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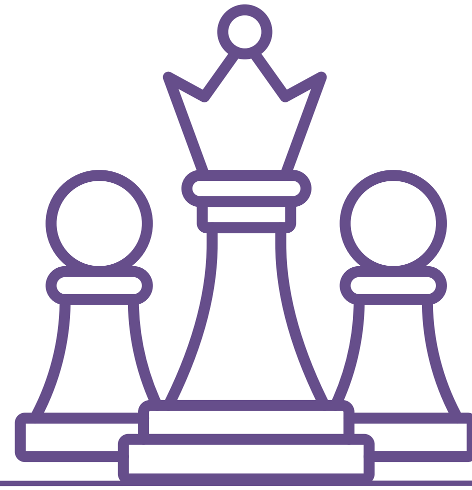
WeSchool MANAGEMENT REVIEW



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Editor-in-Chief
Prof. (Dr.) Uday Salunkhe

Executive Editors
Prof. (Dr.) Madhavi Lokhande
Prof. (Dr.) D.N. Murthy

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WeSchool Management Review (WMR)

The *WeSchool Management Review (WMR)* is a national, peer reviewed (Bi-Annual) research journal published by S.P. Mandali's Prin. L.N. Welingkar Institute of Management Development & Research. It uses a double-blind review process for evaluation and selection of all submitted material. It Publishes biannually in June and December, WMR cover an extensive range of topics, drawing insights from various academic disciplines, research methodologies and theoretical frameworks.

The Aims of WMR are to:

- Discover and share original theoretical and applied research in management and related fields.
- Provide a platform for publishing high-quality research and case studies from academicians, industry professionals and researchers.
- Bridge the gap between academia and industry by promoting the publication of innovative, relevant and practical research.

Scope of the Journal

The WMR Journal Research invites submissions in the following areas of management:

- Business Strategy
- Finance
- Marketing
- Human resources
- Operations

Aims and Objectives

Aims

The *WeSchool Management Review* is dedicated to publishing high-impact research that significantly contributes to the advancement of the management field. The journal fosters innovative ideas and fresh perspectives on existing research, promoting scholarly discussions that shape the future of management studies. The journal provides a platform for scholars, researchers and industry professionals to share insights, foster innovation and address emerging challenges in the dynamic business environment.

Objectives

Objectives

WMR is a comprehensive journal committed to publishing top-tier articles in the field of management. Accepted articles should offer a meaningful contribution to the management discipline, inspire further research and uphold exceptional standards of academic excellence. The journal encourages innovative ideas and fresh perspectives on existing research, fostering scholarly discussions that shape the future of management studies. It seeks to publish cutting-edge studies that provide new insights into diverse management topics, while supporting interdisciplinary approaches across areas such as business strategy, finance, marketing, human resources, and operations. The journal also aims to provide a platform for thought-provoking research that challenges existing paradigms, linking theoretical frameworks with real-world business practices and sustainability.

Submission Guidelines for
WeSchool Management Review (WMR) Journal

The *WeSchool Management Review (WMR)* Journal is a national, peer reviewed (Bi-Annual) research journal published by, S.P. Mandali's Prin. L.N. Welingkar Institute of Management Development & Research, Bengaluru, India. It is published twice a year, with editions released in June and December. The journal follows a double-blind review process for the evaluation and selection of all submitted materials.

WMR welcomes original research contributions in the field of management and allied areas, publishing conceptual and empirical research papers and case studies. Authors wishing to submit their manuscripts must ensure that their papers, case studies are not simultaneously submitted for evaluation to any other journal or publication. Once a manuscript is submitted to WMR authors are expected to refrain from submitting it to any other outlet until they receive a final decision from the Editorial Team regarding its acceptance or rejection.

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All manuscripts submitted to *WeSchool Management Review (WMR)* Journal must adhere to the following guidelines:

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   Each manuscript should include a cover page containing the article title, names and affiliations of all authors, along with their full postal addresses, cell phone numbers, and email addresses. The details of the authors' names and affiliations should not appear anywhere else in the manuscript to maintain the double-blind review process. In the case of multiple authors, the cover page should clearly indicate the corresponding author.

2. **Abstract and Keywords**

   A separate sheet must be provided, containing the manuscript title, an abstract of approximately 150–250 words, and up to six key words (in alphabetical order).

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The manuscript itself should contain the title, abstract and content, including all text, tables, figures and references, but without any identifying information about the authors. To submit, authors should attach three separate files: one for the cover page, one for the abstract and one for the manuscript content.

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3. **Word Limit**

   The recommended length for manuscripts is between 7,000-8,000 words, inclusive of tables, figures, and references, for both research papers and case studies.

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   The manuscript text must be in Times New Roman font, size 12, with one-and-a-half line spacing and 1-inch margins on all sides. Page numbers should be centered at the bottom of each page in Times New Roman font, size 10. All tables and figures must be numbered serially, and each should include explanatory notes or legends. The source of each table or figure should be clearly indicated. All abbreviations should be expanded upon first use, and all exhibits should be in black and white only.

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   References must follow the 7th Edition guidelines of the American Psychological Association (APA 7). Authors must acknowledge all original sources used in their work, citing or quoting them as appropriate. All references listed at the end of the manuscript must be cited within the content.

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3. The Editorial Team will then review the revisions to ensure they align with the reviewers' suggestions and meet the publication standards of *WeSchool Management Review.* Please note that the Editorial Team's decision regarding the manuscript's suitability for publication is final and no disputes will be entertained at this stage.
4. If the manuscript is accepted for publication, the authors must assign the copyright for their work to *WeSchool Management Review* by completing the Copyright Assignment Form (CAF). This is required for the publication of the research paper and case study ensuring compliance with internationally recognized publication ethics.

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WeSchool Management Review (WMR)
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December 2025

Editorial

Group Director

Dear Readers,

It gives me immense pleasure to present the second issue of WeSchool Management Review (WMR), which continues to advance our vision of promoting research that bridges management theory and practice. Each contribution in this issue demonstrates how our faculty and scholars are engaging with contemporary business realities grounding their academic inquiry in relevance, rigor, and responsibility.

The diverse range of studies in this issue exemplifies the spirit of cross-disciplinary exploration that defines our institution. From investigations into corporate governance and firm performance to the strategic consequences of product life cycle transitions, our researchers address critical questions that inform managerial decision-making and policy frameworks. The issue also includes forward-looking research on customer data protection in digital payments, internal marketing and employer branding, and CRM challenges in the wellness and nutraceutical sectors, all of which resonate with the current digital and human-centric transformations shaping business ecosystems.

What makes this issue particularly distinctive is the focus on sustainability and human well-being—evident in the paper exploring COVID-19-induced job insecurity and its psychological consequences among educators. This work underscores the growing need for sustainable HRM practices that balance organizational performance with employee well-being.

As we release this issue, I commend our faculty contributors for their intellectual commitment and the editorial team for curating another impactful volume. The WMR continues to evolve as a vibrant platform where ideas converge to inspire innovation, inclusivity, and integrity in management education and research.

With best regards,

Dr. Uday Salunkhe
Group Director
Prin. L. N. Welingkar Institute of Management Development and Research

Editorial

Director

Dear Readers,

In this era of accelerated transformation, management research plays a vital role in guiding organizations and society through both uncertainty and opportunity. The pace of digital innovation, the growing emphasis on human-centric strategies, and the imperatives of sustainability challenge leaders and researchers to think differently — to balance technological advancement with ethical stewardship, and strategic ambition with concern for individual well-being.

As a leading platform, the WeSchool Management Review (WMR) Journal is committed to advancing knowledge that matters. This issue highlights the ongoing evolution of management research, offering thought-provoking perspectives on areas crucial to contemporary organizations. It reinforces our commitment to deepening understanding in corporate governance, strategic management, digital business practices, and human resource sustainability.

Within these pages, readers will find contributions addressing timely topics such as governance and performance, digital payments and data protection, customer relationship management, and the impact of workplace transformations on well-being. By uniting both strategic and human-centered themes, our journal fosters ideas that help managers, policymakers, and business leaders navigate the complexities of a rapidly changing world.

We hope these insights inspire new conversations and continued innovation, reinforcing WMR's role as a vital resource for modern management scholarship and practice.

With best regards,

Dr. Madhavi Lokhande
Director – Bengaluru Campus

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Who is the Winner? You or the Customer? Case Study - Cutis Consumer Pvt. Ltd.

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Sridhar C. Mulakaluri

KEYWORDS

Cutis Consumer Pvt. Ltd., E-commerce, CRM, Customer Complaints, Cart Abandonment, Digital Process Optimization, Online Retail, Nutraceuticals, Customer Experience and Sales Growth.

ABSTRACT

This case highlights the rapid growth of Cutis Consumer Pvt. Ltd.'s online sales alongside rising customer complaints and abandoned carts. It focuses on the challenges of managing customer relationships, inefficient e-commerce processes, and high acquisition costs. The case will be useful for understanding the importance of CRM integration and digital process optimization in scaling online retail businesses. It also provides insights into balancing growth with customer satisfaction in the health and wellness sector.

INTRODUCTION

Navarun was supposed to be happy, but he was not. Thanks to their consistent commitment to quality and helping customers live a healthy life, the sales have soared during the third quarter. The daily online sales have crossed 200 units, generating significant revenue. The team is thrilled, and the suppliers are amazed at such a growth of sales in such a short time. However, not all customers were happy. Navarun observed that the number of customer calls and complaints received has significantly increased over the past few months, taking a lot of time to resolve, which otherwise would have been spent on growing the market.

Navarun Bhattacharjee started Cutis Consumer Pvt Ltd, his third venture in 2024, providing healthy snacks and supplements at affordable costs to his customers. From their website," At Cutis Consumer, our mission is simple yet profound: to empower individuals to lead healthier, happier lives through our curated selection of superior products. We believe that everyone deserves access to high-quality wellness solutions, and we are dedicated to making this vision a reality."

The company launched multiple brands meeting diverse needs of various target segments. Their flagship brand, Pro Nutrine offers a diverse range of protein powders providing affordable wellness needs. Cutis Supplement offers a comprehensive range of supplements, vitamins, and minerals. Razor Club brings a wide array of high-quality grooming essentials like razors, shaving creams, and skincare products. They are the exclusive distributors in India for Dr. Seed, a renowned Korean skincare brand, known for its natural ingredients.

Asst. Professor, Prin. L. N. Welingkar Institute of Management Development and Research, Bangalore.

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INDUSTRY BACKGROUND

India's nutraceutical market is primed at USD 4-5 billion and is expected to reach USD 18 billion by 2025. The dietary supplements market in India is valued at USD 3924.44 million in 2020 and is expected to reach USD 10,198.57 million by 2026, at a 22% growth rate. Post pandemic, the rising importance about preventive healthcare has led to the exponential growth of this sector. Indian consumers started focusing on immunity-boosting supplements causing a significant shift in market behaviour. Vitamin capsules, chewable tablets and gummies are being consumed like never before. (Investor portal, Min of Food Processing industries, Gov of India, 2020).

