

The future looks promising for AI in finance, with continuous advancements in technology and regulation. Here are some key trends:

- **AI-powered decentralized finance (DeFi):** Blockchain-based AI solutions could enable seamless financial transactions without intermediaries.
- **Quantum AI for investment management:** High-frequency trading strategies may become even more efficient with quantum computing.
- **Regulatory Sandboxes:** FinTech startups are being allowed to test AI-driven solutions under regulatory supervision (NASSCOM, 2021).

6. CONCLUSION

AI is reshaping financial services in India by improving risk management, customer service, and fraud prevention. However, challenges like data privacy, algorithmic bias, and regulatory concerns must be addressed for sustainable AI adoption. As AI continues to evolve, the financial sector must find a balance between innovation and responsible usage to ensure a secure and efficient financial ecosystem in India.

REFERENCES

1. Arner, D. W., Barberis, J., & Buckley, R. P. (2017). *FinTech and RegTech in a Nutshell, and the Future in a Sandbox*. CFA Institute Research Foundation.
2. NASSCOM. (2021). *AI Adoption in India's Financial Services Sector*.
3. PwC India. (2023). *AI in Indian Financial Services: Unlocking New Opportunities*.
4. Reserve Bank of India. (2022). *Report on AI and Machine Learning in Financial Services*.
5. World Economic Forum. (2021). *The Future of AI in Financial Services*.
6. <https://rupeezy.in/blog/financial-regulatory-bodies-in-india>
7. <https://www.linkedin.com/pulse/exploring-modern-analytics-approaches-ai-vs-methods-nandikolla-pz6zc/>
8. <https://ceocolumn.com/news/the-role-of-ai-in-financial-risk-management-in-2025/>
9. <https://instockbroker.wordpress.com/2025/01/09/comparison-of-the-top-10-trading-apps-in-india/>

SOCIAL CONCERNS IN INDIA: CURRENT PATTERNS AND INTERPRETIVE STUDY

Ms. Uzma Parveen Rafik Kalburgi

India presents several societal issues even if it is a very varied nation. Affecting millions of lives, these problems—from gender inequality to healthcare access—demand immediate response. Developing a fair and equitable society depends on an awareness of these social issues. This paper investigates present trends and investigates several social concerns in India, therefore stressing their influence and the actions being done to solve them.

PRINCIPAL LEARNINGS

- The caste system still shapes social dynamics, hence many people find themselves behind obstacles.
- Women still suffer prejudice in many spheres, hence gender inequality is still a major problem.
- A big issue is poverty; rural and urban regions differ greatly. For many, access to healthcare is restricted, which fuels growing mental health problems.
- Still unequal education affects general society advancement and literacy rates.

CASTE SYSTEM AND SOCIAL HIERARCHY

Contextual Historical Context and Evolution

Deeply ingrained in Indian history, the caste system sprang from ancient Hindu civilization. Four primary divisions defined society historically: Brahmins (priests), Kshatriyas (warriors), Vaishyas (traders), and Shudras (laborers). This structure developed throughout time into a sophisticated hierarchy that resulted in notable social stratification. Many facets of Indian life until today are influenced by the caste system.

Effects on Contemporary Society

Social contacts and opportunities still bear the influence of the caste system. Based on their caste, many people—especially those from Scheduled Castes (SCs)—face prejudice. Here are some important effects:

In work and education, discrimination; in limited access to resources and opportunities.

- Conflict and social tensions.

Policies and Reforms of Government

The Indian government has carried out many measures aiming at addressing caste-based discrimination:

1. Reservation rules for employment and education for Other Backward Classes (OBCs). SCs
2. Legal actions opposing caste discrimination and untouchability.
3. Programs for awareness aiming at social justice.

Affecting millions and hence impeding national unity, the caste system still presents a major obstacle to India's social fabric.

Sapect	Description
Caste Discrimination	Current societal challenges influencing OBCs and SCs
Government Efforts	Policies meant to lower inequalities based on caste
Social Effects	ongoing conflict and social stratification

Gender inequality and women's rights Professional Discrimination In India, gender inequality is a major problem particularly in the workplace. When women pursue advancements or employment, they can run against prejudice. For the same effort, many women earn less than their male colleagues. Many other fields, including technology, healthcare, and education, clearly show this discrepancy.

Women only account for 17% of India's GDP, less than half of the average worldwide. The 2017-18 Economic Survey estimates that foeticide and infanticide have left 63 million lost women in India.

GENDER-BASED VIOLENCE

Still a major issue for India is gender-based violence. Laws meant to safeguard women, like those banning rape and dowry, yet allow for shockingly high rates of discriminatory acts. Women feel dangerous both at home and in public areas. Launched by the Indian government to fight gender inequality, the "Beti Bachao, Beti Padhao" campaign Enacted in 2013 to defend women's rights in any employment, the Sexual Harassment at Workplace

Act Government Projects for Female Empowerment The government has acted in numerous ways to empower women and correct gender disparities.

One effort aiming at rescuing and teaching the female kid is Beti Bachao, Beti Padhao.

This rule renders all kinds of talaq null and void, therefore advancing equality in marriage.

The government runs awareness campaigns aimed at shifting society perceptions of women.

Progress for India depends on addressing gender inequity. When women flourish, society at large gains.

In essence, the struggle against gender inequality in India remains continuous even if legislation and programs abound. Changing attitudes and guaranteeing respect of women's rights depend on awareness and education. Economic disparities and poverty Rural to Urban Poverty:

Rural and urban poverty have rather different meanings in India. Limited job possibilities and resources in rural areas sometimes lead to higher rates of poverty. About half of the rural population lacks even the most basic conveniences—clean water and appropriate sanitation. On the other hand, metropolitan regions have better access to services and employment even if they still suffer poverty.

Programmes for Governmental Poverty Reduction Several initiatives by the Indian government aimed at eradicating poverty consist in:

Every rural household is guaranteed 100 days of paid work in a financial year thanks to the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). Aimed at giving the rural underprivileged houses, Indira Awaas Yojana (IAY)

- **Public Distribution System (PDS):** Low-income households get subsidized prices of basic food goods. Effects of Policy Regarding Economics India's economic policies have produced conflicting effects on poverty rates. While some programs have helped lower poverty, others have caused more disparity. For example, the March 2021 Pew Research Institute survey showed that the middle class dropped by 32 million while the number of impoverished Indians rose by 75 million. This emphasizes how urgently better policies are needed to correct economic inequalities.

The gap between the affluent and the poor continues to increase, making it vital for the government to focus on inclusive growth policies. **Healthcare Challenges in India** Access to Healthcare Services An important problem with Indian healthcare is access to it. Many people struggle to get the medical attention they require, particularly in rural areas. Though not equally distributed, India's healthcare sector is rather large. Here are some important ideas:

- Restricted rural regions' facilities
- Urban center high treatment cost
- Ignorance about the accessible services **Mental Health Issues** Mental health is largely disregarded in India. Many people suffer in silence due to stigma. According to recent studies, a large percentage of the population faces mental health challenges. Here are a few figures:

Ten percent of adults have mental diseases; treatment gaps for different diseases range from seventy percent to ninety-two percent; mental health problems cause economic losses because of absenteeism and lower production.

Government Healthcare Projects Several initiatives aiming at enhancing healthcare access and quality have been started by the Indian government Some of these initiatives include:

1. **Ayushman Bharat:** An impoverished health insurance program
2. **National Health Mission:** Emphasizes enhancing medical treatments.
3. **Mental Health Policy:** Aims to address mental health concerns Expected to reach US\$ 132 billion by 2023, the Indian hospital sector makes 80% of the whole healthcare system used in India.

In conclusion, while there are numerous issues in the healthcare system, continuous government measures seek to enhance access and quality for all individuals.

Education System and Literacy Rates Quality of Education India's educational system has made great progress, yet problems still exist. Development of the nation depends on a quality education.

Many schools, particularly in rural regions, lack even basic amenities and qualified instructors. This leads to a disparity in educational outcomes between urban and rural students.

Geography and gender clearly affect the access to education that one experiences. For example, although in rural regions the literacy rate was just 73.5%, in metropolitan areas it was 87.7%. This disparity emphasizes the importance of focused measures to increase general educational access.

Governmental Policies on Education The Indian government has implemented various policies to enhance education, such as:

- **Right to Education Act:** Ensures free and compulsory education for children aged 6 to 14.
- **National Education Policy (NEP):** Aims to make education more inclusive and accessible.
- **Mid-Day Meal Scheme:** Provides meals to improve attendance and nutritional standards in schools.

The education system in India is evolving, but it still faces challenges that need urgent attention to ensure that every child has access to quality education.

LITERACY RATES

The literacy rate in India has risen throughout the years, although inequities exist. Here's a basic overview:

Year	Overall Literacy Rate	Urban Literacy Rate	Rural Literacy Rate
2011	74.04%	87.7%	73.5%
2021	77.7% (estimated)	90% (estimated)	75% (estimated)

Although efforts to close the disparity in reading rates are continuous, more has to be done to guarantee that every kid, from all backgrounds, may realize their best potential.

SUSTAINABLE ENVIRONMENT PROBLEMS

Pollution of the Air and Water

Two main environmental problems facing India are pollution of the air and water. Millions of people's health suffers as result from these problems. Many cities have air quality much below recommended levels, which causes respiratory issues. Another major issue influencing drinking water supplies and aquatic life is water contamination resulting from sewage and industrial waste.

Climate Change Effectiveness

India is quite sensitive to the consequences of changing climate. Vital for the economy, agriculture is threatened by rising temperatures and variable rainfall patterns. Rising floods, droughts, and heat waves in the nation run the danger of causing food shortages and community relocation.

Government Policies on Environmental Protection

The Indian government has carried out several programs meant to solve these environmental problems. Aims to lower air pollution in cities, the National Clean Air Program (NCAP) is one of several important projects.

Focusses on waste management and sanitation in the Swachh Bharat Mission to raise water quality.

The National Biodiversity Action Plan seeks to safeguard India's ecosystems and great variety.

Promoting sustainability and fighting pollution depend critically on the efforts of the government.

RELIGIOUS AND RACIAL CONFLICTS

Background Information from History

Rich tapestry of cultures and faiths is India's reputation. Over time, though, this variety has also caused strife. These disputes have their historical roots in colonial periods, when foreign leaders sometimes heightened tensions. Often erupting from religious conflicts have been bloodshed and disturbance. effects on social cohesiveness

Social harmony is strongly influenced by the continuous disputes. Communities can find themselves split along religious and ethnic lines, which can result in: more mistrust among many groups; disturbance of communal life; financial losses resulting from violence.

Government Strategies to Advance Harmony

The Indian government has put several policies meant to encourage peace and togetherness in order to handle these problems. Among these are certain:

1. Laws forbid hate speech
2. Programs of community involvement
3. Projects for education aiming at fostering tolerance

The administration understands that the development of the nation depends on the unity building process. Reports of more violence directed against religious places have surfaced in recent years, especially in times of higher tensions. For example, most of the attacks on religious sites were recorded to have occurred in the initial few days of the conflict, when interethnic violence was most active. This emphasizes how urgently sensible policies are needed to guarantee security and develop understanding among different groups.

Urbanism and Its Social Effects With half of India's population predicted to reside in urban areas by 2031, urbanization is a major trend in that country. This change presents possibilities as well as difficulties.

Evolution of Urban Communities

Migration from rural areas is causing fast expansion of metropolitan centers. Seeking better employment and living circumstances, many migrate to cities. This development can result in more economic possibilities and better access to services.

- Cultural interactions It does, however, also cause congestion and resource pressure. Slums and Informal Residential Space Many of people wind up living in slums as cities expand. Many times, these places lack even the most basic conveniences such sanitation and fresh water. Among the difficulties are: inadequate housing conditions.
- Restricted healthcare availability
- Sharp unemployment rates Development in Urban Planning Management of the fast expansion of cities depends on good urban planning. Important plans call for: building reasonably priced homes; enhancing public transit; guaranteeing access to necessary services.

Although urbanization may propel realty expansion, rigorous planning is necessary to guarantee sustainable development.

In essence, urbanization presents major issues that must be resolved even if it brings numerous advantages to improve the quality of living for everybody.

SOCIAL CHANGE AND MOVEMENTS

Men's Movement

Advocating gender equality and women's rights has mostly depend on the movements of women in India. Among the several concerns these movements center on are: access to healthcare and education; gender-based violence; workplace discrimination.

Laws and society perceptions of women have undergone major changes as result of these initiatives.

Dalit Actions

Historically excluded, the Dalit movements seek to redress the injustices experienced by their people. Important components include Dalit identity assertion; campaigns against caste prejudice; social justice and equality advocacy These movements have been quite helpful in increasing awareness and advocating changes in many spheres.

Environmental movements

Environmental movements in India concentrate on problems including pollution and climate change. Their goals are to safeguard natural resources and advance environmentally friendly living. Key features consist in:

- Community-led projects
- Support of government sustainable policy initiatives
- Environmental problem awareness initiatives Change and the redress of social injustices in society depend on social movements.

They help underprivileged communities and advance a society more fair.

Youngness and Employment Problems Unemployment Rates For young individuals living in India, unemployment is a big problem. With many educated young people battling to find work, the situation of youth employment in India is alarming. For a nation the size of India, the unemployment rate in February 2022 came out to be 8.10%, very high. For young women, who have further obstacles in the employment market, this scenario is especially dire.

Programmes for Skills Development

The government has started various skill-development initiatives meant to increase young employability in order to meet these difficulties. Among the main projects are:

- **Skill India Mission:** By 2022 seeks to equip about 400 million individuals in diverse skill sets.
- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY):** Funds skill development financially.
- **National Apprenticeship Promotion Scheme:** Motivational tool for companies hiring apprentices
Government Employment Programs

The government has also started many job projects to provide employment possibilities. These consist:

Every rural home receives at least 100 days of paid employment in a financial year according to the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

Start-Up India: Offers young people cash and mentoring to inspire business. Digital India seeks to raise digital literacy and boost the IT industry, hence generating employment.

The future of India depends on the young of the nation, hence sustainable development depends on addressing job problems.

Technology Affects Society: Digital Divide

The digital divide is the difference between people who lack easy access to digital technologies and those who do. This division might result in different educational and job possibilities. Social advancement depends on technological access.

- **Urban vs. Rural Access:** Often times, urban areas have better internet than rural ones.
- **Economic Factors:** Individuals from lower income origins might find it difficult to pay for gadgets or internet access.
- **Educational Disparities:** Students from tech-rich surroundings have a great edge over those without access.

Social Media's Role

Social media channels have changed information sharing and communication style. They may disseminate misleading information as well as encourage community involvement. Social media performs two functions in society.

Positive aspects include: social movements have a forum; relationships among many groups are facilitated; social concerns are raised knowledge on.

Negative aspects include: cyberbullying and harassment could result from it.

- False information travels quickly.
- One often hears privacy issues.

Governmental Technology Policies

The Indian government has put in place several policies meant to encourage society's usage of technology. These projects seek to close the digital gap and improve technological availability.

- **Digital India Project:** seeks to turn India into a technologically enabled nation.
- **Programmes for Skill Development:** Emphasise teaching young people in sectors linked to technology.
- E-governance improves openness and effectiveness of government operations.

New and developing technologies are starting to enable businesses to reconstruct India's economic position in a post-COVID environment, therefore enabling economic progress in the nation.

All things considered, technology profoundly affects society and shapes everything from economic growth and communication.

Fostering a more equal society depends on solving the digital gap and guaranteeing fair access to technologies. Public Safety and Criminalism

Violence Towards Women

One still major problem in India is violence directed at women. Growing awareness of this issue has been shown in recent years. Among the various types of harassment and violence women experience are sexual assault and domestic abuse. Although various laws the government has passed defend women's rights, implementation of these laws still presents difficulties.

Digital crime

As technology developed, cybercrime has grown to be a big issue. Online abuse, identity theft, and cyberbullying are increasing occurrences. The government is trying to raise awareness of internet safety and fortify legislation. The general crime rate in 2024 was recorded at 445.9 occurrences per 100,000 inhabitants, somewhat declining 0.56% from 2023.

Legal Challenges for Police

Maintaining public safety is a great difficulty for law enforcement organizations. Among these difficulties are limited resources and personnel; system corruption; officer lack of training;

Improving public safety and law enforcement credibility depends on addressing these difficulties.

Concurrent Summary Crime Statistical Table Year: Crime Rate; per 100,000 persons Modification (%) 2023 448.5 – 0.56 2024 415.9 -0.56 In essence, major obstacles still exist even if continuous attempts to reduce crime and enhance public safety in India are under progress. A safer society requires constant improvements as well as citizen engagement.

Regarding public safety and crime, one must be always informed. Knowing local problems can enable you to keep your community safe and make wiser decisions. Visit our website right now for further ideas and tools!

CONCLUSION

All things considered, societal problems in India are complicated and strongly anchored in the history and culture of the nation. From health and education to gender equality and caste prejudice, these issues influence millions of lives. Though the government is making progress toward these issues, much more has to be done. Society has to unite to identify answers that advance justice and equality for all. India may open the path for a better future by concentrating on social reforms, healthcare, and education. Everybody has a part to contribute on this road towards a society more inclusive.

REFERENCES

- [1] Janet M. Rives. Economic Dimensions of Gender Inequality: A Global Perspective by Janet M. Rives.
- [2] Sanjivi Guhan, Paul Samuel. Corruption in India. (Agenda for Action)
- [3] Ronald B. Preventing violence against women and children...
- [4] Billiam. Epoch of Disharmony
- [5] Memoria, C.B Social Disorganization in India.
- [6] Ahmad, K. S., Sudweeks, F., & Armarego, J. (2015). Learning English vocabulary in a Mobile Assisted Language Learning (MALL) environment: A sociocultural study of migrant women. *Interdisciplinary Journal of e-Skills and Life Long Learning*, 11, 25-45. Retrieved from <http://www.ijello.org/Volume11/IJELLv1 1p025- 045Ahmad1566.pdf>
- [7] Al-Sabbagh, K., Bradley, L., & Bartram, L. (2018). Mobile language learning applications for Arabic speaking migrants – a usability perspective. *Language Learning in Higher Education*, 9(1), 71-95. doi: <http://dx.doi.org/10.1515/cercles-2019- 0004>
- [8] Alwaely, S. A. (2018). Arabic language teachers teach and collaborate through mobile instant messaging: Analysis of use, benefits, and challenges in Jordan. *Journal of Language Teaching and Research*, 9(5), 961-969. doi: <http://dx.doi.org/10.17507/jltr.0905.09>
- [9] Assaf, D. (2018). Motivating language learners during times of crisis through project-based learning: Filming activities at the Arab international university (AIU). *Theory and Practice in Language Studies*, 8(12), 1649-1657. doi: <http://dx.doi.org/10.17507/tpls.0812.10>
- [10] Dashtestani, R. (2016). Moving bravely towards mobile learning: Iranian students' use of mobile devices

-
- for learning english as a foreign language. *Computer Assisted Language Learning*, 29(4), 815-832.
- [11] diFilipo, S., & Dahlstrom, E. (2013). *The consumerization of technology and the bring- your-own- everything (BYOE) era of higher education*. EDUCAUSE. http://net.educause.edu/ir/library/pdf/ECAR_S O/ERS/ERS1301/ERS1301.pdf
- [12] Fazeena, Ekanayaka & Hewagamage (2015). A Theoretical Approach to initiate Mobile Assisted Language Learning among school leavers and University Students of Sri Lanka. *Australasian Conference on Information Systems*. <https://arxiv.org/ftp/arxiv/papers/1606/1606.01365.pdf>
- [13] Ferries-Rowe, J.D. (2012, Mar. 29). Choosing between BYOT and BYOD: Why one letter might make a difference. Confessions of a Jesuit School CIO. <http://geekreflection.blogspot.com.au/2012/03/choosing-between-byot-and-byod-why-one.html>
- [14] Fotouhi-Ghazvini, F., Earnshaw, R.A., & Haji- Esmaeili, L. (2009). Mobile assisted language learning in a developing country context. In H. Ugail, R.S.R. Qahwaji, R.A. Earnshaw & P.J. Willis (Eds.), *Proceedings: 2009 International Conference on CyberWorlds, 7-11 September 2009, Bradford, UK* (pp.391-397). Los Alamitos, CA: CPS/IEEE Computer Society.
- [15] Kukulska-Hulme, A. (2011). Learning a language from your mobile phone – a good idea? In E. Jackson Stuart, *Upgrading development: Can technology alleviate poverty?* (p.28). Cambridge: The Humanitarian Centre. <http://www.humanitariancentre.org/wp-content/uploads/2010/09/2011-International-Development-Report.pdf>
- [16] Kukulska-Hulme, A. (2012). Prospects for inclusive mobile learning. In M. Allegra, M. Arrigo, V. Dal Grande, P. Denaro, D. La Guardia, S. Ottaviano & G. Todaro, G. (Eds.), *Mobile learning for visually impaired people* (pp.13-25). Palermo: Consiglio Nazionale delle Ricerche, Istituto per le Tecnologie Didattiche. <http://oro.open.ac.uk/34206/1/Agnes1.pdf>
- [17] Pearson, L. (2011). Exploring the effectiveness of mobile phones to support English language learning for migrant groups. *Journal of the Research Center for Educational Technology*, 7(1), 90-105. <http://www.rcetj.org/index.php/rcetj/article/view/154/239>
- [18] Power, T., & Shrestha, P. (2010). Mobile technologies for (English) language learning: An exploration in the context of Bangladesh. In *IADIS International Conference: Mobile Learning 2010, 19 – 21 March 2010, Porto, Portugal*. http://oro.open.ac.uk/20800/1/IADIS_Conference_Mobile_Language_Learning_Power_%26_Shrestha_2010.pdf
- [19] Prensky, M. (2011, Jan.-Feb.). Eliminating the “app gap”. *Educational Technology*. <http://marcprensky.com/writing/Prensky-EDTECH-EliminatingtheAppGap-Jan-Feb-2012.pdf>
- [20] Ulfa, S. (2013). Implementing Mobile Assisted Language Learning in Rural Schools for Enhancing Learning Opportunity. *The Asian Conference on Education 2013 Official Conference Proceeding*. http://iafor.org/archives/offprints/ace2013-offprints/ACE2013_0356.pdf
- [21] Zelezny-Green, R. (2009). The Potential Impact of Mobile-assisted Language Learning on Women and Girls in Africa: A Brief Literature Review. http://conference.pixel-online.net/ICT4LL2010/common/download/Proceedings_pdf/IBL23-Ronda,Zelezny,Green.pdf
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PRESENT PHENOMINA: THE ADDICTION OF MOBILE PHONE IN TEENAGERS AND STUDENTS CAUSING THEM IN SUICIDE IDEATION AND SUICIDE ATTEMPTS

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ABSTRACT

Mobile phones have become an essential part of daily life, significantly influencing various aspects of people's well-being. However, excessive mobile phone use has raised concerns about its psychological effects, particularly among teenagers and school going students. In India, the prevalence of mobile phone addiction and its potential links to suicide ideation and attempts remain underexplored. The Mobile Phone Addiction Tendency Scale (MPATS) was used to assess addiction levels. Findings revealed that 11% of students experienced suicide ideation, while 1.8% had attempted suicide. Nearly 29.7% of students met the criteria for mobile phone addiction (MPATS score ≥ 48), with an average score of 39.5 ± 13.0 . After adjusting for covariates, mobile phone addiction was significantly associated with increased odds of suicide ideation (OR, 1.70; 95% CI, 1.53–1.88) and suicide attempts (OR, 1.48; 95% CI, 1.18–1.86). These findings highlight the urgent need for mental health interventions and awareness programs in Indian educational institutions to address the adverse psychological effects of excessive mobile phone use.

Keywords: mobile phone addiction, Mobile Phone Addiction Tendency Scale (MPATS) , suicide ideation, suicide attempt, epidemiology, teenagers and school students

INTRODUCTION

Approximately one million people worldwide die by suicide each year. In India, suicide remains a significant public health concern, particularly among adolescents and school-going students. Suicide is considered a progressive process, typically involving suicide ideation, planning, attempts, and completed suicide. Global studies suggest that 10%–20% of adolescents report experiencing suicide ideation or attempting suicide in the past year. More alarmingly, for every suicide-related death, nearly 25 attempts occur, and an even higher number of individuals consider suicide. Despite an increase in research over the past two decades, suicide rates among youth have not seen a significant decline, continuing to impose a heavy burden on society and the nation as a whole. Therefore, understanding the factors contributing to suicidal behavior is crucial for reducing its incidence and preventing tragic losses of young lives.

