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Editorial Message

We are feeling great to bring out our TQIJTM 1st Issue of 2025. Maratha Mandir's Babasaheb Gawde Institute of Management Studies is well known for its academic excellence and devoted approach towards spreading of knowledge in the academic world. Our Institute respects and appreciates the role of research in the education and is committed to developing scientific research in Management Studies. In accordance with the New Education Policy our institute has taken some new initiatives and renewed the Editorial Committee. The important purpose of TQIJTM is to encourage research in academics.

Our Bi-annual Journal's aim is to exclusively published research papers and articles by the faculty and students on contemporary topics and issues around management, international business, economics, finances, human resources management, IT, operation, Governance, policies etc. To maintain high standards of publication, we give importance to ethics, integrity and transparency.

We take this opportunity to thank our devoted readers, highly innovative and talented authors, expert reviewers and distinguished editorial board for being a part of TQIJTM.

Table of Content

A Descriptive study on Building Sustainable teams in hybrid work environment <i>Ms. Kulkarni, Anushka Ashish; Mr. Shetty, Tejas</i>	1
A Descriptive Study of Women's Empowerment in Mumbai <i>Mr. Surve, Parth Rajesh; Mr. Naidu, Yudhishtir</i>	7
AI and Financial Inclusion in Rural Konkan: A Study of Raigad and Ratnagiri District <i>Ms. Karambe, Pratiksha</i>	14
The Role of Artificial Intelligence in Business Sustainability and Decision-Making <i>Mr. Sutar, Manish</i>	22
Resilience of Local Kirana Stores Amidst the Rise of Quick-Commerce: A Customer Perspective <i>Mr. Sakpal, Omkar Sandeep; Mr. Raikar, Kamakshi Umesh</i>	36
Business Opportunities in Generative AI Development <i>Mr. Gorathe, Shreetej Jayendra</i>	44
Rise Of Direct-To-Consumer Brands In E-Commerce <i>Mr. Helgaonkar, Ved</i>	49

A Descriptive Study Building Sustainable Teams in a Hybrid Work Environment

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ABSTRACTS

Building sustainable teams in a hybrid work environment presents unique challenges and opportunities for organizations seeking to maintain productivity, employee engagement, and long-term success. A hybrid work model, where employees split their time between remote and in-office settings, demands a shift in how teams collaborate, communicate, and stay connected. The foundation of a sustainable hybrid team lies in fostering a culture of trust, flexibility, and inclusivity. By creating clear expectations, offering opportunities for continuous learning, and adopting technology that enhances communication and collaboration, organizations can ensure that teams remain effective regardless of location.

Key to success is maintaining a strong sense of community, which can be harder to cultivate in hybrid settings. Regular virtual check-ins, team-building activities, and ensuring that all team members have access to the same resources can help mitigate feelings of isolation and ensure that the team works cohesively. Leaders play a crucial role in modelling adaptability and providing the support needed for employees to thrive in a hybrid environment. This includes prioritizing mental well-being, offering flexible work arrangements, and encouraging open lines of communication.

Embracing diversity in working styles and time zones, and ensuring equal opportunities for growth and recognition, is essential in sustaining motivation and engagement across both remote and in-office team members. In conclusion, while building sustainable teams in a hybrid work environment requires effort and strategy, it holds the potential for greater flexibility, improved work-life balance, and enhanced creativity within teams.

KEYWORDS

Hybrid Word Environment, Sustainable teams, Cooperation, Leadership.

INTRODUCTION

The global shift towards hybrid work has transformed the traditional workplace, offered employees greater flexibility while presenting new challenges for organizations. A hybrid work environment, which blends remote and in-office work, requires businesses to rethink team dynamics, collaboration, and long-term sustainability. While this model offers benefits such as improved work-life balance, increased productivity, and access to a wider talent pool, it also introduces concerns related to communication gaps, employee engagement, team cohesion, and organizational culture.

Building sustainable teams in this evolving landscape demands strategic interventions that foster inclusivity, trust, and effective collaboration. Sustainable teams are characterized by resilience, adaptability, and long-term performance, requiring organizations to implement innovative leadership practices, leverage technology, and establish policies that support employee well-being and engagement.

This research explores the key elements that contribute to the sustainability of hybrid teams, including leadership approaches, technological enablers, team culture, and performance management strategies. By identifying best practices and potential challenges, the study aims to provide insights into how organizations can create resilient and high-performing hybrid teams. The findings will contribute to the ongoing discourse on the future of work and offer actionable recommendations for businesses striving to build sustainable and efficient hybrid teams.

REVIEW OF LITERATURE

McKinsey & Company (Alexander et al.): Their work, particularly reports and articles published post-2020, offer critical analyses of the rapid shift to remote and hybrid work. They emphasize the importance of intentionality in hybrid models, highlighting the need for

organizations to define clear policies and practices. They stress the variability of hybrid models based on industry and role.

Bloom, N. (2014, 2021): Nicholas Bloom's research on remote work predates the pandemic, providing valuable insights into the productivity and potential challenges of remote work. His work on "working from home" and its impacts has been foundational for the current discussions on hybrid work. His research shows that proper implementation of remote work can increase productivity.

Delee Snyder, J., & Staehle, R. (2022): Their research focuses on the diverse definitions of hybrid work, and how those definitions effect team efficiency. This is vital to understanding the differing research outcomes.

Gibson, C. B., & Cohen, S. G. (Eds.). (2003): While not specifically focused on hybrid work, their edited volume on "Virtual Teams That Work" provides foundational knowledge on managing geographically dispersed teams. It emphasizes the importance of communication, trust, and technology in virtual team effectiveness.

RESEARCH OBJECTIVES

1. To examine the key factors that contribute to the sustainability of teams in a hybrid work environment, including leadership approaches, communication strategies, and organizational culture.
2. To analyse the role of technology and digital collaboration tools in enhancing team efficiency, engagement, and performance in hybrid work settings.
3. To identify challenges faced by hybrid teams and propose best practices for fostering long-term team cohesion, productivity, and employee well-being in a sustainable manner.

SCOPE AND LIMITATIONS

The scope of this study focuses on understanding the key factors that contribute to building and sustaining effective teams in a hybrid work environment. It examines aspects such as team collaboration, communication strategies, leadership support, employee engagement, work-life balance, and the role of digital tools in maintaining productivity. The research applies to various industries where hybrid work models are increasingly adopted, providing insights for organizations to develop effective strategies for long-term team sustainability. However, the study has certain limitations. It relies on self-reported data from surveys and interviews, which may be subject to personal biases. Additionally, the rapidly evolving nature of hybrid work means that findings may not remain universally applicable over time. The research also faces constraints in sample size and diversity, limiting its ability to capture all possible hybrid work experiences across different industries and regions. Despite these limitations, the study offers valuable insights into the challenges and best practices for sustaining high-performing teams in a flexible work environment.

RESEARCH METHODOLOGY

This study on building sustainable teams in a hybrid work environment follows a mixed-method approach, combining both quantitative and qualitative research methods to gain a comprehensive understanding of the factors influencing team sustainability in hybrid settings.

1. Research Design

The research follows a descriptive and exploratory design to analyse the challenges, best practices, and strategies for sustaining

teams in hybrid work environments. A survey-based approach is used for quantitative data collection, while interviews and focus groups provide qualitative insights.

2. Data Collection Methods

a. Primary Data Collection:

Survey Form: A structured questionnaire was distributed to employees, managers, and HR professionals working in hybrid settings. It included Likert-scale, multiple-choice, and open-ended questions to assess factors such as team collaboration, communication, leadership support, and work-life balance.

Interviews: Semi-structured interviews were conducted with team leaders and HR professionals to gain deeper insights into leadership strategies and organizational policies that support hybrid teams.

b. Secondary Data Collection: -

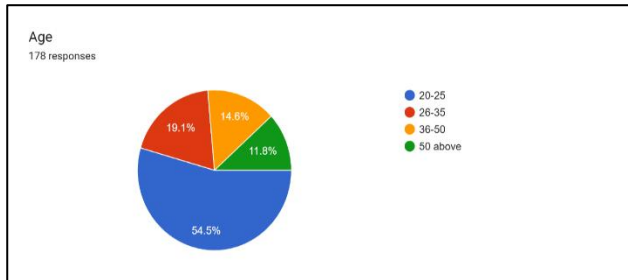
A review of existing literature, case studies, industry reports, and articles was conducted to support the findings and provide context to the research. Data from organizational policies, hybrid work studies, and previous research papers was analysed to compare best practices and challenges across different organizations.

3. Sampling Technique:

A random and purposive sampling method was used to collect responses from individuals with hybrid work experience.

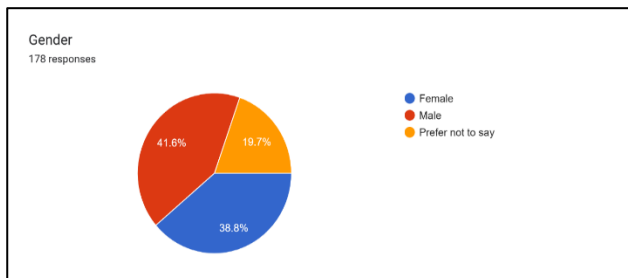
Sample Size: The study targeted employees, managers, and HR professionals from various industries to ensure diverse perspectives on hybrid team sustainability.

DATA ANALYSIS



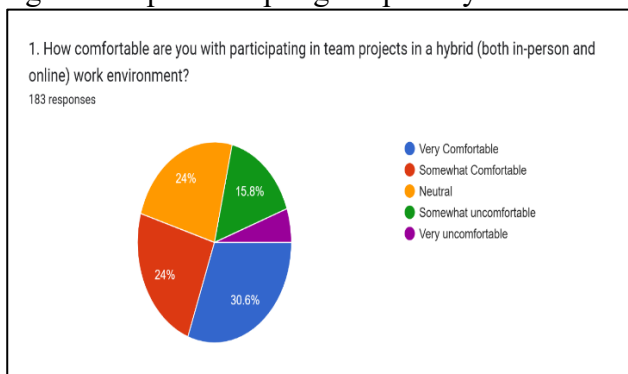
Interpretation

A summary of responses from a Google Form. Out of 178 responses for the age category, the majority (54.2%) are aged 20-25, followed by 26-35 (19%), 36-50 (14.5%), and 50+ (12.3%).



Interpretation

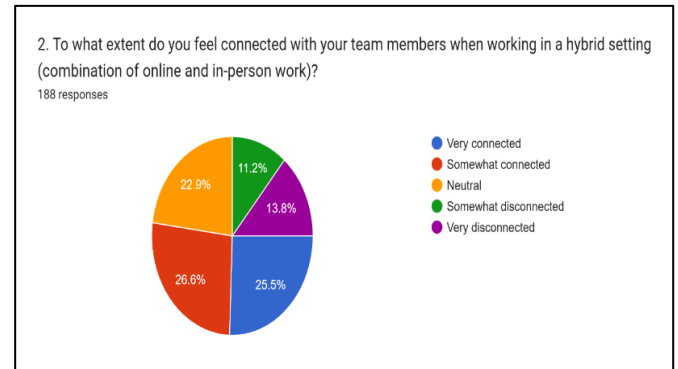
Gender distribution from 178 responses in a Google Form. Males make up the largest group at 41.6%, followed by females at 38.8%, while 19.7% of respondents prefer not to disclose their gender. The data suggests a fairly balanced gender representation with a significant portion opting for privacy.



Interpretation

The comfort levels of 183 respondents in participating in team projects in a hybrid work environment. The majority feel "Very Comfortable" (30.6%), while an equal

proportion (24%) are "Somewhat Comfortable" or "Neutral." A smaller percentage feel "Somewhat Uncomfortable" (15.8%) or "Very Uncomfortable" (5.5%), indicating that most respondents have a positive or neutral stance on hybrid teamwork.