THE CHALLENGE OF MISSED SALES

The company started in offline mode in 2022, and launched an E commerce website www. cutisconsumer.in in April, 2024. The start was slow due to budget constraints. The company focused on driving traffic through Meta and Instagram. A lot of learning and unlearning were needed as company founder and team were primarily from offline distribution background.

For the first 6 months sales were not significant. The company recruited ecommerce resource who helped in listing, keyword optimization, and SEO. However, sales didn't happen. A lot of experiments were done on Facebook to generate traffic. However, this didn't realize the potential as the cost of customer acquisition were very high and unit economics were negative. The company didn't want to engage any social media agencies as most of the agencies are concerned on their own fees than on clients' progress. With experiments failing, the company launched two variants of protein bars, and Healthy Snacks (Protein Snacks). These were listed on website and promoted on Social media. Gradually the sales started picking up with orders coming in. From around 10 orders per day in Oct '24, orders increased gradually. Based on the positive feedback and quality products, crossing 200 orders per day in Dec 24.

But this gave rise to another problem of customer service, with over 100+ abandon carts on daily basis. The company did not have bandwidth to reach out to new customers and connect with abandon cart customers. They also did not have the necessary contact details of the abandon cart customers to reach out. Navarun felt frustrated in the situation, with the skyrocketing cost of customer acquisition.

CUTIS E-COMMERCE INFRASTRUCTURE

The company created a basic E-Commerce website that helps the customers navigate through the products, add them to cart, checkout, and pay. The website is functional and meets the business needs. However, additional improvements are possible to increase Average Order Value. A few improvements required are integration of UPI payments and confirmation of delivery window. The website was also not capturing customer contact details so that they can be engaged to find out why they abandoned their cart.

THE ASK

Navarun was not sure how to address this challenge. The CRM process has become a critical success factor and there was nobody taking care of this. He sensed that by fixing this issue of conversion, the sales would easily grow.

Appendix-1: Average Sales for the Last One Year of Protein MOM (Provided by Founder)

Fig. 1

Appendix-2: Abandon Cart Instances (monthly) (provided by founder)

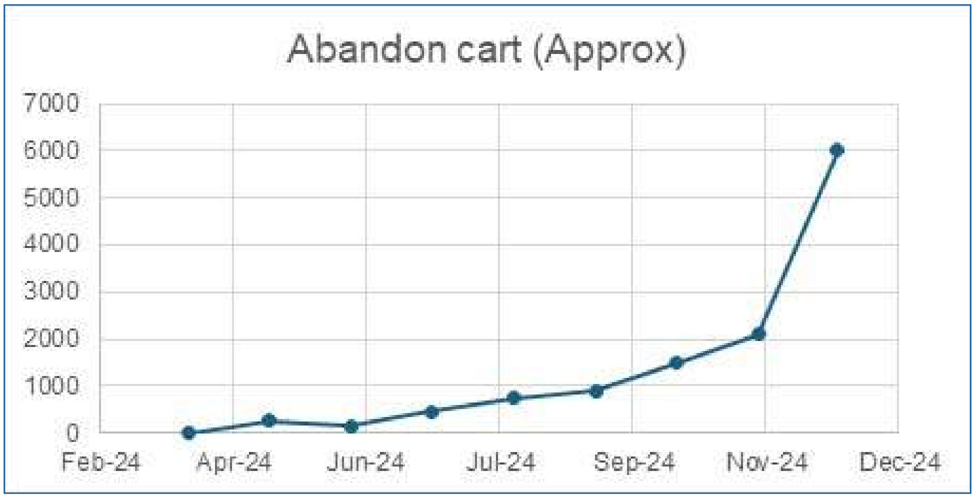

Fig. 2

A Study on Customer Data Protection Issues in Online Payment Applications in India

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Dr. Alex Nero

KEYWORDS

Customer Data Protection, Data Privacy, Cybersecurity, Online Payments

ABSTRACT

Online payment applications in India have changed the financial landscape in India, since it has introduced convenience and access to millions of individuals. However, it has also had significant customer data protection issues that have accompanied this growth. The significant events impacting the privacy and security of users on the online payment site are examined in this paper and they are unauthorized data collection, a weak encryption strategy, phishing, rogue apps, setting unsafe permissions, and distribution of their details to a third party as well as a weakness in the law enforcement. The study can identify how these gaps endanger to reduce the trust of users and misuse sensitive information to malicious intent by undertaking a qualitative analysis of the secondary data sources. In addition, the general awareness of the users and the fact that the privacy policies lacked transparency are also alleged to precondition the worsening of the risks by the paper. The paper will also discuss possible solutions that will involve the need of greater technical protection, comprehensive regulatory frameworks, and more user education to offer a safe online payment environment. By overcoming these challenges, the interested parties will be capable of contributing to the safety of the information of customers and contribute to the further evolution of the Indian fintech industry.

INTRODUCTION

The market of digital payments in India has experienced an incredible shift, and such apps as UPI, Paytm, PhonePe, and Google Pay have become part of everyday financial operations. UPI also handled an impressive ₹23.49 Lakh Crores in 16.58 billion financial transactions in October 2024, which is a 45% annual improvement since the same stood at 11.40 billion transactions in October 2023. Having 632 banks integrated into its platform, this influx of usage underscores the growing power of UPI in the Indian payment infrastructure (Worldline, 2025). With the rising number of people and companies taking the ease and safety of online payments, the growing number and worth of transactions will highlight the central role of UPI in the process of transforming the country into a cashless economy. These swift uptakes have been driven by government efforts, higher smartphone penetration, and a move to a cashless economy. Nonetheless, the rise in online transactions has further increased the issue of user

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information security and privacy (Smith, 2025). Although digital payment systems have improved, the users are still exposed to different cyber threats. India recorded a staggering 5,574 crore loss to online frauds in the year 2023 with phishing and identity theft being the most widely used approaches to cybercrimes. These risks are further compounded by the spread of harmful applications and the use of misleading mechanisms, including the use of counterfeit applications pretending to be official services (Damani, 2024). Also, the concentration of several players in the market has brought the issues of the monopolistic approach and the possible abuse of user information to the question. To address such struggles, the Indian government introduced the Digital Personal Data Protection Act in 2023 which resembles the international standards such as the GDPR. The Act requires that data collection must be restricted to the extent that is required to be used to achieve certain purposes and the individuals are entitled to withdraw their consent. Moreover, the implementation of the Data Protection Board of India is supposed to resolve the conflicts involving breaches of the data and provide adherence to the Act, though the success of the suggested method will depend on consumer awareness and trust (Baig & Sattar, 2024).Regulatory frameworks are already introduced, but the success of the proposed approach will depend on the level of awareness and trust of the consumers (Baig and Sattar, 2024). The surveys show that a major percentage of the population is not aware of their rights under the DPDP Act and that a large number of them are willing to give out fake data with an aim of safeguarding their information. This ignorance weakens the possible potential of the Act and explains why massive educational programs should be implemented to empower users to protect their personal data (PWC, 2024) . This paper seeks to explore the complexity of the customer data protection issue on the online payment system in India. In the search to give practical information on improvement of data security measures, the research studies the vulnerabilities, regulatory frameworks and perceptions of the consumers. The results will add to the current debate on enhancing the digital governance level and creating a positive environment in which users can conduct digital financial transactions without fear (Chandra, 2024).

LITERATURE REVIEW

The use of online payment apps in India is an emerging trend that has brought about serious concerns regarding the security of customer information. The issue of protection of personal and financial data within the changing digital ecosystem has been analyzed by different researchers and representatives of the industry. According to the literature, convenience is a feature of these technologies, and at the same time, users are exposed to numerous risks because of inadequate security practices, lack of regulation, and weaknesses of the technology (Khan, 2024). The collection, storage, and abuse of personal data are the primary issues in online payment systems in relation to data protection. Most applications gather a lot of data than one needs such as GPS positioning, network of contacts and behavioural data without giving the user clear consent options. Certain research has indicated that application developers tend to use inappropriate encryption methods, and various data is prone to being intercepted and leaked. Moreover, payment applications that have the option of third-party integration may cause the unintended exchange of data with third parties, which can be exploited (Uhlig *et al.*, 2023). The emergence of cyber threats against the users of digital payment services has been pointed out by many scientists. The most prevalent types of fraud include phishing, malware attacks, SIM swapping and counterfeit mobile apps. In addition to it being a case of financial losses, these attacks also affect the personal identity of users (Trisolvena & Saputra,2024) as reported by recent studies show that cybercriminals use technological gaps and human weaknesses like ignorance or poor passwords to gain the unauthorized access to user accounts. The increased cases of digital financial fraud that have been witnessed in India have also further highlighted the necessity of having sound security infrastructure in payment ecosystems (Lakshmi & Rani, 2024). As much as there exists increased sensitivity towards the necessity of data security, it is not simple to guarantee effective protection. A significant issue is that digital literacy in the country varies significantly (Phippen, 2024). Numerous users, especially in the rural setting, do not know anything about privacy settings, app permissions or secure practices when transacting. In addition, the disjointed datagoverning, which entails a myriad of participants, banks, application creators, telecommunication providers, and regulators, complicates coordination. Even considering the recent laws like the Digital Personal Data Protection Act, 2023, there is not much enforcement because of the lack of awareness and institutional lag behind (Nallainathan, 2021).India has already developed the law on data protection, but scholars believe that there are still gaps in it that need to be bridged. DPDP Act presents some important principles, such as limitations on the purpose, minimization of data, but the implementation is still at initial stages (Roy and Gabriela, 2023). Sector-specific guidelines adapted to financial technology are also lacking, thus confusing and causing compliance challenges among the smaller companies and startups. Moreover, redressal mechanisms and reporting data breaches remain in its early development, and affected users do not get support or clarity in time (Bhushan, 2024). The literature believes that a multi-pronged approach to addressing the issues of data protection is needed. The two-factor authentication, real-time detection of fraud, and strong encryption advantages that have been identified as technical should be intertwined with the user education campaigns. Researchers are eager to state that, enriching the data protection is a social and regulatory, as opposed to the technical, problem. The policy interventions should assist in building the trust on the online platforms with transparency, accountability, and power of the users. The concerted efforts of the government, the private sector and the civil society will make India move to a safer space of digital payments.

OBJECTIVES OF THE RESEARCH

- To identify and analyse the key data protection challenges faced by users while using online payment applications.
- To evaluate the possible solutions to prevent each of the issues and protect the customer data.