In recent years, there has been growing concern over the negative health impacts of excessive mobile phone use, especially among the younger generation born after 2000, commonly referred to as the digital-native generation. These adolescents have grown up in an era dominated by mobile technology, where social interactions and mental health are significantly shaped by mobile phone usage and social media. As a result, mobile phone addiction has become a pressing issue among Indian teenagers, mirroring the characteristics of internet addiction, including withdrawal symptoms, loss of control, tolerance, and adverse effects.

Several studies have highlighted the high prevalence of mobile phone addiction among students. For instance, research has shown that the problematic use of mobile phones among Indian adolescents is increasing rapidly, with social media and online gaming playing major roles. Moreover, the COVID-19 pandemic further intensified this issue, as school closures and online learning forced students to rely heavily on mobile devices, leading to an increased risk of addiction. Research suggests that mobile phone addiction can result in multiple adverse consequences, including physical ailments such as headaches and dry eyes, as well as psychological issues like depression, anxiety, sleep disorders, and poor academic performance. Among these health concerns, the psychological impacts of mobile phone addiction, particularly its association with suicide, remain a significant yet understudied issue.

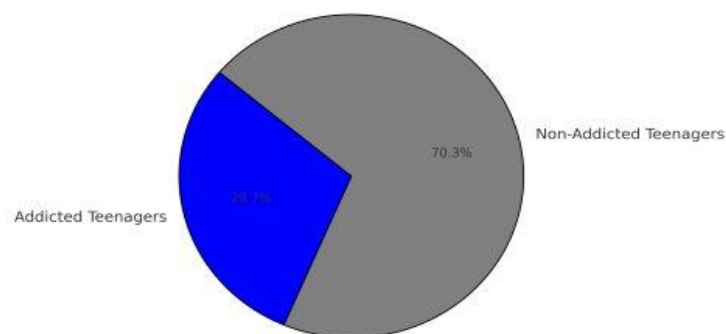
With increasing mobile phone usage, adolescents addicted to mobile phones are more likely to be exposed to suicide-related content, including images, videos, messages, and forums that normalize or even encourage suicidal behavior. Mobile phones also provide a platform for individuals to engage with online communities that discuss and share suicide-related experiences, potentially reinforcing negative thoughts. Additionally, excessive engagement with mobile applications has been linked to a decline in real-life social interactions, leading to emotional distress and social isolation. Such factors, including depression, anxiety, and poor sleep quality, have been associated with an increased risk of suicide among teenagers. Furthermore, neurological studies indicate that prolonged mobile phone use may lead to structural and functional abnormalities in brain regions responsible for emotional regulation and cognitive control, which are linked to suicidal tendencies.

Although some studies have examined the relationship between mobile phone addiction and suicide among adolescents, findings have been inconsistent. Research conducted in South Korea and China has suggested a strong link between mobile phone addiction and higher risks of suicide ideation and attempts.

In contrast, some studies have found no significant association. Most previous research has been limited to small sample sizes, specific school settings, or urban areas, failing to represent a comprehensive view of the problem. Additionally, existing studies have largely focused on university students, neglecting the impact of mobile phone addiction on school-going teenagers.

Therefore, this study aims to investigate the association between mobile phone addiction and suicide ideation and attempts among Indian adolescents and school students, using a large and diverse sample. Understanding these connections can help inform policies, interventions, and mental health programs aimed at reducing suicide rates among India's youth.

Prevalence of Mobile Phone Addiction Among Teenagers (India)



METHODS

Study Design and Participants

This cross-sectional study was conducted among school students across six representative schools in India from October to November 2023. A multi-stage random cluster sampling method was used to select participants. First, with the assistance of education authorities, six schools (both government and private) from different regions, including urban and rural areas, were chosen. Then, two to four sections from different grades were randomly selected from each school. In total, 15,000 students were invited to participate in the study.

Students who refused to participate, submitted incomplete responses, or had invalid questionnaire responses (identified through logic questions) were excluded. Ultimately, 13,500 students were included in the final analysis, leading to a response rate of 90%.

The survey was conducted by trained investigators who explained the purpose and procedures to the students. Before the survey, a two-stage training session was organized. First, teachers and school counselors were given a standardized training session in the presence of school administrators. Then, these trained teachers guided students in completing the questionnaire. The average time taken to complete the survey was approximately 25 minutes. Ethical approval for the study was obtained from the Institutional Ethics Committee.

DISCUSSION

The present study examined the association between mobile phone addiction and suicide ideation and attempts among Indian adolescents. The findings indicate that students addicted to mobile phones had significantly higher odds of experiencing suicide ideation and attempts compared to their non-addicted peers.

Comparison with Other Studies

Mobile phone addiction is a growing concern in India, particularly among teenagers. Studies have shown that the prevalence of mobile phone addiction among Indian adolescents ranges from 20% to 45%, depending on the assessment tools and regions studied. Our study found that approximately 30% of students exhibited signs of mobile phone addiction, aligning with prior research conducted in various Indian states.

International studies have similarly demonstrated an association between excessive mobile phone use and suicide risk. Research from China, South Korea, and the United States suggests that adolescents addicted to mobile phones are more likely to experience social isolation, depression, anxiety, and sleep disturbances—all of

which are linked to suicidal behaviors. However, some studies have not found a significant correlation, highlighting the need for further research, particularly in the Indian context.

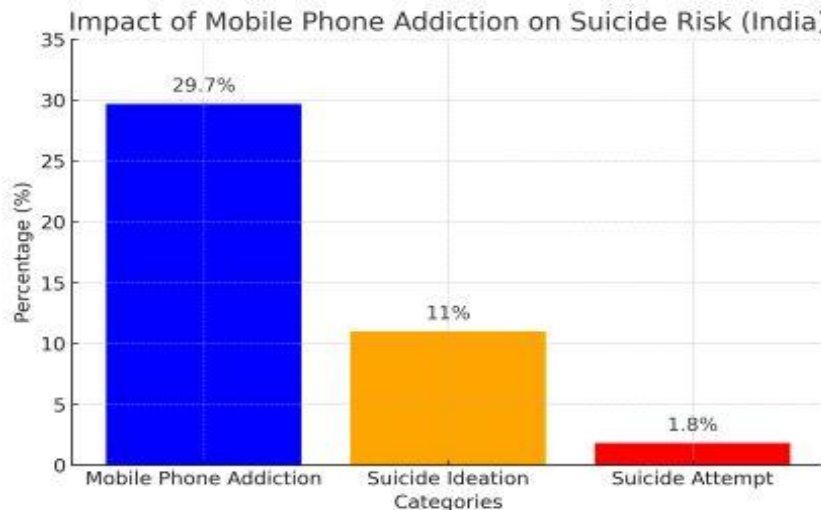
Given the widespread use of mobile phones among teenagers, understanding their impact on mental health and suicide risk is critical. Our findings emphasize the need for effective interventions aimed at reducing mobile phone addiction to mitigate suicide risks among Indian students.

Intervention Strategies and Policy Recommendations

To address the rising issue of mobile phone addiction and its link to suicide among adolescents, several strategies should be implemented. Schools should incorporate digital wellness education into their curriculums, teaching students how to maintain a healthy balance between online and offline activities. Parental monitoring and open communication about the dangers of excessive mobile phone use can also play a crucial role in reducing addiction levels among children and teenagers.

Governments and health organizations should develop and promote national awareness campaigns that highlight the dangers of mobile phone addiction and its potential psychological impacts. Furthermore, mental health programs should be expanded in schools, providing students with counseling services and access to resources that help them manage stress, anxiety, and depressive symptoms.

Additionally, policymakers should consider regulating social media platforms to limit the exposure of young users to suicide-related content. Artificial intelligence and content moderation tools can be used to detect and remove harmful content, thus creating a safer online environment for adolescents.



LIMITATIONS

This study has several limitations. First, the reliance on self-reported data may introduce recall bias. Second, although we adjusted for major confounding factors, some unmeasured variables may still affect the results. Lastly, as a cross-sectional study, causality cannot be established. Future longitudinal studies are needed to better understand the causal relationship between mobile phone addiction and suicide risk among Indian teenagers.

CONCLUSIONS

Our findings suggest that mobile phone addiction is significantly associated with increased risks of suicide ideation and suicide attempts among Indian adolescents. Given the rising prevalence of mobile phone addiction, incorporating digital wellness education and suicide prevention strategies into school curriculums is essential. Policymakers, educators, and mental health professionals must collaborate to promote responsible mobile phone use and provide support systems for at-risk students to reduce suicide rates among India's youth.

REFERENCES

1. Who. *Suicide Worldwide in 2019: Global Health Estimates*. Geneva: World Health Organization (2021)
2. Who. *Preventing Suicide: A Global Imperative*. Geneva: World Health Organization (2014)
3. Jeremiah RD, Gamache PE, Hegamin- Younger C. Beyond Behavioral adjustments: how determinants of contemporary Caribbean masculinities thwart efforts to eliminate domestic violence. *Int J Mens Health*. (2013) 12:228-44. Doi:10.3149/jmh.1203.228
4. Lew B, Lester D, Kolves K, Yip PSF, Chen Yy, Chen WS, et al. *An analysis of age-standardized suicide rates in Muslim-majority countries in 2000-2019*. *BMC Public Health*, (2022) 22:882. Doi:10.1186/s12889-022-14136-2
5. Institute of Medicine. *Reducing Suicide: A National Imperative*. Washington, DC: *The National Academies Press*. (2002). Doi:10.17226/10398

Teenager dies by suicide after parental advice against excessive cellphone usage

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PROMOTING AGRI-RURAL TOURISM IN INDIA: POLICY FRAMEWORKS, INITIATIVES, AND PROSPECTS

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ABSTRACT

Agri-tourism, an innovative form of rural tourism, integrates agriculture with hospitality and education, offering tourists immersive experiences in farming, rural life, and traditional food systems. While the Department of Agriculture & Farmers Welfare does not currently run a dedicated scheme for agri-tourism, other governmental interventions, particularly through the Ministry of Tourism, have significantly supported rural and heritage-based tourism models. This paper examines the policy ecosystem promoting rural tourism in India, especially through schemes like Swadesh Darshan 2.0, PRASHAD, and national strategies for rural tourism and homestays. It provides a statistical analysis of funding, circuit development, and the role of State Governments and UT Administrations, while highlighting the potential of agri-tourism to boost rural economies, preserve culture, and create sustainable livelihoods.

INTRODUCTION

Agri-tourism serves as a bridge between agriculture and tourism, providing farmers with alternate income sources and visitors with an understanding of traditional rural practices. In the Indian context, where nearly 65% of the population resides in rural areas, the development of agri-tourism can act as a critical economic multiplier. The concept aligns with sustainable tourism and Atmanirbhar Bharat goals. Although there is no standalone central scheme under the Department of Agriculture for agri-tourism, complementary initiatives by the Ministry of Tourism play a substantial role in shaping rural tourism landscapes.

SWADESH DARSHAN SCHEME AND RURAL CIRCUITS**Swadesh Darshan (SD) Scheme**

The **Swadesh Darshan Scheme**, launched in **2014–15** by the Ministry of Tourism, Government of India, was conceptualized to promote **theme-based integrated development of tourist circuits** across the country. Among the 15 identified thematic circuits, the **Rural Circuit** plays a crucial role in spotlighting the diverse cultural, ecological, and agricultural heritage of India's rural heartlands. The scheme aims to enhance infrastructure, promote local livelihoods, and attract both domestic and international tourists to lesser-known destinations.

By **March 2022**, the government had sanctioned more than **₹5,500 crore** for **76 projects** spanning various states and Union Territories under this scheme. These projects have contributed to the revitalization of rural economies through tourism-linked initiatives. Notable examples include **Kerala's 'Green Circuit'**, which focuses on promoting eco-tourism and sustainable rural practices, and **Meghalaya's 'Rural Eco-Cultural Circuit'**, which highlights indigenous tribal cultures, traditional knowledge systems, and nature-based tourism. These circuits not only generate employment but also help in preserving India's rich rural heritage, making tourism a vehicle for inclusive growth.

Swadesh Darshan 2.0 (Launched in 2022)

Building on the success of the original scheme, the Government of India launched **Swadesh Darshan 2.0** in **2022** with a renewed vision to develop **sustainable and responsible tourism destinations**. Unlike its predecessor, which was largely infrastructure-driven, Swadesh Darshan 2.0 adopts a **destination-centric and tourist-focused approach**, aligning with global best practices in sustainability and inclusive development. The scheme emphasizes **community participation**, empowering local stakeholders such as village councils, artisans, and destination managers to play an active role in the planning and management of tourism initiatives.

Swadesh Darshan 2.0 also prioritizes **environmental sustainability** by encouraging eco-friendly infrastructure, renewable energy usage, and conservation of natural and cultural resources. Moreover, the scheme focuses on strengthening **rural livelihoods** by integrating tourism with local economies, especially agriculture, handicrafts, and heritage. This holistic model is designed to create long-term benefits for host communities while offering authentic experiences to tourists. According to the **Ministry of Tourism's Annual Report 2022–23**, this revamped version of the scheme is instrumental in developing high-quality tourism hubs that are both economically viable and environmentally resilient.

PRASHAD Scheme (Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive)

The **PRASHAD Scheme**, launched in **2014-15** by the **Ministry of Tourism**, focuses on the **integrated development of pilgrimage and heritage destinations** across India. The primary aim of the scheme is to enhance the visitor experience at key religious sites by improving infrastructure, ensuring cleanliness, and providing modern amenities while preserving the cultural and spiritual essence of these locations. As of 2023, a total of **45 projects** have been sanctioned under this scheme, with an **investment of ₹1,584.42 crore** (Source: *PRASHAD Scheme Report 2023, Ministry of Tourism*).

While the scheme is not directly targeted at rural or agri-tourism, a significant number of the heritage and pilgrimage sites developed under PRASHAD are located in **rural or semi-rural regions**. This creates indirect but meaningful linkages with **agri-tourism**. For instance, the development of circuits in **Puri (Odisha)** and **Varanasi (Uttar Pradesh)** has not only boosted religious tourism but also **opened up opportunities for rural homestays, farm-linked experiences, and traditional craft-based livelihoods** in surrounding villages. As more visitors seek immersive and authentic cultural experiences, the spillover benefits of the PRASHAD scheme extend to **local communities**, offering them additional income sources and preserving traditional rural lifestyles.

National Strategies for Rural Tourism and Homestays

In **2021**, the **Ministry of Tourism** introduced the “**Draft National Strategy and Roadmap for Development of Rural Tourism in India**”, aimed at promoting inclusive growth through the sustainable development of rural tourism destinations. This strategic framework outlines several core focus areas, beginning with the **identification of rural clusters** that hold strong potential for tourism based on cultural heritage, natural beauty, and traditional lifestyles. It emphasizes **infrastructure development**, including improvements in **sanitation, rural roads, internet connectivity, and digital access**, to enhance the tourist experience and accessibility of rural areas.

Another vital component of the strategy is the **promotion of rural homestays**, which not only provides tourists with authentic local experiences but also generates direct income for rural households. The policy encourages **capacity building and skill development** for rural hosts, artisans, and service providers to ensure quality hospitality services. Importantly, the strategy promotes the **convergence of rural tourism with other flagship government schemes** such as **PMGSY (rural roads), Jal Jeevan Mission (drinking water), and Skill India** to ensure a holistic and integrated development approach.

As a result of these efforts and collaborative models, **more than 1,500 rural homestays** have been successfully promoted through **state-led initiatives**, particularly in **Sikkim, Himachal Pradesh, and Uttarakhand**, with significant **support from the Ministry of Tourism**. These states have pioneered rural and eco-tourism, setting examples of how decentralized tourism models can empower communities, conserve heritage, and offer visitors a deeper connection with India’s diverse rural life.

Role of State Governments and PPP Models

State Governments in India have been proactive in developing policies and models to encourage agri-rural tourism at the grassroots level. Notably, **Maharashtra** introduced its dedicated **Agri-Tourism Policy in 2020**, aimed at creating a structured ecosystem for promoting **farm stays, agro-education camps, farm-based recreational activities, and direct marketing of agricultural produce** through tourism. This policy encourages farmers to diversify their income sources and integrate hospitality with agricultural practices. Similarly, states like **Punjab** and **Rajasthan** have launched initiatives focused on enhancing rural tourism infrastructure and supporting **farm-based tourism experiences** that celebrate local culture, cuisine, and crafts.

In addition to government-led initiatives, **Public-Private Partnership (PPP) models** are gaining momentum as a strategic approach to boost rural tourism. These models enable private investors and tourism entrepreneurs to collaborate with local bodies and government agencies to set up **rural retreat resorts, eco-villages, agri-tourism parks, and offer guided village experiences**. By involving private players, these models ensure infusion of capital, professional management, and market linkages, while also empowering rural communities to actively participate in tourism development. This hybrid approach helps bridge the gap between urban demand for rural experiences and the underutilized potential of India’s diverse countryside.

Economic and Social Impact

Agri-tourism has emerged as a powerful tool for rural transformation by creating alternative income streams for farming communities. In **Maharashtra alone**, agri-tourism initiatives have enabled over **25,000 farmers** to earn **non-farm income**, according to data from the **Maharashtra Agri-Tourism Development Corporation**.

These initiatives not only reduce the economic vulnerability of farmers but also stabilize rural livelihoods by offering year-round income through tourism-related activities.

Socially, agri-tourism fosters greater **inclusivity**, particularly in enhancing the role of **women in rural economies**. Women contribute significantly by engaging in **handicraft production, traditional food services, and cultural performances** for visiting tourists, thereby gaining financial independence and recognition within their communities. Moreover, agri-tourism promotes **sustainable practices** by encouraging the **preservation of biodiversity and indigenous farming techniques**, often showcased as part of the rural experience for tourists. These practices contribute to the conservation of local ecosystems and traditional knowledge systems, strengthening the cultural and ecological fabric of rural India.

CHALLENGES AND OPPORTUNITIES

Despite the growing recognition of agri-tourism's potential, several challenges hinder its widespread implementation in India. A major barrier is the **lack of awareness and training among farmers**, many of whom are unfamiliar with tourism operations, customer service, or the hospitality business. Additionally, there is **limited coordination between the agriculture and tourism departments**, resulting in fragmented efforts and missed synergies. **Infrastructure deficiencies** in interior rural areas—such as poor road connectivity, inadequate healthcare facilities, and limited digital access—further constrain the growth of rural tourism ventures.

However, the sector presents substantial opportunities. Integrating agri-tourism with **Farmer Producer Organizations (FPOs), Self-Help Groups (SHGs), and e-commerce platforms** can create robust rural value chains for farm-based products and tourism services. Additionally, **youth upskilling through hospitality and tourism training programs under the Pradhan Mantri Kaushal Vikas Yojana (PMKVY)** can equip local talent with employable skills, reducing migration and boosting local employment. Furthermore, the **One District One Product (ODOP)** initiative can be effectively leveraged for **tourism-linked branding**, promoting regional uniqueness and farm-related products as experiential offerings for tourists. Addressing these challenges while capitalizing on these opportunities will be vital for unlocking the full potential of agri-tourism in India.

CONCLUSION AND POLICY SUGGESTIONS

India's expansive and culturally rich rural landscape holds immense potential for agri-tourism, particularly when aligned with existing heritage, eco, and spiritual tourism models. Although the Department of Agriculture and Farmers Welfare does not currently run a dedicated central scheme for agri-tourism, the Ministry of Tourism has laid a strong foundation through its schemes like **Swadesh Darshan** and **PRASHAD**, which promote rural circuits and pilgrimage destinations, many of which overlap with agricultural zones. These efforts, though indirect, create a functional policy ecosystem that supports agri-tourism development.

To harness this potential effectively, there is a pressing need for **inter-ministerial collaboration**, especially between the Ministries of Agriculture, Tourism, Rural Development, and Skill Development. Furthermore, **localized implementation strategies**, tailored to regional cultural and agricultural strengths, will help customize and scale agri-tourism models across India. Empowering farmers through **targeted training in hospitality, farm management, and digital promotion** is also crucial to equip them for tourism engagement.

To accelerate this transformation, several policy measures are recommended. First, the government should **launch a National Agri-Tourism Mission** that offers financial incentives, regulatory support, and comprehensive guidelines for farm-based tourism ventures. Second, establishing **Regional Agri-Tourism Hubs** with model farm-stays, training centers, and market linkages can serve as replicable success stories. Lastly, the inclusion of **agri-tourism modules within Rural Livelihood and Skill Development Missions**, such as Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) or PMKVY, will build local human capital and ensure sustainable rural entrepreneurship. These steps can position agri-tourism as a powerful engine of rural transformation, economic resilience, and cultural preservation in India.

REFERENCES

1. Press Information Bureau (PIB), Govt. of India. (18 March 2025). "Schemes for Agri Related Tourism Activities."
2. Ministry of Tourism, Government of India. Annual Report 2022–23.
3. Swadesh Darshan Scheme Guidelines (2022), Ministry of Tourism.
4. PRASHAD Scheme Progress Report 2023.
5. Draft National Strategy and Roadmap for Development of Rural Tourism, Ministry of Tourism.
6. Maharashtra Agri-Tourism Development Corporation (2023 Data Report).

AN OVERVIEW OF ONLINE SHOPPING IN INDIA: A STUDY

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With a rapidly expanding internet user base and favourable market conditions, India holds significant potential in the e-commerce industry. Growing at an exponential pace, the market value of India's e-commerce sector was 123 billion U.S. dollars in 2024 and is projected to reach 300 billion U.S. dollars by 2030 (Statista 2025). India's retail sector has witnessed a remarkable transformation over the past decade, driven by increasing internet penetration, digital payments, and a growing middle class. The rise of e-commerce platforms like Flipkart, Amazon India, and Reliance's JioMart has fueled this growth, making online shopping more accessible across urban and rural areas. India's online shopping sector has rapidly evolved, driven by increasing internet penetration, smartphone adoption, and digital payment systems. Major players like Flipkart, Amazon, and Reliance dominate the market, offering diverse products. The rise of mobile commerce, social commerce, and quick-commerce platforms continues to reshape consumer behavior and retail trends. This review article explores the various factors and conditions that have contributed to the popularity of online shopping, highlighting its numerous benefits for consumers. The study also examines its significance, key facilitators, advantages, challenges, and future scope in the Indian market.

Key words – Online shopping, factors responsible, growth in India, future & challenges of online shopping

METHODOLOGY –

This paper provides a thorough and critical analysis of the literature on growth & evolution of Indian online shopping, the factors influencing online shopping, based on academic studies published in the past for this study, databases such as Google Scholar, JSTOR, and Scopus were utilized, along with industry-specific sources like Forrester Research and e-Marketer. Around 25 research papers were reviewed both qualitative and quantitative.

Original value of the paper

This study provides one of the most comprehensive revaluations of both foundational and contemporary literature on the development and impact of online shopping trends and drivers in India. Additionally, it seeks to advance the field by utilizing existing research to predict future directions and emerging trends in online shopping drivers.

INTRODUCTION

Shopping has been a fundamental human activity for centuries, dating back to the era of barter transactions. However, it was during the late 19th to early 20th century that shopping significantly expanded. This growth was driven by economic development, advancements in public transportation, and the emergence of new mass production methods. (Woodruff-Burton et al 2002) Traditional shopping requires direct interaction between the shopper and the seller at a physical location. Whether at a neighbourhood **kirana** store, an old ration shop, or modern retail formats like specialty stores, shopping malls, and convenience stores, customers must visit physical marketplaces to fulfil their shopping needs. However, this process demands significant time and effort, leading some to perceive shopping as a laborious task. The internet has revolutionized many aspects of life, especially how people shop for goods and services. While visiting a physical store to see and feel products remains appealing, the convenience of online shopping is unmatched (Global Trends in Online Shopping). For consumers, the internet facilitates communication, provides controlled search options for products and services, enables easy comparison of shopping choices, and offers instant access to intangible goods like software (Jones and Vijayasarathy 322). Additionally, transaction costs are reduced as the internet grants direct access to multiple options while eliminating time and space constraints (Aldridge et al. 164). From a business perspective, the internet enhances operational efficiency by streamlining distribution channels and opening new market opportunities. For those who prefer to avoid visiting physical stores, alternative shopping methods such as catalogue shopping, teleshopping, and the increasingly popular online or internet shopping provide convenient solutions. Distant or in-home shopping offers several advantages. Darian (164) identified five key conveniences it provides: reduced shopping time, greater timing flexibility, lower physical effort, minimized frustration, and opportunities for impulse buying or direct responses to advertisements (qtd. in Kau et al. 140).