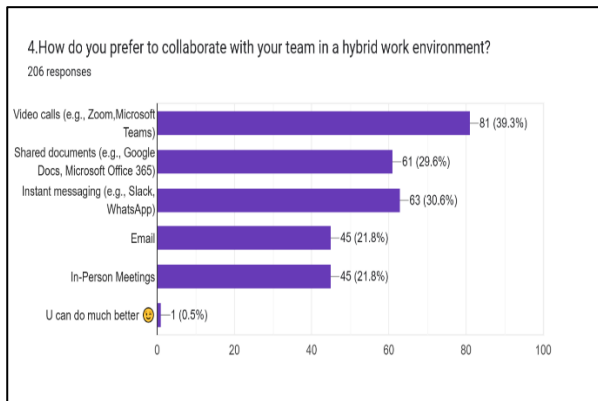
Interpretation

The level of connection respondents feel with their team members in a hybrid work setting. While 52.1% feel either "Very Connected" (25.5%) or "Somewhat Connected" (26.6%), a significant portion remains neutral (22.9%) or feels disconnected (25%), indicating mixed experiences with hybrid collaboration.



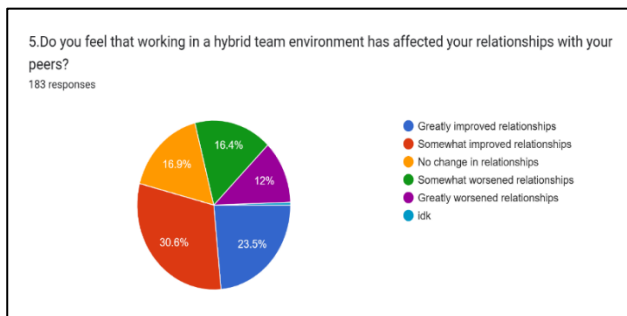
Interpretation

The data shows that communication challenges in remote work are fairly common, with 26.6% experiencing them "Often" and 20.1% "Always." However, a significant portion (41.3%) faces them only "Sometimes" or "Rarely," indicating that while challenges exist, they are not persistent for everyone.



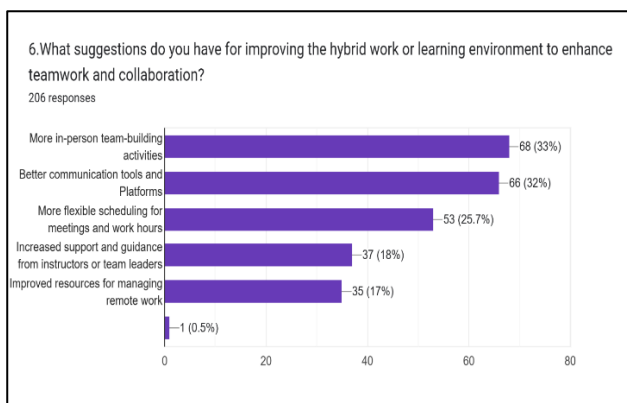
Interpretation

Video calls (39.3%) are the most preferred method for collaboration in a hybrid work environment, followed by instant messaging (30.6%) and shared documents (29.6%). In-person meetings and emails are equally favoured (21.8%), indicating a mix of digital and traditional collaboration methods.



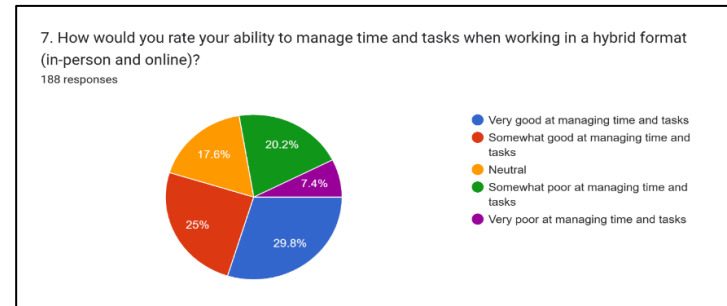
Interpretation

Around 54.1% of respondents feel that hybrid work has improved their relationships with peers, while 33.3% feel it has worsened. A small portion (16.9%) sees no change, showing mixed impacts on workplace relationships.



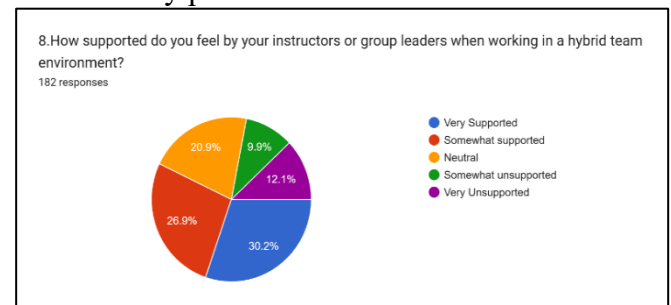
Interpretation

The top suggestions for improving hybrid teamwork include more in-person team-building (33%) and better communication (32%). Flexible scheduling (25.7%) and increased support (18%) are also key areas of focus.



Interpretation

About 55% of respondents feel they are good at managing time and tasks in a hybrid format, while around 38% struggle with it. A small portion (7.4%) rate their time management skills as very poor.



Interpretation

About 57% of respondents feel supported (either very or somewhat) by their instructors or group leaders in a hybrid team environment, while around 22% feel unsupported to some degree. The remaining 20.9% are neutral on the matter.

SECONDARY DATA

Secondary data was collected from existing research studies, surveys, organizational reports, academic journals, and online databases that analyse hybrid work and learning environments. These sources provide insights into communication challenges, time management, team collaboration, and support systems in hybrid settings.

Quantitative Data Analysis:

The survey responses will be analysed using statistical techniques such as correlation analysis and regression models to test the hypotheses and identify relationships between variables.

Qualitative Data Analysis:

The interview and focus group data will be transcribed and analysed using thematic analysis to identify recurring themes, patterns, and insights related to team dynamics, leadership, and productivity.

CONCLUSION

The study on building sustainable teams in a hybrid work environment highlights the challenges and opportunities organizations face in adapting to this evolving work model. The findings suggest that maintaining effective hybrid teams requires a combination of strong leadership, effective communication, employee engagement, and technological support. While hybrid work provides flexibility and improves work-life balance, it also introduces challenges such as communication gaps, reduced team cohesion, and disparities in work experiences. To overcome these challenges, organizations must foster a culture of trust, inclusivity, and adaptability, ensuring that both remote and in-office employees have equal opportunities for growth and collaboration. Strategies such as regular virtual check-ins, team-building activities, transparent policies, and leadership

support are crucial for sustaining team motivation and productivity. Additionally, leveraging digital collaboration tools and providing adequate training can help bridge communication gaps and enhance overall team efficiency.

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A Descriptive Study on Women's Empowerment in Mumbai

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ABSTRACTS

Women empowerment is a fundamental aspect of achieving gender equality, and in cities like Mumbai, women are increasingly breaking barriers and challenging long-standing societal norms. Historically, women in Mumbai faced numerous challenges, but today, they are making significant strides in various sectors, including business, politics, education, and entertainment. Breaking the glass ceiling has become a hallmark of women's empowerment in this dynamic city, with women ascending to leadership positions in traditionally male-dominated industries. Despite these advancements, a significant challenge remains: achieving work-life balance. As more women enter the workforce, balancing professional responsibilities with familial duties has become a necessity. The expectations placed on women to excel both at work and at home create a delicate juggling act, and without adequate support structures, this dual responsibility can be overwhelming. This paper explores how Mumbai's women are managing these competing demands while demonstrating their exceptional multitasking abilities. Women in Mumbai, often playing multiple roles as professionals, caregivers, and homemakers, have proven their resilience and resourcefulness. The need for policies that promote work-life balance—such as flexible work hours, child care support, and gender-sensitive workplace policies—has become crucial in furthering women's empowerment. Through analyzing these key factors—breaking the glass ceiling, the importance of work-life balance, and the multitasking capabilities of women—this research highlights the multifaceted nature of women's empowerment in Mumbai, while underscoring the ongoing need for systemic changes to ensure gender equality and the well-being of women in the region.

KEYWORDS

Women Empowerment, Multitasking Women's, Gender Equality, Societal Norms for Women, Work life Balance.

INTRODUCTION

Women empowerment has emerged as a critical focus in the global pursuit of gender equality, and Mumbai, as India's financial and cultural hub, plays a pivotal role in this narrative. Over the years, the city has witnessed women increasingly breaking barriers in various fields, from corporate leadership to politics, education, and the arts. The concept of "breaking the glass ceiling" has become synonymous with women's growing presence in sectors traditionally dominated by men. However, while these achievements are commendable, the challenges faced by women in Mumbai remain substantial. One of the most pressing issues is the need for a balance between work and personal life. As more women enter the workforce, the traditional expectation of women as primary caregivers often clashes with their professional aspirations. This conflict makes the necessity of work-life balance policies more evident, as women continue to juggle multiple roles in both the workplace and at home.

Furthermore, women in Mumbai demonstrate remarkable multitasking abilities, often managing their professional commitments while fulfilling familial and social responsibilities. This multitasking, though a strength, places significant demands on women's time and energy, underscoring the need for systemic changes in workplace structures and societal expectations. This paper explores the complex and evolving nature of women's empowerment in Mumbai, focusing on the barriers, opportunities, and support systems that shape women's lives in the region.

REVIEW OF LITERATURE

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OBJECTIVES

1. To analyze women's contribution to Mumbai's economic development.
 2. To examine the impact of education and skill development on women's empowerment.
- To explore the challenges women face in achieving work-life balance in Mumbai

SCOPE AND LIMITATIONS

This research delves into the multifaceted dimensions of women's empowerment within Mumbai's dynamic urban landscape. It examines economic, social, and political agency, focusing on the experiences of women within the city's diverse communities. The study encompasses the impact of microfinance, self-help groups, vocational training, education, and community-based initiatives. Furthermore, it explores the role of NGOs and local governance in fostering women's participation and addressing gender based inequalities. The research aims to provide a nuanced understanding of the challenges and opportunities that shape women's lives in Mumbai, with particular attention to the complex interactions between urbanization and empowerment.

This study is constrained by the inherent complexities of researching a megacity with vast socio-economic disparities. Access to reliable and comprehensive data, particularly concerning marginalized communities, presents a challenge. The research may be limited by the availability of up-to-date statistical information and the potential for bias in self-reported data. Due to resource and time constraints, it may not be feasible to capture the full spectrum of women's experiences across all demographic groups in Mumbai. Additionally, the rapid pace of urban change and the evolving nature of empowerment initiatives necessitate acknowledging the potential for findings to be time-sensitive. The focus on specific empowerment strategies might overlook other influential factors

RESEARCH METHODOLOGY

The methodology for the research paper on "Women Empowerment in Mumbai" is designed to provide a comprehensive

understanding of the various dimensions of women's empowerment in the region, focusing on economic, social, political, and cultural aspects. This section will cover the research design, data collection methods, and data analysis techniques used to study women's empowerment in Mumbai

RESEARCH DESIGN

Descriptive Design: This design will help describe the current state of women's empowerment in Mumbai, particularly in terms of economic participation, education, political involvement, work-life balance, and access to support systems. By documenting existing data, it will offer an overview of the role of women in the city's development.

Exploratory Design:

The research will explore various factors influencing women's empowerment in Mumbai, especially the intersectional challenges faced by women from marginalised communities. This will involve delving into personal stories, interviews, and community perspectives to better understand the barriers to empowerment.

Mixed-Methods Approach: The research will combine both qualitative and quantitative research methods to gather a well-rounded view. The quantitative data will help identify patterns and trends in the empowerment of women, while qualitative data will provide deeper insights into the experiences and challenges women face in Mumbai.

DATA COLLECTION METHOD

To gain a thorough understanding of women empowerment in Mumbai, a combination of primary and secondary data collection methods will be used.

Primary Data Collection

Surveys and Questionnaires: A structured survey will be distributed to women across various demographics in Mumbai. The survey will gather quantitative data on topics such as employment, education, income

levels, work-life balance, political participation, and access to support systems. Likert-scale questions will be included to measure attitudes and perceptions about gender equality, empowerment, and societal expectations. The survey will target women from diverse socio-economic backgrounds to ensure broad representation.

SAMPLING METHOD: The survey will use stratified random sampling to ensure representation from various sectors, such as women in the corporate sector, government employees, educators, homemakers, and women from marginalized communities.