RESEARCH METHODOLOGY

The study stands on the qualitative research design that uses secondary data to investigate the issue of customer data protection involved in the use of online payment applications in India. The research approach will enable the researcher to attain a profound insight into the nature, reasons, and effects of data privacy issues without involving the primary data collection. It is a descriptive and exploratory type of research whose objective is to probe and generalise the available data protection issues, patterns of threats, user behaviour and regulatory trends in the Indian digital payment environment. The information that can be analyzed using a qualitative lens includes non-numerical data like expert opinions, case studies, user experiences and policy analysis to identify themes and patterns in data privacy and security.

Data Collection and Analysis

The presented study is based solely on secondary sources of information as it was published by various reputable sources such as academic journals and conference papers dealing with the topic of digital payments and cybersecurity, industry reports and whitepapers released by fintech organizations, news items about data breaches and fraud cases. The information collected was analyzed through thematic analysis, which entailed identifying and interpreting patterns of practices that were common to the frequent data protection threats through unauthorized access and misuse of data, multiple fraud schemes, privacy concerns, and the level of protection of the current legal and technical protection measures. This strategy allowed gaining an in-depth view of how technological practices, regulatory gaps, and user vulnerabilities meet in terms of online payment security.

Data Analysis and Interpretation

The paper was a qualitative review of secondary literature that was undertaken to identify and articulate the most critical issues of customer data protection in online payment application in India. The findings indicate that there are different mutually reinforcing problems compromising privacy, trust, and security of users of digital payments. Unauthorized Data Collection is the largest issue that is involved in this case. Patterns of behaviour of apps have also been studied as they suggest a colossal quantity of data is gathered by numerous payment applications that is not essential to carry out basic transactions. This has user contact access, GPS location, and history of browsing. These habits subject the personal information to misuse to profile adverts or sell the information to third parties without the knowledge of the user, which indicates a serious violation of the concepts of data minimization. Second issue which we meet is referred to as Weak Data Encryption Findings suggest that there are areas on the platforms which still employ weak encryption methods or old methods. Without the use of strong encryption in the process of data transmission or storage, the user information is prone to hackers who can interfere with it. This exposes one a lot to identity theft or financial fraud. Phishing and Social Engineering Attacks is another significant issue that affects date protection. In the analysis, it is noted that scammers often tend to take advantage of the trust of the customers, posing as the representatives of payment apps or banks. They use phishing links, fraudulent emails and calls to get sensitive information including OTPs and passwords. These attacks are difficult to detect and they are also becoming more advanced especially to the users who are not used to such setups.

The next one is Malicious or Fake Apps and various cases have shown that there are also fake versions of well-known payment apps offered in the market, and usually through unofficial app stores or social media connections. Once installed, the apps either gather personal information or gain control of the device of the user. This means that there is massive difference when it comes to the verification of the apps and digital literacy among the users. Among the most serious difficulties in suing the apps are the insecure App Permissions, which lead to the insecurity of the protection of the top customer data. The researchers found out that there are a lot of apps that demand unreasonable access such as SMS, camera, or call records. These permissions will enable the app to collect data that will not relate to the payment procedures as the user will grant permission and in most occasions, they will be unaware of it. This creates gaps of information leak and potential spying. It has been observed in some studies that various payment systems are selling customer data to advertisers and analytics businesses. This is usually done without the complete information of the user or express permission. These actions are very unethical; they fail to follow the core principles of autonomy of users and informed consent. These are issues that were concerned with data sharing procedure with third parties. The second important issue is the User Awareness. Inadequate education of users on privacy settings, application permissions, and web security measures is one of the themes that can be found in the sources. Other users, particularly in semi-urban and rural backgrounds are not educated on the ways of identifying safe applications, identifying fraud, and data-sharing inclination and they are thus easily compromised by cybercriminals. Another major concern that is affecting the safety of the data is poor Clean Privacy Policies. The privacy policy of some of the most popular payment apps may be examined, which demonstrates that they are either too complex, too abstract, or unavailable easily. The two final issues, present when customer data protection is considered are Data Breaches and Lack of Legal Enforcement.This lack of transparency will give the users no overall conception of how their data is being accessed, stored or shared which is crucial in informed consent. Even in India, financial service providers and payment service providers have already been involved in high profile data breach cases. These incidents exposed the databases of millions of users, which showed a weak level of security on the back-end and the lack of a proper breach response policy. This has destroyed the confidence of the people in the online platforms. Although the law The Digital Personal Data Protection Act was adopted in 2023, the mechanisms of its enforcement are under development. Procedures used to hold accountable and redress in case of misuse of data are not very explicit. This loophole has seen companies evading compliance with little reproach that results to weakening the law-deterrent impact of the law.

The findings reveal that online payment systems in India are highly prone to the theft of customer data because of the combination of the challenges that comprise the technological vulnerability, inability to enforce laws and consumer ignorance. Despite the ease of transaction through digital financial services, they have been very dangerous to the privacy of the user and the security of their data. Most of the online payment applications users in India are experiencing numerous concerns relating to data protection that require a multi-dimensional resolution. Firstly, a great emphasis should be put on the implementation of the data minimization policy, which is premised on the ability of the apps to collect only the necessary data and offer transparent permission options. Ensuring the encryption protocols by enforcing end-to-end encryption and regularly auditing the security protocols will guarantee the security of the user data during the transmission and storage. To combat phishing and social engineering, the broad-scale digital literacy awareness should be carried out to educate users about the tricks that are most frequently employed, and scam detectors and verified signs are introduced into apps in real-time. The proliferation of malicious and counterfeit applications might be suppressed by encouraging the use of authorized applications shops, implementing the utilization of application-signatures, and prompt elimination of the imitation software.

The problem of insecure application permission requires increased restrictions to be made to the app permission requests, better explanations to the user concerning the risks, and applications that would enable the users to audit permissions. To avoid illegal sharing of data with the third party, direct user agreement should be required, and privacy policies should be unambiguously presented, and the penalties, in this case, should be punishable by law. It is essential to increase user awareness; it could be provided by in-app tutorials, awareness programs, and cybersecurity training in educational programs. It is preferable that privacy policies are clearer and easier to understand by making language simpler, giving summaries, and using visual aids to understand it better. Placing intrusion detection systems in place, ensuring a national breach reporting system, and undertaking frequent security evaluations are the measures to ensure that the number of data breaches is reduced. Finally, operationalisation of regulatory bodies, co-ordination of agencies and imposition of penalties should be used to enforce laws so that they are compliant. All these solutions will help create a more secure and trusted digital payment ecosystem among the Indian consumers.

Conceptual Diagram

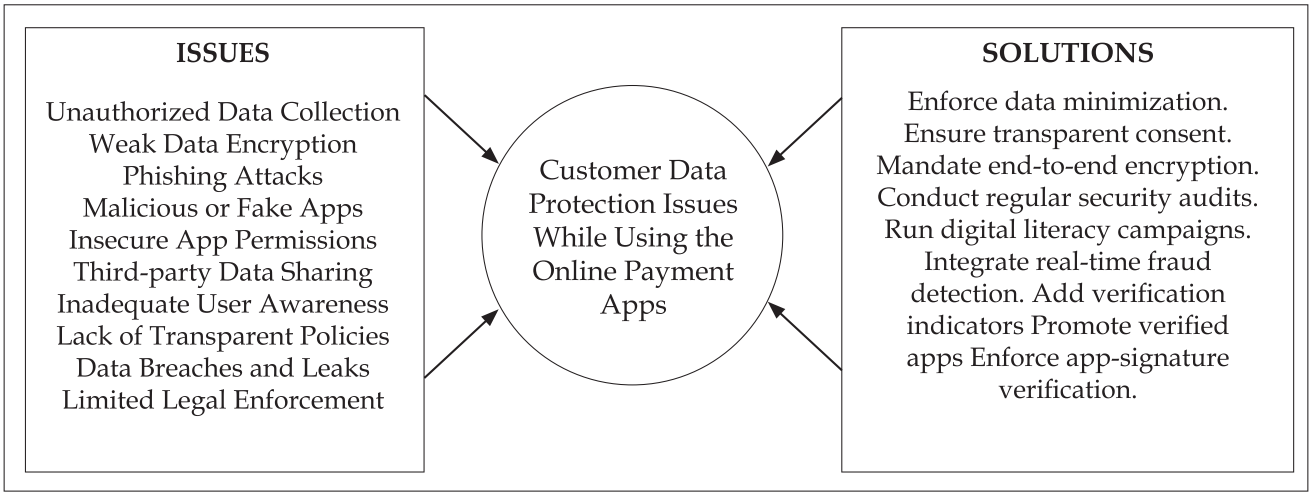

Fig. 1

FINDINGS

The research demonstrates that the protection of customer data in the online payment system of India has several critical issues. To begin with, numerous apps gather an amount of personal data that is much larger than what is required to handle a transaction, such as contacts, position, and browsing history, which pose a considerable threat to privacy. Secondly, the flaws in data encryption mechanisms expose the sensitive user data to the risk of being intercepted and used against them. Thirdly, social engineering and phishing attacks are common phenomena, and scam artists often change their identities to impersonate trustful websites and systems and defraud the user into revealing sensitive information. One more important observation is the popularity of malicious and falsified payment apps, which defraud the users by stealing their data after the installation. Moreover, most of the applications ask to give them permission to do something that has no attachment to their main functionality, and the probability of leaking data is higher. It is also a norm to share the user data with third-party advertisers and analytics companies without explicit consent, which compromises the autonomy of the user over personal data. The paper demonstrates a general ignorance of users regarding the risks of their data privacy and the security measures that can be offered to them, especially in less urbanized zones. Also, the policies of privacy are in many cases rather complicated or ambiguous, which does not make users understand how their information is processed. Big data breaches have already revealed the records of millions of people, which means that the security infrastructure has been inadequate in various platforms. Lastly, even with introduction of laws to protect data like the Digital Personal Data Protection Act, the laws have poor enforcement and little responsibility is taken when they are breached. All these findings lead to the conclusion that closer technical security and more distinct regulations, as well as better education of users, are needed to build trust and achieve digital payment safety in India.

LIMITATIONS AND SCOPE FOR FURTHER RESEARCH

The study, which is anchored on qualitative secondary data, provides helpful information in the field of data protection issues of online payment application users in India. However, it does not have no flaws. This implication of the secondary sources would mean that the findings would be dependent on the accuracy and completeness of the available sources of literature, reports, and data to the masses. The study does not involve primary data collection through surveys and interviews that might offer more detailed and personalized opinion on the matter by the user or a professional in the industry. In the subsequent research, additional research can carry out primary research in the form of a survey of the users or focus groups to understand the experiences of the customers and their awareness level on data privacy. The useful contribution can also be achieved by researching the effectiveness of some security procedures implemented by different payment systems. Moreover, comparative studies based on the use of data protection practices in other countries or fin-techs can be utilized to understand the most successful practices that may be used in the Indian setting.