The evolution of online shopping in India

The growth of online shopping in India has been shaped by technological advancements, increasing internet penetration, and changing consumer behavior. Below is a timeline of its key milestones:

1990s – The Foundation of Indian E-Commerce

- The introduction of the internet in India in 1995 paved the way for online commerce.
- Early e-commerce platforms like **Rediff Shopping** and **IndiaMART** emerged, primarily catering to niche markets and businesses.

Early 2000s – The First Wave of Online Shopping

- With the rise of broadband internet, companies like **Bazee.com** (later acquired by eBay in 2004) gained traction.
- Online travel bookings gained popularity with the launch of **IRCTC** (Indian Railway Catering and Tourism Corporation) for train reservations.

Mid-2000s – Entry of Major E-Commerce Players

- The launch of **Flipkart (2007)** as an online bookstore marked the beginning of large-scale online retail in India.
- Other platforms like **Snapdeal (2010)** and **Myntra (2007)** introduced e-commerce for fashion and electronics.

2010s – The E-Commerce Boom

- **Amazon India (2013)** entered the market, intensifying competition.
- The rise of **mobile commerce (m-commerce)** with increasing smartphone penetration transformed consumer shopping habits.
- Digital payment platforms such as **Paytm** and **UPI (Unified Payments Interface)** made online transactions more convenient.
- **Big Billion Days** and **Great Indian Festival** sales became major shopping events.

Late 2010s – Expansion and New Business Models

- The growth of hyperlocal delivery services like **Zomato, Swiggy, and Grofers** expanded the online shopping landscape beyond retail.
- The rise of **social commerce** and direct-to-consumer (D2C) brands leveraged platforms like Instagram and WhatsApp.

2020s – The Pandemic and Digital Acceleration

- COVID-19 led to a massive surge in e-commerce, with consumers relying heavily on online/digital shopping.
- **ONDC (Open Network for Digital Commerce)** was introduced to decentralize and expand the e-commerce ecosystem.
- The dominance of quick-commerce platforms like **Blinkit and Zepto** reshaped online grocery shopping.

The power of internet Shopping

The internet has revolutionized various aspects of life, particularly the way people shop for goods and services. While visiting a physical store to see and touch products remains appealing, the convenience of online shopping is unmatched (Global Trends in Online Shopping). For consumers, the internet enhances communication, offers controlled search options for products and services, enables easy comparison of shopping choices, and provides instant access to intangible goods such as software (Jones and Vijayasathy 322).

Factors responsible for the growth of online shopping in India the Key drivers of in Indian ecommerce have been:

- Smart phone penetration & increased in usage of smart phones.
 - Increasing broadband Internet and 4G penetration.
 - Social Media connectivity & Influence
 - Growing Living standards, increase in affluence & lifestyle
-

- Freedom and choice
- Availability of much wider product range
- Busy lifestyles and lack of time for offline shopping .
- Increased usage of online categorized sites.
- Evolution of the online marketplace model with websites like Amezon, Messho eBay, Flipkart, Snapdeal, shopclues, etc.
- Technological advancements (Easy navigations on online store, Chat boats, Voice search)
- Improving the delivery experience.
- Improving the payment options and making it more secure and trustworthy
- Increase in the range of products.
- Enhanced shopping experience.
- **Growth 7 acceptance in digital Payments & UPI**
- Increased individual buying & festive buying.
- Familiarity with vendor & trust
- Dedicated Customer care centres are available 24*7

Popular online retailers in India

As of March 2025, India's e-commerce sector continues to experience robust growth, with several companies leading in revenue. Based on the latest available data, here are the top Indian e-commerce companies by revenue:

1. **Flipkart Pvt Ltd.** - Flipkart maintains a dominant position in the Indian e-commerce market. In 2024, the company reported e-commerce activity revenues of approximately **US\$31.25 billion**.
2. **Amazon.com,Inc.** - Amazon India continues to be a significant player in the market. In 2024, Amazon's e-commerce activity revenues in India were around **US\$22.6 billion**.
3. **Zomato Ltd.** - Zomato, primarily known for food delivery, has diversified its services. In the third quarter ending December 2024, Zomato reported a net profit of **₹590 million** (approximately US\$6.8 million), despite a 57% decline from the previous year due to increased competition and expansion costs.
4. **Swiggy Ltd.-** Swiggy, a major competitor to Zomato in the food delivery and quick commerce space, continues to expand its market presence. Specific revenue figures for 2025 are not readily available, but the company remains a key player in India's e-commerce landscape .
5. **Reliance Retail (JioMart)-** Reliance Retail has been rapidly expanding its e-commerce platform, JioMart, leveraging its extensive network of supermarkets across India. While exact revenue figures for 2025 are not specified, Reliance's strategic initiatives indicate a significant push in the e-commerce sector.
6. **Meesho-** Meesho has emerged as a leading social commerce platform, offering a wide range of products at affordable prices. The platform has gained substantial traction, especially among consumers in Tier 2 and smaller cities.
7. **Nykaa-** Nykaa has established itself as a premier online destination for beauty and fashion products. The platform offers a vast array of items across various categories, catering to a diverse customer base.
8. **BookMy Show-** BookMyShow dominates the online ticketing space in India, offering bookings for movies, events, and more. The platform has a significant market share in the entertainment ticketing industry.
9. **FirstCry-** FirstCry specializes in baby and kids' products, providing a comprehensive range of items for young children. The platform has become a go-to destination for parents seeking quality products.
10. **Myntra-** Myntra is a leading online fashion retailer, offering a wide selection of clothing, accessories, and footwear. The platform caters to a broad audience with its diverse product offerings.

Popular categories among Indian online shoppers

- **Electronics & Smartphones** – A top-selling category due to frequent upgrades and competitive pricing.
- **Fashion & Apparel** – Led by platforms like Myntra, Ajio, and Amazon Fashion.
- **Grocery & Essentials** – Growth in quick-commerce platforms such as Blinkit, Zepto, and BigBasket.
- **Beauty & Personal Care** – Nykaa and Purplle dominate this rapidly growing segment.

Future Trends

- Quick commerce (Q-commerce)- less than 30-minute delivery
- Trend-first commerce -frequent launches of trendy collections at affordable prices
- Hyper-value commerce- ultra-low price assortment)-
- Integration of **AI and AR** for personalized and immersive shopping experiences.
- Growth of **voice commerce** and regional-language shopping interfaces.
- Expansion of **sustainable and eco-friendly e-commerce** solutions.
- Virtual mirrors allow shoppers to virtually "try on" clothing and accessories before making a purchase.
- Virtual walls enable customers to scan item barcodes on an electronic display using their mobile phones and place orders with retailers.

CHALLENGES OF ONLINE SHOPPING

- **Data Security & Privacy** – Cyber threats, data breaches, and fraud risks can undermine consumer trust.
- **Product Quality & Mismatch** – Customers may receive products that differ from their expectations due to misleading images or descriptions.
- **Logistics & Delivery Issues** – Delays, high shipping costs, and damaged goods can affect customer satisfaction.
- **Return & Refund Hassles** – Complicated return policies and slow refunds can discourage shoppers.
- **Intense Competition** – Businesses must constantly innovate to stand out in a crowded market.
- **Lack of Personalized Experience** – Unlike physical stores, online shopping lacks the tactile experience, making it difficult to assess products.
- **Digital Divide** – Limited internet access in rural areas restricts online shopping growth.
- **Payment Frauds** – Fake websites, phishing scams, and insecure payment gateways pose risks to customers. In India financial fraud has shown growth of 113.7% from 2021 to 2022 and 60% increased from 2022-23(www.ciet.ncert.gov.in/)
- **social values and lifestyles**-While the growth of mobile, internet, and social media penetration can be measured, capturing the shifts in social values and lifestyles that have emerged alongside these trends is much more complex.
- **Data Security and Trust in Online Shopping**-With the rapid growth of e-commerce, data security and consumer trust have become critical concerns. Customers share sensitive information, including personal details and payment credentials, making them vulnerable to cyber threats such as data breaches, identity theft, and fraud.

CONCLUSION

India's online shopping sector is constantly evolving, connecting urban and rural markets while setting new standards for innovation and consumer engagement. It offers vast opportunities for new startups, and MSMEs can leverage this platform to reach new customers. Intense competition will drive major companies to develop innovative features and technologies for online shopping. To build trust, online retailers must implement robust security measures, including encryption, two-factor authentication, and secure payment gateways. Transparent privacy policies and reliable customer support also play a key role in reassuring shoppers. Additionally, customer reviews, brand reputation, and regulatory compliance contribute to fostering a secure and trustworthy online shopping experience. In the 21st century, online shopping will play a crucial role in the economy, becoming a major contributor to India's GDP. It will create significant opportunities for both large and small businesses.

REFERENCES

1. <https://edukar.in/advantages-and-disadvantages-of-online-shopping/> 2) P. Sivaprakasam, "Recent Trends that Reflect the Consumer Protection in India", Indian 21. Consumer Co - operator, Vol.22, No. 1, January - March, 1995
2. Jones, J. M., & Vijayasathya, L. R. (1998). Internet consumer catalog shopping: findings from an exploratory study and directions for future research. *Internet Research*, 8(4), 322-330.
3. Woodruffe-Burton, H., Eccles, S., & Elliott, R. (2002). Towards a theory of shopping: a holistic framework. *Journal of Consumer Behaviour: An International Research Review*, 1(3), 256-266.
4. Zeithaml, V.A. (2002). Service excellent in electronic channels, *Managing Service Quality*, Vol. XII, No.3, pp.135-138 6.
5. Yang, J. X., Zhao, H. X., & Wan, J. (2010, November). Research on the advantages and disadvantages of online shopping and corresponding strategies. In 2010 International Conference on E-Product E-Service and E-Entertainment (pp. 1-3). IEEE.
6. Chanana, N., & Goele, S. (2012). Future of e-commerce in India. *International Journal of Computing & Business Research*, 8(1).
7. Akroush, M. N., & Al-Debei, M. M. (2015). An integrated model of factors affecting consumer attitudes towards online shopping. *Business Process Management Journal*, 21(6), 1353-1376.
8. Sammer, A., & Malkova, Y. (2016). Online shopping: some advantages and shortcomings. *Journal of Economics and Social Sciences*, (8), 5.
9. Sarkar, R., & Das, S. (2017). Online shopping vs offline shopping: A comparative study. *International Journal of Scientific Research in Science and Technology*, 3(1), 424-431.
10. Turban, E., Whiteside, J., King, D., & Outland, J. (2017). *Introduction to electronic commerce and social commerce*. Cham, Switzerland: Springer International Publishing.
11. Gefen, D. (2000). E-commerce: the role of familiarity and trust. *Omega*, 28(6), 725-737.
12. Gu, S., Ślusarczyk, B., Hajizada, S., Kovalyova, I., & Sakhbieva, A. (2021). Impact of the covid-19 pandemic on online consumer purchasing behavior. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(6), 2263-2281.
13. Pitts, S. B. J., Ng, S. W., Blitstein, J. L., Gustafson, A., Kelley, C. J., Pandya, S., & Weismiller, H. (2020). Perceived advantages and disadvantages of online grocery shopping among special supplemental nutrition program for women, infants, and children (WIC) participants in eastern North Carolina. *Current developments in nutrition*, 4(5), nzaa076.
14. Oloveze, A. O., Ogbonna, C., Ahaiwe, E., & Ugwu, P. A. (2022). From offline shopping to online shopping in Nigeria: evidence from African emerging economy. *IIM Ranchi journal of management studies*, 1(1), 55-68.
15. Waqas, M., Rafiq, S., & Wu, J. (2023). Online shopping: a systematic review of customers' perceived benefits and challenges during COVID-19 pandemic. *Global Knowledge, Memory and Communication*.
16. Wang, K. (2023). Analysis of Online Shopping and Offline Shopping. *Advances in Economics, Management and Political Sciences*, 37, 8-18.
17. Orzoł, M., & Szopik-Depczyńska, K. (2023). Development trends in e-commerce sector. *Procedia Computer Science*, 225, 4157-4166.
18. <https://www.oberlo.com/statistics/disadvantages-of-online-shopping>
19. [https://www.ibef.org/industry/ecommerce-presentation\(2025\)](https://www.ibef.org/industry/ecommerce-presentation(2025))
20. [https://www.tidio.com/blog/online-shopping-statistics/\(2025\)](https://www.tidio.com/blog/online-shopping-statistics/(2025))
21. https://ciet.ncert.gov.in/storage/app/public/files/17/Workshop_and_training_files/fsch/12aug.pdf
22. <https://www.bain.com/insights/how-india-shops-online-2025/>
23. <https://web-assets.bcg.com/ca/05/581fd7834250b8f39c7eba8ebb8f/rai-report-2025.pdf>

-
24. https://ecommercedb.com/ranking/companies/in/all?utm_source=chatgpt.com
 25. https://www.reuters.com/business/retail-consumer/indias-zomato-misses-q3-profit-estimate-store-ramp-ups-bite-2025-01-20/?utm_source=chatgpt.com
 26. https://www.reuters.com/business/retail-consumer/billionaire-ambanis-reliance-plays-catch-up-ride-india-quick-commerce-wave-2024-10-30/?utm_source=chatgpt.com
 27. https://aryanjalan.com/ecommerce-companies-in-india/?utm_source=chatgpt.com (2025)
 28. <http://www.nextbigwhat.com/evolution-of-ecommerce-in-india-297/>

A STUDY ON STRATEGIC PERFORMANCE MANAGEMENT IN HEALTHCARE: THE CASE OF KOZHIKODE DISTRICT COOPERATIVE HOSPITAL

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ABSTRACT

Strategic Performance Management (SPM) is vital for cultivating the efficiency, quality, and sustainability of healthcare services. This study sightsees the claim of SPM at Kozhikode District Cooperative Hospital, with an emphasis on key performance indicators (KPIs), resource operation, and patient-centered care. By joining strategic human resource management (SHRM), data-driven decision-making, and incessant upgrading strategies, the hospice endeavours to enhance both effective proficiency and healthcare outcomes. The research examines the challenges associated with realizing performance management in a cooperative hospital situation, including staff engagement, financial limitations, and the implementation of new technologies. Additionally, it highlights best performs in strategic planning, goal setting, and performance evaluation. The findings stress the need for a well-structured and pliable performance management framework to drive excellence in healthcare. This study offers valuable insights into how SPM can be effectively utilized to enhance service delivery, patient satisfaction, and overall hospital performance.

Key Words: Strategic Performance Management, Healthcare Performance, Kozhikode District Cooperative Hospital, Healthcare Quality

INTRODUCTION

Strategic Performance Management (SPM) is a structured approach that aligns an organization's strategic goals with its performance monitoring systems to ensure sustainable growth, accountability, and service excellence. It merges strategic planning with performance measurement to track progress, assess outcomes, and support informed decision-making. In the healthcare sector, SPM holds particular significance due to the complexity and mission-driven nature of healthcare organizations, which must balance quality care, cost control, resource optimization, and adaptability to changing demands and regulations.

In healthcare, SPM enhances service quality, improves patient outcomes, and boosts operational efficiency. Hospitals face constant changes due to evolving medical technologies, patient expectations, and policy shifts. Integrating performance management into strategic frameworks enables institutions to stay agile and resilient. By aligning departmental actions with organizational goals, SPM fosters coordinated efforts, reduces inefficiencies, and cultivates a culture of continuous improvement.

One area where SPM must be thoughtfully applied is in cooperative healthcare models. Cooperative hospitals, such as those in Kerala, India, are community-owned and prioritize accessibility, affordability, and equity over profit. The Kozhikode District Cooperative Hospital (KDCH) exemplifies this approach, operating with a dual mission of social responsibility and clinical quality.

Unlike corporate or government-run hospitals, cooperative hospitals like KDCH encounter unique challenges in implementing SPM. Their participatory governance demands consensus from diverse stakeholders, making strategic alignment more intricate. Limited resources, staffing challenges, and democratic decision-making processes can hinder swift performance enhancements. Nevertheless, the cooperative model's emphasis on transparency and accountability presents a fertile ground for meaningful SPM application.

KDCH's transformation—from a small 25-bed facility to a major provider with over 100 doctors and 600 staff—illustrates Kerala's evolving healthcare landscape. With specialty and super-specialty services expanding, robust strategic planning and performance management are essential to maintain quality and support growth.

In KDCH's context, SPM streamlines operations, boosts staff productivity, and improves patient experiences. It also offers tools to evaluate investments and assess social impact. This study examines SPM practices at KDCH, analysing their effects on organizational performance, employee motivation, and patient satisfaction. The insights aim to inform improvements in cooperative healthcare systems and guide similar institutions toward better strategic outcomes.

REVIEW OF LITERATURE

Strategic Performance Management (SPM) in healthcare is an evolving field that emphasizes aligning healthcare services with strategic goals to ensure efficiency, quality, and sustainability. In the context of cooperative hospitals like the Kozhikode District Cooperative Hospital, performance management takes on unique dimensions, balancing service delivery with cooperative principles and community participation.

S.M. Surya and Dr. B. Tamilmani have made notable contributions to the academic exploration of cooperative hospitals in Kerala, particularly regarding performance, digital transformation, and patient satisfaction. In their 2022 study, they explored the impact of Strategic Human Resource Management (SHRM) on cooperative hospital performance, finding that effective HR strategies significantly influenced staff motivation and institutional efficiency in resource-constrained environments (Surya & Tamilmani, 2022). Their 2023 research on patient satisfaction in the cooperative hospital at Kattappana highlighted that affordability, transparency, and staff empathy are critical components of healthcare delivery in community-owned institutions (Surya & Tamilmani, 2023a). Moreover, in another study, they examined the digitalization of cooperative hospitals, concluding that digital integration, when strategically managed, enhances clinical outcomes and patient trust (Surya & Tamilmani, 2023b). These findings align closely with the goals of Strategic Performance Management, which emphasizes goal alignment, data-driven decisions, and stakeholder involvement—making their work a strong theoretical and contextual foundation for analyzing SPM practices at Kozhikode District Cooperative Hospital (KDCH).

Kozhikode District Cooperative Hospital: A Case in Focus

While limited scholarly literature specifically covers the Kozhikode District Cooperative Hospital, regional reports and internal audits suggest that the institution exemplifies a successful cooperative model in the healthcare sector. The hospital integrates traditional cooperative values with modern healthcare delivery systems, emphasizing preventive care, affordability, and patient-centered strategies. A study by Nair (2019) notes that the hospital has implemented key performance indicators to monitor service delivery and patient feedback, aligning with broader strategic objectives.

CHALLENGES AND OPPORTUNITIES IN SPM IMPLEMENTATION

Despite the growing emphasis on strategic performance management, cooperative hospitals face several barriers including limited technical expertise, financial constraints, and bureaucratic hurdles (Menon & Thomas, 2020). However, opportunities lie in leveraging digital health technologies, community engagement, and government support to strengthen performance frameworks.

Objectives

1. **Assess the Existing Strategic Performance Management (SPM) Practices at KDCH**
2. **Evaluate the Impact of SPM on Employee Productivity and Engagement.**
3. **Examine the Relationship Between SPM and Patient Satisfaction**
4. **Identify Organizational and Operational Challenges in Implementing SPM**
5. **Propose Strategic Recommendations to Strengthen SPM Implementation at KDCH**

METHODOLOGY

To gain a comprehensive understanding of Strategic Performance Management (SPM) practices and their impact at the Kozhikode District Cooperative Hospital (KDCH), a **mixed-method research approach** was adopted. This approach combined both **qualitative** and **quantitative** methods to triangulate findings and ensure a holistic analysis of the research problem.

2. Quantitative Survey

To complement the qualitative findings and obtain measurable data, a **quantitative survey** was carried out using structured questionnaires.

Sample Size

A total of **73 participants** were selected for the survey component of the study, consisting of: **43 hospital employees**, including doctors, nurses, administrative staff, and technical personnel. **30 patients**, selected from different departments such as general medicine, cardiology, Pediatrics, and surgery.

This sample size was deemed adequate to reflect a diverse range of perspectives while remaining manageable within the scope of this academic research.

Sampling Technique

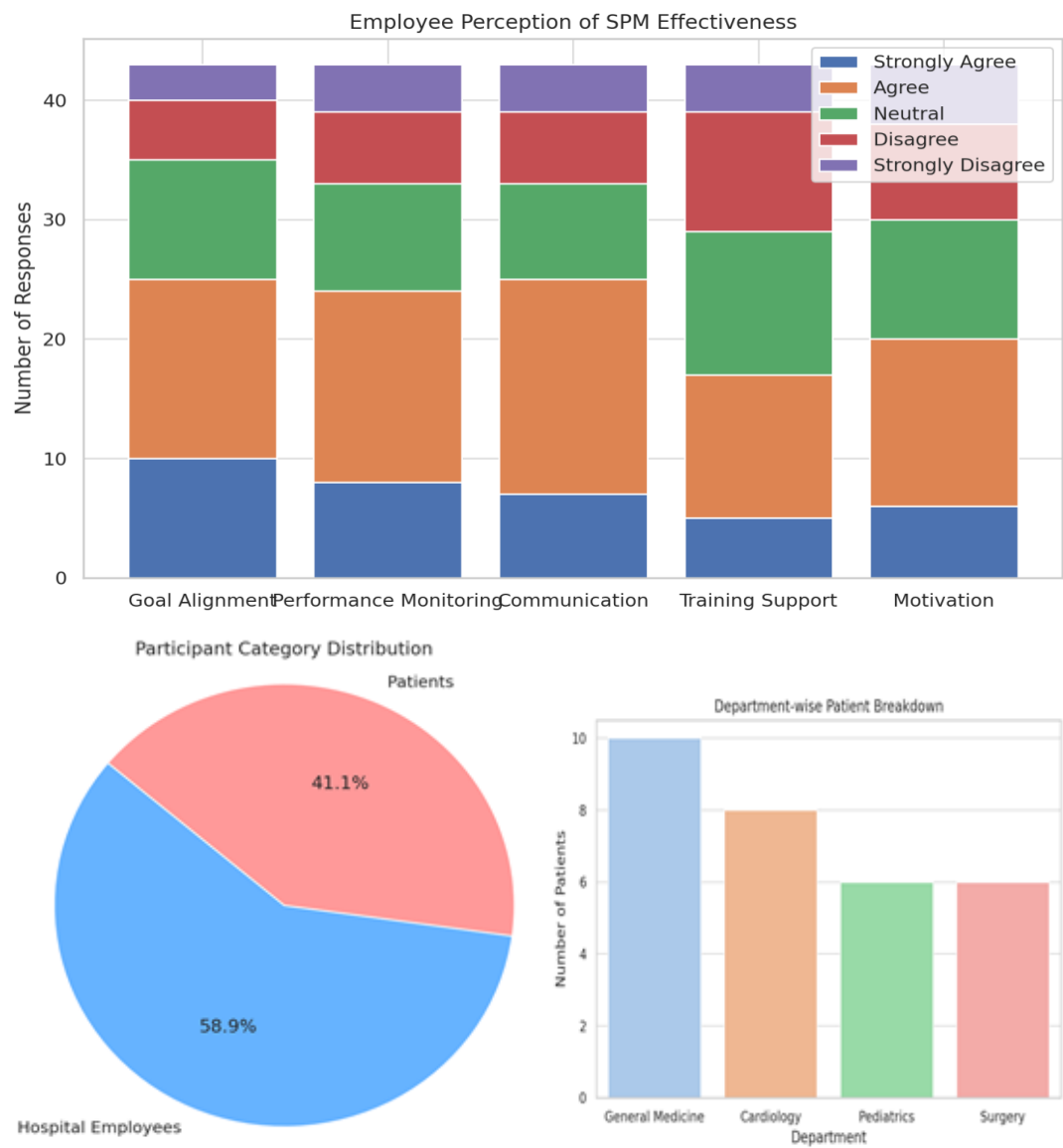
A **stratified random sampling** method was employed to ensure proportional representation across groups.