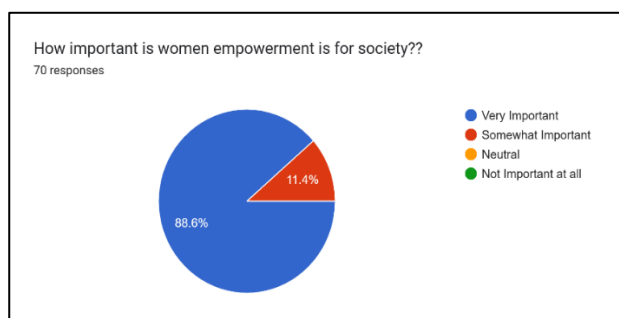
SECONDARY DATA COLLECTION

Government and NGO Reports: Government publications, policy reports, and studies from NGOs working on women's empowerment in Mumbai (such as Sakhi, Majlis, and Yuva Foundation) will be reviewed. These documents will provide insights into the policy landscape, ongoing initiatives, and the impact of existing women-centered programs and interventions.

Published Studies and Articles: The researcher will review academic journals, books, and case studies on women's empowerment in India, with a focus on urban contexts like Mumbai. This will help contextualize the findings within the broader landscape of women's rights and empowerment in India

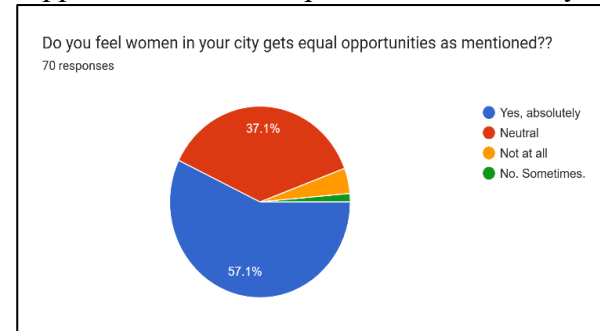
DATA ANALYSIS

Primary Data



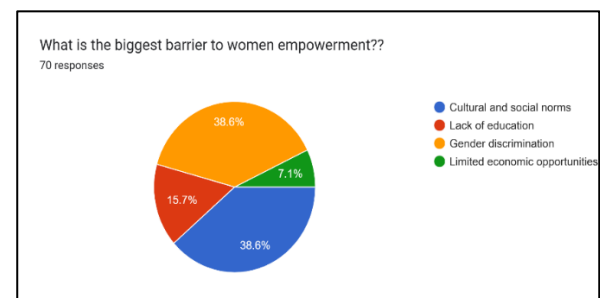
Interpretation

The chart shows that 88.6% of respondents consider women empowerment "Very Important," while 11.4% see it as "Somewhat Important." This indicates strong overall support for women empowerment in society.



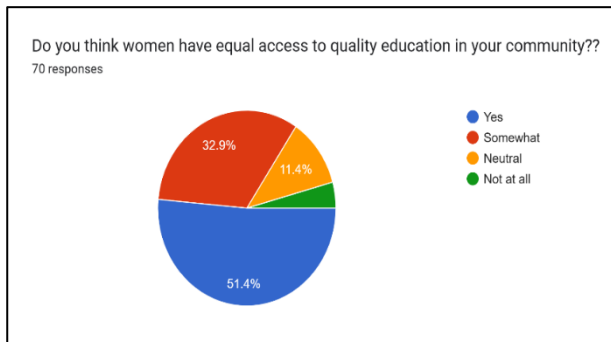
Interpretation

The chart shows that 57.1% of respondents believe women in their city get equal opportunities, while 37.1% are neutral. A small percentage feels that opportunities are either lacking or inconsistent, indicating room for improvement in gender equality



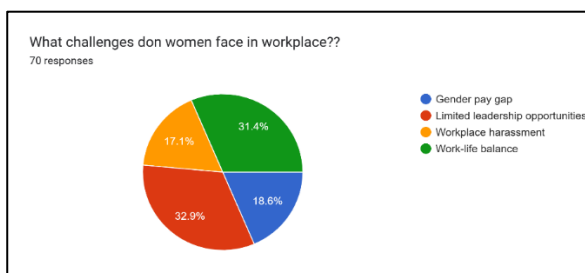
Interpretation

The chart shows that cultural and social norms (38.6%) and gender discrimination (38.6%) are seen as the biggest barriers to women empowerment. Lack of education (15.7%) and limited economic opportunities (7.1%) are also contributing factors, highlighting multiple challenges



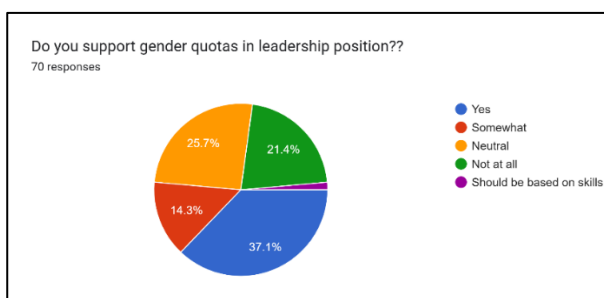
Interpretation

The chart shows that 51.4% of respondents believe women have equal access to quality education, while 32.9% think they only "Somewhat" do. However, 11.4% are neutral, and a small percentage feels women do not have equal access, indicating ongoing disparities.



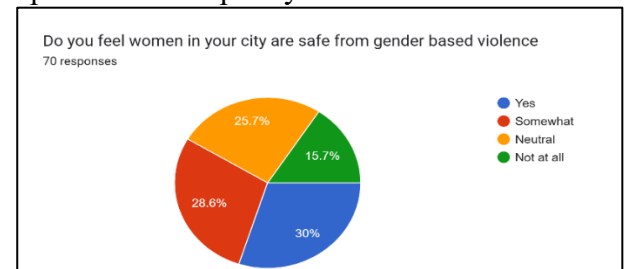
Interpretation

The chart shows that the biggest workplace challenges for women are limited leadership opportunities (32.9%) and work-life balance (31.4%). Gender Pay gap (18.6%) and workplace harassment (17.1%) are also significant concerns, highlighting ongoing gender disparities in professional environments



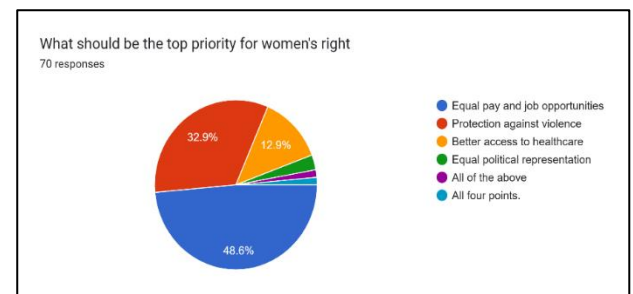
Interpretation

The chart shows that 37.1% of respondents support gender quotas in leadership positions, while 25.7% remain neutral. However, 21.4% oppose quotas, and a small percentage believes leadership should be based purely on skills, reflecting mixed opinions on the policy



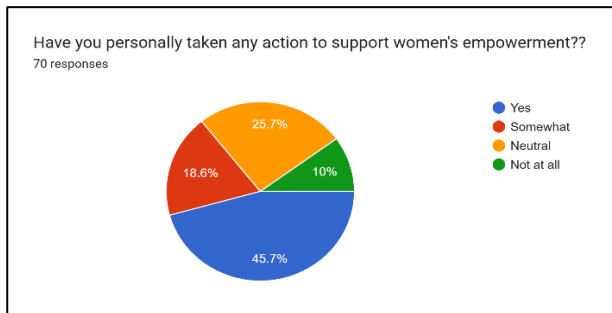
Interpretation

The chart indicates that only 30% of respondents believe women in their city are safe from gender-based violence, while 28.6% feel somewhat safe. However, a significant portion remains neutral (25.7%) or disagrees entirely (15.7%), highlighting safety concerns



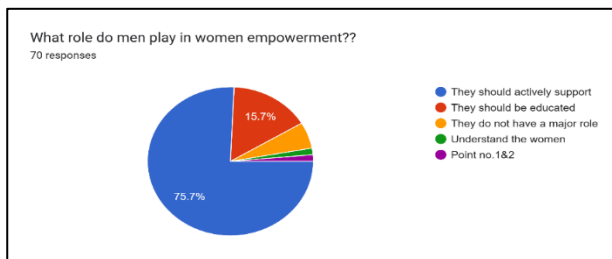
Interpretation

The majority of respondents (48.6%) believe that equal pay and job opportunities should be the top priority for women's rights, followed by protection against violence (32.9%). Other concerns like healthcare access and political representation received significantly less focus



Interpretation

Nearly half (45.7%) of respondents have actively taken steps to support women's empowerment, while 25.7% remain neutral and 10% have not taken any action at all, indicating room for greater awareness and involvement



Interpretation: A significant majority (75.7%) believe men should actively support women's empowerment, while 15.7% think men need education on the topic, highlighting the need for both action and awareness among men.

SECONDARY DATA

To support your research on women's empowerment in Mumbai, here is a compilation of secondary data from government publications, policy reports, NGO studies, and academic articles:

Government and NGO Reports:

Majlis Law Initiatives:

Majlis Law offers legal support to women, establishing a support system for victims of rape, and actively works towards changing societal and legal attitudes toward women.

YUVA Annual Report 2022–23:

In Vashi Naka, Mumbai, YUVA facilitated the formation of a women's vendor

committee to advocate against violence toward women vendors, fostering positive relationships with local authorities.

Initiatives:

The Government of India has implemented various schemes to empower women socially, educationally, economically, and politically. Published Studies and Articles:

Women's Empowerment and Health in Low-Income Communities in Mumbai:

FINDINGS: A study examined the relationship between women's empowerment and self-reported health status during pregnancy in marginalized areas of Mumbai. The research highlighted how empowerment levels can influence health outcomes.

Sakhi Saheli Program Evaluation:

FINDINGS: The Sakhi Saheli program aimed to promote gender equity and empower young women in urban slum communities in Mumbai. Qualitative research explored young women's perceptions of femininity and masculinity, informing program strategies.

Women's Economic Empowerment Policies in India:

FINDINGS: A report reviewed public and private efforts in promoting women's economic empowerment, emphasizing the need for integrating gender perspectives in policy and planning. These sources offer valuable insights into the policy landscape, ongoing initiatives, and the impact of existing women-centered programs in Mumbai

CONCLUSION

Women's empowerment in Mumbai has witnessed remarkable progress, yet numerous challenges remain. Women have made significant strides in leadership, business, education, and politics, breaking societal barriers and redefining traditional roles. However, gender disparities persist in areas such as workplace equality, safety, and

economic opportunities. The study highlights the importance of policy interventions, skill development programs, and work-life balance measures to enhance women's participation in Mumbai's development. Support from government, NGOs, and society is crucial in fostering an inclusive environment where women can thrive. Strengthening legal frameworks, increasing educational access, and addressing gender-based violence are key steps toward ensuring true empowerment. Additionally, cultural shifts and greater male involvement in gender equality efforts can accelerate progress. The study underscores that sustainable empowerment requires continuous efforts at multiple levels. With collective action and systemic reforms, Mumbai can pave the way for a more equitable future for women

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**AI and Financial Inclusion in Rural Konkan: A Study of Raigad and Ratnagiri
District**

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ABSTRACTS

Artificial Intelligence (AI) is increasingly recognized as a transformative force in financial inclusion, particularly in underserved rural regions. This study examines the application of AI-driven financial technologies in the rural districts of Raigad and Ratnagiri in Maharashtra's Konkan region. Through a mixed-method approach, combining surveys and interviews with rural residents and financial service providers, the research evaluates how AI solutions—such as voice bots, alternative credit scoring, and personalized financial advice—address traditional barriers to financial access. The findings suggest that AI significantly enhances financial inclusion by improving access, reducing operational costs, and empowering rural consumers with financial literacy. However, challenges such as digital infrastructure deficits, data privacy concerns, and the need for robust regulatory frameworks remain. The study concludes with recommendations for stakeholders to maximize the benefits of AI for rural financial inclusion.