CONCLUSION

In conclusion, this study brings to light the pathetic problems that the online payment application users in India are worried about with regard to security of their personal information. The findings provide a complex topography that can be described as excessive abundance of data collection, lack of encryption, phishing, and disparities in the application of laws that combined them all form the vulnerability to the privacy and security of the users. Despite the change that digital payment platforms have affected the way financial transactions are undertaken by making them more convenient and open, they are not without threats that ought to be countered. The major steps towards gaining confidence in these services are the improvement of the technical protection, the increased openness of the data processing, and the development of the

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improved awareness of the users. In addition, a well executed and enforced data protection laws will be highly helpful in securing data of users. By applying the holistic approach to those issues, the stakeholders, including the government via regulators, service providers, and users, can contribute to delivering the safer online space in the payment industry to allow the fintech sector in India to be developed further.

REFERENCES

1. Baig, A., & Sattar, M. (2024). India Digital Personal Data Protection Act Vs GDPR. https://securiti.ai/pt-br/india-digital-personal-data-protection-act-vs-gdpr/
2. Bhushan, V. (2024). Empowering individuals: a deep dive into the digital personal data protection act, 2023. International Journal of Advanced Research, 12(05), 891–902. https://doi.org/10.21474/ijar01/18799
3. Chandra, A. (2024). Strengthening India's Cybersecurity and Data Privacy Landscape: A Comprehensive Overview. Indian Journal of Public Administration, 70(3), 466–478. https://doi.org/10.1177/00195561241271616
4. Damani, P. (2024). Standing Committee Report Summary Digital Payment and Online Security Measures for Data Protection. https://prsindia.org/files/policy/policy_committee_reports/SCR_Summary-Digital_Payments_Security.pdf
5. Khan, F., Khati, K., & Misra, A. (2024). Exploring unique identification and identity theft in India: A comprehensive. 150–154. https://doi.org/10.1201/9781003559092-26
6. Lakshmi, R., & Rani, S. (2024). Securing digital wallets: threats and countermeasures. mLAC Journal for Arts Commerce and Sciences (m-JACS), 2(4), 25–32. https://doi.org/10.59415/mjacs.v2i4.185
7. Nallainathan, S. (2021). Study among Rural area citizen regard to Cyber Security awareness Factors relating to it. https://doi.org/10.7910/dvn/eg35tn
8. Phippen, A. (2024). Digital Literacy. Elsevier BV. https://doi.org/10.1016/b978-0-323-95689-5.00097-3
9. PWC. (2024). Only 16% consumers in India understand the Digital Personal Data Protection (DPDP) Act: PwC India survey. https://www.pwc.in/press-releases/2024/only-16-consumers-in-india-understand-the-digital-personal-data-protection-dpdp-act-only-9-indian-organisations-report-a-comprehensive-understanding-of-the-act-pwc-india-survey.html
10. Roy, R., & Zanfir-Fortuna, G. (2023). The Digital Personal Data Protection Act of India, Explained. https://fpf.org/blog/the-digital-personal-data-protection-act-of-india-explained/
11. Smith, B. (2025). A Novel Digital Payment Architecture: A Unified Payment Interface and its Systematic Transformation of Financial Infrastructure. https://doi.org/10.20944/preprints202501.0289.v1
12. Trisolvena, M.N., & Saputra, N.H. (2024). Phishing Cyber Security Threats. Jurnal Improsci, 2(1), 38–48. https://doi.org/10.62885/improsci.v2i1.440
13. Uhlig, H., Alonso, M., & Frost, J. (2023). Privacy in Digital Payments—Escaping the Panopticon. Georgetown Journal of International Affairs, 24, 174–180. https://doi.org/10.1353/gia.2023.a913643
14. Worldline. (2025). Worldline India Digital Payments Report 2H 2024. https://worldline.com/en-in/home/main-navigation/resources/resources-hub/reports-and-insights/2025/worldline-india-digital-payments-report-2h-2024

Delving into the Role and Influence of Self-Help Groups on Economic and Social Empowerment Dynamics in Emerging Economy

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K E Y W O R D S

Self-Help Groups (SHGs), socio-economic empowerment, microcredit, financial inclusion, rural development, women's empowerment

A B S T R A C T

This paper addresses how the Self-Help Groups (SHGs) affect socio-economic empowerment of women in the Tumkur District of Karnataka within the context of the emerging economies like India. SHG-focused microcredit programs were evaluated as a way of analysing the level to which SHGs empower women in rural areas contributed towards financial, social and economic empowerment. This research paper analyzed the demographics, perceived benefits, and challenges of SHG members through both the empirical and secondary data. The results reveal that engaging with SHGs has positively contributed towards economic and social benefits. However, factors as like education and income has no significant role in perceived benefits. The learnings from the study facilitate policy changes while adding to the research on fthe empowerment and financial inclusion of women.

INTRODUCTION

Emerging Economies like India always provided a congenial envirornment to the Self-Help Groups (SHGs) to facilitate the economic and social change especially to the vulnerable communities. SHGs have come over the past few years to play a c0re role in the Indian financial inclusion agenda and empower women and rural development at large scale. Due to the increasing population, urbanization and digitalization , SHGs have an chance of reducing economic disparities by serving population which was not served with mainstream financial services, thereby promoting rural economies and encouraging the culture of Entrepreneurship. SHGs have predominantly influenced the upliftment of women, which is a field of gender equity; women have been provided access to credit and savings systems which could not be accessed before. SHGs provide a priceless avenue through which women can exercise agency economically in an Indian society where social structures tend to limit women in terms of their financial autonomy and their influence over their choices. Microcredit access is not only known to empower women when they want to start small businesses, but also permits them to contribute to the family income, make important choices, and become financially stable. The impact of this financial empowerment is a ripple effect, children receive better edification prospects, better healthcare for the family and an overall

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enhancement of the standards of the community. Additionally, SHGs also promote a friendly and collective atmosphere where women are allowed to guide and present themselves without necessarily being bound by social restrictions that are likely to inhibit their development. The members of SHGs are empowered in the local economies by capacity-building programs that train them on financial literacy, digital skills, and business management. This collective empowerment is leading to increased participatory and inclusive community development in addressing the issues of child welfare, health, sanitation and environmental protection. Fast-changing Indian economy SHGs have also emerged as a significant resiliency and adaptability process. In other regions like the Tumkur District, Karnataka where microcredit activities of SHGs are eminent they provide the rural population with a lifeline to endure the seasonal economic shocks and provide sustainable livelihoods. However, the opportunities of SHGs are normally limited by such factors as inaccessibility to advanced financial products, market relations and bureaucratic interference. These problems can be addressed by adoption of supportive policies, development of better financial infrastructure, and further integration of the market, resulting in significantly better impact of SHGs, which would offer a robust, inclusive model of development in keeping with the India vision of a sustainable and equitable economy. This paper shall thus attempt to provide a general description of the facilitating as well as the problematic conditions in SHG based microcredit initiatives in the Tumkur District, Karnataka.

REVIEW OF LITERATURE

Self-Help Groups

One of the most renowned community-based models that have become increasingly popular in terms of microfinance and empowerment in the emerging economies is Self-Help Groups (SHGs). These non-profit organizations, with 10 to 20 women, are grouped to promote savings , financial inclusion , and to promote socio-economic development (Suresh, Rexy and Vijayalakshmi, 2024). In the recent times, , SHGs have not only been viewed as financial intermediaries but also defined as a means of socio-economic empowerment, especially for the poor and marginalized groups. SHGs have been a economically viable tool of inclusive development in emerging economies which are grappling with structural inequalities, patriarchal values and institutional reach are limited, making access to institutional finance which was out of the reach for many people. The literature reviewed has always highlighted its ability to promote empowerment by strengthening participation, leadership and community engagement through income generation, savings, and entrepreneurship (Dokku *et al.*, 2024; Shetty and Rao, 2024).

Financial Inclusion and Economic Empowerment

The SHG is based on economic empowerment. SHGs increase access to monetary assets that, without it, low-income females would have no chance of attaining. SHGs facilitate collective savings and micro-lending. Suresh, Rexy and Vijayalakshmi (2024) discovered that SHGs participation has improved access to microcredit by women, entrepreneurial capacity, and local economic development. Their conference article highlighted the fact that SHGs are financial intermediaries, as well as community institutions, which promote entrepreneurship and income diversification. As the study of Dokku *et al.* (2024) on Tamil Nadu, SHGs also contributed to enhancing economic stability of the members by promoting systematic savings and financial literacy. The women who were used to using informal sources of credit acquired disciplined financial habits and were less exposed to debt traps. These results are consistent with the national level data that SHGs participation is positively correlated with household income and asset accumulation especially when it is supported by structured savings and credit connections. Shetty and Rao (2024) further this discussion by placing SHGs in the context of the financial inclusion ecosystem of the Udupi District. They note that SHGs do not just bring about micro-credit, but also bring members into formal banking systems by connecting them to regional rural banks and cooperative institutions. This leads to increased financial autonomy of women thus allowing women to play a significant role in household spending and investing in the community. Kumari and Singh (2022) also support this in North India and point out that SHG membership causes the generation of assets and the diversification of livelihood activities, including dairy farming, tailoring, and petty trade. The power to create and manage income was observed to empower women in making decisions and minimize the economic dependence of women on the male members of the households.

Skill Development, Training and Entrepreneurship

The empowerment of the economies through SHGs is usually in the form of entrepreneurship and establishment of small businesses. But, the skills and training of the members are crucial in the transition between financial inclusion and entrepreneurship. Sumithaa (2023) particularly examined how the training programs affect the economic performance of SHG members and revealed that there was a positive but strong linkage between skill-building programs and increased income levels. Her research finds that women are better prepared to engage in income-generating activities after receiving leadership and financial-management training that would increase the success rates. The literature highlights that training does not only enhance technical knowledge but also enhances confidence and competence of the manager in the members (Sumithaa, 2023). This is aligned with the results of Suresh, Rexy and Vijayalakshmi (2024) who believe that entrepreneurship can flourish when SHGs are working under favourable institutional environments that provide guidance, mentoring and access to the market. Such training is however only available in a few areas. According to Sumithaa (2023), in rural and remote locations, it is often not exposed to organized training modules, which limits the ability of SHG-based entrepreneurship to scale. Therefore, SHGs may ease the transition to the entrepreneurship, but to ensure the continued growth of the enterprise, the systemic assistance in the form of skill training, the use of technologies and market connections is necessary. In their absence, members will not succeed in improving their lives, as they will be trapped in subsistence-level operations instead of becoming competitive micro-entrepreneurs.