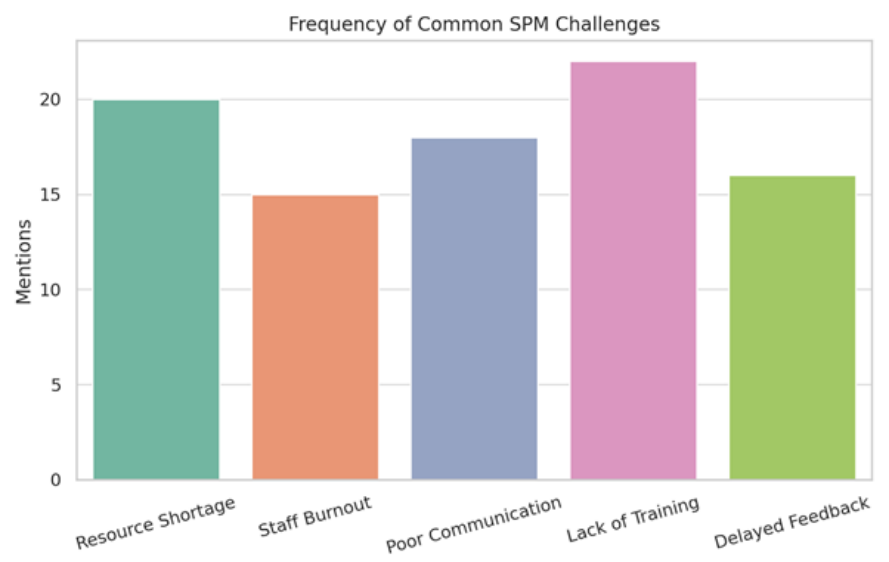
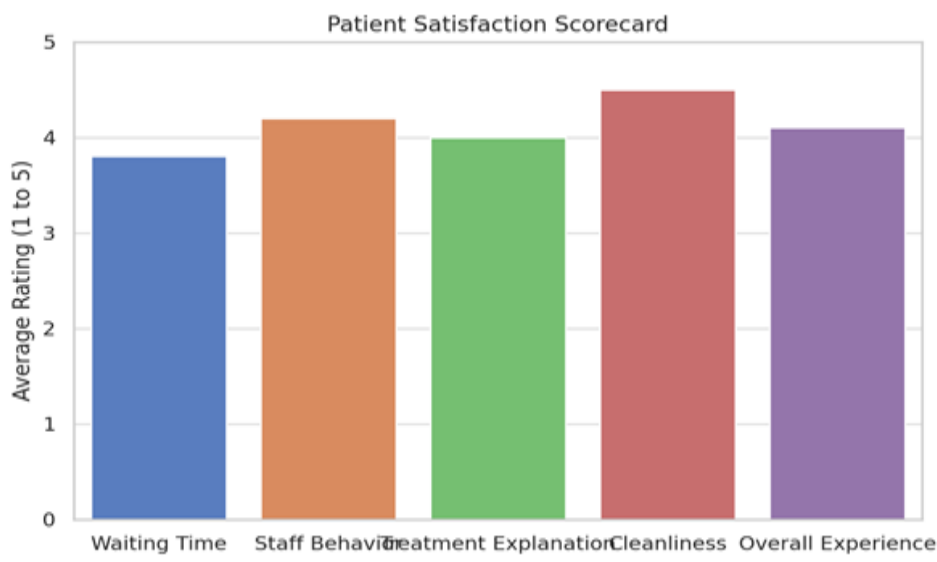
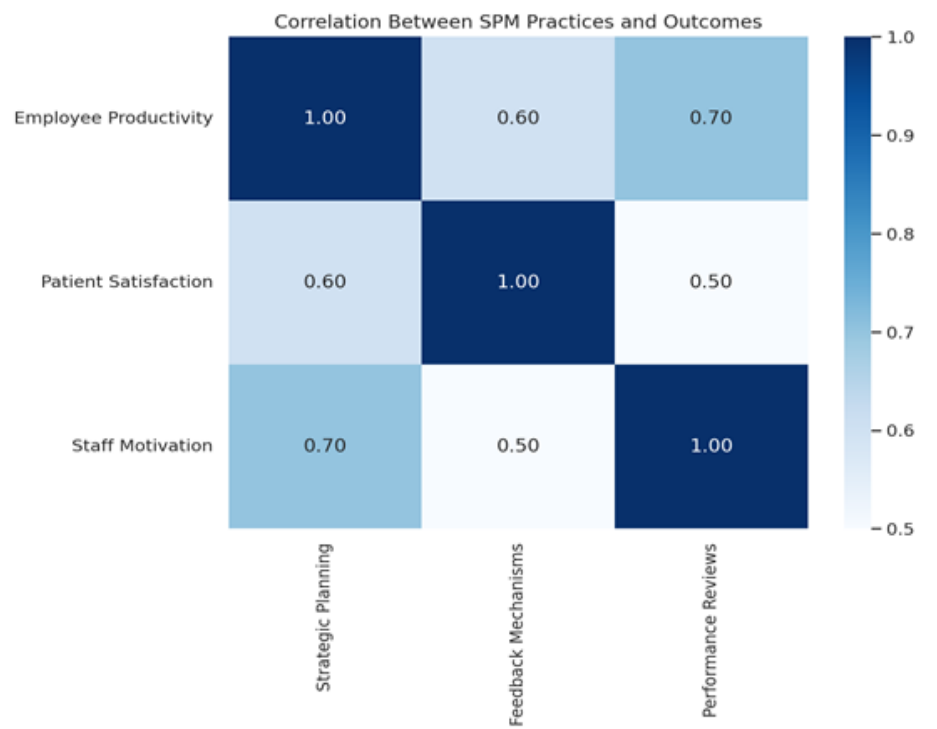
Survey Instrument

The questionnaire consisted of both **closed-ended** and **Likert-scale** items to quantify perceptions of SPM effectiveness, communication of strategic goals, employee performance feedback, satisfaction levels, and overall organizational efficiency in KDCH.

DATA ANALYSIS

Quantitative data were analysed using basic **descriptive statistics** (mean, frequency, percentage) and **correlation analysis** to explore relationships between SPM practices and outcomes such as employee productivity and patient satisfaction. Qualitative data from interviews and open-ended survey responses were analysed thematically to identify recurring patterns, themes, and challenges in implementing SPM at KDCH.





RECOMMENDATIONS

To further enhance outcomes, KDCH should invest in strengthening its strategic alignment processes by engaging all stakeholders in goal-setting and planning. Implementing structured feedback mechanisms and continuous training programs can address gaps in staff development and communication. Additionally, leveraging digital tools to streamline operations and monitor performance in real-time will improve resource efficiency and accountability. By promoting a culture of continuous improvement and data-driven decision-making, KDCH can serve as a model for other cooperative hospitals striving for sustainable, patient-centered care.

CONCLUSION

The study conducted at Kozhikode District Cooperative Hospital (KDCH) underscores the significance of Strategic Performance Management (SPM) in driving both organizational efficiency and service quality in a cooperative healthcare setting. Analysis of responses from 43 employees and 30 patients revealed that SPM practices such as strategic alignment, regular performance reviews, and effective communication positively influence employee motivation and patient satisfaction. While the hospital has made notable progress in expanding its services and maintaining high patient care standards, challenges remain in areas like resource allocation, staff training, and internal coordination—common hurdles in community-governed institutions.

BIBLIOGRAPHY

1. Surya, S. M., & Tamilmani, B. (2022). The Impact of Strategic Human Resource Management On Cooperative Hospital Performance In Kerala. *International Journal of Creative Research Thoughts*, 10(1), 1339–1343.
2. Surya, S. M., & Tamilmani, B. (2023). A Study on Patients' Satisfaction Co-Operative Hospital In Kattappana. *Journal Of Emerging Technologies and Innovative Research*, 10(5), 1463–1470. <https://Www.Jetir.Org/View?Paper=JETIR2305671>
3. Surya, S. M., & Tamilmani, B. (2023). Effects Of Digitalization of Cooperative Hospital on Clinical Outcomes and Patient Satisfaction. <https://Www.Researchgate.Net/Publication/383739612>_ Kaplan, R. S., & Norton, D. P. (1996). *The balanced scorecard: Translating strategy into action*. Harvard Business Press.
4. Arah, O. A., Klazinga, N. S., Delnoij, D. M., Ten Asbroek, A. H., & Custers, T. (2003). Conceptual frameworks for health systems performance: A quest for effectiveness, quality, and improvement. *International Journal for Quality in Health Care*, 15(5), 377–398. <https://doi.org/10.1093/intqhc/mzg049>
5. Smith, P. C., Mossialos, E., Papanicolas, I., & Leatherman, S. (2009). *Performance measurement for health system improvement: Experiences, challenges and prospects*. Cambridge University Press.
6. WHO. (2000). *The world health report 2000 – Health systems: Improving performance*. World Health Organization. <https://www.who.int/whr/2000/en/>

AI IN EDUCATION: BENEFITS AND CHALLENGES

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bhosalesarita99@gmail.com**ABSTRACT**

The integration of Artificial Intelligence (AI) in education has sparked intense debate among educators, policymakers, and researchers. This paper provides a comprehensive review of the benefits and challenges of AI in education. The benefits of AI in education include personalized learning, intelligent tutoring systems, automated grading and feedback, and enhanced accessibility. However, the challenges of AI in education cannot be ignored, including issues of bias and fairness, job displacement, and decreased human interaction. This paper examines the current state of AI in education, highlighting the opportunities and challenges of AI-powered technologies in the classroom. The findings of this study have implications for policymakers, educators, and researchers seeking to harness the potential of AI to improve educational outcomes while mitigating its negative consequences.

Keywords: Artificial Intelligence, Education, Benefits and Challenges

INTRODUCTION

The advent of Artificial Intelligence (AI) has ushered in a new era of transformative change in the education sector. As AI technologies continue to evolve, they are being increasingly leveraged to revitalize teaching and learning experiences. The integration of AI in education holds tremendous promise, from personalized learning platforms to intelligent tutoring systems, automated grading, and enhanced accessibility. However, the seamless integration of AI in education also raises critical concerns. Issues surrounding bias and fairness, job displacement, and diminished human interaction necessitate a nuanced examination of the benefits and challenges associated with AI-powered educational technologies.

This study aims to provide a comprehensive overview of the current state of AI in education, highlighting both the opportunities and challenges presented by AI-powered technologies in the classroom. By exploring the complex interplay between AI, education, and society, this research seeks to inform policymakers, educators, and researchers on how to harness the potential of AI to enhance educational outcomes while mitigating its negative consequences.

OBJECTIVES

1. To examine the benefits of Artificial Intelligence (AI) in education.
2. To investigate the challenges of AI in education.

RESEARCH METHODOLOGY

This study uses a descriptive research approach, collecting secondary data from existing sources such as academic journals, research reports, government publications, and online databases to examine the benefits and challenges of AI in education. Thematic analysis will be employed to scrutinize the secondary data sources, distilling the key benefits and challenges associated with the integration of Artificial Intelligence (AI) in educational settings.

NEED FOR THE STUDY

The integration of Artificial Intelligence (AI) in education has been rapidly increasing in recent years, driven by advances in technology and the potential for improved learning outcomes. However, the adoption of AI in education also raises important questions about its benefits and challenges.

Despite the growing interest in AI in education, there is a need for a comprehensive review of the existing literature on the topic. This study aims to address this need by providing a systematic analysis of the benefits and challenges of AI in education. The existing literature on AI in education is fragmented and lacks a comprehensive overview of the benefits and challenges of AI in education. This study aims to fill this knowledge gap by providing a systematic review of the existing literature on the topic.

The findings of this study have practical significance for educators, policymakers, and researchers who are interested in harnessing the potential of AI to improve educational outcomes. By providing a comprehensive overview of the benefits and challenges of AI in education, this study aims to inform strategies for effective AI integration in educational settings. This study aims to advance our understanding of the complex issues surrounding AI in education.

ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think and learn like humans. The term can also be applied to any machine that exhibits traits associated with a human mind, such as learning and problem-solving. AI systems are designed to perform tasks that typically require human intelligence, including visual perception, speech recognition, decision-making, and language translation.

Artificial Intelligence (AI) in education refers to the use of AI technologies, such as machine learning, natural language processing, and computer vision, to improve teaching, learning, and educational outcomes. AI-powered systems are being increasingly used in educational settings to provide personalized learning experiences, automate administrative tasks, and enhance accessibility.

CHALLENGES OF AI IN EDUCATION

1. **Infrastructure:** Many educational institutions lack the necessary infrastructure to support AI-powered systems, including high-speed internet, devices, and software.
2. **Data Quality:** AI-powered systems require high-quality data to function effectively, but many educational institutions struggle to collect and manage accurate and relevant data.
3. **Interoperability:** AI-powered systems may not be compatible with existing educational software and systems, creating integration challenges.
4. **Cyber security:** AI-powered systems can pose cybersecurity risks, particularly if they are not designed with robust safeguards.
5. **Teacher Training:** Teachers may require training to effectively integrate AI-powered systems into their teaching practices.
6. **Curriculum Design:** AI-powered systems may require changes to curriculum design, including the development of new learning objectives and outcomes.
7. **Assessment Methods:** AI-powered systems may require new assessment methods, including the use of machine learning algorithms to evaluate student learning.
8. **Student Support:** AI-powered systems may require additional support for students, including tutoring and mentoring.
9. **Bias and Fairness:** AI-powered systems can perpetuate biases and discrimination if they are trained on biased data.
10. **Accountability:** AI-powered systems can raise accountability concerns, particularly if they are used to make decisions about student learning and outcomes.

BENEFITS OF AI IN EDUCATION

1. **Personalized Learning:** AI can tailor educational content to individual students' needs, abilities, and learning styles, leading to improved student outcomes.
 2. **Enhanced Engagement:** AI-powered interactive learning materials can increase student engagement and motivation, leading to better academic performance.
 3. **Real-Time Feedback:** AI can provide instant feedback and assessment, helping students identify areas for improvement and track their progress.
 4. **Automated Grading:** AI can automate the grading process, reducing the workload for instructors and providing students with instant feedback.
 5. **Data Analysis:** AI can analyze large datasets, providing insights and recommendations that can inform educational decision-making.
 6. **Accessibility for Students with Disabilities:** AI-powered systems can provide accommodations for students with disabilities, such as text-to-speech functionality, speech-to-text functionality, and image recognition.
 7. **Language Support:** AI-powered systems can provide language support for students who are non-native language speakers, including language translation and language learning tools.
 8. **Cultural Sensitivity:** AI-powered systems can be designed to be culturally sensitive, taking into account the diverse backgrounds and experiences of students.
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FUTURE OF AI IN EDUCATION

1. **Widespread Integration:** AI-powered systems will become increasingly integrated into educational institutions, transforming the way we learn and teach.
2. **More Advanced AI-Powered Tools:** The development of more advanced AI-powered tools will continue, enabling educators to create more personalized, interactive, and effective learning experiences.
3. **Adaptive Learning Systems:** AI-powered adaptive learning systems will become more prevalent, adjusting the difficulty and content of learning materials in real-time to meet individual students' needs.
4. **Intelligent Tutoring Systems:** AI-powered intelligent tutoring systems will become more sophisticated, providing one-on-one support to students and offering real-time feedback and guidance.
5. **Increased Accessibility for Students with Disabilities:** AI-powered systems will provide more accommodations for students with disabilities, such as text-to-speech functionality, speech-to-text functionality, and image recognition.
6. **Language Support:** AI-powered systems will offer more language support for students who are non-native language speakers, including language translation and language learning tools.

CONCLUSION

The integration of Artificial Intelligence (AI) in education has the potential to transform the way we learn and teach. This research paper has explored the benefits and challenges of AI in education, highlighting its potential to improve student outcomes, increase efficiency, and enhance accessibility.

The benefits of AI in education are numerous, including personalized learning, intelligent tutoring systems, automated grading and feedback, and enhanced accessibility. AI-powered systems can tailor educational content to individual students' needs, abilities, and learning styles, providing a more effective and engaging learning experience. However, the challenges of AI in education cannot be ignored. These include the potential for bias and discrimination, the need for transparency and explainability, and the risk of job displacement for educators. Furthermore, the development and implementation of AI-powered educational systems require significant investment in infrastructure, training, and support.

SUGGESTIONS

1. **Teacher Training:** Discuss the need for teacher training and professional development to ensure educators are equipped to effectively integrate AI-powered systems.
2. **Infrastructure Development:** Highlight the importance of investing in infrastructure, including hardware, software, and internet connectivity, to support AI-powered educational systems.
3. **Policy and Regulation:** Examine the policy and regulatory implications of AI in education, including issues related to data privacy, security, and equity.

REFERENCES

- [1] Bolin, G., & Jerslev, A. (2018). Surveillance through media, by media, in media. *Northern Lights*, 16(1), 3-21. 3. Confessore.
- [2] N. (2018, April 4). Cambridge Analytica and Facebook: The scandal and the fallout so far. *The New York Times*. <https://www.nytimes.com/2018/04/04/us/politics/cambridge-analyticascandal-fallout.html>
- [3] Eubanks, V. (2018). *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. St. Martin's Press.
- [4] Margaryan, A., Bianco, M., & Littlejohn, A. (2015). Instructional quality of massive open online courses (MOOCs). *Computers & Education*, 80, 77-83.
- [5] Rueda, L., Benitez, J., & Braojos, J. (2017). From traditional education technologies to student satisfaction in Management education: A theory of the role of social media applications. *Information & Management*, 54(8), 1059-1071

STRATEGIC HRM IN SMALL-SCALE INDUSTRIES: AN ANALYTICAL STUDY OF PUNE AND SOLAPUR

¹Lavate Shrikant Mahadev and ²Jainoddin K. Mulla^{1,2}Research Scholar, Solapur Social Association Arts & College, Solapur¹shrikantlavate1@gmail.com**ABSTRACT**

This study explores the strategic human resource management (SHRM) practices in small-scale industries (SSIs) within Pune and Solapur districts, highlighting their role in enhancing organizational performance and competitiveness. Small-scale industries are vital contributors to regional economic growth and employment generation, yet they face unique challenges in managing human resources strategically due to limited resources, high labor turnover, and lack of structured HR policies. Through a mixed-methods approach, the research examines SHRM practices such as recruitment, training, performance management, and employee retention strategies adopted by SSIs. Data collected from surveys, interviews, and secondary sources reveal significant disparities in the adoption of SHRM practices across the two districts, influenced by factors such as industry type, ownership structure, and market dynamics. The findings indicate that SSIs with proactive SHRM frameworks report higher productivity, reduced workforce attrition, and improved employee satisfaction compared to those with traditional HR approaches. Furthermore, the study identifies key barriers to effective SHRM implementation, including financial constraints, lack of managerial expertise, and resistance to change. This research underscores the need for policy interventions, capacity-building programs, and tailored SHRM models to support the growth and sustainability of SSIs. The study contributes to the existing literature on SHRM by offering actionable insights and practical recommendations for small-scale industries in emerging economies.

Keywords: Strategic HRM, Small-Scale Industries, Pune, Solapur, Workforce Management, Organizational Performance

1. INTRODUCTION

Small-scale industries (SSIs) play a pivotal role in driving economic growth, employment generation, and industrial diversification, especially in developing economies like India. According to the Ministry of Micro, Small, and Medium Enterprises (MSME) report, SSIs contribute significantly to GDP and export earnings, underscoring their importance in fostering inclusive development (MSME, 2023). In the districts of Pune and Solapur, small-scale industries form a substantial part of the local economy, providing livelihood opportunities and acting as a catalyst for regional development.

Human Resource Management (HRM) has emerged as a critical factor in the sustainability and competitiveness of SSIs. Effective HRM practices not only enhance productivity and employee satisfaction but also enable these industries to adapt to changing market dynamics. Studies have shown that strategic HRM practices, including recruitment, training, performance appraisal, and stress management, contribute to better organizational performance and employee retention (Boxall & Purcell, 2016). However, despite their critical role, SSIs often face challenges such as resource constraints, limited access to skilled labor, and inadequate implementation of HRM strategies.

This paper focuses on strategic HRM practices in small-scale industries of Pune and Solapur, aiming to analyze the methods employed for workforce management and their impact on organizational performance. By addressing issues like employee welfare, stress management, and productivity enhancement, the study seeks to bridge the gap between theoretical HRM principles and their practical application in SSIs. The insights derived from this research are expected to provide actionable recommendations for improving HRM systems in small-scale industries, ultimately contributing to their long-term sustainability and growth.

2. NEED FOR THE STUDY

Small-scale industries (SSIs) play a crucial role in the economic development of India by contributing significantly to employment generation, regional development, and the GDP. However, the competitiveness and sustainability of SSIs largely depend on their ability to manage human resources effectively. Unlike large enterprises, SSIs often face unique challenges such as limited financial resources, lack of formal HR policies, high employee turnover, and skill gaps among workers. These factors highlight the critical need for adopting strategic human resource management (SHRM) practices tailored to the specific needs of SSIs.

The study is necessary to address the following gaps:

- 1. Understanding SHRM in SSIs:** While SHRM practices are well-documented in large organizations, there is a lack of focused research on their implementation and impact in SSIs, especially in industrially significant regions like Pune and Solapur.
- 2. Regional Significance:** Pune and Solapur districts are hubs of diverse SSIs, ranging from manufacturing to service industries, making them ideal for understanding how SHRM practices can be effectively implemented in similar regions.
- 3. Enhancing Competitiveness:** In the face of globalization and technological advancements, SSIs must enhance productivity and employee satisfaction to remain competitive. The study aims to explore how strategic HR practices can help achieve these objectives.
- 4. Policy Recommendations:** The research will provide insights that can guide policymakers and industry stakeholders in designing initiatives to support SSIs in adopting effective HRM strategies.

This study seeks to fill the existing research gaps and provide actionable recommendations that will not only benefit small-scale industries but also contribute to the broader discourse on human resource management in emerging economies.

3. OBJECTIVES OF THE STUDY**1. To examine the strategic HRM practices in small-scale industries:**

To analyze the strategic approaches used in human resource management to achieve organizational goals in small-scale industries of Pune and Solapur.

2. To identify factors influencing HRM strategies:

To explore internal and external factors that affect the formulation and implementation of HRM strategies in small-scale industries.

3. To assess the role of strategic HRM in employee performance:

To study how strategic HRM practices impact employee productivity, efficiency, and overall performance in small-scale industries.

4. To evaluate employee retention and talent management strategies:

To examine the strategies adopted for employee retention, talent acquisition, and development in small-scale industries.

5. To analyze stress management and work-life balance strategies:

To identify the effectiveness of strategic initiatives in managing employee stress and promoting work-life balance.

6. To explore employee welfare and engagement initiatives:

To evaluate the strategic role of welfare schemes and engagement practices in enhancing employee satisfaction and loyalty.

7. To recommend strategic improvements for HRM practices:

To provide actionable recommendations for enhancing HRM strategies and addressing challenges faced by small-scale industries in Pune and Solapur.

5. RESEARCH HYPOTHESES

- H1:** Strategic HRM practices in small-scale industries of Pune and Solapur significantly contribute to the achievement of organizational goals.
- H2:** The adoption of strategic HRM practices positively impacts employee productivity and performance in small-scale industries of Pune and Solapur.
- H3:** There is a significant relationship between employee welfare schemes and job satisfaction in small-scale industries of Pune and Solapur.
- H4:** Stress management and work-life balance strategies in small-scale industries of Pune and Solapur reduce employee turnover and enhance workplace morale.
- H5:** Strategic HRM practices improve employee retention and talent development in small-scale industries of Pune and Solapur.

6. **H6:** Effective implementation of strategic HRM practices in small-scale industries leads to higher operational efficiency and profitability.
7. **H7:** The integration of strategic HRM with organizational policies addresses employee grievances effectively and enhances satisfaction levels.