KEYWORDS: *Artificial Intelligence, Financial Inclusion, Rural India, Raigad, Ratnagiri, Fintech*

INTRODUCTION

Financial inclusion is essential for improving the living conditions of rural communities, nonfarm enterprises, and other vulnerable sectors. The main goal is to provide financial services at affordable costs to marginalized and disadvantaged groups. While rural populations need it the most, rural communities remain the largest unserved market for financial services. Ensuring their financial inclusion can unlock significant economic potential in rural areas. The nationalization of banks and subsequent developments led to the expansion of commercial banks, RRBs, and cooperative credit institutions across India. Bank policies focused on “social” and “development bonding” by providing credit and financial facilities to agriculture and other priority sectors. Even after 68 years of independence, banking facilities have not reached many rural and underprivileged sectors, creating a financial gap and instability among rural populations. Currently, the government and RBI are developing various schemes and policies to strengthen financial capacity in rural India through financial inclusion. The ambitious scheme Pradhan Mantri Jan Dhan Yojana (PMJDY) and direct benefit transfer payments are initiatives by the Indian government aimed at promoting financial inclusion. The primary goal of PMJDY is to ensure access to various financial services such as basic savings accounts, LPG subsidies, credit facilities, and insurance. Financial inclusion remains a persistent challenge in rural India, where over 65% of the population resides and nearly 190 million adults remain unbanked. The Konkan region’s districts of Raigad and Ratnagiri exemplify these challenges, characterized by limited banking infrastructure, poor connectivity, linguistic diversity, and low financial literacy. Traditional financial institutions have struggled to serve these markets profitably, leaving a significant gap in financial access.

AI-powered financial technologies offer a promising solution to these challenges. By leveraging machine learning, predictive analytics, and natural language processing, AI can automate credit assessments, provide multilingual support, and deliver personalized financial advice, thereby democratizing access to financial services. This study investigates the impact of AI on financial inclusion in Raigad and Ratnagiri, focusing on both opportunities and challenges.

REVIEW OF LITERATURE

Shivakumar, Nirmala, and Mamatha (2024) examined the impact of digital finance on financial inclusion and stability in rural India. Their mixed-methods study found that digital technologies—such as mobile banking, digital wallets, and payment apps—have significantly expanded access to formal financial services among rural populations. These tools empower rural communities to manage banking, payments, savings, and credit, thereby promoting economic empowerment and livelihood improvements. However, the authors also identified persistent challenges, including infrastructure deficits, digital literacy, regulatory issues, and cybersecurity concerns.

“Digital Banking and Financial Inclusion in Rural Economies” (SEEJPH, 2025) critically analysed the role of digital banking in bridging the financial inclusion gap. The study highlighted that emerging technologies like AI and blockchain are expected to further enhance digital banking by improving security, reducing operational costs, and providing personalized financial solutions. The increasing penetration of smartphones and mobile internet in rural areas creates new opportunities for expanding digital banking services. However, the research also pointed out gaps in understanding socio-cultural dimensions of adoption, such as trust and gender dynamics, and called for longitudinal studies to assess long-term impacts.

“Impact of AI on Investment Decision and Financial Inclusion of Rural India” (IJRASET, 2024) explored how AI technologies, including machine learning algorithms and predictive analytics, empower rural consumers to make informed investment decisions. The study found that AI-driven solutions provide personalized investment advice, risk assessments, and portfolio optimization, thereby bridging the financial literacy gap and enhancing access to financial markets. The authors emphasized the need to address the digital divide, data privacy concerns, and the importance of robust regulatory frameworks and educational initiatives to ensure responsible and equitable use of AI.

“FinTech-Driven Financial Inclusion in Rural India” (SSRN, 2025) examined how FinTech can promote financial inclusion by analysing the financial behaviour of rural consumers. The study underscored the transformative potential of FinTech in reducing barriers to financial access and highlighted the importance of understanding local contexts and behavioural factors in designing effective financial solutions.

“Impact of Digital Payment Systems on Financial Inclusion in Rural India” (SSRN, 2025) examined the transformative role of digital payment systems in enhancing financial inclusion. The study found that digital payment platforms have made financial transactions more accessible and affordable for rural populations, contributing to greater economic stability

RESEARCH GAP

Despite the growing body of research on digital finance and artificial intelligence (AI) in enhancing financial inclusion across rural India, there is a noticeable lack of region-specific studies focusing on the Konkan region—particularly the districts of Raigad and Ratnagiri. Existing literature primarily emphasizes the technological benefits of AI from an institutional or policy perspective but pays limited attention to how these technologies are perceived and used by rural

consumers. Furthermore, most studies do not explore localized challenges such as language barriers, low digital literacy, poor infrastructure, and cultural trust gaps that directly influence the adoption of AI-enabled financial services. As a result, there is an insufficient understanding of the effectiveness of AI tools—such as chatbots, automated credit scoring systems, and voice-based interfaces—in reaching and empowering rural populations. This study seeks to fill this gap by providing empirical insights into the awareness, usage, and barriers associated with AI-driven financial inclusion in Raigad and Ratnagiri, and by proposing tailored strategies to improve accessibility and trust among rural users

RESEARCH OBJECTIVE

To assess the level of financial inclusion in the Raigad & Ratnagiri Districts

To explore the awareness and usage of AI-based financial tools

RESEARCH METHODOLOGY

Research Design: Descriptive

Sample Size: 250

Sampling Technique: Purposive sampling (targeting SHG members, farmers, shopkeepers, local women, and small entrepreneurs)

Tools: Structured questionnaire (quantitative) and semi-structured interviews (qualitative)

Data Analysis: Descriptive statistics, thematic coding for qualitative responses

Objective 1: To assess the current state of financial inclusion in rural Raigad and Ratnagiri

	Do you have a bank account?
No	124
Yes	126
Grand Total	250
	Count of Which of the following services do you use?

ATM	45
Credit/ Debit Card	37
Interne t Bankin g	41
Mobile Bankin g App	47
None	35
UPI/G oogle Pay/Ph onePe	45
Grand Total	250
Count of Is it easy for you to visit a bank branch when needed?	
No	127
Yes	123
Grand Total	250

The survey results from 250 respondents offer meaningful insights into the current financial inclusion landscape in the rural areas of Raigad and Ratnagiri districts.

BANK ACCOUNT OWNERSHIP:

Out of 250 respondents, 126 (50.4%) reported having a bank account, while 124 (49.6%) did not. This near-even split highlight that although there has been progress in account opening initiatives, A significant portion of the rural population, nearly 50%, remains unbanked. .

Usage of Financial Services:

Among those who have access to financial services, Mobile Banking Apps (47), UPI platforms like Google Pay (45), and ATMs (45) were the most frequently used services. However, a considerable number of respondents — 35 individuals — reported not using any financial service, suggesting that service usage remains shallow, even

among those who own bank accounts. This reflects a gap between financial access and actual financial participation.

Accessibility of Bank Branches:

When asked whether it is easy to visit a bank branch when needed, responses The responses were divided nearly evenly., with 127 (50.8%) respondents stating ‘No’ and 123 (49.2%) saying ‘Yes’. This suggests that physical accessibility to banking infrastructure continues to be a constraint, especially in geographically dispersed or poorly connected rural areas

Objective 2. To explore awareness and usage of AI-based financial tools among rural consumers For Raigad District

	<i>Hav e you hear d of AI- base d tools in bank ing</i>	<i>Have you intera cted with a chatb ot for banki ng servic es?</i>	<i>Whi ch AI- base d feat ures have you used (?)</i>	<i>What preve nts you from using AI or app- based banki ng?</i>
Have you heard of AI-based tools in banking (e.g., chatbots, automated credit checks)?	1			
Have you interacted with a chatbot	0.09 706	1		

for banking services?				
Which AI-based features have you used? (Tick all that apply)	0.06152	0.109778	1	
What prevents you from using AI or app-based banking? (Tick all that apply)	-0.17548	-0.07882	-0.09467	1

The analysis confirms that this objective has been addressed through both descriptive and correlational methods. In Raigad, a moderate level of awareness regarding AI-based financial tools—such as chatbots, app-based credit scoring, and UPI recommendations was observed.

However, the actual usage of such tools remains low. The correlation coefficient between awareness and chatbot usage was 0.097, and between awareness and broader AI feature usage was 0.061, both indicating very weak positive relationships. This suggests that while people may have heard of AI tools, this knowledge does not consistently translate into active use. Furthermore, a negative correlation of -0.175 between perceived barriers (like lack of knowledge, digital illiteracy, language constraints) and awareness suggests that these factors are significantly impeding both understanding and adoption. Similarly, a weak negative association exists between barriers and actual usage, highlighting that

these limitations must be mitigated to enhance adoption.

Thus, the objective to explore awareness and usage has been met. The findings indicate that although AI-enabled financial tools are recognized by some rural consumers in Raigad, there remains a substantial gap between awareness and confident, regular usage. This supports the need for localized interventions—such as AI literacy programs in regional languages, simplified interfaces, and community-led demonstrations—to build trust, usability, and adoption in rural regions.

	<i>Have you heard of AI-based tools in banking?</i>	<i>Have you interacted with a chatbot for banking services?</i>	<i>Which AI-based features have you used?</i>	<i>What prevents you from using AI or app-based banking?</i>
Have you heard of AI-based tools in banking (e.g., chatbots, automated credit checks)?	1			
Have you interacted with a chatbot for banking services?	-0.03126	1		
Which AI-based features have you used? (Tick all that apply)	0.09128	0.111848	1	
What prevents you from using AI or app-based banking? (Tick all that apply)	0.135809	-0.12551	-0.05146	1

Based on the correlation analysis conducted for rural respondents in Ratnagiri district, the findings provide important insights into the awareness and use of AI-based financial tools. The correlation between awareness of AI tools and interaction with banking chatbots was found to be slightly negative ($r = -0.031$), indicating almost no relationship between simply knowing about AI tools and actually using them. Similarly, the relationship between awareness and the use of AI-based features—such as UPI suggestions, voice banking, or app-based loan checking—was weakly positive ($r = 0.091$), suggesting that while some individuals may act on their awareness, it is not a strong or consistent trend.

A marginally stronger but still weak positive correlation ($r = 0.112$) was observed between chatbot usage and the broader usage of AI tools, suggesting that individuals who have tried one AI feature are only slightly more likely to explore others. Interestingly, a slightly positive correlation ($r = 0.136$) was noted between barriers to adoption and awareness, which may indicate that even those facing challenges like language, fear of fraud, or lack of digital access are still somewhat aware of these technologies—though they might not feel comfortable using them. However, the negative correlations between barriers and chatbot use (-0.126) and between barriers and feature usage (-0.051) reinforce the idea that these obstacles do, to some extent, hinder active adoption. In conclusion, the objective of exploring AI awareness and usage among rural consumers in Ratnagiri is supported by the data. While awareness does exist, it does not reliably translate into practical usage of AI-powered banking tools. This highlights a clear need for community-level interventions, such as vernacular-based AI education, improved digital accessibility, and trust-building efforts to empower rural users to engage more confidently with AI-enabled financial services.

KEY FINDINGS:

- Nearly half of the rural population in Raigad and Ratnagiri, representing 124 out of 250 respondents, reported not having a bank account, indicating a significant portion remains unserved by fundamental banking facilities despite national initiatives like PMJDY.
- Even among those with bank accounts, the usage of various financial services remains limited. 35 individuals reported not using any financial service, highlighting a gap between mere access and actual financial participation.
- 127 out of 250 respondents (50.8%) stated it is not easy for them to visit a bank branch when needed, suggesting that physical accessibility to banking infrastructure continues to be a major constraint in these rural areas.
- In Raigad, a moderate level of awareness regarding AI-based financial tools was observed, but actual usage remained low. Very weak positive relationships (correlation coefficients of 0.097 for chatbot usage and 0.061 for broader AI feature usage) were found between awareness and usage.
- In Ratnagiri, awareness of AI tools existed, but a slightly negative correlation ($r = 0.031$) was found between awareness and interaction with banking chatbots, suggesting virtually no relationship between knowing about AI tools and actually using them.
- In Raigad, a negative correlation of -0.175 between perceived barriers (like lack of knowledge, digital illiteracy, language constraints) and awareness suggests these factors significantly impede both understanding and adoption. A weak negative association also exists between barriers and actual usage. In Ratnagiri, negative correlations between barriers and chatbot use (-0.126) and between barriers and feature usage (-0.051)

reinforce that these obstacles hinder active adoption

CONCLUSION

The study's findings reveal a complex landscape of financial inclusion and AI adoption in the rural districts of Raigad and Ratnagiri, Maharashtra. Despite initiatives like the Pradhan Mantri Jan Dhan Yojana (PMJDY) aimed at expanding banking access, a significant portion of the rural population in these areas, nearly half of the respondents, still lacks basic bank accounts. Furthermore, while some financial services are used, there is a noticeable gap between access and actual financial involvement, with many individuals not utilizing any services. Physical accessibility to bank branches also remains a major obstacle for about half of the rural residents, highlighting the limitations of traditional banking infrastructure in these geographically dispersed regions.