Challenges and Barriers

Although SHGs have improved financial inclusion, several structural and institutional constraints continue to undermine their full potential. Suresh, Rexy and Vijayalakshmi (2024) identify cumbersome loan approval procedures and weak institutional coordination as major bottlenecks. Failure to make prompt payments and bureaucracy usually make members unwilling to engage in bigger economic projects. Dokku *et al.* (2024) also emphasize the lack of access to sophisticated financial products and leadership as one of the consistent barriers. Most SHGs continue to rely so much on external facilitators or local NGOs that may create a culture of dependency instead of self-reliance. Likewise, Shetty and Rao (2024) caution that inequities in a group can be caused by internal power imbalances in which more literate or economically advantaged women make decisions on behalf of others. Kumari and Singh (2022) also focus on the fact that economic outcomes are limited by the access to the market and cultural barriers. Patriarchal norms tend to restrict the involvement of SHGs members even when they manufacture products or operate small enterprises in the public markets. This has seen them under-utilize their potential in income-generation. All these studies collectively point to the fact, that SHG success depends not only on the commitment on the micro level, but also on the institutional and cultural contexts on the macro level.

Research Gap

Although SHGs have been effective in offering financial access and empowerment, there are a number of challenges that inhibit their full potential. Most SHG members in Tumkur District have the problem of not being able to access loans in time, and in adequate quantity, because of the length of the approval process and the small size of loans, and as a result, they are limited in their ability to engage in economic activities that would make them have sustainable income. In addition, in rural, less-educated contexts, financial literacy and management skills are very limited, which is a major factor in the performance of SHGs. On the inside, SHGs are supposed to foster democratic participation, but there are instances where groups are unbalanced in the decision making process and therefore the dominant leaders make decision and thus the rest of the members do not have an equal share in resources and thus do not participate actively. Social and cultural obstacles are also very problematic, because some members are not free to participate in SHGs or to give their views by getting the resistance of their family or community. The challenges facing SHGs operationally include lack of coordination with financial institutions, lack of support of skills development and inadequate resources to support long-term strategic planning. This paper aims at exploring these issues and the effect they have on SHG practices and empowerment of members in the Tumkur District with an insight on how to improve the effectiveness of SHGs to effect sustainable socio-economic change. The research inquiries listed by the researcher are based on the following research issue: What is the knowledge of SHG members regarding the empowerment activities that are offered by the group and what do they deem as the most beneficial ones? What is the contribution of SHG empowerment activities to economic growth of members and their social participation?

RESEARCH OBJECTIVE

1. To analyze the socio economic and demographic structure of SHG members in Tumkur District,
2. To assess the perceptions of SHG members on empowerment activities and their impact on economic growth and social participation.

RESEARCH HYPOTHESES

$H_0$1: There is no substantial difference in assessing the perceptions of empowerment activities and their impact on economic growth and social participation.

RESEARCH DESIGN

Indian Economy has created an environment where Self-Help Groups (SHGs) are significant in empowering vulnerable communities, especially women in the rural setting. These groups facilitate financial inclusion through access to credit, ability of members to open small businesses and social empowerment. Karnataka, the state with a progressive history of rural development and women has allowed SHGs to advance economic stability and empowerment of women. The District of Tumkur has been selected in Karnataka because the area is largely rural in nature and because of the high degree of microcredit programs organized by SHGs. The socio-economic status of this district is a perfect location to examine the role of SHGs in financial empowerment, decision-making skills, and empowerment of people living in under-banked communities. Concentrating on Tumkur, the given research will be able to provide an insight into the peculiarities of the SHG activities and their success which should be taken into consideration to shape the policies of the regional development as well as to contribute to the general comprehension of the role of SHGs in the empowerment of rural people in the new markets. Therefore, the study will use both primary and secondary sources of data. The study period was between February 13 and January 2014 during which primary data was obtained among the Self-Help Group (SHG) members in the Tumkur District. The sampling plan was organized and therefore the sample was restricted to SHG members in the district. Stratified random sampling method was employed that entailed a comprehensive questionnaire. The sampling frame is constituted of 9,549 groups, of which 7,942 are rural and 1,607 urban based groups, which gave 720 participants. The research methodology is descriptive and analytical, and the authors emphasize the socioeconomic and demographic factors of the SHG members, their views on the empowerment programs, and the socioeconomic effects. The perceptions of members will be assessed using variables that are a result of previous studies by Suman (2001), Bhinde (2003), and Kamaraj (2005).

Table 1: Perception of Benefits Realized After Joining SHG

Sl. No.	Variables
1	Membership in SHG increases capacity to spend more
2	Membership in SHG increases the value of assets
3	Membership in SHG increases the income
4	Membership in SHG increases the savings
5	Membership in SHG induces social responsibility
6	Membership in SHG provides strength to protest against social evils
7	Membership in SHG increases power of decision-making
8	Membership in SHG creates better awareness about help
9	Membership in SHG creates knowledge about banking operations
10	Membership in SHG creates confidence to face problems
11	Membership in SHG creates awareness about self-reliance
12	Membership in SHG gives social status
13	Membership in SHG creates awareness about cleanliness of surrounding of environment
14	Membership in SHG improves literacy and communication skills
15	Membership in SHG inducing participation in politics
16	Membership in SHG induces to contest in election
17	Membership in SHG creates awareness about voting
18	Membership in SHG induces to assume leadership on issues

The survey participants are inquired to score the attributes at five-point scale

DATA ANALYSIS AND INSIGHTS

To analyze the demographic and socio-economic profiles of SHG members in Tumkur District,

Profile of SHG Members in Tumkur District: Demographics and Socioeconomic Factors

The research is expected to discuss the demographic features of the chosen members of SHG in the Tumkur District. Table 1 presents different demographic factors such as the Area of Residence, Age, Religion, Community, Marital Status, Number of Children, Type of Family, Family Size, Educational Qualification, Head of the Family, and Decision Maker in the Family. The study of these categories will give a complete picture of the backgrounds and living condition of the members. This demographic profile is useful in determining the wide profile of SHG members and what drives their roles and participation in their communities in Tumkur.

Table 2 shows demographic profile of Self-Help Group (SHG) members in Tumkur District shows that most of the population, 68.75, is rural with only 31.25 in urban locations. Age distribution indicates that the number of people between 31 and 40 years old is higher (55.97%), with those 30 and less comprising 21.39% and those older than 40 years at 22.64%. With regard to religious affiliation, 90.69 percent of the population is Hindu, with minorities being Christian (6.94%), and Muslim (2.36%). In terms of community background, the majority of the members are the Backward Classes (BC) at 72.78, then 20% of the Most Backward Classes (MBC), and 7.22% of the Scheduled Castes (SC). Marital status represents that 82.64 percent are married, 13.19 percent are not married and 4.17 percent are widowed. This population profile indicates that there is a rural, mainly Hindu, married, and middle-aged population with a significant number of the backward communities represented.

Table 2: Demographics of the SHG Members in Tumkur District

Sl. No.	Demographics	Respondents (720 Nos.)	Percentage (100%)
01.	Area of Residence		
	Urban	225	31.25
	Rural	495	68.75
02.	Age		
	Upto 30	154	21.39
	31 to 40	403	55.97
	Above 40	163	22.64
03.	Religion		
	Hindu	653	90.69
	Muslim	17	2.36
	Christian	50	6.94
04.	Community		
	MBC	144	20.00
	BC	524	72.78
	SC	52	7.22
05.	Marital Status		
	Unmarried	95	13.19
	Married	595	82.64
	Widowed	30	4.17

Source: Primary Data

Table 3 presents the demographic profile of the members of SHG in Tumkur District indicates that most of the population, 81.39, is in the joint family, and most houses are composed of 4 to 5 individuals (77.64). Regarding children, 65.97 percent of children under 18, 16.25 percent have none, and other minor percentages have young children or adults over the age of 18. Educationally, the members are categorized with 19.58% of the members being illiterate to 23.47% of the members having education up to the 12th standard and 8.61% of the members having higher or technical qualification. The family roles depict that, husbands are so much known as the head of the family (80.97%), then fathers (9.86%), and only 6.53% of the families have the members as the head of the family. The decision-making process is dominated by males in 58.75% of households where husbands are the main decision-makers but 25.28% of members make decisions alone and 15.97% make decisions together with their spouses. This demographic segment suggests that they prefer joint-family arrangements, conventional family role, and low levels of education with some women playing active decision making roles.

Table 3: Percentage Analysis of the SHG Members in Tumkur District Bottom of Form

Sl. No.	Demographics	Respondents (720 Nos.)	Percentage (100%)
06.	Number of Children		
	None	117	16.25
	Minor < 18	475	65.97
	Major > 18	73	10.14
	Children (6 to 11)	28	3.89
	Kids (0 - 5)	27	3.75
07.	Type of Family		
	Joint	586	81.39
	Nuclear	134	18.61
08.	Size of the Family		
	1-3 members	108	15.00
	4-5 Members	559	77.64
	6-9 Members	53	7.36
09	Educational Qualification		
	Illiterate	141	19.58
	Can Sign	209	29.03
	Upto V Std.	139	19.31
	Upto XII Std.	169	23.47
	Others (Technical Education, Graduates, etc.)	62	8.61
10.	Head of the Family		
	Father	71	9.86
	Husband	583	80.97
	Son	19	2.64
	Self	47	6.53
11.	Decision maker of the family		
	Self	182	25.28
	Husband	423	58.75
	Both	115	15.97

Source: Primary Data

Table 4: Mean Score of Selected Respondents

Personal Characters	Mean Score	
	Respondents with Lower Mean Satisfaction in SHG activity Score (Group I:n1= 97)	Respondents with Higher Mean Satisfaction in SHG activity Score (Group I:n1= 152)
Place of Living	1.7216	1.6776
Age	1.8866	1.9211
Marital Status	1.9485	1.8947
Religion	1.1340	1.1776
Community	2.8144	2.8289
Education	2.7010	2.6711
Present Occupation	6.5361	6.5789
Present Income	2.0206	1.9539
Type of Family	1.1340	1.1842
Family Size	1.8660	1.8882
Head of the Family	2.0412	2.0592
Decision Maker	1.9381	1.9408

Source: Primary Data

Table 5: Details of Univariate Analysis of Variance

Demographic Characters	Wilks' Lambda	F (DF=1, 247)	Sig
Place of Living	.998	.538	.464
Age	.999	.172	.678
Marital Status	.996	1.080	.300
Religion	.998	.400	.527
Community	1.000	.047	.829
Education	1.000	.034	.854
Pres_Occ	1.000	.022	.882
Pres_Incom	.998	.390	.533
Type_of_fam	.996	1.080	.300
Famsize	.999	.170	.681
Head_of_Family	1.000	.054	.817
Decision_Taker	1.000	.001	.975

*Significant at 5 % level

According to the table 4 that outlines the average scores of SHG members in Tumkur District, it can be stated that satisfaction regarding SHG activities is comparatively stable with respect to different demographic and economical parameters. Both lower and higher satisfaction groups mention almost the same scores in place of living, age, marital status, community, education, and family structure, implying that these attributes have little impacts on the levels of satisfaction. Occupation scores are high and both groups rank approximately 6.5 which means that employment is important to the members although there is no significant difference between the levels of satisfaction. Also, there is a slight difference in the income scores between the group being more satisfied, which means that being poor does not diminish the satisfaction with SHG involvement. There are similar scores in family related factors like type of family, family size, head of the family and decision making roles; this indicates that there is limited influence of the aspects on the members satisfaction. This implies that the satisfaction of the SHG participation may not be highly dependent on the common socio-demographic differences.