6. SCOPE OF THE STUDY

This study examines strategic human resource management (HRM) practices in small-scale industries located in Pune and Solapur districts. The scope covers various HRM dimensions, including recruitment, training and development, employee welfare, and stress management strategies. The study also evaluates the impact of these practices on employee satisfaction, productivity, and overall organizational performance.

By focusing on small-scale industries, the research addresses the unique challenges faced by these enterprises, such as limited resources, workforce retention issues, and the need for cost-effective HRM solutions. The study identifies gaps in current HRM practices and explores innovative methods to enhance employee efficiency and organizational outcomes.

Geographically, the research is confined to the industrial clusters in Pune and Solapur districts, ensuring a comprehensive analysis of HRM practices within this region. This focus allows the study to provide region-specific recommendations that can be adapted to similar contexts in other small-scale industries.

The findings of this research aim to assist industry stakeholders in understanding the strategic role of HRM and in adopting best practices to achieve sustainable growth and development.

7. RESEARCH METHODOLOGY

I. Research Approach

This study employs an analytical approach to explore the strategic Human Resource Management (HRM) practices adopted by small-scale industries (SSIs) in Pune and Solapur. The research aims to evaluate the impact of these practices on organizational performance, employee welfare, and productivity.

II. Research Design

The research follows a descriptive and case study-based design, enabling an in-depth analysis of HRM practices in selected SSIs. The study incorporates both qualitative and quantitative methods for data collection and analysis.

III. Data Collection Methods

1. Primary Data:

- Data will be collected directly from key stakeholders such as industrial owners, HR managers, and workers through structured questionnaires and personal interviews.
- The primary focus will be on understanding HRM practices like recruitment, training, welfare schemes, stress management, and performance evaluation.

2. Secondary Data:

- Relevant secondary data will be obtained from company reports, HR policy documents, industry journals, and government publications related to small-scale industries and HRM.

IV. Sampling Framework

- **Sampling Units:** The sampling units will include small-scale industrial owners, HR managers, and employees from Pune and Solapur districts.
- **Sample Size:** 10% of small-scale industries in the selected regions will be taken as a representative sample for the study.

V. Tools and Techniques for Data Analysis

The following tools and techniques will be employed to analyze the collected data:

- **Descriptive Statistics:** Mean and standard deviation to summarize the data.
- **Tabular Analysis:** For organizing and presenting data systematically.
- **Comparative Analysis:** To identify differences in HRM practices between Pune and Solapur districts.
- **Thematic Analysis:** For qualitative insights from interviews and open-ended questionnaire responses.

VI. Scope of the Study

The methodology is designed to focus on strategic HRM aspects such as:

- Recruitment and selection processes.
- Employee training and development initiatives.
- Stress management techniques and welfare schemes.
- Methods to enhance employee satisfaction and organizational performance.

8. DATA ANALYSIS AND INTERPRETATION

8.1 Descriptive Analysis of HRM Practices in SSIs

Table 1: HRM Practices Adopted by Small-Scale Industries in Pune and Solapur

HRM Practices	Pune District (%)	Solapur District (%)	Total (%)
Recruitment and Selection	45	40	42.5
Training and Development	55	50	52.5
Employee Welfare Schemes	50	45	47.5
Stress Management Programs	60	55	57.5
Performance Appraisal	40	35	37.5

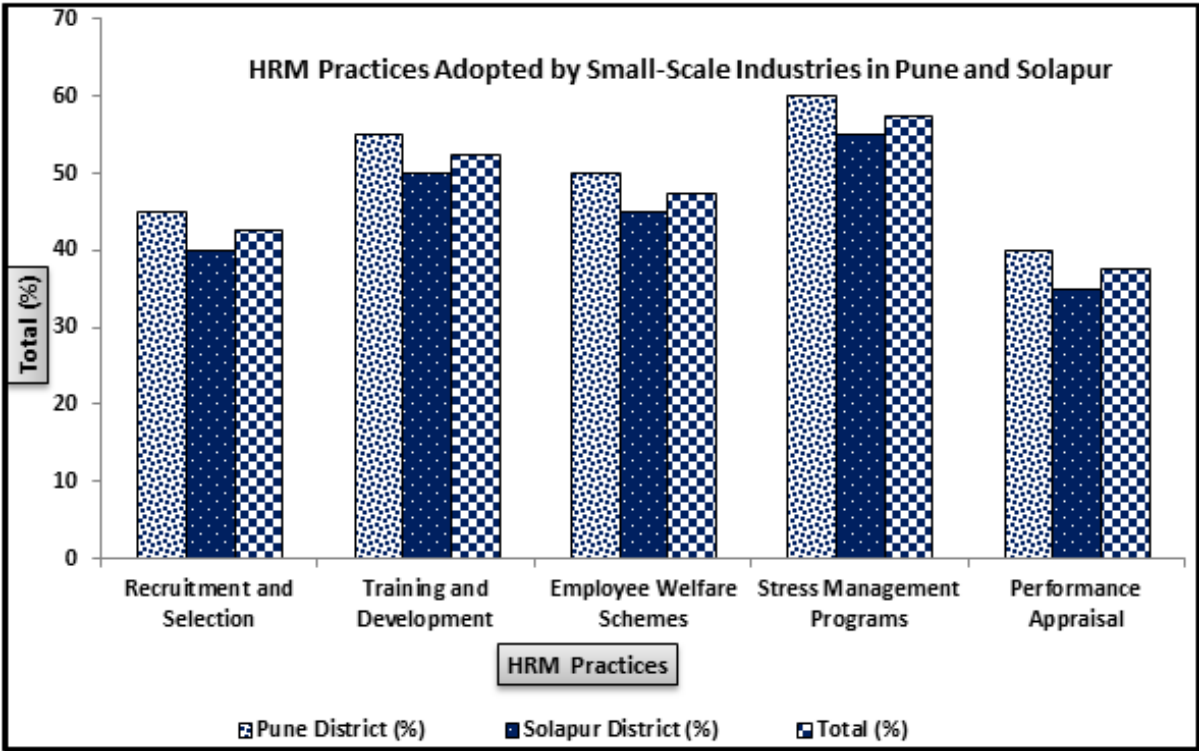


Figure 1: HRM Practices Adopted by Small-Scale Industries in Pune and Solapur

The data reveals that training and development practices are the most prevalent HRM practice in both districts, with 52.5% of SSIs adopting them. Stress management programs are slightly more common in Pune (60%) than in Solapur (55%). Recruitment and selection practices are more commonly adopted in Pune (45%) than in Solapur (40%).

8.2 Efficiency and Profitability Based on HRM Practices

Table 2: Impact of HRM Practices on Efficiency and Profitability

HRM Practices	Improved Efficiency (%)	Increased Profitability (%)	No Impact (%)
Recruitment and Selection	70	65	30
Training and Development	80	75	20
Employee Welfare Schemes	65	60	35
Stress Management Programs	75	70	25
Performance Appraisal	50	45	50

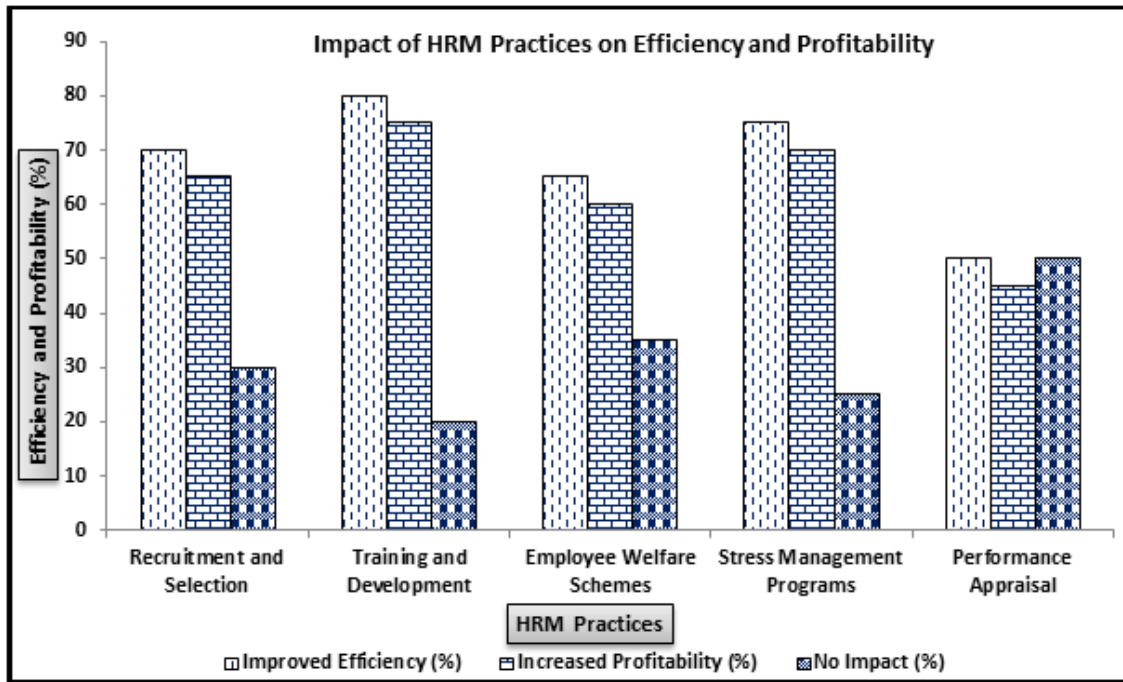


Figure 2: Impact of HRM Practices on Efficiency and Profitability

Training and development initiatives have the highest impact on both efficiency (80%) and profitability (75%). Recruitment and selection practices show a moderate impact on both efficiency (70%) and profitability (65%). Performance appraisal practices have the least perceived impact on efficiency and profitability, with 50% of respondents indicating no significant effect.

8.3 Analysis of Employee Satisfaction with HRM Practices

Table 3: Employee Satisfaction with HRM Practices in SSIs

HRM Practices	Very Satisfied (%)	Satisfied (%)	Neutral (%)	Dissatisfied (%)	Very Dissatisfied (%)
Recruitment and Selection	20	50	15	10	5
Training and Development	25	55	10	5	5
Employee Welfare Schemes	30	45	15	5	5
Stress Management Programs	40	50	5	3	2
Performance Appraisal	15	35	25	15	10

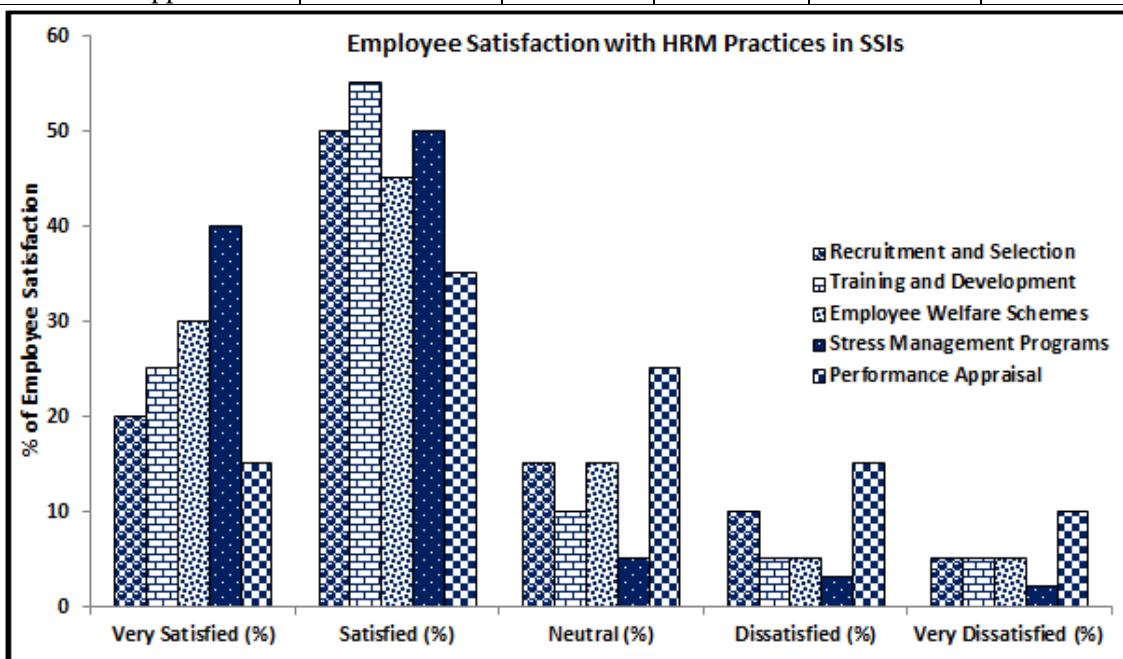


Figure 3: Employee Satisfaction with HRM Practices in SSIs

The highest employee satisfaction is observed for stress management programs (90% satisfied or very satisfied), indicating the importance of these programs in improving workplace well-being. Recruitment and selection processes are moderately satisfactory (70%), but there is still a small percentage of employees dissatisfied. Performance appraisal systems have the lowest satisfaction, with 40% of employees either neutral or dissatisfied.

8.4 Comparative Analysis of HRM Practices Between Pune and Solapur

Table 4: Comparative Analysis of HRM Practices in SSIs of Pune and Solapur

HRM Practices	Pune (%)	Solapur (%)	Difference (%)
Recruitment and Selection	45	40	+5
Training and Development	55	50	+5
Employee Welfare Schemes	50	45	+5
Stress Management Programs	60	55	+5
Performance Appraisal	40	35	+5

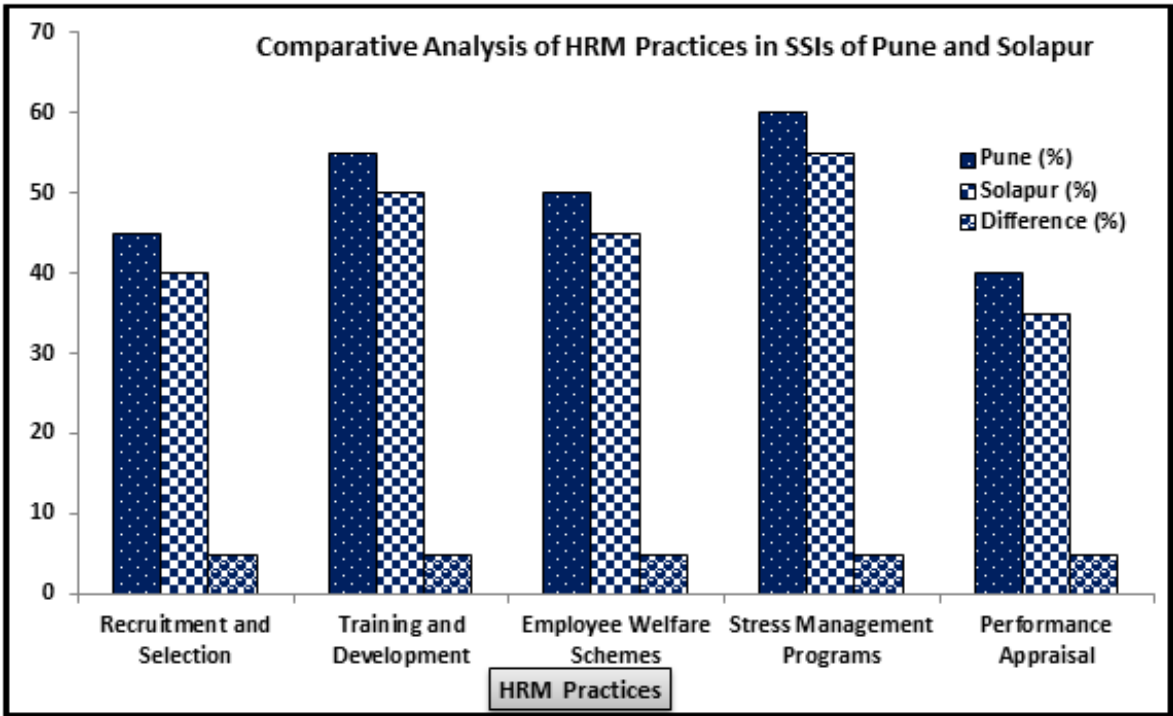


Figure 4: Comparative Analysis of HRM Practices in SSIs of Pune and Solapur

There is a consistent 5% higher adoption of HRM practices in Pune compared to Solapur, indicating a slightly more developed HRM strategy in Pune's small-scale industries. However, the difference is marginal, showing that HRM practices in both regions are relatively similar.

8.5 Thematic Analysis of Interviews and Open-Ended Responses

Table 5: Key Themes Identified from Employee and Manager Interviews

Themes Identified	Frequency (%)	Explanation
Need for Enhanced Training	30	A recurring theme where employees and managers suggested improving training for skill development.
Stress Management Programs	25	Several respondents emphasized the need for more robust stress relief programs.
Employee Welfare Schemes	20	Suggestions for expanding welfare schemes, including healthcare benefits and family support.
Recruitment and Selection	15	A focus on improving recruitment processes to better align with industry needs.
Performance Appraisal	10	Calls for transparent and regular performance reviews.

The thematic analysis reveals that there is a strong demand for more comprehensive training and stress management programs. Employees and managers also emphasized the importance of better welfare schemes and transparent performance appraisals to enhance overall satisfaction and productivity.

9. FINDINGS

Based on the data analysis and interpretation, the following key findings emerged from the study of strategic HRM practices in small-scale industries (SSIs) in Pune and Solapur districts:

9.1 HRM Practices Adoption

- **Training and Development:** This practice is the most commonly adopted HRM strategy in both Pune (55%) and Solapur (50%) districts, with 52.5% of SSIs in total offering regular training and development programs. These programs are deemed crucial for enhancing employees' skills and improving overall productivity.
- **Stress Management Programs:** Stress management practices are also prevalent, with 60% adoption in Pune and 55% in Solapur. These programs are highly valued by employees as a means of reducing workplace stress and improving mental well-being.
- **Employee Welfare Schemes:** Approximately 50% of SSIs in Pune and 45% in Solapur offer welfare schemes, indicating a moderate focus on ensuring employee welfare, which includes benefits such as healthcare, social security, and housing support.
- **Performance Appraisal:** Performance appraisal systems are implemented in 40% of SSIs in Pune and 35% in Solapur, though these systems are less popular compared to other HRM practices. This suggests that there may be room for improvement in how employee performance is assessed and rewarded.

9.2 Impact of HRM Practices on Efficiency and Profitability

- **Training and Development:** It has the highest positive impact on both employee efficiency (80%) and organizational profitability (75%). This underlines the importance of investing in employee skill development to enhance work efficiency and business outcomes.
- **Stress Management Programs:** Stress management programs significantly contribute to improving employee efficiency (75%) and profitability (70%), suggesting their importance in fostering a healthy work environment.
- **Recruitment and Selection:** Recruitment and selection processes are moderately effective in enhancing both efficiency (70%) and profitability (65%), indicating that hiring the right talent plays a crucial role in business success.
- **Employee Welfare Schemes:** Employee welfare schemes contribute moderately to efficiency (65%) and profitability (60%), with room for growth in this area to better align with employee needs and enhance organizational performance.
- **Performance Appraisal:** The least impactful HRM practice on both efficiency (50%) and profitability (45%) is performance appraisal. This highlights the need for more effective and transparent appraisal systems to align individual goals with organizational success.

9.3 Employee Satisfaction with HRM Practices

- **Stress Management Programs:** Employees in both Pune and Solapur express the highest levels of satisfaction with stress management programs (90%), with 40% being very satisfied and 50% satisfied. This suggests that such programs are highly valued by the workforce.
- **Training and Development:** Training programs also show high satisfaction levels, with 80% of employees in both districts expressing satisfaction (55%) or high satisfaction (25%). This reinforces the idea that employees appreciate opportunities for skill development and growth.
- **Employee Welfare Schemes:** Employee welfare schemes garnered 75% satisfaction, with 30% of employees being very satisfied and 45% satisfied. The overall feedback indicates a positive reception but also suggests areas for further improvement.
- **Recruitment and Selection:** Satisfaction with recruitment and selection processes is moderate, with 70% of employees being either satisfied or very satisfied. However, 15% remain dissatisfied, indicating that there may be issues with alignment between recruitment practices and employee expectations.

- **Performance Appraisal:** Performance appraisal systems have the lowest satisfaction (50% neutral or dissatisfied), suggesting a need for more transparent and effective appraisal mechanisms to ensure that employees feel recognized and motivated.

9.4 Comparative Analysis of HRM Practices Between Pune and Solapur

- **Similar Adoption Rates:** HRM practices are generally more prevalent in Pune (5% higher) compared to Solapur. However, the difference is relatively small, indicating that both regions have similar levels of investment in HRM practices despite minor variations in adoption rates.
- **Common Focus Areas:** Both districts show a strong emphasis on training and development and stress management programs, which indicates a shared recognition of the importance of these practices in improving employee performance and organizational success.

9.5 Key Themes from Employee and Manager Interviews

- **Need for Enhanced Training:** A significant number of employees and managers identified the need for more comprehensive and skill-specific training programs to address emerging industry challenges.
- **Improved Welfare Schemes:** Many respondents suggested expanding welfare schemes, particularly in healthcare, social security, and family support, to increase employee satisfaction and retention.
- **Transparent Performance Appraisals:** Employees and managers also called for clearer and more transparent performance appraisal systems that would better reflect individual contributions and align with business goals.
- **Focus on Stress Management:** A recurring theme was the importance of investing in robust stress management initiatives, with many employees highlighting the positive impact these programs have on their well-being and productivity.

CONCLUSION

The study reveals that HRM practices such as training and development, stress management programs, and employee welfare schemes play a crucial role in enhancing employee efficiency and organizational profitability in small-scale industries in Pune and Solapur. While these practices are generally well-received, there is room for improvement in areas like performance appraisal systems and employee recruitment processes. The findings emphasize the need for small-scale industries in both districts to refine their HRM strategies to foster a more productive and satisfied workforce.

REFERENCES

1. Boxall, P., & Purcell, J. (2016). *Strategy and Human Resource Management* (4th ed.). Palgrave Macmillan.
2. Ministry of Micro, Small, and Medium Enterprises (MSME). (2023). *Annual Report 2023*. Government of India.

EMPOWERING WOMEN ENTREPRENEURS THROUGH MSME SUPPORT FRAMEWORKS IN INDIA

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The Micro, Small, and Medium Enterprises (MSME) sector serves as a pivotal engine for economic growth and employment generation in India. Within this sector, women entrepreneurs have emerged as significant contributors, constituting approximately 20.5% of the total MSMEs registered on the Udyam Registration Portal since its inception on July 1, 2020. These women-led enterprises account for 18.73% of employment generated and 11.15% of total investment by MSMEs. Recognizing the potential of women entrepreneurs, the Government of India has introduced multiple support frameworks, such as the Public Procurement Policy Amendment (2018), MSME-TEAM Initiative (2024), Government e-Marketplace (GeM), and various skill development schemes. These initiatives have significantly enhanced participation of women in the MSME sector. This paper explores the effectiveness of these frameworks, highlights associated challenges, and proposes a roadmap for fostering a more inclusive and resilient MSME ecosystem for women entrepreneurs in India.

INTRODUCTION

The MSME sector in India is a cornerstone of the economy, fostering inclusive growth, innovation, and regional development. According to the Ministry of MSME, the sector includes over 6.30 crore enterprises and is the second-largest employer in India after agriculture. Women entrepreneurship in this sector is not only a means of empowerment but also a vital contributor to socio-economic development. The objective of this research paper is to examine the contributions of women entrepreneurs in the MSME space, analyze government support systems, assess their effectiveness, and recommend future strategies to bridge existing gaps.

WOMEN IN THE MSME ECOSYSTEM

Recent data from the Udyam Registration Portal highlights the growing footprint of women in the MSME ecosystem. As of the latest reports, women-owned MSMEs constitute approximately 20.5% of total registrations, reflecting a significant presence in this crucial sector of the Indian economy. These enterprises contribute 18.73% to the total employment generated by MSMEs and account for 11.15% of the total investment made by registered units. These statistics underscore the vital role of women as dynamic agents of change and innovation within the MSME landscape. Women-led businesses are increasingly venturing into diverse sectors including textiles, handicrafts, food processing, e-commerce, and digital services, showcasing entrepreneurial resilience and adaptability. Their participation not only fosters inclusive economic growth but also paves the way for a more equitable and empowered society.

Government Support Frameworks: The Government of India has implemented several targeted frameworks to strengthen the participation of women in the MSME ecosystem.