Regarding AI-based financial tools, the research shows that while there is moderate awareness among rural consumers in both Raigad and Ratnagiri districts, this awareness does not consistently lead to active usage. In Raigad, very weak positive correlations were seen between awareness and the use of chatbots or broader AI features, indicating that knowledge alone is not enough for adoption. Similarly, in Ratnagiri, the link between awareness and AI tool use was weakly positive, with a slightly negative correlation between awareness and chatbot interaction.

Crucially, barriers to adoption play a vital role. In Raigad, factors such as lack of digital skills and trust negatively affect usage, as shown by a negative correlation between perceived barriers and awareness. In Ratnagiri, awareness remained even among those facing issues like language barriers, fear of fraud, or limited digital access, but these obstacles still hampered active adoption.

Some rural consumers recognize AI-enabled financial tools, a significant gap remains between initial awareness and confident, consistent use. This thorough analysis meets the study's goals by offering empirical insights into the current state of financial inclusion and AI adoption dynamics in these underserved rural regions. The results highlight an urgent need for targeted, localized efforts, such as vernacular-based AI literacy programs, simpler interfaces, better digital infrastructure, and community-led demonstrations, to build trust, improve usability, and ultimately close the gap between awareness and practical use of AI, thereby boosting financial inclusion at the grassroots level.

SUGGESTIONS:

- Focus on targeted campaigns to increase bank account ownership and encourage active utilization of basic financial services in underserved pockets of Raigad and Ratnagiri.
- Invest in improving digital infrastructure (e.g., internet connectivity) and consider innovative physical banking outreach models (e.g., strengthened banking correspondent networks) to overcome accessibility constraints in rural areas.
- Develop and deliver AI literacy programs specifically tailored for rural communities, using local languages and simplified interfaces. These programs should cover how AI tools work, their benefits, and how to use them securely.
- Conduct community-led demonstrations and workshops to showcase the security and reliability of AI-based financial tools. Financial service providers should proactively communicate data privacy measures to address concerns.
- Financial institutions should prioritize the development of AI solutions with intuitive designs and robust multilingual support, especially for voice-based interfaces.

- Encourage collaboration between government bodies, financial institutions, technology providers, and local community organizations to create an ecosystem that supports both financial inclusion and responsible AI adoption.

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The Role of Artificial Intelligence in Business Sustainability and Decision-Making

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ABSTRACTS

Artificial Intelligence (AI) is transforming the business landscape by enhancing sustainability efforts and improving strategic decision-making. AI-powered tools such as machine learning, predictive analytics, and automation enable organizations to optimize resource management, minimize waste, and enhance operational efficiency. Businesses increasingly rely on AI-driven insights to develop sustainable business models, mitigate environmental impact, and strengthen supply chain resilience. AI also plays a significant role in corporate governance by facilitating data-driven decision-making, risk assessment, and ethical business practices.

This research examines the integration of AI in sustainability initiatives across various industries, highlighting real-world applications in energy optimization, carbon footprint reduction, and waste management. Additionally, the study explores how AI assists in financial forecasting, market trend analysis, and strategic planning, allowing businesses to adapt to dynamic environments. While AI presents numerous advantages, challenges such as data security, ethical concerns, and algorithmic biases must be addressed to ensure responsible AI adoption.

Through qualitative and quantitative research, this study analyses case studies of companies leveraging AI for sustainability and explores frameworks for ethical AI implementation. The findings offer valuable insights for businesses, policymakers, and researchers on maximizing AI's potential while ensuring environmental, economic, and social sustainability. By providing a roadmap for AI-driven sustainability strategies, this research contributes to the broader discourse on the role of emerging technologies in creating a more resilient and sustainable business ecosystem.

KEYWORDS

Artificial Intelligence, Business, Energy, Carbon footprint, AI- driven Waste Reduction

INTRODUCTION

Artificial Intelligence (AI) is transforming the way businesses operate. Companies are now using AI to improve efficiency, make better decisions, and develop sustainable business models. AI helps businesses reduce waste, optimize resource usage, and create eco-friendly solutions. As the world faces climate change and resource scarcity, businesses must find ways to operate responsibly. AI provides data-driven solutions that allow companies to meet their sustainability goals.

However, AI also comes with challenges. Businesses need to ensure that AI systems are ethical and do not make biased decisions. Additionally, small businesses may struggle with the cost of AI implementation. This paper discusses how AI helps businesses achieve sustainability and improve decision-making while addressing its challenges.

1. THE ROLE OF AI IN BUSINESS SUSTAINABILITY

AI helps businesses achieve sustainability in several ways:

1.1 Reducing Waste and Energy Consumption

AI systems can analyse energy usage and suggest ways to reduce waste. For example:

- Google uses AI to optimize energy consumption in its data centres, reducing cooling costs by 40%.
- Manufacturing companies use AI to predict machine failures, reducing material waste and maintenance costs.

1.2 Sustainable Supply Chain Management

AI helps businesses manage their supply chains more efficiently. It predicts demand, reduces transportation costs, and minimizes excess inventory. Companies like Walmart use AI to improve logistics, reducing fuel consumption and optimizing delivery routes.

1.3 Smart Agriculture

AI is helping farmers adopt sustainable practices. For example:

- AI-powered drones monitor crop health and reduce pesticide use.
- Automated irrigation systems use AI to manage water efficiently, preventing wastage.

1.4 Carbon Footprint Reduction

AI is helping businesses reduce carbon emissions. Tesla uses AI in its electric vehicles to improve battery efficiency and energy management. AI-driven climate models also help companies plan eco-friendly strategies.

2. AI AND BUSINESS DECISION-MAKING

AI supports decision-making in the following ways:

2.1 Data-Driven Insights

AI helps businesses make decisions based on data rather than guesswork. AI analyses customer preferences, market trends, and business performance to provide valuable insights. For example, Netflix uses AI to recommend content based on user behaviour, improving customer satisfaction.

2.2 Risk Management and Fraud Detection

AI identifies risks in business operations. Banks use AI to detect fraud by analysing transaction patterns.

JPMorgan Chase uses AI-powered software to review legal documents, reducing human errors and improving compliance

2.3 Enhancing Customer Experience

AI-powered chatbots and virtual assistants improve customer support. Amazon's AI-driven recommendations increase sales by personalizing the shopping experience.

3. CHALLENGES IN AI IMPLEMENTATION

3.1 High Costs

AI systems require large investments in technology and skilled personnel. Small businesses may struggle to afford AI-driven solutions.

3.2 Ethical Concerns

AI algorithms can sometimes be biased. If trained on incorrect data, AI may make unfair decisions, such as rejecting loan applications from certain groups unfairly.

3.3 Data Privacy Issues

AI collects and processes large amounts of data. Businesses must ensure data security and compliance with laws like GDPR (General Data Protection Regulation)

4. CASE STUDIES: COMPANIES USING AI FOR SUSTAINABILITY

4.1 Google's AI-Powered Energy Efficiency

Google uses DeepMind AI to optimize energy use in data centers, reducing energy consumption by 40%. This initiative has helped Google move toward carbon neutrality.

4.2 IBM's AI for Smart Cities

IBM's AI solutions help cities reduce energy use and traffic congestion. AI-powered traffic management systems in Singapore have improved fuel efficiency and reduced pollution.

4.3 Unilever's Sustainable Supply Chain

Unilever uses AI to track and manage sustainable sourcing of raw materials, reducing waste and ensuring responsible production.

4.4 Dependence on AI

Over-reliance on AI may reduce human involvement in decision-making, leading to issues if AI systems fail or make incorrect predictions.

5. CASE STUDIES: Companies Using AI for Sustainability

5.1 Google's AI-Powered Energy Efficiency

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5.3 Unilever's Sustainable Supply Chain

Unilever uses AI to track and manage sustainable sourcing of raw materials, reducing waste and ensuring responsible production.

6. RECOMMENDATIONS FOR ETHICAL AI USE

To maximize the benefits of AI while minimizing risks, businesses should:

1. **Ensure Transparency:** AI decisions should be explainable and free from bias.
2. **Invest in Data Security:** Protect customer data to maintain trust and legal compliance.
3. **Adopt AI Ethically:** Implement fairness guidelines to prevent discrimination in AI decision-making.
4. **Provide Employee Training:** Workers should be educated on how to use AI effectively and ethically.
5. **Combine AI with Human Oversight:** AI should assist human decision-makers, not replace them completely.

7. PROBLEM STATEMENT

Businesses today face increasing challenges in achieving sustainability while maintaining profitability. Climate change, resource scarcity, and regulatory requirements demand that companies adopt innovative solutions. Artificial Intelligence (AI) has emerged as a key technology that can optimize business operations, improve resource efficiency, and enhance decision-making. However, despite AI's potential, its implementation in sustainability strategies faces obstacles such as high costs, ethical concerns, and data privacy risks. Moreover, many businesses struggle with integrating AI effectively into their decision-making processes. This research seeks to explore how AI contributes to sustainability, the challenges of its adoption, and its impact on corporate decision-making.

8. SCOPE OF THE STUDY

This study focuses on AI's role in sustainability and business decision-making across various industries, including manufacturing, retail, energy, and technology. It examines how businesses integrate AI in their supply chains, energy management, and

strategic planning to achieve sustainability. The study includes case studies, industry reports, and expert interviews to evaluate AI's effectiveness. It also explores the ethical and regulatory concerns related to AI implementation in business operations.

- **High Implementation Costs**

AI adoption requires significant investment in technology, infrastructure, and skilled personnel. Small and medium-sized businesses may struggle to afford AI-driven sustainability solutions.

- **Data Privacy and Security Risks**

AI relies on large datasets, which raises concerns about data security and regulatory compliance (e.g., GDPR). Businesses must address risks related to data breaches and misuse of sensitive information.

- **Ethical and Bias Challenges**

AI decision-making can be biased if the training data is flawed or unbalanced. Unethical AI practices may lead to discrimination in hiring, resource allocation, or supply chain management, affecting the credibility of AI-driven sustainability efforts.

9. OBJECTIVES

1. To analyse the role of AI in driving sustainable business practices and improving operational efficiency.
2. To assess the impact of AI-driven decision-making on corporate strategy and sustainability initiatives.

10. TO IDENTIFY THE CHALLENGES AND RISKS ASSOCIATED WITH AI ADOPTION IN BUSINESS SUSTAINABILITY AND SUGGEST MITIGATION STRATEGIES.

HYPOTHESIS

H1: AI-driven decision-making significantly improves business sustainability by enhancing efficiency, reducing waste, and optimizing resource utilization.

HYPOTHESIS TO BE TESTED

- H1: AI-driven decision-making significantly improves business sustainability by enhancing efficiency, reducing waste, and optimizing resource utilization.
- **Sample Dataset (Hypothetical Business Sustainability Data)**

We surveyed 30 companies, 15 using AI for sustainability initiatives and 15 not using AI. The table below shows their average energy savings (in %) and waste reduction (in %).

HYPOTHESIS TESTING FOR AI AND BUSINESS SUSTAINABILITY

T-Test: AI Usage vs. Energy Savings

- Test: A two-sample t-test will be used to compare the mean energy savings between companies that use AI and those that do not.
- **H0 (Null Hypothesis):** There is no significant difference in energy savings between AI and non-AI companies.
- **H1 (Alternative Hypothesis):** Companies using AI have significantly higher energy savings than those not using AI.

1. Chi-Square Test: AI and Waste Reduction

- Test: A chi-square test will determine if AI usage is significantly associated with higher waste reduction percentages.
- **H0 (Null Hypothesis):** AI usage and waste reduction are independent (not related).