The statistical outcomes presented in the table 5 demonstrate demographic features information, which is analyzed with the help of Wilks Lambda to determine its variance. All the characteristics, including place of living, age, marital status, religion, and community, have a Wilks Lambda value that is near 1 which means that these demographic variables do not explain much or no variance. The characteristics are not statistically significant with p-values (Sig) above 0.05 in all cases indicating that these demographic variables are not statistically different as far as the criteria under analysis are concerned. It means that there would be a homogeneous reaction to demographics.

To Assess SHG Members' Perceptions of Empowerment Activities and their Impact on Economic Growth and Social Participation.

The respondents were categorized into three groups based on their perceived benefits after joining the SHG: High, Moderate, and Low. The mean score analysis shows that those with a high perception of benefits scored between 82.90 and 95.00. Respondents with a moderate perception scored from 72.71 to 82.90, while those with a low perception of benefits scored between 47.00 and 72.71. These categories provide a clear view of how respondents perceive the benefits of SHG participation at varying levels, as detailed in the table below.

Table 6: Socio-Economic Status and Perception towards Benefits Realized after Joining SHG

Level of Awareness	No. of Respondents	Percentage
High Benefits (82.90 to 95.00)	271	37.64
Moderate Benefits (72.71 to 82.90)	255	35.42
Low Benefits (47.00 to 72.71)	194	26.94
Total	720	100.00

Source: Primary Data

The data in table 6, group the respondents according to their perceived benefits of being part of SHG and will be categorized into three levels: High, Moderate, and Low. Of 720 respondents, 37.64% of them had high benefits (between 82.90 and 95.00), 35.42% had moderate benefits (between 72.71 and 82.90), and 26.94% had low benefits (between 47.00 and 72.71). This distribution indicates that the majority of the respondents feel that their benefits are at least moderate, with a large number of respondents feeling that they have high benefits, meaning that SHG membership has overall positive influence on the members.

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Table 7: Perception towards benefits realized after joining SHG based on socio economic and demographic factors

Factors	Calculated χ2 Value	Stat-Value	d.f	Remarks
Place of Living	0.430	5.891	2	-(Nil Significance)
Occupation	21.888	6.1049	10	0.016
Educational Qualification	6.298	15.508	8	0.614
Monthly Income	3.778	12.592	6	0.707
Type of House	3.295	9.488	4	0.510
Decision maker in the family	4.375	9.488	4	0.358
Experience	1.963	9.488	4	0.742
Reasons	16.073	12.592	6	0.013
Source of Finance	1.822	12.592	6	0.936
Type of Benefits	21.530	15.508	8	0.006

Source: Primary Data

The table 7 analysis considers the perceived benefits of membership in Self-Help Groups (SHGs) under different socio-economic and demographic conditions. The statistical tests have shown that there is no significant effect of place of living, monthly income, type of house, family decision-maker, and experience on perceived benefits at the 5% level. Nevertheless, the occupation, reasons of joining and form of benefits achieved exhibit strong association implying that these variables influence the perceived benefits after joining SHGs. There is no significant difference in perceptions with educational qualification and source of finance, which conveys that benefits can be universally accepted in terms of educational backgrounds and financial sources.

Joining a Self-Help Group (SHG) does a lot for its members. People don’t just learn about support systems—they actually use them. Their understanding of banking gets sharper too, and that kind of knowledge really boosts financial independence. Members say they feel more confident handling challenges. That confidence spills over, making them more resilient and self-reliant. On the social side, you see changes too. Members start to feel more respected in their communities. They pick up a sense of responsibility and get more involved in local issues. They’re more aware of what’s going on, and their literacy and communication skills improve just by taking part in group discussions. Politics isn’t out of reach, either. SHG members become more aware of political issues and, honestly, they get motivated to vote and even run for office themselves. It’s not just about watching from the sidelines—they actually want to shape what happens around them. Leadership is another big win. Members step up and lead on important topics, and their decision-making gets stronger. All these changes—financial, social, and personal—add up. SHGs really do give people the tools and the confidence to become active, informed leaders in their own communities.

Major Finidngs of the Study

People saw clear links between the benefits they got from SHGs and certain socio-economic factors like their jobs, why they joined, and the kinds of benefits they were after. Other things—monthly income, where they lived, the type of house they had, or who made decisions in their family—didn’t really shape how they saw those benefits. Being part of an SHG boosted members’ banking know-how, gave them more confidence to handle problems, and helped them feel a stronger sense of social responsibility and better at making decisions. SHGs offered a moderate to high boost in both economic and social empowerment—actually, 37.64% of people said they noticed a big improvement in the benefits they got. Still, a few big problems hold SHGs back: slow-moving bureaucracy, not enough financial training, some power struggles inside the groups, and pushback from traditional social attitudes.

Assessment of Members' Perceptions Regarding Benefits Acquired Post-Shg Membership: A Factor Analysis

Table 8: Descriptive Statistics

Perception	Mean	Std. Deviation
SHG membership enhances the capacity for increased spending.	4.2472	1.00762
SHG membership boosts asset value.	4.1653	.89918
SHG membership enhances income levels.	4.1667	.97678
SHG membership leads to increased savings.	4.1097	.86207
SHG membership fosters a sense of social responsibility.	4.0319	.91371
SHG membership empowers members to stand against social injustices.	4.2861	.83313
SHG membership strengthens decision-making abilities.	4.2347	.91147
SHG membership increases awareness of available support.	4.2778	.90620
SHG membership builds knowledge of banking processes.	4.4028	.76356
SHG membership fosters confidence in facing challenges.	4.3944	.84219
SHG membership raises awareness of self-reliance.	4.0667	.92771
SHG membership enhances social status.	3.9764	1.04993
SHG membership promotes general awareness.	4.2167	.84731
SHG membership improves literacy and communication skills.	4.0236	.84435
SHG membership encourages political engagement.	3.9708	.84583
SHG membership motivates members to run for election.	4.1292	.82299
SHG membership raises awareness about the importance of voting.	3.6944	1.03404
SHG membership inspires leadership on key issues.	3.4097	1.23246
SHG membership strengthens leadership abilities.	4.1333	.94140

Source: Primary Data

CONCLUSION

Self-Help Groups in Tumkur District really make a difference when it comes to lifting up their members, both economically and socially. They help people get a handle on money matters, give them more say in decisions, and encourage everyone to get involved in the community. SHGs have built a strong sense of support and empowerment, but if we want them to go even further, we need to tackle some real issues—things like financial hurdles, operational snags, and social barriers. Targeted steps, like better training in financial skills and smoother loan processes, help make sure everyone in the group actually benefits. That's how SHGs can drive real, lasting growth for the people involved.

REFERENCES

1. Dokku, S.R., Murugan, P.S.B., Vijai, C., Dhinakaran, D.P., Ilyas, M.M.M., & Lakshmi, M.R. (2023). Socio-economic characteristics and empowerment outcomes of women in Self-Help Groups in Tamil Nadu. ***International Journal for Multidisciplinary Research (IJFMR)***, 6(3), 34-49.
2. Suresh, N.V., Mary Rexy, V.A., & Vijayalakshmi. (2024, February 20). An empirical study on empowering women through Self Help Groups. In *Proceedings of the 3rd **International Conference on Reinventing Business Practices, Start-ups and Sustainability (ICRBSS 2023)*** **(pp**. 957-964). Atlantis Press. https://doi.org/10.2991/978-94-6463-374-0_83
3. Shetty, S.S., & Rao, P.A. (2023, November 29-30). Financial inclusion and women empowerment: A study of Self-Help Groups in Udupi district. Paper presented

at the *8th* ***International Conference on Economic Growth and Sustainable Development****: Emerging Trends*, Mysuru, India.

4. Sumithaa, M.P. (2023). Evaluating the impact of training programs on the economic empowerment of SHG members. ***International Journal of Advances in Engineering and Management (IJAEM)*****, 5(4), 756-759.**
5. Dhinakaran, D.P., Ilyas, M.M.M., & Lakshmi, M.R. (2023). The role of SHGs in promoting socio-economic development in India**.** ***International Journal for Multidisciplinary Research****, 6*(3), 1-12.
6. Shrivastava, V., Bhat, M.R., & Jameel, R. (2023). Social and economic impact of women's SHG membership in Kashmir. ***Journal of Social Development Studies***, 12(4), 89-102.
7. Sumithaa, M.P. (2023). Impact of training programs on economic empowerment of SHG members. ***Journal of Rural Development***, 43(1), 21-35.
8. Nagaraj, B., & Sundaram, R. (2023). Self-Help Groups and women's empowerment in rural areas: Insights from Kerala's Kudumbashree. *SAGE Open*, 13(2), 1–15. https://doi.org/10.1177/2158244023114256.
9. Rajagopal, N. (2023). Social impact of NHGs in Kerala: A study of Kudumbashree SHGs. ***Management and Labour Studies***, 48(3), 367-380. https://doi.org/10.1177/0258042X20922116
10. D'Costa, M., & Pereira, S. (2023). SHG interventions and social cohesion in rural India: An empirical analysis. ***Journal of Community Development***, 18(2), 112-127.
11. Gupta, A., & Khan, F. (2023). Examining the economic outcomes of SHG-led microfinance initiatives in India**.** ***International Journal of Rural Management***, 14(1), 47-64.
12. Sharma, R.P., & Patel, S.M. (2023). Financial inclusion and poverty alleviation through SHGs in rural economies. ***Economic Development Journal***, 29(1), 58-76.
13. Tiwari, N., & Bhattacharya, L. (2023). Role of SHGs in fostering entrepreneurship among rural women. ***Journal of Innovation and Entrepreneurship*****, 12(1), 1-17.** https://doi.org/10.1186/s13731-023-00215-8.

Role of Internal Marketing in Employer Branding: An Insight of Selected IT Companies in Bangalore

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KEYWORDS

Internal marketing, employer branding, environment, culture and values

ABSTRACT

Employer branding is the image created by the organization itself and how it projects the same to its current and prospective employee and all other stake holders from customer to society at large. In the current scenario where there is significant war between employers to attract, motivate and retain talent especially in the IT companies who have reasonably high attrition rate. Despite the fact that IT companies provide fat salaries, incentives, cab facilities, flexible working hours/ working from home options etc. retaining talent and attracting new talent has always been an issue. According to Berry, Hensel, and Burke (1976) internal Marketing is concerned with "making available internal products (jobs) that satisfy the needs of vital internal market (employees) while satisfying the objectives of the organization".