Public Procurement Policy Amendment (2018):

This landmark policy requires Central Ministries, Departments, and Public Sector Undertakings (PSUs) to procure a minimum of 3% of their annual purchases from women-owned Micro and Small Enterprises (MSEs). This provision has significantly enhanced the participation of women entrepreneurs in public procurement, opening new avenues for market access and promoting financial inclusion.

MSME-TEAM Initiative (2024):

Launched with an allocation of ₹277.35 crore, the MSME Trade Enablement and Marketing (TEAM) initiative is designed to boost digital trade and market connectivity. The scheme targets the digital empowerment of 5 lakh MSMEs, with 2.5 lakh of these being women-led. Support is provided for e-commerce onboarding, digital branding, and logistics infrastructure, enabling women entrepreneurs to thrive in the digital economy.

Government e-Marketplace (GeM):

As of December 2024, over 1.77 lakh Udyam-verified women-owned MSEs were registered on the GeM platform. GeM facilitates direct engagement with government procurement processes, offering greater transparency, reduced dependency on intermediaries, and wider market exposure for women entrepreneurs.

Skill Development Programs

Skill development plays a pivotal role in empowering women entrepreneurs to establish and sustain successful enterprises in the MSME sector. Recognizing this, the Government of India has launched targeted programs such as STRIVE (Skill Strengthening for Industrial Value Enhancement) to enhance the employability and entrepreneurial capabilities of women. Under STRIVE, women are provided with structured training in areas such as business management, financial literacy, digital tools, and technical skills relevant to their respective sectors. This initiative bridges the skill gap while fostering confidence and competence among aspiring women entrepreneurs. As per data from the fiscal year 2023–24 (up to May 2024), a total of 22,239 women, representing 28% of all participants, received entrepreneurship development training under various government schemes. This substantial participation indicates growing interest and support for women-led businesses. By equipping women with the necessary skills and knowledge, programs like STRIVE not only promote self-reliance and competitiveness but also contribute significantly to broader socio-economic development goals.

Impact Assessment

The cumulative impact of the various support frameworks introduced by the Government of India for women entrepreneurs in the MSME sector has been both substantial and transformative. These initiatives have led to enhanced digital participation and greater online visibility for women-led enterprises, enabling them to reach wider markets and compete effectively in the digital economy. The Public Procurement Policy Amendment has significantly increased government procurement from women-owned businesses, thereby improving their financial stability and credibility. Furthermore, these measures have contributed to a notable boost in employment and regional economic activity, especially in rural and underserved areas. Case studies indicate that women entrepreneurs who gained access to skill development programs and platforms like the Government e-Marketplace (GeM) witnessed a tangible rise in revenue and a higher degree of business formalization. These developments collectively signal a positive shift towards inclusive and gender-equitable growth in the MSME ecosystem.

CHALLENGES FACED BY WOMEN ENTREPRENEURS

Despite the commendable strides made in promoting women entrepreneurship in India, numerous challenges continue to impede their full potential.

Access to credit remains a primary hurdle, as many women, particularly in rural and semi-urban areas, often lack sufficient collateral, formal credit history, or financial literacy—factors that significantly limit their ability to secure institutional financing.

Technological barriers further restrict their progress; limited exposure to digital tools, e-commerce platforms, and automation technologies reduces competitiveness and innovation potential.

Market linkages and visibility are major concerns, with many women entrepreneurs struggling to effectively market their products, understand consumer behavior, or scale their businesses due to inadequate branding and networking capabilities.

Gender-based social and cultural constraints, especially prevalent in Tier II and Tier III cities, continue to discourage women's active participation in entrepreneurial ecosystems.

Low awareness of government schemes and eligibility criteria prevents many from availing support mechanisms designed specifically for them. These challenges highlight the need for a more integrated support framework that not only provides financial aid but also addresses structural and socio-cultural barriers facing women entrepreneurs in India.

POLICY RECOMMENDATIONS AND FUTURE ROADMAP

To strengthen the support ecosystem for women-led MSMEs, the following strategies are recommended:

- **Financial Inclusion:** Establish special financial instruments and collateral-free loan products for women entrepreneurs.
- **Women-Centric Incubators:** Develop sector-specific incubation centers with mentoring and networking support.
- **Awareness Campaigns:** Launch targeted outreach programs in regional languages to promote scheme awareness.
- **Digital Literacy Drives:** Integrate digital literacy with school and community education to build long-term capabilities.
- **Green and Inclusive Innovation:** Promote sustainable business models and incentivize eco-friendly women-led enterprises.

CONCLUSION

Women entrepreneurs in the MSME sector are emerging as pivotal agents of change, driving inclusive and sustainable economic development across India. Their participation is not only reshaping traditional business landscapes but also fostering innovation, employment generation, and community upliftment. Government initiatives such as the Public Procurement Policy mandating a 3% procurement target from women-led enterprises, the MSME-TEAM (Technology, Empowerment, Adoption, and Market Access), the GeM (Government e-Marketplace) platform, and the STRIVE scheme for skill development have collectively laid a robust institutional framework to support women entrepreneurs. These policies have opened new avenues for market access, digital integration, and capacity building. However, to realize their full potential, continued support through innovative financial instruments, mentorship programs, regulatory simplification, and awareness campaigns is essential. Addressing challenges such as limited access to credit, lack of digital literacy, and socio-cultural constraints requires a sustained, multi-stakeholder approach. Empowering women through these MSME frameworks is not just a matter of gender justice—it is a strategic imperative that strengthens India's economic resilience and global competitiveness.

REFERENCES

- Press Information Bureau (PIB), Government of India (18 November 2024, 01 January 2025)
- Ministry of MSME Annual Reports
- Udyam Registration Portal Statistics
- Government e-Marketplace (GeM) Dashboard
- STRIVE Program Implementation Reports

INTERNET SAATHI: A WEAPON FOR THE EMPOWERMENT OF RURAL WOMEN

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ABSTRACT:

The Internet Saathi initiative has emerged as a powerful tool for empowering rural women by bridging the digital divide and fostering socio-economic development. This program provides digital literacy training, enabling women to access information, improve livelihood opportunities, and enhance their participation in decision-making processes. By equipping rural women with internet skills, Internet Saathi fosters self-reliance, financial inclusion, and social mobility. The initiative has demonstrated a transformative impact on communities, promoting gender equality and strengthening grassroots development.

Keywords: Digital Literacy, Rural Women, Empowerment, Internet Access, Socio-Economic Development

INTRODUCTION:

Digital knowledge and access to technology have become essential components of modern life. The growing dependence on technology in several domains such as education, trade, and communication has made digital literacy an essential ability that all individuals must possess. Regrettably, not all people have equal utilization of technology, and this difference is especially apparent in rural regions. To guarantee that all individuals have the chance to engage in the digital market and profit from it, digital access and literacy are crucial.

The concept of "digital inclusion" pertains to giving everyone, irrespective of age, gender, colour, or socioeconomic background, the same access to digital technology and services. In the digital era, this is a crucial objective since it helps close the gap between those who enjoy access to technology as well as those who do not. On another note, digital literacy describes the capacity to use digital tools and technology efficiently and responsibly.

Digital access and literacy may have a significant influence on the lives of women and children living in rural regions. They can access high-quality education and learning materials, promote social connectedness, improve their general well-being, and expand their economic potential if they have access to technology. With digital literacy, they may engage in the digital economy on the same level as others and utilize technology in an efficient, responsible, and safe manner.

INTERNET SAATHI:

Typically, rural women establish community networks and plan events for the organizations. Launched in 2015 in partnership with **Google** and the **Tata Trusts'** Internet Saathi project empowers these women to act as change agents by spearheading the promotion of digital literacy in their rural neighborhoods. To put it briefly, the plan builds a network of trainers who teach digital literacy to rural people by assisting in the development of a cadre of digitally literate women in rural areas who train other women.

Along with sharing vital information with their fellow villages, the Saathis also relay weather reports and relief efforts for natural catastrophes like cyclones and floods. These women are essential in supplying the Trusts with information regarding internet usage patterns in the regions they operate in, as well as acting as a conduit between rural residents and the Trusts. They accomplish portfolio goals that are connected to the Trusts' digital intervention initiatives. As an illustration, the Aspirational Districts programme uses field-level data collected from the internet saathis.

A **Foundation for Rural Entrepreneurship Development** (FRIEND) has been created by the Trusts to facilitate the execution of the Internet Saathi and livelihoods project in rural areas. The Internet Saathi initiative is entering its second phase through **FRIEND**, and the Trusts are making the platform available for other organizations to join. Giving these women Saathis transformational job, would not only empower them but also

give them a means of subsistence that would enable them to maintain their network. The Saathis are additionally working to raise awareness about menstrual hygiene and healthy practices through a WASH campaign in Gujarat. The Trusts think it's necessary to create a digital hub of well-chosen employment prospects with enabling and support features so that rural women may use it to launch social enterprises with a localized but global emphasis. Through the "*FREND Application*," which will empower and assist women in rural areas of India who are driven to pursue their entrepreneurial goals at every stage of their journey, the Trusts want to put this into practice. The centre aims to empower women at every step of their entrepreneurial journey, from start-up to established, by offering options for revenue generation as well as essential support services that may make a big difference in an enterprise's capacity to succeed and grow.

LITERATURE REVIEW:

Madhale Paul D (2018) stated that, Digital India is the result of numerous advancements and innovative headways. These change the lives of individuals from numerous points of view and will engage the general public in a superior way. Digital India is a program to convert India in to a digitally empowered society, and knowledge economy. This project is delivering good governance to people and coordinated with both State and Central Government. Henceforth, an endeavour has been made in this paper to comprehend Digital India as a crusade where advancements and network will meet up to have an effect on all parts of administration and enhance the personal satisfaction of nationals.

Khillare Prakash and Sonawane Madhulika (2018) Examines that more than seventy percent population of the country lives in rural part of the nation. Due to illiteracy and stay away from urbanization, most of the labours in this labour force are not able to connect with the new and modern technology and techniques. Government of India is started to promote and to create the awareness programme towards the cashless and paperless transactions through digital payment system. One of the important parts of the labour force is the huge pool of women domestic workers which are still so far away from adopting and accepting new type of digital payment system.

According to **C.S. Vijaya and S. Seethalakshmi (2019)**, Indian women have significant roles in the finance industry. Indian women are involved in running the household. finances, including handling daily spending and making family investment decisions. Indian women's activities would be greatly impacted by the digitalization of the economy. They note that women are often able to adapt to the changes in the current environment. The countrywide increase in the percentage of female literacy (65% in 2017–18) has also helped women get more used to using digital devices. After the agricultural industry, the IT sector employs the second-highest percentage of women. This demonstrates how women have also made a name for themselves in industries connected to technology.

The review of literature examines that the digital India project creating a huge opportunity to the Indian citizens. This project helps in improving our social and economic conditions of people who are living in rural areas by providing access to education, health and economical services in their life.

OBJECTIVE OF THE STUDY:

1. To understand the main concept of the Internet Saathi program.
2. To analyze the positive impact of Internet Saathi.
3. To know the importance of digital literacy among rural women.

METHODOLOGY OF THE STUDY:

This paper will be based on the review of online sources and various other secondarily available data. This paper draws conclusion in support of various articles, published journals, international papers, research papers, scholarly published articles, books, library consults, Google sites, magazines and many other. Thus, the methodology used to reach up to the conclusion for set objectives are secondary reliable sources of information and the sources are all disclosed in bibliography part. Additionally for detail study of the trend of using digital media for advertising and specially ads with CSR performance content are analysed by following many ad series in various sites and of some specific organizations in YouTube, Facebook, etc.

DISCUSSION:

Objective 1: To understand the main concept of the Internet Saathi program.

Rural women typically form community networks and organize activities for the groups. The Tata Trusts' Internet Saathi programme, launched in 2015 in collaboration with Google, encourages these women to serve as agents for change by taking the lead in promoting digital literacy within their rural communities. In short, the

programme helps to create a cadre of digitally-trained women in rural communities who train other women, thereby building a growing network of trainers who impart digital literacy to rural citizens.

Today, the Trusts have built a strong network of close to 60,000 *saathis*, who have imparted digital literacy to more than 20 million women across 200,000 villages. The *saathis* also share critical information such as weather updates and relief measures during disasters such as floods and cyclones with fellow villagers.

These women also serve as a link between the rural community and the Trusts and play a vital role in providing the Trusts with information about the patterns of internet usage in the communities where they work. They fulfill the objectives of portfolios that have cross-linkages with the Trusts' digital intervention programmes. For example, the internet *saathis* collect the field level data that feeds into the Aspirational Districts program.

The Trusts have established a Foundation for Rural Entrepreneurship Development (FREND) for the implementation of the Internet Saathi and livelihoods programme in rural communities. Through FREND, the Internet Saathi programme is evolving into its second phase – with the Trusts opening up the platform for other partners to participate. This would not just empower these women *saathis* by engaging them in transformative work, but also provide a livelihood opportunity – one that would help them sustain their network. The *saathis* are also contributing to a WASH programme in Gujarat, creating awareness of good practices and menstrual hygiene

The Trusts believe that a digital hub of curated earning opportunities with enablement and support functionalities needs to be established that can be leveraged by rural women to set up social enterprises that are locally placed, but globally focused. The Trusts intend to bring this into action through the 'FREND Application' that will enable and support entrepreneurial drive amongst women in rural India at all stages of their entrepreneurial journey.

The hub endeavors to cater to every stage of a woman's entrepreneurial journey – from novice to established, by not only providing income-earning opportunities but also providing support elements that often make all the difference to the success and scalability of an enterprise.

The vision of FREND is to have a one lakh digital entrepreneur with an income opportunity of rupees one lakh per annum by 2022. With over 53 percent of women trained by Internet *saathis* using the Internet to upskill themselves, the Internet Saathi programme has allowed latent entrepreneurial aspirations to flourish.

The Internet Saathi impact study conducted by IPSOS revealed that 45 percent of the women believe they have increased their income by learning new skills, and 57 percent of women feel they have learned better ways of investing their money. Women were twice as likely to express themselves in village-level meetings and 3.5 times more likely to join other social causes.

Objective 2: To analyze the positive impact of Internet Saathi.

In the three years since Internet Saathi's launch, over 15 million women have benefitted from the resources and education provided by 48,000 Saathis, who work across 150,000 villages. These numbers will grow, as the initiative is on track to cover almost half of India's 600,000 villages in the next few years. A 2017 study by Ipsos, a global market research firm, revealed that over 80 percent of the women who attended Saathis' training said they had a better understanding of the internet. Consequently, 25 percent of the respondents stated that they continued to use the Internet five times a week on average. In addition, one-third believe that their economic well-being has improved by learning new skills on the internet. The positive results extend beyond the initiative's participants; local governments and stakeholders have supported the initiative, such as by providing community spaces for women to convene and interact with Saathis.

Objective 3: To know the importance of Digital Literacy among Rural Women.

It's not without reason that the phrase 'papad belna' denotes hard work. Or as Manisha Abhang of Karandi village, about 35 km from Pune, calls it, 'traas'. Faced with the problem of how she and other women from her village could make this task easier, they turned to the internet to look for an automatic papad-making machine. They haven't bought it yet, but are piqued about its prospects already. "We can make about 100 papads a day while two women using the machine can make about 1,000 papads a day," says Abhang, 40, part of a collective of eight women in her village who started a business making potato chips last October and are now looking to diversify into papads. It's a story that goes back to last June when Vandana Potdar, trained and tasked with the job of familiarising rural women with the internet as part of Google India and Tata Trusts' Internet Saathi programme, arrived in the village. The programme was launched in 2015 to improve digital literacy among women in rural India and Potdar, 29, a resident of nearby Shikrapur village, was assigned a cluster of villages in the area. When she started visiting houses in villages to teach women, some households told her the women

didn't have time for all this, while others kept her waiting outside for an hour or two until they cross-checked her credentials. But she persisted. If someone had to go work in the fields, she would teach them while they worked, showing them videos of sowing crops and soil testing. If someone was pregnant, she would show her maternal health care videos. With housewives, new recipes worked. She helped others look up new designs for clothes, how to shop online and use mobile wallets and also encouraged them to make and sell things to earn an additional income. Forty-year-old Rani Bhagwat—an entrepreneurial spirit who has done stitching and beauty parlour courses and runs a business from her shop in the village—is another woman whom Potdar introduced to the internet. Today, she looks up new designs for blouses, for which she charges as much as ₹500, as against the ₹100 for the simpler ones she made earlier. Other women make striking silk thread bangles that they sell from Bhagwat's 'Saundarya Beauty Parlour' situated in front of her house. According to a May 2017 McKinsey report, more than four billion people, or over half of the world's population, are still offline. About 75 percent of this population is concentrated in 20 countries, including Bangladesh, Ethiopia, Nigeria, Pakistan, and Tanzania, and is disproportionately rural, low-income, elderly, illiterate, and female. The value of connecting these people is significant to help them enter the global digital economy. Besides, an online business requires less capital and enables women to work in the gig economy, while digital banking levels the playing field in terms of access to financial services. In India, data from the Internet and Mobile Association of India showed that only 18 percent of internet users were from rural areas in 2015. "And among that, only one in 10 were women, which means there is a huge skew towards women not being able to access the internet," says Raman Kalyan Krishnan, strategy, Tata Trusts. Familiarity with the internet and smart devices, he adds, had been identified as one of the key skills required for the future because it played a great role in terms of improved incomes, knowledge, access to opportunities, and access to government schemes. The Internet Saathi programme, launched on a pilot basis in 5,000 villages in rural Rajasthan to address this digital divide, has been through various adaptations. "The first pilot was like a four-hour training session where we would invite women from the community and tell them about the medium," says Neha Barjatya, chief internet saathi, Google India. However, they realized that though women wanted to learn, they didn't travel far or didn't have the time, so they rethought the model and started taking a training cart to the villages. Finally, they decided to have someone from the community teach them, the model they launched in July 2015. While Google takes care of the technology aspects, Tata Trusts has the expertise and knowledge to implement the initiative at scale. The objective is to cover 3,00,000 villages by the end of 2019 and today, according to data from Google, they have covered over 1,70,000 villages in 17 states, benefiting 17 million women. In 2017, the ratio of women who accessed the internet also went up to three in 10. An impact study last year among the women who were being trained as well as the internet saathis showed that the social standing of women has significantly improved. "Three to four days ago, I met this saathi from Bihar, and she said, 'I don't have to depend on my husband for everything. I don't have to wait for him to go and buy things.' She started net banking herself and the second thing she said was that today her son came to her and asked her for money. Earlier, he used to always ask his father," says Barjatya. Women who had been trained by saathis were also three times as likely to participate in village-level meetings and social causes. From an economic perspective, "nearly 43 percent of the women responded saying they have learned a new skill after having been exposed to the internet and about 45 percent of the women reported that they have managed to identify newer ways to save their income," says Raman K. Upskilling has also resulted in micro-enterprises. "For instance, there is a saathi down south who started a lemongrass oil enterprise and another who started a weaving organization in the Northeast," says Barjatya.

Not stopping at digital literacy, the programme is being extended with the Foundation for Rural Entrepreneurship Development (FRIEND), a digital-based livelihoods programme for the internet saathis set up by Tata Trusts and supported by Google that was launched last December. "With the programme, we are saying that if the saathi needs to be active in her community we need to generate income streams for her," says Raman K. Opportunities include those where the saathis could be a behavior change communications agent for her village; collect information and create insights that could then be used so that programmes are implemented better; be a monitoring agent for other programmes; and encourage them to be digital-based entrepreneurs, for instance, by providing subsidized printers that they can use to generate income. "The vision for FRIEND is to be able to generate digital-based income for about 1,00,000 saathis by 2022," says Raman K. Meanwhile, in Karandi, Potdar, who was also part of the Sakal Group's Taniskha Foundation and taught women cooking, stitching, etc, seems to have social work running through her veins—she has signed up for a BSW course and plans to do an MSW. In a country where women have reservations in local self-governance bodies but often end up being figureheads who do what their husbands tell them to, she recollects how she showed the sarpanch of a village what her rights and duties were as well as videos of how roads are made. "The sarpanch now takes decisions on her own too and has a say in the goings-on in the village." For instance, the sarpanch looked up new games for the village school, and after having seen them on the internet also installed sanitary pad

machines in the school. Alongside, her entrepreneurial spirit continues to drive the women's collective in Karandi for whom she helps source orders from Pune and other places for their potato chips, with one woman in charge of the accounts and another for quality control. Besides looking up other opportunities for the women online, she is also looking at ways to get a loan for the papad machine that the collective is thinking of buying. The future of work in the digital age can indeed change some age-old idioms.

Therefore, the impact of digital literacy among rural women is as follows-

- I. **Women's Empowerment through Digital Literacy** – The *Internet Saathi* program by Google India and Tata Trusts has played a crucial role in improving digital literacy among rural women, enabling them to access information, enhance their skills, and become self-reliant.
- II. **Economic Impact and Entrepreneurship** – Many women, like Manisha Abhang and Rani Bhagwat from Maharashtra, have leveraged the internet to start businesses, such as making potato chips, papads, and silk thread bangles, boosting their incomes and financial independence.
- III. **Social Transformation and Independence** – Internet access has given women more control over their lives. Some have started using net banking independently, while others participate more actively in social and economic decisions in their villages.
- IV. **Challenges in Implementation** – Initially, rural communities were skeptical about digital literacy programs. Women trainers like Vandana Potdar had to persist, often integrating lessons into daily chores to gain acceptance.
- V. **Increase in Internet Usage by Rural Women** – The program has significantly improved women's internet usage, with the ratio increasing from 1 in 10 (2015) to 3 in 10 (2017), showing progress in bridging the gender digital divide.
- VI. **Future of Work and Digital-Based Livelihoods** – The *Foundation for Rural Entrepreneurship Development (FREND)* aims to create digital-based income opportunities for *Internet Saathis*, enabling them to work as communication agents, program monitors, or entrepreneurs.
- VII. **Role in Governance and Community Development** – The program has also empowered women in governance roles, such as village sarpanches, by providing them with access to crucial information about their rights, responsibilities, and local development initiatives.
- VIII. **Scaling Impact** – Intending to cover 300,000 villages by 2019, the program had already benefited 17 million women across 170,000 villages in 17 states by 2017, indicating a large-scale social transformation.

CONCLUSION:

So, we may conclude that the Internet Sathi initiative, launched by Google and Tata Trusts, has played a transformative role in bridging the digital divide in rural India. By empowering women with digital literacy, the program has not only improved internet access but also contributed to social and economic development. Rural communities have benefited from increased awareness of educational resources, healthcare information, government schemes, and digital financial services.

Moreover, the initiative has encouraged entrepreneurship and self-reliance among women, fostering a more inclusive digital economy. However, challenges such as sustainability, infrastructural limitations, and long-term engagement remain. Strengthening digital infrastructure and expanding similar programs could further accelerate rural India's digital empowerment, ensuring long-lasting positive change.

REFERENCES:

<https://www.tatatrusts.org/our-work/digital-transformation/digital-literacy/internet-saathi>

<https://www.bridgespan.org/getmedia/cba6ecb9-cf61-48f4-82c1-00606736a3a6/bold-philanthropy-india-internet-saathi-profile.pdf>

khillare Prakash and Sonawane Madhulika (2018). A Study of Perception of Women Domestic Workers towards the Digital Payment System, International Journal of Engineering Development and Research, Vol-6 Issue-01, PP:569-572 Retrived from: www.ijedr.org On 31st December 2019.

Madhale Paul D, (2018). Effect of Digital India on Indian Society' International Journal of Trend in Scientific Research and Development, 2018, PP: 96-102, Retrieved from: <https://www.ijtsrd.com/management/marketingmanagement/18680/effect-of-digital-india-on-indian-society/dr-paul-d-madhale> on 06-02-2020

Vijayan Aiswarya (2019) 'Digital India- A Roadmap to Sustainability' International Journal of Innovative Technology *Volume-05, Issue-03, March-2020 RESEARCH REVIEW International Journal of Multidisciplinary RRIJM* 2015, PP: 572-576, Retrieved from: <https://www.ijitee.org/wpcontent/uploads/papers/v8i5/E3234038519.pdf> on 06-02-2020

Vijaya, C.S. and Seethalakshmi, S. (2019) Impact of Digital Money Transactions on Indian Women, International Journal of Business and Management Invention (IJBMI), Vol-08 Issue-2, PP:1-8 Retrieved from: www.ijbmi.org on 31st December 2019.