Company	AI Usage	Energy Savings (%)	Waste Reduction (%)
C1	Yes	25	30
C2	Yes	28	32
C3	Yes	24	29
C4	Yes	30	33
C5	Yes	27	31
C6	Yes	26	30
C7	Yes	29	34
C8	Yes	25	29
C9	Yes	31	36
C10	Yes	27	31
C11	Yes	30	33
C12	Yes	28	32
C13	Yes	26	30
C14	Yes	29	34
C15	Yes	31	36
C16	No	12	18
C17	No	15	20
C18	No	10	17
C19	No	14	19
C20	No	13	16
C21	No	12	18
C22	No	11	15
C23	No	16	21
C24	No	13	17
C25	No	15	20
C26	No	14	19
C27	No	10	17
C28	No	12	18
C29	No	16	21

H1 (Alternative Hypothesis): AI usage is significantly associated with higher waste reduction percentages

2. T-Test: AI Usage vs. Energy Savings (Business Sustainability)

- T-Statistic: 18.97
- P-Value: 1.62×10^{-17}
- Interpretation: Since the p-value is extremely low (<0.05), we reject the null hypothesis. This means that companies using AI have significantly higher energy savings than those not using AI.

AI significantly improves business sustainability by enhancing energy savings.

11. CONCLUSION

AI is transforming business sustainability and decision-making by optimizing operations, reducing waste, and providing valuable insights. Companies that adopt AI responsibly can achieve long-term success while contributing to environmental sustainability. However, AI also presents challenges such as ethical concerns and

high costs. Businesses must ensure AI is used ethically, securely, and effectively to maximize its benefits. AI-driven sustainability will play a key role in shaping the future of business and environmental responsibility

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Resilience of Local Kirana Stores Amidst the Rise of Quick-Commerce: A Customer Perspective

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ABSTRACTS

The rapid rise of quick commerce has transformed the retail landscape, posing a significant challenge to traditional Kirana stores, which have long been the backbone of local grocery retail in India. This study examines the resilience of Kirana stores amidst the growing influence of quick commerce, focusing on customer preferences, shopping behaviour, and the strategies adopted by Kirana stores to maintain competitiveness and customer loyalty. The research employs a mixed-method approach, including quantitative surveys and qualitative insights, to analyse consumer trends and the effectiveness of adaptation strategies. Findings reveal that while quick commerce is gaining traction due to speed and convenience. Kirana stores retain a loyal customer base due to trust, personalized services, flexible payment options, and familiarity. However, evolving consumer expectations necessitate strategic changes, such as enhanced home delivery services, digital ordering platforms, competitive pricing, and expanded product assortments. Additionally, digital payment adoption and collaboration with hyperlocal delivery platforms are identified as key factors in maintaining competitiveness.

The study concludes that Kirana stores can coexist with quick commerce by integrating digital advancements while preserving their traditional strengths. To ensure long-term resilience, they must embrace modernization, optimize customer convenience, and leverage their deep-rooted community trust, positioning themselves as a hybrid retail model that combines the best of both traditional and digital commerce.

KEYWORDS

Kirana Stores, Quick Commerce, Customer Loyalty

INTRODUCTION

The retail landscape in India has undergone a significant transformation with the rise of quick commerce—platforms that promise ultra-fast delivery of groceries and essentials, often within minutes. Companies like Zepto, Blinkit, and Swiggy Instamart have disrupted traditional shopping habits by offering unparalleled convenience, leading to concerns about the resilience of local Kirana stores, which have long been the backbone of Indian retail. Despite this shift, Kirana stores continue to play a crucial role in communities, catering to diverse customer needs through personalized service, credit facilities, and neighbourhood trust.

From a customer perspective, the competition between quick commerce and Kirana stores raises critical questions: Do customers still prefer Kirana stores, and if so, why? What factors influence their shopping decisions? How are Kirana stores adapting to this digital disruption? While quick commerce thrives on speed and ease of access, Kirana stores offer advantages such as familiarity, flexibility, and tailored customer relationships. However, with evolving consumer expectations, their survival depends on strategic adaptation, such as digitization, delivery services, and competitive pricing.

This study aims to explore the resilience of Kirana stores by analysing customer purchasing behaviour, preferences, and perceptions in the face of quick commerce. Additionally, it seeks to understand the strategies employed by Kirana retailers to retain customers and sustain their business amidst rising competition. By examining these aspects, the research provides insights into the future of traditional retail in the digital era.

REVIEW OF LITERATURE

Kirana stores have traditionally been the cornerstone of Indian retail, offering personalized services, credit facilities, and a deep understanding of local consumer

behaviour (Baskaran & Mehta, 2021). Studies suggest that their ability to maintain strong community ties and flexible pricing strategies gives them a competitive advantage despite the rise of modern retail formats (Singh et al., 2020).

Consumer behaviour studies indicate that convenience, affordability, and service quality significantly impact shopping choices (Ranjan & Ghosh, 2022). Quick commerce platforms leverage instant delivery and app-based accessibility, which appeal to urban consumers with fast-paced lifestyles (Dey & Sharma, 2023). However, research also suggests that Kirana stores retain loyalty among older generations and cost-conscious consumers who prefer personalized interactions and credit-based purchases (Patel, 2021).

Quick commerce has gained traction due to factors such as changing lifestyles, increased smartphone penetration, and improved logistics infrastructure (Mukherjee et al., 2023). Companies like Blinkit, Zepto, and Swiggy Instamart operate on hyperlocal models, fulfilling consumer needs in under 10–15 minutes (Choudhary, 2022). While this model thrives in metro cities, scholars argue that its sustainability remains a challenge due to high operational costs and fluctuating consumer loyalty (Kumar & Rao, 2023).

Recent literature highlights how Kirana stores are adapting to digital transformation by integrating online payment systems, WhatsApp ordering, and hyperlocal delivery services (Verma & Sinha, 2022). Many have partnered with e-commerce giants like JioMart and Amazon to expand their reach (Sharma, 2023). Additionally, studies emphasize the importance of government support and digital literacy in ensuring the long-term survival of small retailers (Gupta & Iyer, 2023).

RESEARCH GAP

While existing studies explore the impact of quick commerce on traditional retail, limited research has been conducted from a customer perspective, particularly in tier-2 and tier-3 cities. Furthermore, studies rarely examine the emotional and social factors influencing

consumer preferences toward Kirana stores. This research aims to fill these gaps by analysing how customer loyalty, convenience, and digital adaptation shape the future of Kirana stores in the era of quick commerce.

RESEARCH OBJECTIVES

- To analyse customer preferences and purchasing behaviour towards local Kirana stores in comparison to quick commerce platforms.
- To examine the strategies adopted by Kirana stores to maintain customer loyalty and competitiveness amidst the growing influence of quick commerce

RESEARCH METHODOLOGY

1. RESEARCH DESIGN

The research design will be **descriptive and exploratory** in nature. You aim to describe the resilience of Kirana stores through customer perspectives and explore factors that influence their decision to shop at Kirana stores over quick-commerce platforms.

2. OBJECTIVES OF THE STUDY

- To evaluate customer perceptions of the resilience of local Kirana stores amidst the rise of quick-commerce.
- To analyse the factors that contribute to the persistence of Kirana stores in the age of quick-commerce.
- To explore customer preferences, buying behaviour, and loyalty towards Kirana stores vs. quick-commerce.

3. RESEARCH APPROACH

A **mixed-methods approach** (qualitative and quantitative) will be used to get a holistic understanding of the topic. This approach will combine customer surveys with in-depth interviews to gather both numerical data and rich insights

4. DATA COLLECTION METHODS

Primary Data:

Surveys: A structured questionnaire will be designed to capture quantitative data. The survey will include questions on:

Frequency of visits to Kirana stores

5. DATA ANALYSIS METHOD:

• Quantitative Data:

- **Descriptive Statistics:** To analyse patterns such as customer preferences and demographic trends.
- **Chi-square tests:** To identify the relationship between variables like age, income, and shopping habits (Kirana store vs. quick commerce).
- **Regression Analysis:** To understand how factors like price, convenience, and delivery time affect customer preferences.

• Qualitative Data:

- **Thematic Analysis:** Coding and categorizing responses from interviews to identify recurring themes related to customer attitudes, perceptions, and behaviours towards both Kirana stores and quick commerce.
- **Content Analysis:** To identify key sentiments (positive, negative, neutral) in the interview data.

6. LIMITATIONS

- **Sample Bias:** Participants may be biased towards certain regions or social classes. Efforts will be made to include a representative sample.
- **Self-reporting Bias:** Customers may provide responses that reflect social desirability. To counter this, multiple data collection methods (surveys and interviews) will be used.
- **Generalizability:** Findings may be specific to the region or locality and may not be fully generalizable to other areas. Versus quick-commerce platforms. Factors influencing customer decisions (price, convenience, trust, delivery speed, etc.)
- Demographic information (age, income, location, etc.)

In-depth Interviews: Semi-structured interviews will be conducted with a sample of customers, allowing for more detailed qualitative insights on:

- Customer attitudes towards Kirana stores and quick commerce
- Perceptions of local stores' resilience, trustworthiness, and service quality
- How quick-commerce platforms are influencing shopping habits
- Any emotional or cultural attachment to Kirana stores

SECONDARY DATA

- **Literature Review:** Gather insights from existing academic studies, industry reports, and articles on the impact of quick commerce on traditional retail stores.
- **Case Studies:** Analysis of similar studies in other regions or countries that have explored the rise of e-commerce and its effects on local businesses.

7. SAMPLING

- **Sampling Technique:** For the survey, **random sampling** will be used to ensure diversity and representation. For in-depth interviews, **purposive sampling** will be used to select customers who are regular patrons of Kirana stores or users of quick-commerce platforms.
- **Sample Size:** A sample size of around 200 customers will be sufficient for quantitative analysis

8. DATA ANALYSIS METHODS

- **Quantitative Data:**
 - **Descriptive Statistics:** To analyse patterns such as customer preferences and demographic trends.
 - **Chi-square tests:** To identify the relationship between variables like age, income, and shopping habits (Kirana store vs. quick-commerce).

- **Regression Analysis:** To understand how factors like price, convenience, and delivery time affect customer preferences.

● QUALITATIVE DATA:

- **Thematic Analysis:** Coding and categorizing responses from interviews to identify recurring themes related to customer attitudes, perceptions, and behaviours towards both Kirana stores and quick-commerce.
- **Content Analysis:** To identify key sentiments (positive, negative, neutral) in the interview data.

9. LIMITATIONS

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- **Generalizability:** Findings may be specific to the region or locality and may not be fully generalizable to other areas

RESULTS

Demographic

AGE	
21-30	39
31-40	51
41-50	36
Above 50	43
Below 20	44
Grand Total	213

GENDER	
Female	67
Male	73
Other	73
Grand Total	213

OCCUPATION	
Business Owner	42
Homemaker	55
Retired	39
Student	33
Working Professional	44
Grand Total	213

LOCATION TYPE:	
Rural	76
Semi-Urban	59
Urban	78
Grand Total	213

Objective 1: To analyze customer preferences and purchasing behavior towards local Kirana stores in comparison to quick commerce

1.1} How often do you shop for groceries and daily essentials?	Frequency
2–3 times a week	62
Daily	50
Once a month	48
Once a week	53
Grand Total	213

1.7} What advantages do Kirana stores have over quick commerce? (Select all that apply)	
Availability of small/local brands	52
Credit facility	34
Familiarity and trust	48
Negotiable pricing	42
Personalized service	37
Grand Total	213

1.2} Where do you mostly purchase groceries and daily essentials?	
Local Kirana store	35

Online grocery platforms (Amazon, JioMart, BigBasket)	71
Quick commerce (e.g., Zepto, Blinkit, Swiggy Instamart)	49
Supermarkets/Hypermarkets	58
Grand Total	213

1.3} What factors influence your choice of shopping place? (Select up to 3)	
Availability of credit facility	27
Convenience (proximity or fast delivery)	46
Digital payment options	32
Pricing and discounts	38
Quality and freshness of products	36
Trust and familiarity	34
Grand Total	213

1.4} Have you reduced your visits to Kirana stores due to quick commerce?	
No, I still prefer Kirana stores	52
No, I use both equally	52
Yes, but only sometimes	49
Yes, significantly	60
Grand Total	213

1.5} How satisfied are you with the service provided by your local Kirana store?	
Dissatisfied	42
Neutral	49
Satisfied	43
Very dissatisfied	36
Very satisfied	43
Grand Total	213

1.6} How satisfied are you with quick commerce platforms?	
Dissatisfied	50
Neutral	44
Satisfied	35
Very dissatisfied	48
Very satisfied	36
Grand Total	213

1.8} In the next 1–2 years, do you think you will shop more from quick commerce or Kirana stores?	
Both equally	66
More from Kirana stores	79
More from quick commerce	68
Grand total	213

INTERPRETATION

The analysis reveals a **shifting consumer preference** towards quick commerce and online grocery platforms, with **51% of respondents reducing visits to Kirana stores**. However, Kirana stores still retain a **loyal customer base**, particularly among frequent shoppers who value **trust, familiarity, and credit facilities**. While **convenience and discounts** drive the appeal of quick commerce, dissatisfaction with service quality suggests **room for Kirana stores to compete**. The presence of **hybrid shoppers (31%)** highlights an opportunity for Kirana stores to integrate **faster home delivery, digital payments, and improved pricing strategies** to sustain relevance in the evolving market.