Employer branding as viewed by Wilden, Gudergan and Lings (2010), is a package of social, economic and psychological benefits potential employees associate with employment with a particular company. It is used as a tool of attraction. In this paper the researcher tries to assess the role of internal marketing in employer branding from the perspective of accuracy which means the consistency between the employer brand and his/ her employment experience, the organization culture and values. Hence the authors were interested in exploring whether employer branding would help the organization after a minimum stay with the organization.

Internal marketing plays a key role in creating an environment which would enhance the employer branding to be taken forward by all means. According to George (1990) internal marketing can overhaul the face of an organization.

INTRODUCTION

Employer branding is currently the hottest strategies in employment says Gaddam (2008). During the course of writing this article when the authors curiously saw the entries on Google it stood about 50,20,000 results (as on 16/02/17) which is an amazing number to substantiate the emergence of this concept. This concept was originated and published by Simon Barrow along with Tim Ambler of London Business School. Employer branding was always limited to recruitment advertising and internal communications for propagating the

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employer as the best place to work according to Mosley & Barrow (2005) In the words of Simon Barrow and Tim Ambler "Employer Branding is a package of functional, economic and psychological benefits provided by employment and identified by the employing company". He also suggested an Employer Brand wheel (fig-1) encompassing most of the related parameters. The researchers proposed a hypothetical model in this study which is been depicted in (figure-2).

LITERATURE REVIEW

Employer branding helps in understanding companies strengths and also can create loyalty. As a tool it is useful in retention and attraction management (Mandhanya, Yogita; Shah, 2010). Employer branding not only showcases the organization as a good place to work. It also used to attract the new recruits by depicting its culture. (Tuzuner and Yuksel 2009). Sokro (2012) is of the opinion that brand name /image creates a major influence in employees deciding to join and stay the organization for a reasonable time. He also suggests, a conducive work environment will help employee's prolonged stay with the organization. De Chernatony (2002) brings about the need for coherence of corporate brands to avoid the confusion and perceptual differences amongst the employees about the corporate values.

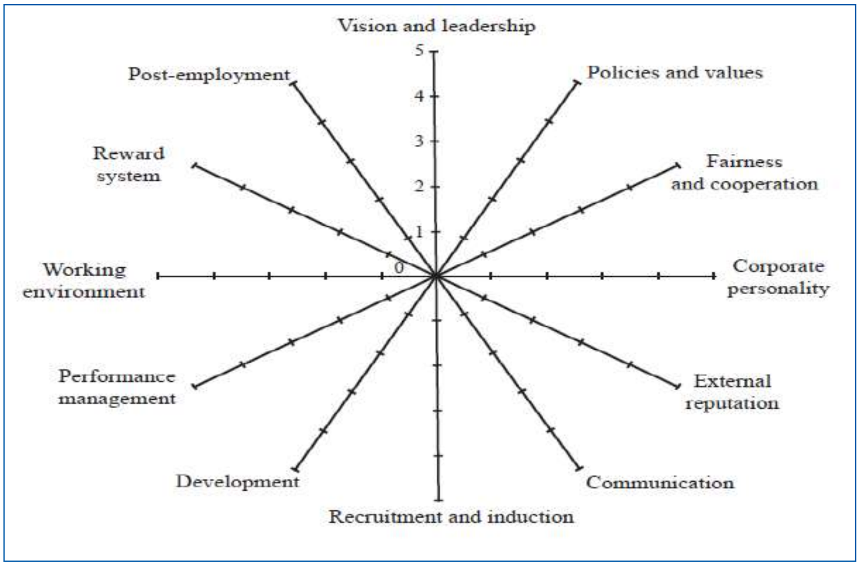

Fig. 1: The Employer Brand wheel

Source: (Adapted from Mosley & Barrow, 2005)

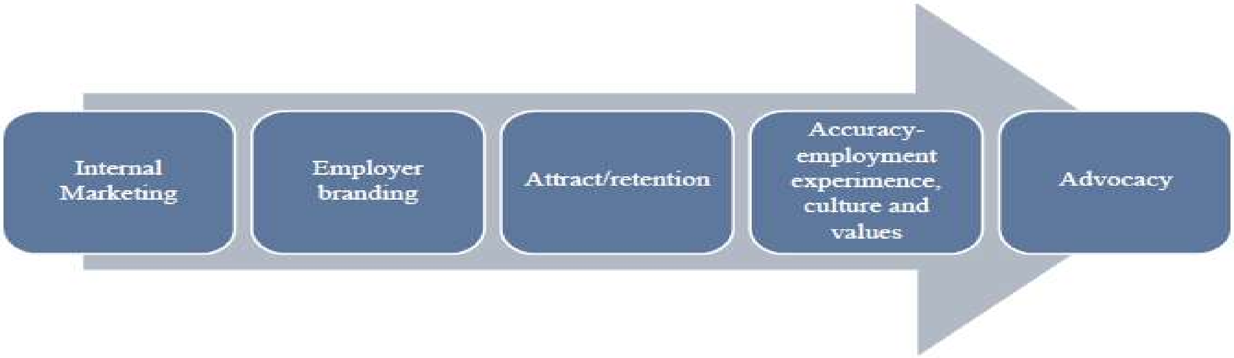

Fig. 2: Hypothetical model of Internal Marketing and Employer branding

In his book Ind (2007) clearly discusses about the need for values that are certainly important both for the employees and the organization. Backhaus *et.al* (2002) in his work identifies work environment along with community relations and diversity is playing a key role in organizational attractiveness which in turn is a key outcome of employer branding. From the brand balance model it clearly indicates what employer offers and what employee gets (culture, opportunity, rewards and recognition, corporate reputation and brands) in the other way around what employee offers and what employer gets (time, skills, experience and attitude) according to Rosethorn, (2009).

OBJECTIVES

- To assess if there is any relationship between internal marketing and employer branding and how it is important for an employer
- To assess the importance of employer branding in joining an IT company
- To understand the parameters that contribute to employer branding
- To study if there is a difference in perception of employer branding with respect to gender
- To assess the benefits of employer branding to the organization

METHODOLOGY

The study was focused on a few and selected IT companies in Bangalore. The authors conducted a personal survey using a formal and structured questionnaire. For this purpose they met about 200 respondents mainly comprising of the junior and middle level and collected their opinion along with selected number of depth interviews to get qualitative information. They achieved their sample size using the quota sampling for their research work.

ANALYSIS AND DISCUSSIONS

Table 1: Reason for Joining the Organization

Employer	Reason for Joining the Organization						Total
	Salary	Culture/ Values	Work Environ	Brand Image	More than 1	all	
IT Company1	5	5	15	20	25	0	70
IT Company 2	0	0	5	0	0	0	5
IT Company 3	5	0	0	10	10	10	35
IT Company 4	0	10	10	0	0	0	20
IT Company 5	20	5	5	10	15	5	60
Total	30	20	35	40	50	15	190

Source: Field data

Table 2: Difference of Opinion based on the Number of Years an Individual has Worked for an Organisation and their Rating on the Parameters

Results of ANOVA			Mean Scores - Experience			
	F	Sig.	Less than a year	>1 yr and upto 2 yrs	>2 yrs and upto 3 yrs	>3 yrs
Salary	21.48	0.00	4.75	3.11	3.71	3.36
Culture and Values	5.73	0.00	3.63	3.89	4.14	4.07
Environment	3.79	0.01	4.25	3.89	4.14	4.36
Brand Image	2.83	0.04	3.75	3.78	4.29	3.79
Total Respondents in Each Group			40	45	35	70

Source: Field data

The results from the table-1 indicate that many respondents have cited multiple parameters for joining the organization. Brand image and work environment played a key role and it was surprising to notice that salary alone was not a major driving force to join an organization.

It can be clearly inferred from the mean values (table-2) that salary may be a vital factor to employees in their initial career years but with their growing experience they consider environment, culture and values and brand image over salary. It also suggests that work experience creates a difference in their perception of the mentioned parameters. All the values are significant (p value < .05)

Table 3: Testing for Association between Organizational Attributes to Employer Branding

Organisational Attributes		Employer Branding			Chi-Square	Asymp. Sig. (2-sided)
		Low	High	Total		
Salary	Low	15	60	75	44.61a	.000
	High	80	35	115		
Culture and Values	Low	20	25	45	0.73a	.394
	High	75	70	145		
Environment	Low	10	20	30	3.96a	.047
	High	85	75	160		
Brand Name	Low	35	20	55	5.76a	.016
	High	60	75	135		
	Total	95	95	190		

Source: Field data

Table 4: Testing for Association between Organizational Attributes and Pride of Working in an Organization

Organisational Attributes		Pride of Working in an Organisation			Chi-Square	Asymp. Sig. (2-sided)
		Low	High	Total		
Salary	Low	35	40	75	13.06	.000
	High	25	90	115		
Culture and Values	Low	25	20	45	15.69	.000
	High	35	110	145		
Environment	Low	25	5	30	44.16	.047
	High	35	125	160		
Brand Name	Low	35	20	55	5.76	.016
	High	25	110	135		
	Total	60	130	190		

Source: Field data

It is clearly observed from table -3 with regard to employer branding and organization attributes namely salary, environment and brand name have a clear association based on results (p values <0.05). All the organizational attributes namely salary, culture and values, environment and brand name clearly associated with pride of working in an organization (p values <0.05) which can be noticed in table-4. This goes on to prove that the mentioned attributes have played a role among employees to stake a claim of feeling proud to be associated with the respective organization.

Table 5: Testing for the Association between internal Marketing and its Importance on Employer Branding

Internal Marketing Attributes		Contribution to Brand Building			Chi-Square	Asymp. Sig. (2-sided)
		Low	High	Total		
Transparency in Communication	Low	10	130	140	3.77	.052
	High	0	50	50		
Employee Relations	Low	10	125	135	4.30	.038
	High	0	55	55		
Company's Mission and Vision	Low	10	120	130	4.87	.027
	High	0	60	60		
Training and Team Building	Low	0	55	55	4.30	.038
	High	10	125	135		
Internal Blogs	Low	0	40	40	2.82	.093
	High	10	140	150		
Employee Satisfaction Surveys	Low	0	70	70	6.16	.013
	High	10	110	120		
	Total	10	180	190		

Source: Field data

Table 6: Testing for Difference between People who will/will not Refer their Company and their Perceptions on Internal Marketing

Internal Marketing Attributes	Willingness to Refer	N	Mean	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Transparency in Communication	No	35	2.57	1.42	0.24	-1.21	.232
	Yes	155	2.90	1.66	0.13		
Employee Relations	No	35	2.43	1.52	0.26	-1.17	.245
	Yes	155	2.74	1.42	0.11		
Company Mission Vision	No	35	3.29	1.05	0.18	2.96	.004
	Yes	155	2.65	1.56	0.13		
Internal Training and Team Building	No	35	4.57	0.92	0.15	3.92	.000
	Yes	155	3.84	1.30	0.10		
Internal Blogs	No	35	5.00	1.43	0.24	1.67	.102
	Yes	155	4.55	1.50	0.12		
Employee Satisfaction Surveys	No	35	3.14	1.99	0.34	-3.79	.000
	Yes	155	4.35	1.64	0.13		

Source: Field Data

It is clearly visible from table-5, barring transparency in communication and internal blogs all other internal marketing attributes are associated to employer branding. It is surprising to infer that communication and also internal blogs which generally plays a vital role in brand building is not been able to contribute to the association.