INFRASTRUCTURE DEVELOPMENT IN INDIA: A STATISTICAL REVIEW OF PROGRESS AND POLICY

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ABSTRACT

Infrastructure is a key driver of economic growth, competitiveness, and inclusive development. Over the past decade, India has made substantial progress in expanding and modernizing its infrastructure, spanning roads, logistics, digital connectivity, and urban development. This paper provides a statistical review of India's infrastructure policy and performance, emphasizing flagship initiatives such as PM Gati Shakti and Bharatmala Pariyojana. Using data from government sources like the Ministry of Finance, Ministry of Road Transport and Highways, and the Press Information Bureau, the paper highlights key achievements such as increased capital expenditure, improved logistics rankings, and rapid expansion of highways. The paper also identifies prevailing challenges and offers recommendations for ensuring sustainable and equitable infrastructure growth in the coming years.

INTRODUCTION

Infrastructure forms the foundation of any nation's economic and social progress. It enhances connectivity, reduces the cost of trade, improves logistics, and elevates the quality of life. India, currently the world's fifth-largest economy, has undergone significant transformation in its infrastructure landscape over the past decade. Recognizing its importance in achieving sustainable development and economic competitiveness, the Government of India has aggressively pursued infrastructure modernization across transport, logistics, and urban sectors. Notably, India's capital expenditure on infrastructure reached an all-time high of ₹10 lakh crore in the Union Budget 2023–24, reflecting the government's strong commitment to infrastructure-led growth (Source: Union Budget 2023–24, Ministry of Finance).

PM GATI SHAKTI NATIONAL MASTER PLAN (NMP)

Launched in October 2021, the PM Gati Shakti National Master Plan is a transformative initiative aimed at achieving integrated and synchronized execution of infrastructure projects across multiple ministries. It leverages geospatial technologies and digital platforms to coordinate planning among departments such as Railways, Roadways, Shipping, and Civil Aviation. By October 2024, the platform had on boarded 44 Central Ministries and 36 States/Union Territories. A significant achievement under this initiative is the digital integration of 1,614 data layers for transparent and efficient infrastructure mapping. Furthermore, 208 high-value infrastructure projects worth ₹15.39 lakh crore have been assessed under the principles of Gati Shakti, ensuring minimal duplication and accelerated execution.

LOGISTICS PERFORMANCE AND NATIONAL LOGISTICS POLICY

India has improved its global logistics standing, as evidenced by the World Bank's **Logistics Performance Index (LPI)** ranking. The country moved up six places—from 44 in 2018 to 38 out of 139 nations in 2023—signifying increased efficiency in trade logistics. To further streamline supply chains and reduce logistics costs, the **National Logistics Policy (NLP)** was introduced in September 2022. As of early 2025, 26 states have adopted state-level logistics policies aligned with the NLP's vision of creating a unified logistics ecosystem.

ROAD AND HIGHWAY INFRASTRUCTURE DEVELOPMENT

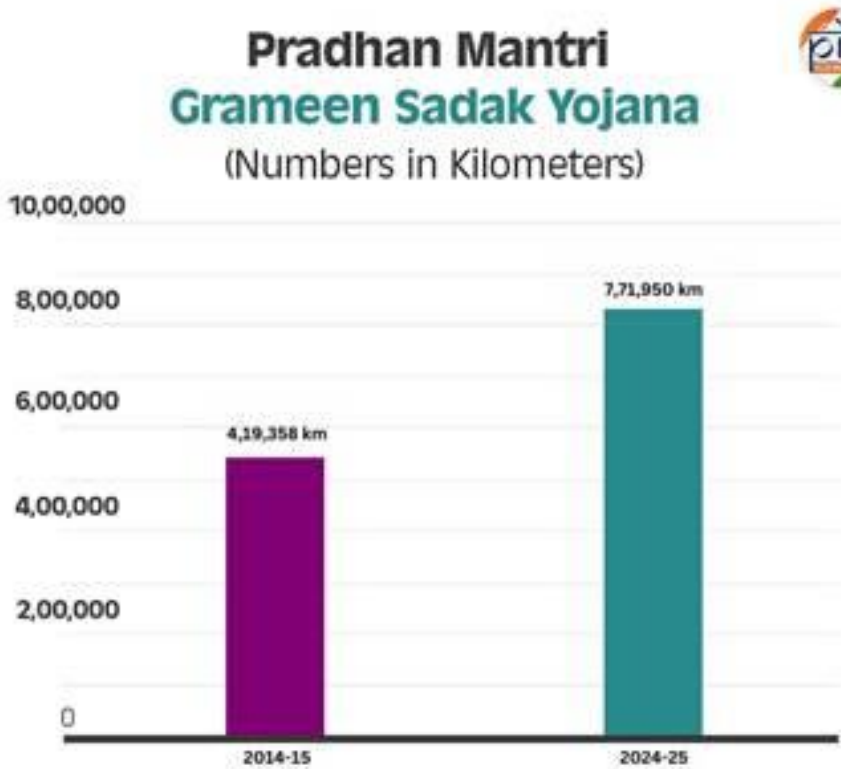
India boasts the **second-largest road network in the world**, with its **National Highways (NH)** forming the core transportation framework. By 2024, the NH network expanded to **1,46,145 km**, up from 91,287 km in 2014 and 65,569 km in 2004. The capacity of highways has also improved significantly—NH stretches with four or more lanes increased 2.6 times from **18,371 km in 2014 to 48,422 km in 2024**. The pace of highway construction surged from **12.1 km/day in 2014–15 to 33.8 km/day in 2023–24**, reflecting the impact of expedited clearances and performance-linked incentives.



Source: <https://pib.gov.in/PressRelease/01 FEB 2025>

HIGH-SPEED CORRIDORS AND BHARATMALA PARIYOJANA

The Government has also focused on building **high-speed corridors**, a crucial factor in reducing travel time and boosting freight efficiency. Operational high-speed corridors rose from a mere **93 km in 2014 to 2,138 km in 2024**. Flagship programs such as the **Bharatmala Pariyojana**, launched in 2017, have played a pivotal role in augmenting this network by targeting economic corridors, border roads, and rural-urban linkages. The plan also subsumes earlier projects like the **National Highway Development Project (NHDP)** and incorporates regional initiatives such as the **Special Accelerated Road Development Programme for the North-East (SARDP-NE)** to improve regional equity in infrastructure development .



Source: <https://pib.gov.in/PressRelease/01 FEB 2025>

ECONOMIC AND SOCIAL IMPACT

Enhanced infrastructure has multiple spillover effects on India's economy. Improved highways have reduced logistics costs, facilitated interstate commerce, and enabled faster movement of goods and people. Additionally, infrastructure expansion supports job creation in construction, engineering, and materials supply sectors. The digital integration under PM Gati Shakti has also improved transparency, project monitoring, and citizen satisfaction. With faster urban-rural connectivity, tier-2 and tier-3 cities are witnessing increased industrial and real estate activity, fueling inclusive growth.

CHALLENGES

While India has made commendable progress in infrastructure development, several structural and operational challenges persist. Key issues include delays in land acquisition, regulatory and environmental clearances, and inadequate infrastructure financing in underdeveloped and remote regions. Additionally, the growing impact of climate change necessitates the integration of disaster resilience and environmental sustainability into infrastructure planning—especially in ecologically sensitive coastal and hilly areas. To address these concerns, a comprehensive strategy is essential. This includes expanding public-private partnerships (PPPs), leveraging green and energy-efficient technologies, and deploying real-time digital monitoring systems to ensure transparency, timely execution, and quality assurance in project implementation.

CONCLUSION

India's infrastructure development over the past decade reflects a decisive policy transition toward integrated, technology-driven, and outcome-focused growth. Flagship initiatives such as **PM Gati Shakti** and **Bharatmala Pariyojana** have catalyzed a nationwide transformation by enhancing connectivity, reducing logistics costs, and accelerating economic activity. These programmes are not merely upgrading physical infrastructure—they are creating the foundation for a resilient, sustainable, and globally competitive economy. With continued investment, strategic policy alignment, and institutional collaboration, India is poised to emerge as a global infrastructure leader in the coming years.

REFERENCES

1. Press Information Bureau (PIB), "Infrastructure Development in India," 01 February 2025.
2. Ministry of Finance, Union Budget 2023–24, Government of India.
3. Ministry of Road Transport and Highways, Annual Report 2023–24.
4. National Logistics Policy 2022, Ministry of Commerce and Industry.
5. World Bank Logistics Performance Index Report, 2023.
6. NITI Aayog, Infrastructure Vision 2047, Policy Paper.

योगिक पद्धतीचा महाविद्यालयीन पुरुष हॉकी खेळाडूंच्या हृदय तंदुरुस्तीवर होणारा परिणाम

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सारांश

या अभ्यासाचा उद्देश महाविद्यालयीन पुरुष हॉकी खेळाडूंच्या योगिक पद्धतीचा हृदय व रक्तवाहिन्यासंबंधी तंदुरुस्तीवर होणारा परिणाम शोधणे हा होता. नियंत्रण गटापेक्षा योगिक पद्धती गट हृदय व रक्तवाहिन्यासंबंधी तंदुरुस्तीवर लक्षणीय सुधारणा दर्शवेल असा अंदाज होता. या अभ्यासाचा उद्देश साध्य करण्यासाठी सोलापूर (महाराष्ट्र) जिल्ह्यातील, तीस पुरुष महाविद्यालयीन स्तरावरील हॉकी खेळाडूंची यादृच्छिक विषय म्हणून निवड करण्यात आली आणि त्यांचे वय 18 ते 23 वर्षे होते. हा अभ्यास खऱ्या यादृच्छिक गट डिझाइन म्हणून तयार करण्यात आला होता, ज्यामध्ये पूर्व-चाचणी आणि उत्तर-चाचणीचा समावेश होता. विषय ($n = 30$) योगिक पद्धती गट (YPG) आणि नियंत्रण गट (CG) अशा दोन समान गटांना समतुल्य पद्धतीने यादृच्छिकपणे नियुक्त केले गेले होते. हृदय व रक्तवाहिन्यासंबंधी तंदुरुस्तीचे मूल्यांकन करण्यासाठी 18 इंच उंचीसह सुधारित हार्वर्ड स्टेप टेस्ट वापरण्यात आली. योगिक पद्धतींनी आठवड्यातून पर्यायी तीन दिवस सहा आठवड्यांच्या कालावधीसाठी भाग घेतला आणि उत्तर-चाचण्या घेण्यात आल्या. दोन्ही गटांमधील फरक शोधण्यासाठी 't' चाचणी वापरली गेली. निकाल निदर्शनास आले की योगिक सराव गटाने योगिक सराव गटाच्या प्रभावामुळे नियंत्रण गटापेक्षा सेकंद मध्ये उदा. नाडी दर कालावधीत चांगली कामगिरी दाखवली.

महत्त्वाचे शब्द: योगिक सराव, हॉकी, हृदय व रक्तवाहिन्यासंबंधी तंदुरुस्ती.

प्रस्तावना

योग आपल्याला जागृत ठेवतो आणि जीवन पुढे नेण्याचा मार्ग आणि साधन व्यक्त करतो. योगाचे प्रतिबंधात्मक आणि उपचारात्मक दोन्ही फायदे आहेत. ते शरीर आणि मनाला शारीरिक आणि मानसिक दोन्ही फायदे देते हे दर्शविण्यात आले आहे. एक परिपूर्ण तंदुरुस्ती दिनचर्या, योग कोणत्याही वयोगटातील लोकांना केवळ आकारात राहण्याचे आणि राहण्याचेच नव्हे तर संतुलन, समन्वय आणि केंद्रिततेची भावना विकसित करण्याचे साधन देखील प्रदान करतो (अय्यंगर, 2008) योगासनांचे उद्दिष्ट केवळ स्नायू आणि शरीराचा विकास करणे नाही तर सर्वांच्या योग्य क्रियाकलापांचे नियमन करणे आहे प्रामुख्याने अंतर्गत अवयव आणि मज्जासंस्थेवर परिणाम करणाऱ्या ग्रंथी आणि जे आपल्या आरोग्यावर नियंत्रण ठेवतात आपण प्रत्यक्षात कल्पित करतो त्यापेक्षा खूप जास्त प्रमाणात. सतत व्यायामादरम्यान हृदय, रक्तवाहिन्या, रक्त आणि श्वसन संस्थेची स्नायूंना इंधन विशेषतः ऑक्सिजन पुरवण्याची क्षमता. एक तंदुरुस्त व्यक्ती अनावश्यक ताण न घेता तुलनेने जास्त काळ शारीरिक हालचाली करू शकते. फील्ड हॉकी हा 132 पेक्षा जास्त देशांमध्ये खेळला जाणारा एक लोकप्रिय खेळ आहे. त्याचे अधिकृत नाव ज्यावरून ते सामान्यतः हॉकी म्हणून ओळखले जाते. तथापि, काही देश आणि काही विश्वकोशीय संदर्भ, फील्ड हॉकी सारख्याच नावाच्या इतर खेळांपेक्षा वेगळे करतात. हॉकी या शब्दाची उत्पत्ती अस्पष्ट होती. हॉकी याला कायद्यांमध्ये प्रतिबंधित करण्यात आले होते. 1527 मध्ये गॅलवे. हा शब्द कोमोके आणि अँग्लो-सॅक्सन 'हुक' साठीचा शब्द, होक या शब्दापासून आला असावा पर्यायीरित्या, तो 'शेफर्डचा बदमाश' या फ्रेंच शब्दापासून आला असावा, हॉक्वेट (डोर्थी आणि लॅंडी 1882).

अभ्यासाचा उद्देश

महाविद्यालयीन पुरुष हॉकी खेळाडूंच्या योगिक पद्धतीचा हृदय व रक्तवाहिन्यासंबंधी तंदुरुस्तीवर होणारा परिणाम शोधणे हा होता.

गृहीतक

असे गृहीत धरले गेले होते की योगिक पद्धती गट नियंत्रण गटापेक्षा हृदय व रक्तवाहिन्यासंबंधी तंदुरुस्तीवर लक्षणीय सुधारणा दर्शवेल.

कार्यपद्धती

अभ्यासाचा उद्देश साध्य करण्यासाठी, भारतातील सोलापूर (महाराष्ट्र) जिल्ह्यातील तीस पुरुष कॉलेज स्तरावरील हॉकी खेळाडूंची यादृच्छिकपणे विषय म्हणून निवड करण्यात आली आणि त्यांचे वय 18 - 23 वर्षे होते. हा अभ्यास खऱ्या अर्थाने यादृच्छिक गट डिझाइन म्हणून तयार करण्यात आला होता, ज्यामध्ये पूर्व-चाचणी आणि उत्तर-चाचणीचा समावेश होता. विषय ($n = 30$) योगिक सराव गट (YPG) आणि नियंत्रण गट (CG) म्हणून समतुल्य पद्धतीने दोन समान गटांमध्ये यादृच्छिकपणे नियुक्त केले गेले. हृदय व रक्तवाहिन्यासंबंधी तंदुरुस्तीचे मूल्यांकन करण्यासाठी 18 इंच उंचीसह सुधारित हार्वर्ड चरण चाचणी वापरण्यात आली. योगिक सरावसहा आठवड्यांच्या कालावधीसाठी सहभागी झाले. आठवड्यातून तीन दिवस पर्यायी आणि उत्तर चाचण्या घेण्यात आल्या. शोधण्यासाठी दोन्ही गटांमधील फरक 't' चाचणी वापरली गेली.

निकाल आणि चर्चा

पेअर केलेल्या 't' गुणोत्तराचा प्राथमिक उद्देश हॉकी खेळाडूंच्या चाचणीपूर्व आणि चाचणीनंतरच्या सरासरीमधील फरकांचे वर्णन करणे होता.

सारणी 1

प्रायोगिक गटाच्या (YPG) कार्डिओव्हॅस्कुलर फिटनेस वरील 't' गुणोत्तराचा सारांश

SN	Cardio Vascular Fitness	Pre Test Mean	Pre Test Mean	Mean Difference	Std. Dev. [+] [-]	σ DM	"t" Ratio
1	Duration of Ex. in Sec	166.74	175.61	8.87	3.87	1.20	3.26*
2	Pulse rate	54.56	58.03	3.47	1.09	0.45	4.12*
3	PFI	52.14	57.84	5.70	1.10	0.47	3.93*

सारणी – 1 ची तपासणी केल्यास असे दिसून येते की प्राप्त झालेले 't' गुणोत्तर उदा. सेकंद, नाडी दरच्या कालावधीसाठी अनुक्रमे 3.26, 4.12 आणि 3.93 होते. प्राप्त झालेले 't' गुणोत्तर स्वातंत्र्याच्या 1, 14 अंशांसाठी 0.05 महत्त्वाच्या पातळीवर 2.14 च्या आवश्यक सारणी मूल्यापेक्षा जास्त असल्याचे आढळले. म्हणून ते महत्त्वपूर्ण असल्याचे आढळले.

सारणी 2

नियंत्रण गटाच्या कार्डिओव्हॅस्कुलर योग्यतेवरील "t" गुणोत्तराचा सारांश (CG)

SN	Cardio Vascular Fitness	Pre Test Mean	Pre Test Mean	Mean Difference	Std. Dev. [+] [-]	σ DM	"t" Ratio
1	Duration of Ex. in Sec	166.74	167.95	1.21	4.12	1.89	0.32
2	Pulse rate	55.52	56.03	0.51	1.27	0.08	1.67
3	PFI	53.60	53.94	0.34	1.02	0.07	0.71

सारणी – 2 ची तपासणी केल्यास असे दिसून येते की प्राप्त झालेले 't' गुणोत्तर उदा. सेकंद, पल्स रेट आणि मध्ये अनुक्रमे कालावधी साठी 0.32, 1.67 आणि 0.71 होते. सर्व निवडलेल्या चलांवर प्राप्त झालेले 't' गुणोत्तर आवश्यक असलेल्या सारणीपेक्षा कमी असल्याचे आढळले 0.71 मूल्य 2.14 चे स्वातंत्र्याच्या 1.14 अंशांसाठी महत्त्वाच्या पातळीवर महत्त्वाचे आहे. म्हणून ते महत्त्वाचे नाही असे आढळून आले. या अभ्यासाच्या निकालांवरून नियंत्रण गट सांख्यिकीयदृष्ट्या नगण्य असल्याचे दिसून आले.

चर्चा आणि निष्कर्ष

कार्डिओ व्हॅस्कुलर फिटनेस म्हणजेच सेकंदात एक्स कालावधी, पल्स रेट आणि पीएफआयच्या बाबतीत, पूर्व आणि नंतर (6 आठवडे) चाचणी दरम्यानचे निकाल नियंत्रण गटाच्या तुलनेत प्रायोगिक गटात लक्षणीयपणे उच्च आढळले आहेत. अभ्यासाच्या निष्कर्षांवरून असे दिसून आले आहे की सहा आठवड्यांच्या योगिक सराव गटाचा निवडलेल्या कार्डिओ व्हॅस्कुलर फिटनेसवर म्हणजेच उदा. सेकंदात, पल्स रेट आणि हॉकी खेळाडूंच्या पीएफआयवर महत्त्वपूर्ण प्रभाव होता. म्हणूनच पूर्वीच्या गृहीतकाने असे ठरवले होते की योगिक सराव गटाचा निवडलेल्या कार्डिओ व्हॅस्कुलर फिटनेसवर महत्त्वपूर्ण प्रभाव पडला असता, त्याच पार्श्वभूमीवर गृहीतक स्वीकारण्यात आले. निकालावरून असे दिसून येते की योगिक सराव गटाने नियंत्रण गटापेक्षा सेकंदात एक्स कालावधी, पल्स रेट आणि पीएफआयवर चांगले कार्यप्रदर्शन दाखवले आहे.

संदर्भ

- १) चंद्रशेखरन.के (2003) योगा फॉर हेल्थ, दिल्लीय खेल साधिया केंद्र.
- २) डोर्थी, वाय. आणि लॅंडी, एस. (1882) फील्ड हॉकी-फंडामेंटल अँड टेक्निक्स. लंडन: फेबर अँड फेबर लिमिटेड.
- ३) दुरेहा, के. दिलीप. आणि अखिल, मेहरोत्रा (2003) हॉकीचे शिक्षण आणि प्रशिक्षण. नवी दिल्ली: पेपरबॅक्स.
- ४) गांगुली एस.के. (1881) हृदय व रक्तवाहिन्यासंबंधी सहनशक्तीवर अल्पकालीन योगिक प्रशिक्षण कार्यक्रमाचा प्रभाव. "छप्पे जर्नल. 4:2.45
- ५) अय्यंगार, बी.के.एस. (2008) लाईट ऑन योगा. लंडन: जॉर्ज अॅलन आणि अनविन लिमिटेड.
- ६) जोशी.के (2001) योगिक प्राणायाम, नवी दिल्ली: ओरिएंट पेपर बॅक्स.