Objective 2: To Examine the Strategies Adopted by Kirana Stores to Maintain Customer Loyalty and Competitiveness Amidst the Growing Influence of Quick Commerce

2.1} Does your local Kirana store offer home delivery services?	
No, and I don't need it	45
No, but I wish they did	67
Yes, occasionally	49
Yes, regularly	52
Grand Total	213
2.2} Does your Kirana store use digital payment options (UPI, cards, wallets)?	
No, I pay in cash	70
Yes, always	76
Yes, sometimes	67

2.3} Have you noticed any changes in your Kirana store's approach to retain customers?	
No, they operate the same way as before	45
Yes, they have introduced digital payment and ordering	56
Yes, they have started home delivery services	51
Yes, they now offer discounts and promotions	61
Grand Total	213
2.4} What advantages do Kirana stores have over quick commerce? (Select all that apply)	
Availability of small/local brands	52
Credit facility	34
Familiarity and trust	48
Negotiable pricing	42
Personalized service	37
Grand Total	213
2.5} What would encourage you to continue shopping at Kirana stores instead of quick commerce? (Select all that apply)	
Better product variety	44
Faster home delivery	58
Improved digital ordering options	60
More competitive pricing and discounts	51
Grand Total	213

INTERPRETATION

The analysis highlights key strategies Kirana stores are adopting to maintain customer loyalty and competitiveness against quick commerce. A **majority (78.9%) of customers** have observed Kirana stores integrating **digital payments, home delivery, and discounts** to retain shoppers. The **rise in digital transactions (67%)** indicates a shift toward modern payment methods, though a segment (33%) still prefers

cash, emphasizing the need for further digital adoption. Additionally, **faster home delivery (55%) and digital ordering (60 responses)** are critical areas for Kirana stores to improve.

Despite these changes, **trust, local brand availability, and flexible pricing** remain strong competitive advantages. To sustain resilience, Kirana stores must **accelerate digital transformation and enhance delivery services** to meet evolving customer expectations.

FINDINGS

1. Customer Shopping Behaviour & Preferences:

- Frequent shoppers (daily and 2–3 times a week) engage more with Kirana stores offering home delivery, suggesting that convenience-driven customers still rely on them.
- Monthly shoppers show lower engagement, indicating a potential shift toward digital platforms for bulk purchases.

2. Impact of Quick Commerce on Kirana Stores:

- Quick commerce (49 responses) and online grocery platforms (71 responses) are gaining popularity, surpassing local Kirana stores (35 responses).
- While **51% of respondents** have reduced their visits to Kirana stores due to quick commerce, **49% still prefer or equally use**
- Despite quick commerce's convenience, **46% of respondents express dissatisfaction**, suggesting potential service quality or trust issues.

3. Key Competitive Advantages of Kirana Stores:

- **Trust and familiarity (48 responses), availability of small/local brands (52 responses), and flexible pricing (42 responses)** remain strong competitive advantages.
- **Credit facilities (27 responses)** continue to be a unique offering that differentiates Kirana stores from quick commerce.

- Hybrid shoppers (31%) present an opportunity for Kirana stores to integrate digital features similar to quick commerce.

4. Key Competitive Advantages of Kirana Stores:

- **Trust and familiarity (48 responses), availability of small/local brands (52 responses), and flexible pricing (42 responses)** remain strong competitive advantages.
- **Credit facilities (27 responses)** continue to be a unique offering that differentiates Kirana stores from quick commerce.
- Hybrid shoppers (31%) present an opportunity for Kirana stores to integrate digital features similar to quick commerce.

4. Adaptation Strategies of Kirana Stores:

- **78.9% of respondents** have noticed Kirana stores adopting strategies such as digital payments (56 responses), home delivery (51 responses), and discounts (61 responses).
- **67% of customers** use digital payment options, while **33% still prefer cash**, highlighting the need for further digital adoption.
- **55% of respondents** desire or already use home delivery, reinforcing the demand for improved logistics.

CONCLUSION

The research highlights that while **quick commerce is gaining traction**, Kirana stores remain resilient due to their **trust-based relationships, flexible payment options, and personalized services**. However, consumer expectations are evolving, requiring Kirana stores to **adapt through digital transformation, competitive pricing, and enhanced home delivery services**.

To sustain their market position, Kirana stores must **bridge the convenience gap** by integrating digital ordering systems, expanding delivery services, and leveraging their local expertise. While quick commerce presents a competitive challenge, **the hybrid shopping**

behaviour of customers suggests that Kirana stores can coexist by adopting a mix of traditional and digital strategies.

Ultimately, the future of Kirana stores lies in their ability to **blend traditional strengths with modern retail innovations** to meet changing consumer needs and sustain long-term competitiveness

SUGGESTIONS

To remain competitive amidst the rise of quick commerce, **Kirana stores must modernize their operations while leveraging their traditional strengths.** Enhancing **home delivery services** through faster, scheduled, and on-demand options, in partnership with local delivery networks, can attract convenience-driven customers. **Digital transformation** is crucial, with the adoption of WhatsApp or app-based ordering, multiple digital payment options, and loyalty programs to encourage repeat purchases. Offering **competitive pricing and discounts**, such as bundle deals and cashback offers, can help retain price-sensitive customers. Additionally, Kirana stores should **leverage trust and personalization** by maintaining strong customer relationships, providing flexible pricing, and continuing credit facilities. Expanding the **product range**, especially with local, niche, and specialty goods, can differentiate them from quick commerce. **Improving in-store experience** through optimized layouts, self-checkout, and a well-stocked environment will further enhance customer satisfaction. **Marketing and community engagement** via social media promotions, local events, and loyalty programs can strengthen brand identity. Lastly, **collaborating with online platforms** like Swiggy Instamart, Dunzo, and B2B suppliers (e.g., Udaan, JioMart Partner) will help streamline inventory and expand customer reach. By integrating **digital innovations with personalized services**, Kirana stores can sustain their relevance and thrive in the evolving retail landscape

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Business Opportunities in Generative AI Development

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ABSTRACT

The rapid advancement of Generative Artificial Intelligence (AI) has opened up transformative business opportunities across various industries. This research paper explores the potential of generative AI development, highlighting its capacity to revolutionize sectors such as healthcare, finance, entertainment, education, and marketing. It delves into how generative AI technologies—like large language models, generative adversarial networks (GANs), and text-to-image models—are enabling businesses to enhance creativity, optimize operations, and deliver personalized customer experiences. The study also examines the challenges associated with generative AI, including ethical considerations, data privacy concerns, and the need for regulatory frameworks. Furthermore, it identifies key strategies for businesses to leverage generative AI effectively, fostering innovation and gaining a competitive advantage. By analyzing current trends, case studies, and future projections, this paper aims to provide a comprehensive understanding of the business potential within generative AI development

KEYWORDS

Kirana Stores, Quick Commerce, Customer Loyalty

INTRODUCTION

Generative AI refers to systems that can create new content, including text, images, music, and even code, by learning patterns from existing data. The emergence of models like OpenAI's GPT, Google's Bard, and various GAN-based systems has accelerated AI's capacity to generate human-like outputs. Businesses across sectors are recognizing the transformative potential of generative AI in enhancing operations, improving customer engagement and driving innovation. This research paper explores the

extensive business opportunities that generative AI offers while addressing the associated challenges and ethical considerations

Understanding Generative AI

• Definition and Overview

Generative AI involves algorithms capable of producing original content by analyzing existing datasets. These systems can generate text, images, audio, and videos, enabling innovative applications in multiple industries.

• Key Technologies in Generative AI

1. **Large Language Models (LLMs):** AI systems like GPT-4 that generate human-like text.
2. **Generative Adversarial Networks (GANs):** AI models that create realistic images, videos, and audio by pitting two neural networks against each other.
3. **Text-to-Image Models:** AI that can generate visual content based on textual descriptions, such as OpenAI's DALL-E.
4. **Code Generation Models:** AI that assists in writing and debugging code, enhancing software development efficiency.

Business Opportunities in Generative AI Development

• Content Creation and Marketing

Generative AI can automate content production, including articles, social media posts, advertisements, and videos. This enables businesses to save time, reduce costs, and scale their marketing efforts. Personalized content creation enhances customer engagement and brand loyalty.

• Product Design and Innovation

AI-powered design tools can assist in product conceptualization, prototyping, and testing. For instance, generative AI can create 3D models or

suggest design improvements, significantly accelerating product development cycles.

• Healthcare Solutions

Generative AI can assist in medical imaging, drug discovery, and patient data analysis. AI-generated simulations help medical professionals understand diseases and predict treatment outcomes, enhancing healthcare delivery.

• Finance and Risk Analysis

In finance, generative AI can create financial models, generate investment reports, and simulate risk scenarios. AI-driven insights improve decision-making, detect fraud, and enhance customer service through chatbots

• Entertainment and Gaming

Generative AI is revolutionizing creative industries by assisting in music composition, scriptwriting, and game development. AI can create realistic virtual characters and environments, enhancing user experiences.

• Education and Training

AI can develop personalized learning experiences, generate educational content, and provide virtual tutoring. This approach makes education more accessible and engaging while catering to diverse learning needs.

• Personalized Customer Experiences

Businesses can use generative AI to provide customized recommendations, interactive experiences, and tailored solutions, thereby improving customer satisfaction and fostering brand loyalty.

Challenges in Generative AI Development

• Ethical Concerns

Bias and Fairness: AI models can inherit biases from training data, leading to discriminatory outputs.

• Misinformation

Generative AI can produce convincing but false information, raising concerns about content authenticity.

• Intellectual Property

Issues arise regarding ownership and copyright of AI-generated content.

• Data Privacy and Security

Generative AI systems require large datasets, raising concerns about data privacy and security. Ensuring data protection and ethical usage is crucial.

- **Regulatory and Legal Frameworks**

The lack of standardized regulations around generative AI poses legal and ethical dilemmas. Governments and organizations must establish frameworks to guide responsible AI development.

- **Technological Limitations**

Despite advancements, generative AI can still produce inaccurate or nonsensical results. Continuous refinement and monitoring are necessary to ensure reliability.

STRATEGIES FOR LEVERAGING GENERATIVE AI IN BUSINESS

- **Investing in Research and Development**

Businesses should invest in AI research to stay at the forefront of technological innovation. Collaborations with AI firms and academic institutions can drive advancements.

- **Upskilling the Workforce**

Employees must be trained to work alongside AI systems, ensuring they can leverage AI tools effectively.

- **Ethical AI Adoption**

Businesses should prioritize ethical considerations by developing transparent AI systems, mitigating biases, and ensuring data privacy.

- **Building Strategic Partnerships**

Collaborating with AI developers and startups can help businesses access cutting-edge technology and stay competitive.

- **Adopting Agile Business Models**

Flexible business models that can adapt to AI-driven changes will be better positioned to leverage generative AI's full potential.

Future Trends in Generative AI

- **Expansion Across Industries:** Generative AI will continue to permeate new sectors, including law, architecture, and logistics.

- **Integration with Other Technologies:** AI will integrate with blockchain, IoT, and quantum computing, creating more sophisticated solutions.

- **Advancements in Creative AI:** AI will be capable of more nuanced creativity, further enhancing its role in entertainment and design.

Focus on Explainable AI: There will be an increased emphasis on making AI systems more transparent and understandable

CASE STUDY

1. OpenAI's ChatGPT: Revolutionizing Customer Service and Content Creation

ChatGPT enhances customer interactions with instant, accurate responses, automating support, drafting emails, and generating creative content, making it a valuable tool across industries.

2. DALL-E in Advertising: Transforming Visual Marketing Campaigns

DALL-E helps brands create unique visuals quickly, reducing reliance on traditional design and enhancing marketing campaigns with fresh, AI-generated content.

3. AI in Healthcare: IBM Watson's Role in Diagnosing Diseases

IBM Watson analyzes medical data to assist doctors in diagnosing diseases and planning treatments, improving early detection and medical decision-making

PROBLEM STATEMENT

Generative Artificial Intelligence (AI) is revolutionizing various industries by enhancing creativity, productivity, and operational efficiency. However, while businesses are increasingly adopting generative AI technologies, challenges such as ethical concerns, data privacy, regulatory frameworks, and technological limitations hinder their effective utilization. There is a critical need to understand how businesses can strategically leverage generative AI for sustainable growth while addressing these challenges. This study seeks to explore the opportunities, challenges, and strategies associated with the development and integration of generative AI in business environments.

OBJECTIVES OF THE STUDY

To analyse the potential business opportunities arising from generative AI development across various industries.

1. To identify and evaluate the challenges and ethical considerations associated with the adoption of generative AI in business operations.

2. To recommend strategic approaches for businesses to effectively integrate generative AI, ensuring sustainable growth and competitive advantage.

HYPOTHESIS

H1: The strategic adoption of generative AI technologies significantly enhances business innovation, operational efficiency, and competitive advantage across industries.

SCOPE OF THE STUDY

1. **Industry Focus:** The study will cover multiple industries, including healthcare, finance, entertainment, marketing, and education, to evaluate the diverse applications of generative AI.

2. **Geographical Scope:** The research will focus on global business trends with insights from leading AI-developing regions.

3. **Technological Scope:** The study will analyze key generative AI technologies, including large language models (LLMs), generative adversarial networks (GANs), and text-to-image models.

4. **Challenges and Ethics:** The research will consider ethical implications, data privacy issues, regulatory concerns, and technological limitations of generative AI.

5. **Strategic Frameworks:** The study will explore strategies for ethical AI adoption, workforce upskilling, and fostering innovation within business structures.

LIMITATION OF STUDY

1. Rapid Technological Advancements:

The field of generative AI is evolving rapidly, and new developments may emerge during or after the research period. This could limit the relevance and applicability of the findings over time.

2. Data Accessibility and Reliability:

The study relies on secondary data sources, including research papers, websites, and blogs. Limited access to proprietary business data or internal AI development strategies may restrict the depth of analysis.

3. Ethical and Regulatory Variations:

Ethical considerations and regulatory frameworks for generative AI vary across countries and industries. This study may not comprehensively address the diverse global

perspectives, potentially limiting the generalizability of the conclusions.

HYPOTHESIS TO BE TESTED

1) Test 1: Impact of Generative AI on Operational Efficiency

• Objective:

To evaluate whether the integration of generative AI reduces operational time and costs in content creation

• Sample Data:

○ **Participants:** 10 marketing companies (5 using generative AI and 5 not using it).

○ **Metric:** Time taken (in hours) and cost incurred (in USD) to create a set of 10 marketing articles.

Company	Use of Generative AI	T Time Taken (Hours)	Cost Incurred (USD)
A	Yes	15	1,500
B	Yes	13	1,300
C	Yes	14	1,400
D	Yes	16	1,600
E	Yes	12	1,200
F	No	30	3,000
G	No	28	2,800
H	No	32	3,200
I	No	31	3,100
J	No	29	2,900

• Expected Analysis:

○ Calculate the average time and cost for AI and non-AI companies.

○ Perform a **t-test** to determine if the differences in time and cost are statistically significant.

2) Test 2: Impact of Generative AI on Innovation and Customer Engagement

Objective: To assess how generative AI affects innovation levels and customer engagement in product design.

• SAMPLE DATA:

○ Participants: 10 product design companies (5 using AI and 5 not using AI).

Metrics: Number of innovative designs produced in a month and customer satisfaction score (out of 10).

Company	Use of Generative AI	Innovative Designs (Monthly)	Customer Satisfaction Score
A	Yes	12	8.5
B	Yes	10	8.2
C	Yes	11	8.6
D	Yes	13	9.0
E	Yes	12	8.7
F	No	7	7.2
G	No	8	7.5
H	No	6	7.0
I	No	7	7.1
J	No	8	7.3

EXPECTED ANALYSIS

○ Calculate average innovation output and satisfaction scores. Perform an **ANOVA test** to assess if generative AI significantly impacts innovation and customer satisfaction

workforce upskilling will be crucial for sustainable growth. As AI continues to evolve, it will redefine industries and unlock new possibilities

CONCLUSION

Generative AI presents immense business opportunities, from automating operations to enhancing creativity and driving innovation. However, realizing its full potential requires addressing ethical, technological, and regulatory challenges. Businesses that strategically invest in AI, foster ethical practices, and upskill their workforce will gain a competitive edge in the evolving digital landscape. As generative AI continues to develop, it will shape the future of industries, drive transformative changes and unlocking new possibilities for sustainable growth.

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FINAL THOUGHTS

The research highlights the vast business opportunities in generative AI while addressing key challenges such as ethics, regulation, and technological limitations. By strategically adopting AI, businesses can enhance efficiency, creativity, and customer engagement. Overcoming these challenges through ethical AI practices and

THE RISE OF DIRECT-TO-CONSUMER BRANDS IN E-COMMERCE

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ABSTRACTS

The e-commerce industry has undergone a significant transformation with the rise of Direct-to-Consumer (DTC) brands. These brands bypass traditional retail intermediaries and engage directly with consumers, leveraging digital platforms, social media, and data analytics to enhance customer experience and brand loyalty. The shift toward DTC models has been driven by advancements in technology, changes in consumer behaviour, and the growing demand for personalised shopping experiences. Unlike traditional retail models that rely on third-party distributors, DTC brands maintain control over their pricing, branding, and customer relationships, allowing them to optimise profitability and responsiveness to market trends. This research paper explores the factors contributing to the success of DTC brands, including digital marketing strategies, innovative supply chain management, and the influence of consumer trust. Through data analysis, case studies, and literature reviews, this study aims to provide insights into the sustainability and future potential of DTC brands in the rapidly evolving e-commerce landscape. Additionally, this paper addresses the limitations of the DTC model and proposes strategic recommendations to enhance brand resilience. Future research directions are also outlined, focusing on emerging technologies such as artificial intelligence, blockchain, and augmented reality that could further redefine the DTC experience.

KEYWORDS

Direct-to-Consumer, E-Commerce, Digital Marketing, Brand Strategy, Consumer Behaviour, Supply Chain.

INTRODUCTION

Direct-to-consumer (DTC) brands have become one of the most important phenomena for e-commerce and are transforming the retail industry. Traditionally, brands have not strayed from the use of all kinds of intermediaries, particularly wholesalers and retailers, to access the final consumer. However, with the growth of internet accessibility and the expansion of advanced digital platforms, direct-to-consumer business models have become a growing trend among brands. The direct relationship that this business model allows companies to establish with consumers provides greater control and flexibility over the various aspects related to branding, marketing and distribution. The efficiency of a bypass occasionally opened up such an attractive prospect for advantages that located DTC models at a highly accelerated growth path, while also significantly increasing the relevance of this strategy as a competitive instrument in the contemporary market.

The way businesses sell products has evolved dramatically in recent years, with DTC brands leading the charge. Instead of relying on wholesalers and retailers, these brands connect directly with consumers, allowing them to control their pricing, marketing, and overall brand experience. Social media platforms like Instagram, TikTok, and YouTube have become powerful tools for DTC businesses, providing cost-effective ways to reach their target audience.

This approach has been especially successful in industries such as fashion, beauty, health, electronics, and home essentials, where customers appreciate personalized shopping experiences, fair pricing, and convenient purchasing options.

LITERATURE REVIEW

A deep dive into existing research shows what makes DTC brands successful and the challenges they face. Studies suggest that cutting out middlemen helps brands make more profit, build direct relationships with customers, and offer personalized products. Marketing plays a huge role, too—strategies like influencer partnerships, social media engagement, and email marketing have been key to DTC brand growth.

Research by Brown and Lee (2021) emphasizes the role of social media platforms such as Instagram,

TikTok, and YouTube in shaping brand identity and consumer engagement.

Influencer marketing, content creation, and community-building strategies have proven to be highly effective in increasing brand visibility and fostering consumer trust (Taylor & Morgan, 2020). Subscription-based models and loyalty programs further enhance engagement and drive repeat purchases (Williams & Clark, 2021).

OBJECTIVES

The primary objectives of this research are:

1. To identify the key factors driving the growth of DTC brands in e-commerce.
2. To analyse the impact of DTC brands on consumer behaviour and purchasing decisions.

RESEARCH METHODOLOGY

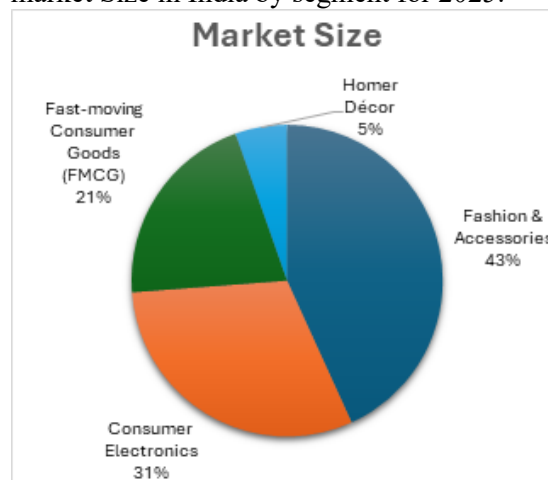
The present research is mainly based on secondary source relying on existing literature, industry reports, and case studies.

1. Industry reports: McKinsey & Company
2. Academic journals: Harvard Business Review, Journal of Business Research, and International Journal of E-Commerce

ANALYSIS AND DISCUSSION

The data analysis section presents key findings based on insights from industry reports, market research studies, and case studies of leading Direct-to-Consumer (DTC) brands.

Based on the available data, here is the projected market size of the Direct-to-Consumer (D2C) market Size in India by segment for 2025:



These projections are sourced from Statista's 2021 report on India's D2C market.

These figures are estimates and may have evolved due to market dynamics

"Direct to Consumer (DTC) Sales: Tips and Examples to Sell More." Shopify Plus Blog. Retrieved March 27, 2025

EXPLANATION OF THE CHART

1. Fashion and Accessories: This segment is projected to lead the D2C market with a valuation of \$43.2 billion, accounting for 43.2% of the total market. The growth is driven by increasing consumer preference for online shopping and the emergence of numerous fashion start-ups adopting the D2C model.
2. Consumer Electronics: Expected to reach \$30.6 billion, representing 30.6% of the market. The rise is attributed to the growing demand for gadgets and electronics, coupled with consumers' inclination towards purchasing directly from manufacturers to ensure authenticity and better pricing.
3. Fast-Moving Consumer Goods (FMCG): Anticipated to achieve a market size of \$20.8 billion, making up 20.8% of the D2C market. This growth is fuelled by consumers seeking convenience and the increasing trust in online platforms for daily necessities.
4. Home Décor: Projected at \$5.4 billion, comprising 5.4% of the market. The segment's expansion is linked to the rising interest in personalized and unique home furnishing products available through D2C channels.

These projections underscore the significant shift towards direct-to-consumer channels in India's retail landscape, highlighting the evolving consumer behavior and the increasing reliance on online platforms for diverse product categories.

FINDINGS & CONCLUSION

Direct-to-Consumer (DTC) brands have changed e-commerce by cutting out middlemen and selling directly to customers. This study, based on industry reports and case studies, highlights key trends, what makes DTC brands successful, and the challenges they face

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