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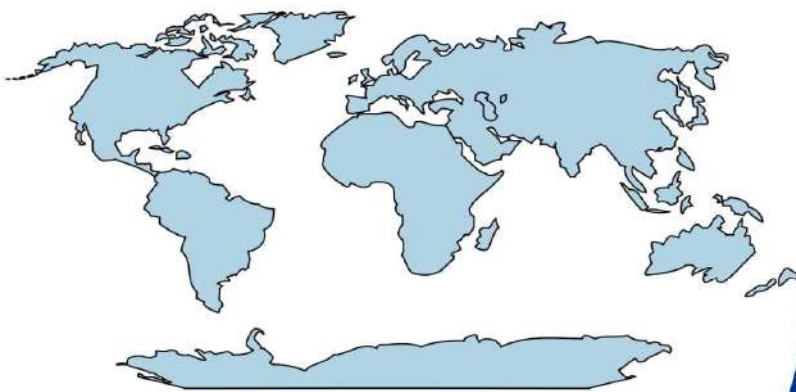
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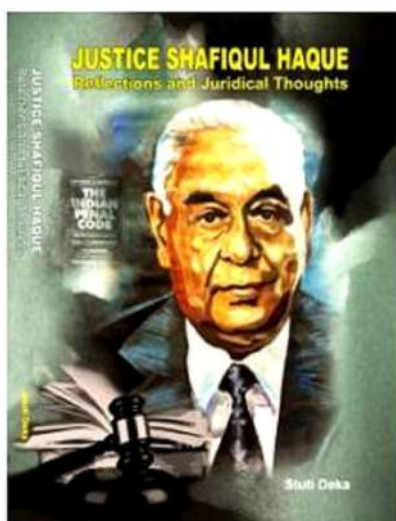


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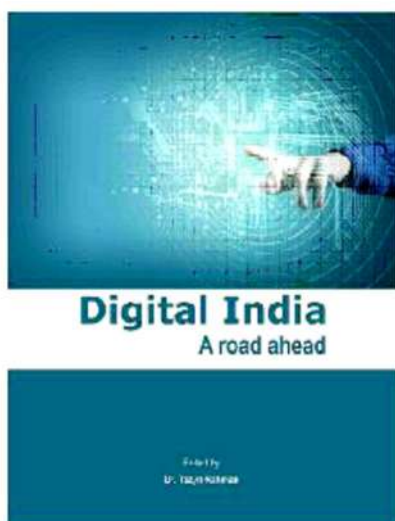
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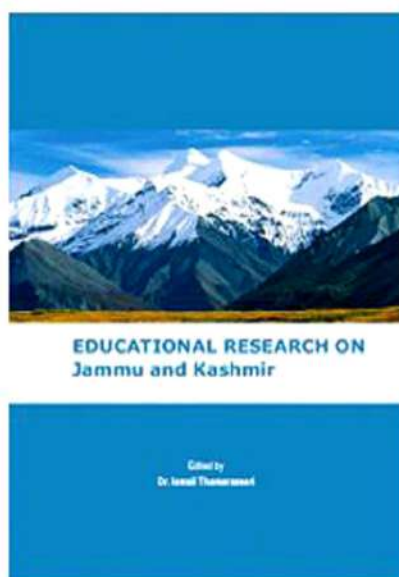
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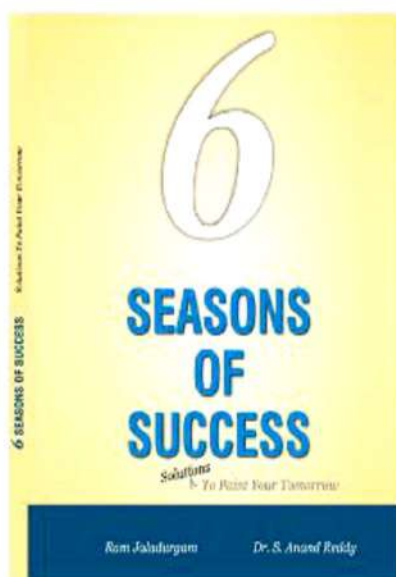
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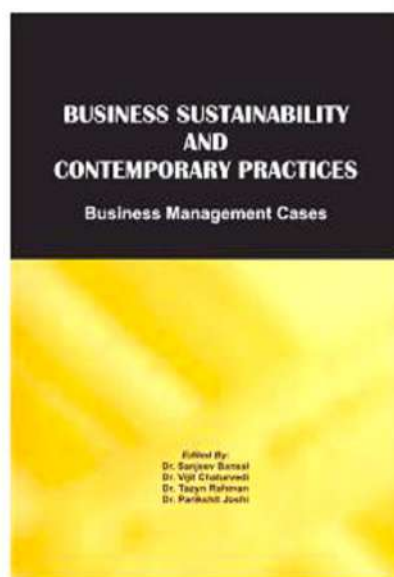
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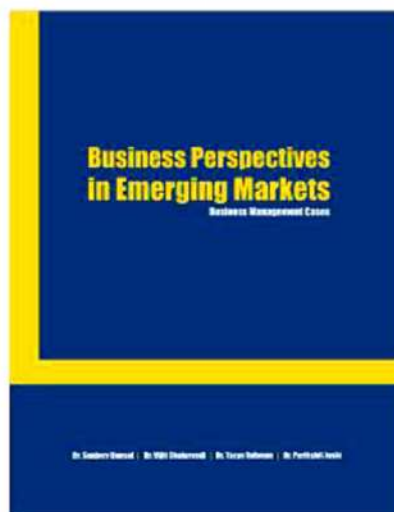
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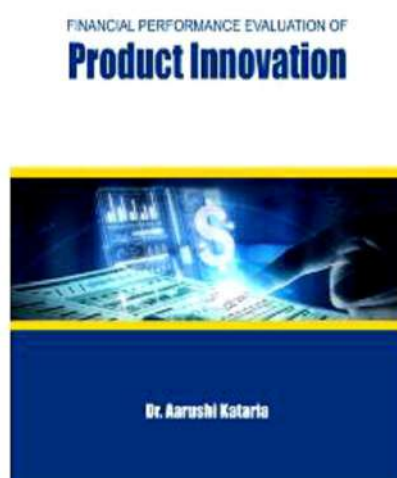
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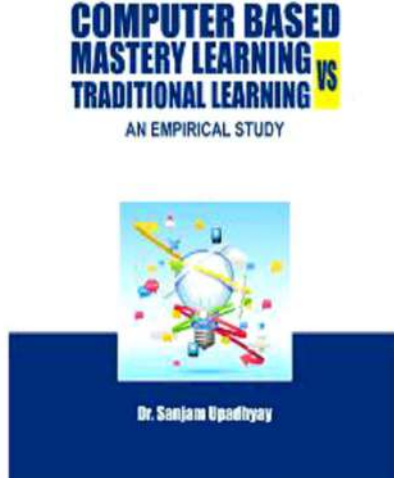
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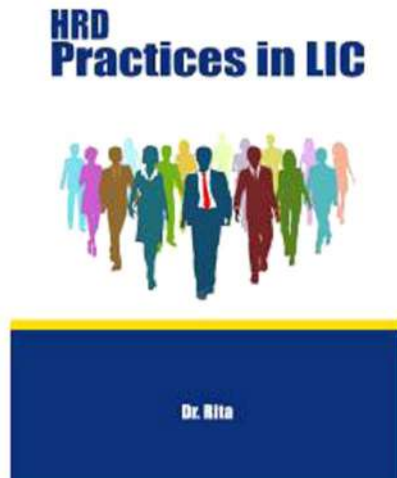
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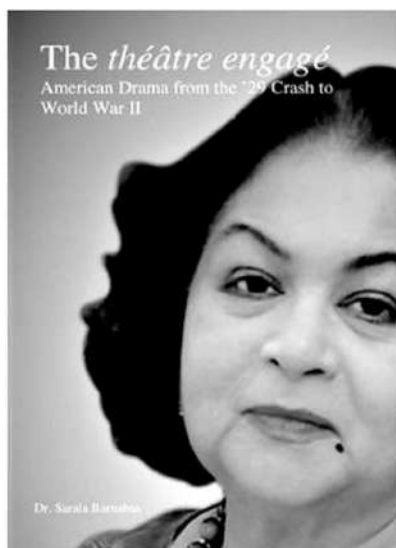
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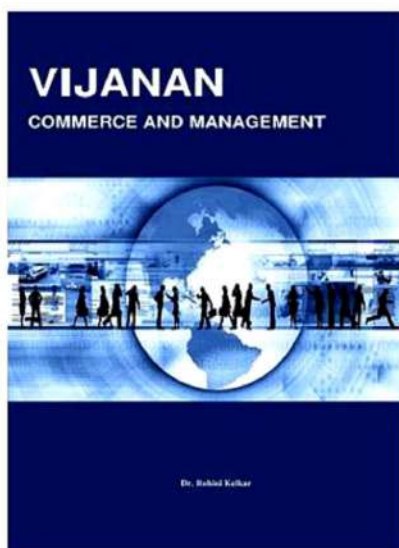


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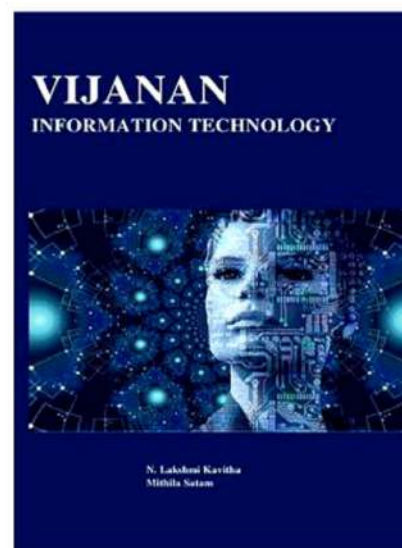
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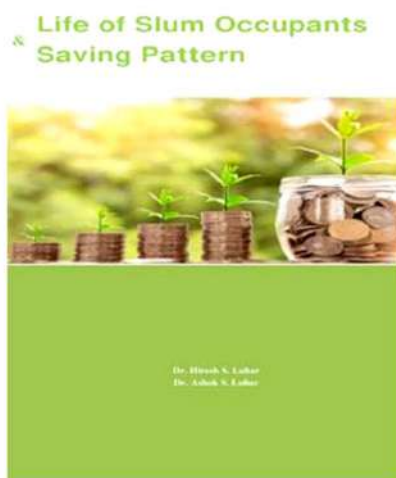
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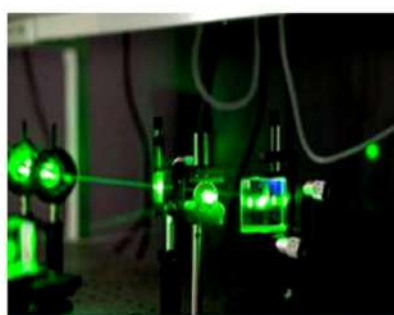


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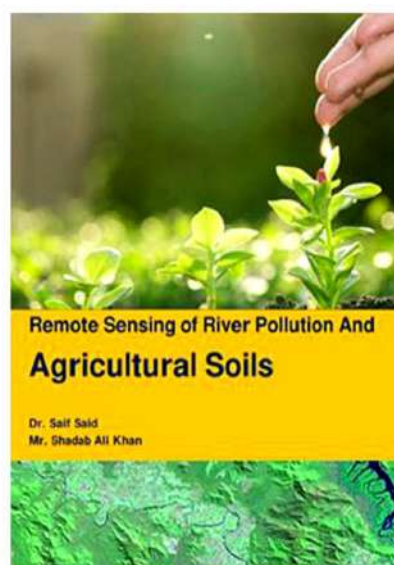
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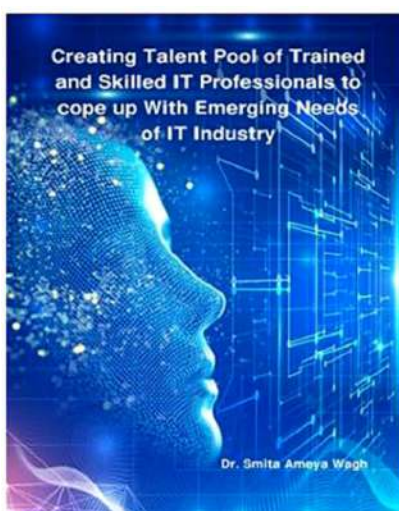
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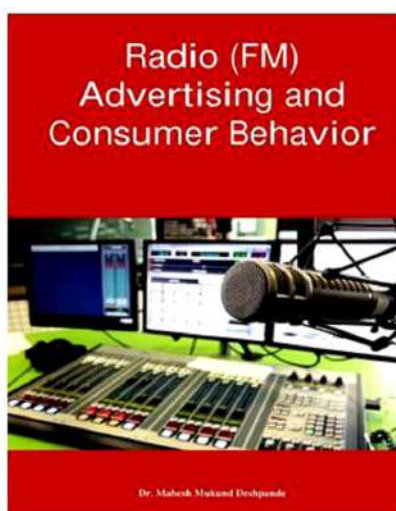
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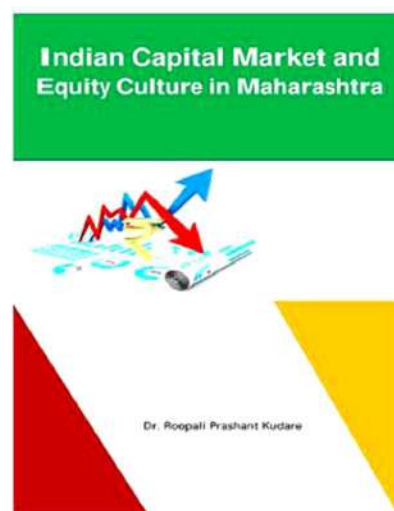
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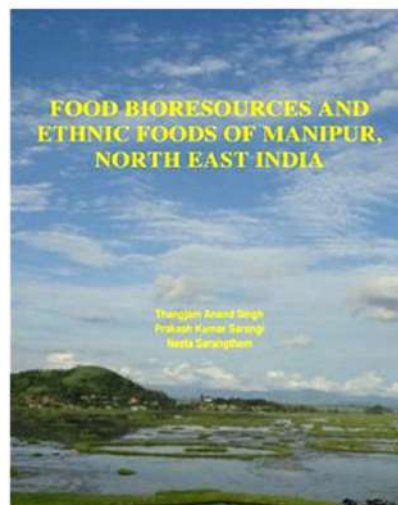
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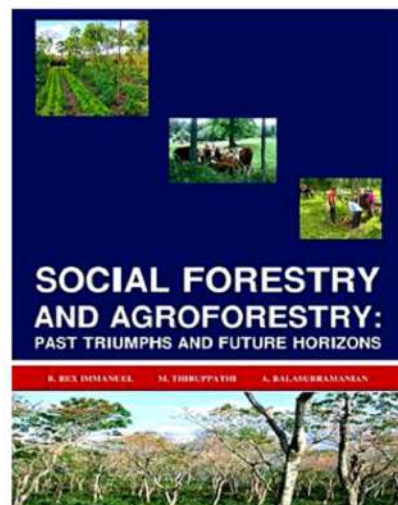
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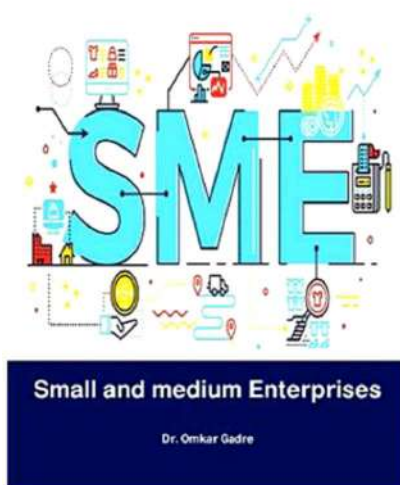
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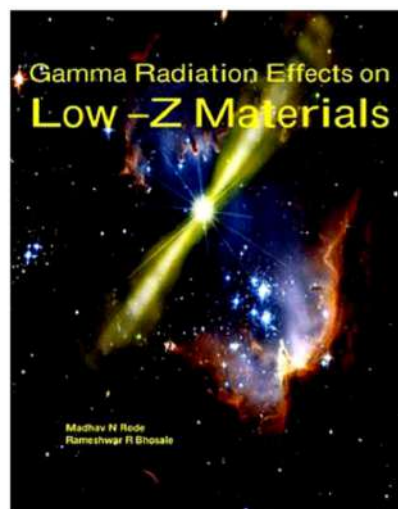
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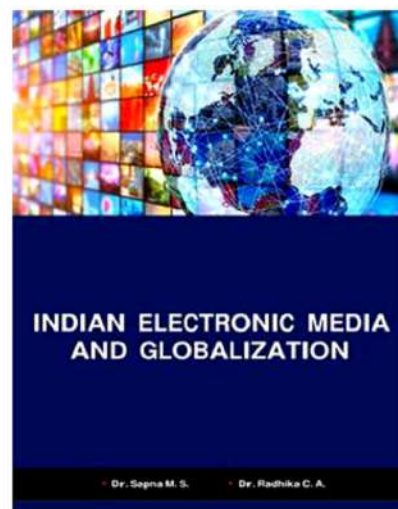
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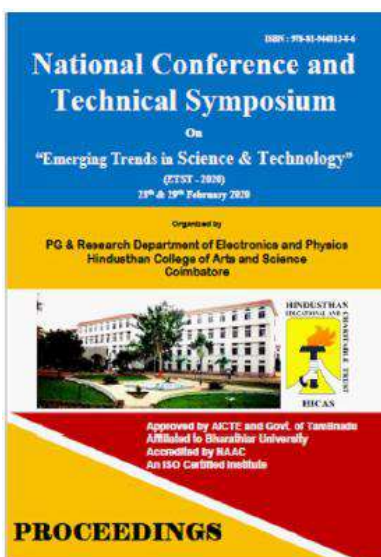
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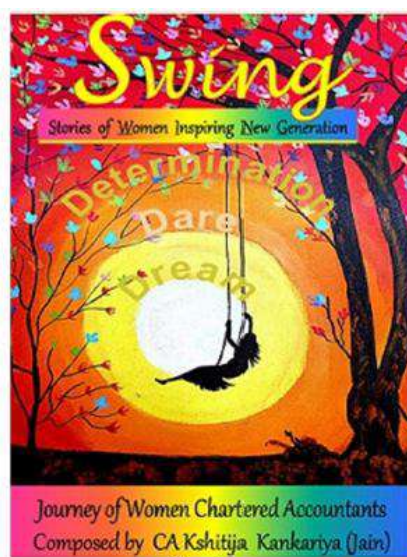
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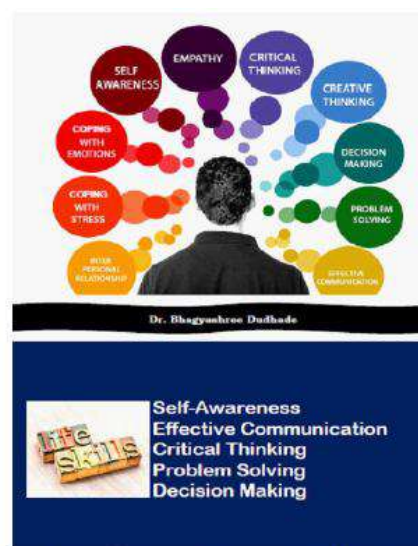
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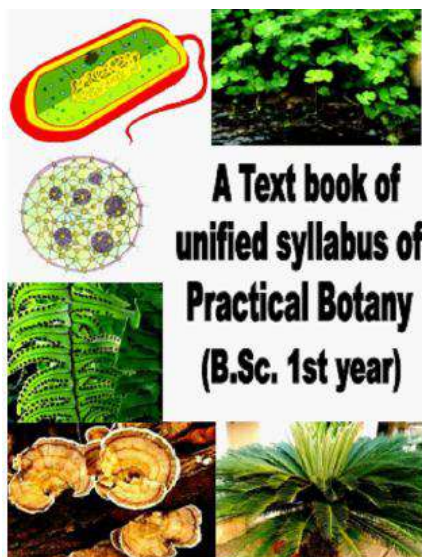
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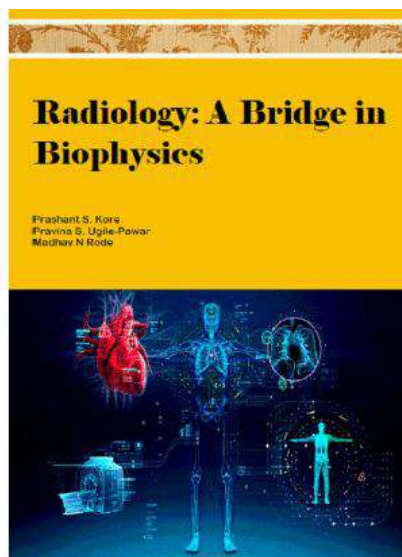
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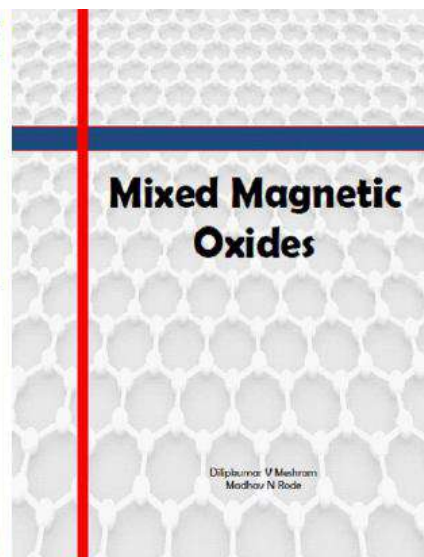
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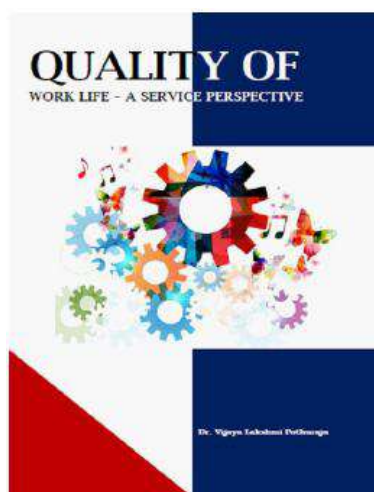


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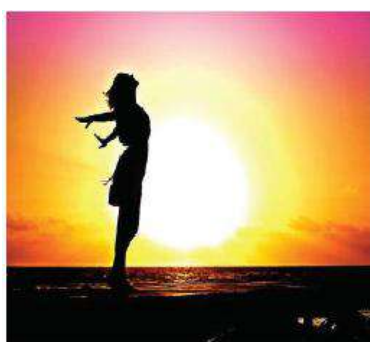
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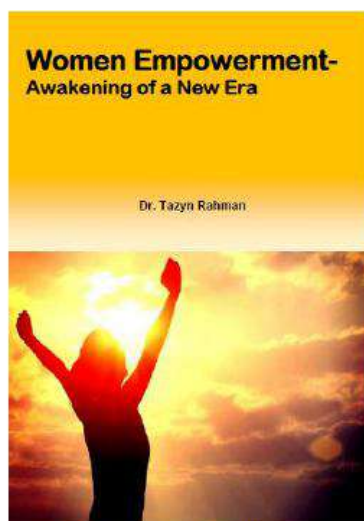


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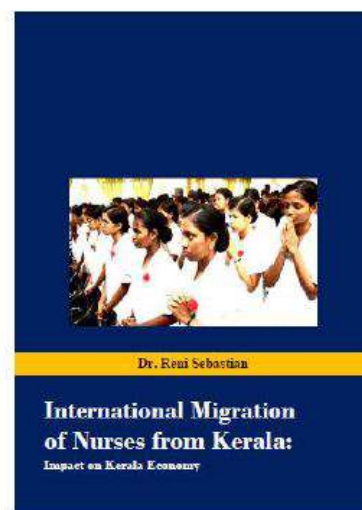


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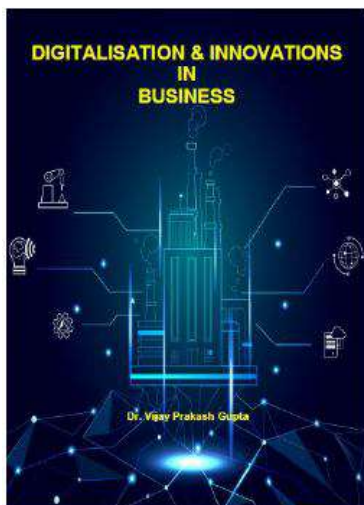


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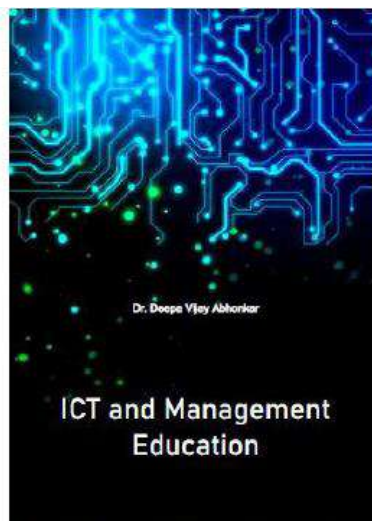
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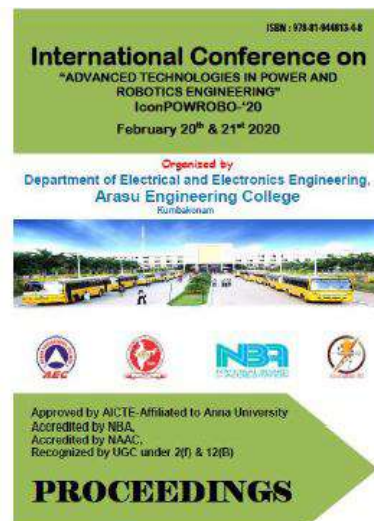
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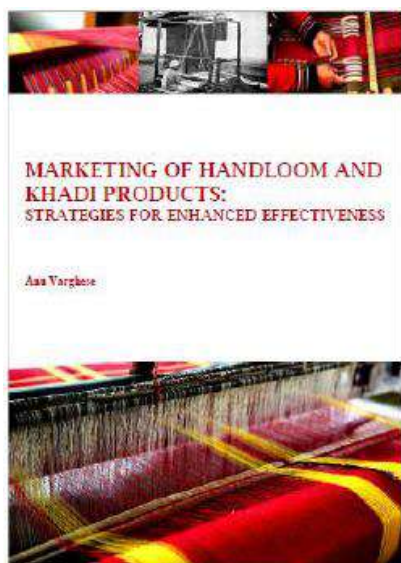
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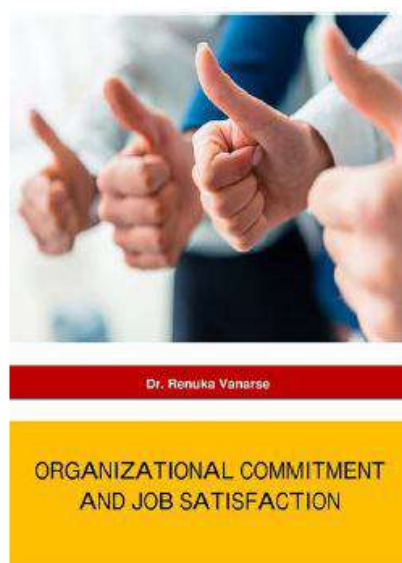
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