When willingness to refer and internal marketing attributes were tested, the table-6 results indicated that transparency in communication, employee relations and internal blogs were not significant (p values >.05). It was seen that company mission vision, training and team building, employee satisfaction surveys played a significant role (p value >.05).

Table 7: Testing for Association between the Pride of Working in an Organisation and if they would Refer the Organisation to their Friends

		Willingness to Refer			Chi-Square	Asymp. Sig. (2-sided)
		No	Yes	Total		
Pride of Working for the company	Low	25	35	60	31.53	.000
	High	10	120	130		
	Total	35	155	190		

Source: Field data

The results from table-7 are a clear indicator for willingness to refer the employee needs to take pride in associating himself/herself with any organization.

CONCLUSION

From the research work it helps the researchers to conclude that a relationship exists between internal marketing and employer branding. Brand image is one of the key parameters rated by the respondents indicating that most organizations should strive to create better employer branding with the parameters that are largely preferred like good work environment and excellent culture and values along with a reasonable good salary. As people spend more years with the organization they are not very keen about salary and other aspects takes precedence. If an organization consciously builds its employer brand there is good scope for better retention and attraction of new employees. A good employer brand acts as a good advocacy tool for the betterment of the organization in the long run and hence receives great attention in the current scenario.

Scope for Further Research and Limitations:

The current study has a limited sample with selected IT companies. The study can be replicated with representation of many IT companies across different areas across different levels in the organization. It can also be tried with various other sectors to bring in more clarity and make it generalizable.

REFERENCES

1. Backhaus, K.B., Stone, B.A., & Heiner, K. (2002). Exploring the relationship between corporate social performance and employer attractiveness. Business & Society, 41(3), 292-318.
2. Berry, L.L., Hensel, J.S., & Burke, M.C. (1976). Improving retailer capability for effective consumerism response. Journal of retailing, 52(3), 3-14.
3. De Chernatony, L. (2002). Would a brand smell any sweeter by a corporate name? Corporate reputation review, 5(2-3), 114-132.
4. Gaddam, S. (2008). Modeling Employer Branding Communication: The Softer Aspect of HR Marketing Management. ICFAI Journal of Soft Skills, 2(1), 44-55
5. George, W. R. (1990). Internal marketing and organizational behavior: A partnership in developing customer-conscious employees at every level. Journal of Business Research, 20(1), 63-70.
6. Ind, N. (2007). Living the brand: How to transform every member of Wyour organization into a brand champion. Kogan Page Publishers.
7. Mandhanya, Y., & Shah, M. (2010). Employer Branding-A Tool For Talent Management. Global Management Review, 4(2), 43-48.
8. Mosley, R., & Barrow, S. (2005). The Employer Brand: Bringing the Best of Brand Management to People at Work.
9. Rosethorn, H. (2009). The Employer Brand: Keeping Faith with the Deal. Gower Publishing, Ltd.
10. Sokro, E. (2012). Impact of employer branding on employee attraction and retention. European Journal of Business and Management, 4(18), 164-173.
11. Tuzuner, V.L., & Yuksel, C.A. (2009). Segmenting potential employees according to firms'employer attractiveness dimensions in the employer branding concept. Journal of Academic Research in Economics (JARE), (1), 47-62.
12. Wilden, R., Gudergan, S., & Lings, I. (2010). Employer branding: strategic implications for staff recruitment. Journal of Marketing Management, 26(1-2), 56-73.

The Future of Agricultural Finance from Cash to Digital: Exploring the Experiences

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KEYWORDS

digital finance, agricultural lending, Financial Inclusion, Financial literacy, Fintech

ABSTRACT

Increased access to financing is one of the main advantages of digital finance for agricultural lending[1]. Agricultural lending may become more effective and transparent with the help of digital finance specially countries like India[3]. However, there are other drawbacks along with financial literacy to using digital finance for financing in agriculture. For instance, some farmers might not have access to devices like cell phones or internet connectivity, which are necessary for using secured digital financial services[7], [8]. The main purpose of this study is to examine farmers' experiences in switching from cash-based to digital financial systems in the agricultural industry in India. The study will use quantitative and qualitative research methodologies using judgemental sampling techniques [2], [9]. It employs structured questionnaire to collect data from farmers from the state of Karnataka, India and focus group interviews will also be conducted with the officials and authorities. The study will use correlation, factor, cluster and sentiment analysis to attain the objectives of the study[9], [10]. The results of this study will help shape policies and practises that support financial inclusion and sustainable development in rural areas by shedding light on the difficulties and opportunities presented by digital finance in the agriculture sector.

INTRODUCTION

The global food security and the economic development is essential for the survival and growth and it has been achieved through the agricultural sector[11], [12]. To enhance the productivity, invest in the materials, risk handling and improve the livings, the adequate financial resources access is essential[4], [13]. As there is a challenges and limitations in the cash-based agricultural finance in accessing and managing money. It often to fail in their planned cultivation and harvesting[3]. In recent years, the digitalization has helped the way for the paradigm shift of agricultural finance from cash based to digital platform[6], [14], [15]. The digital finance provides many support to agriculture finance including enhanced financial inclusion,

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enhance credit access, less transaction costs and enhanced efficiency. The transformation of the agricultural finance pattern from cash to digital operations represents the enormous changes in the agricultural finance structure[10], [14], [16]. The use of digital technologies to increase access to financial services for farmers and other stakeholders in the agriculture sector is known as "digital finance for agricultural lending." Hence, the policy makers, researchers, financial institutions, stakeholders from agriculture sector are in a position to understand the challenges and the opportunity associated with this transformation.

This chapter made an attempt to identify the effectiveness and impacts of digitalisation through the opinion shared by the stakeholders. The essences are the influencing factors in adoption and usage of digital financial services and the use of it with the challenges associated in this sector. The findings shed light of the policy enhancement, strategical approach in facilitating the services to the needs people of this sector in a sustainable manner. This study employs mixed method approach by taking into account the qualitative and quantitative data to get the holistic outcome on the subject matter by offering practical insights and recommendation to the stakeholders of the agricultural sector in navigating the transformation from cash to digital services for the sustainable development of the sector.

PROBLEM STATEMENT

Enhanced access to financial services with lesser costs and transparent approach are the immense potential of holding the digital finance in agricultural lending[7], [17]. Though there are various benefits associated in it, there are challenges in the implementation, access to the devices, infrastructural requirements among the Indian farmers[7], [18]. Further, there are concerns in data security and privacy is obstacles to the wide adoption of digital finance in agriculture. To catch hold the benefits of digital finance, it is imperative to know the ground reality among farmers in using from cash to digital financial system.

According to a new survey, loan programmes in rural India don't reach nearly 60% of the population, and for two in five farmers, the main concern is the conventional banking system. According to a survey by the top rural media outlet, 2022, 56% of farming families' next-generation farmers do not intend to continues in the agricultural sector. According to a survey of 20,000 rural respondents from 21 states, including Karnataka, at least 55.9% of farmers indicated they did not receive the correct price for their crops. It was shown that a staggering 59% of farmers were unable to obtain any kind of loan, frequently due to inadequate information. Only 38% and 24% of those polled claimed to have taken loans up to Rs 40,000 and Rs 3 lakh, respectively. A high debt loan was cited as the main obstacle by 33% of respondents, while high input costs—the high cost of seeds, fertiliser, pesticides, and other agricultural inputs—were cited as the biggest issue by 26% of respondents, according to the survey. The survey found that the majority of people in rural India now utilise the Internet to spread information. 32% of them claimed to use the Internet to access social networking sites like Facebook and WhatsApp, 30% claimed to use the Internet to obtain any information, and 38% claimed they lacked Android smartphones, the report continued. These particular difficulties make obtaining financing in the traditional financing system considerably more difficult in the agricultural sector and it let down the countries development and the survivability of the agricultural sector[7], [15]. Fortunately, there are technologies that can help in removing many of these obstacles by digitising financial transactions and improving the relationship between farmers and their customers and suppliers. Digital payment methods can help farmers sell out their outputs more quickly and for more money, provide them access to much needed loans for the inputs that will make their produce flourish, and let their governments give aid in the event that crops don't grow[7], [19]. Hence, this study aims to identify the experiences and the perspectives of farmers in the adoption of digital finance in India. To shed light on the influencing factors in the effective implementation of digital financial services, the study examines the benefits, obstacles and the drawbacks associated in it. The study uses the mixed methods of research approach using both quantitative and qualitative data adopting the judgemental sampling technique. A structured questionnaire has been used to collect the quantitative data from farmers of Karnataka, India and unstructured interview have been conducted to collect the qualitative data from the officials and authorities from the sector. Correlation analysis, component analysis, and cluster analysis will all be used in the study to meet its goals[20]–[22]. The findings of this study will offer insight on the challenges and opportunities presented by digital finance in the agriculture sector, which will assist build policies and practises that encourage financial inclusion and sustainable development in rural areas.

RESEARCH OBJECTIVES

These are research objectives of the study:

- To assess the challenges and obstacles associated among the farmers in transforming from cash based to digital based financial system.
- To explore the factors influencing the farmers in adopting the digital financial system successfully.
- To investigate the level of financial literacy in the effective utilization of the digital products in the agricultural sector.

SCOPE AND LIMITATIONS OF THE STUDY

The study aims to look on the experiences of Indian farmers who have transferred their cash based to digital financial system. In spite of its significance, the study has some limitations. The study has the limitations in generalising the findings to other countries and data have been collected from structured questionnaire may subject to personal bias. Further, the study accepts that the digital finance field is futuristic dynamic in nature and technological advancements or changes in the policy frameworks occurring after the data collection have not been taken into account.

LITERATURE REVIEW

An agricultural economy is the typical description of the Indian economy[1], [23]. India's national GDP has historically benefited greatly from the agriculture sector. Currently, agriculture and related sectors make up about 18.3% of our GDP. In assisting the agriculture sector to contribute to economic development and poverty reduction, the finance sector has a key role[24]–[27]. The expansion of the agriculture industry in terms of getting up new possibilities to attain the target, price credit, sharing the risk is been supported by the evolving financial technology. The agricultural producers are businesspeople, merchants, investors, and consumers everywhere in the world. The farmers always work to increase their output and provide their family with the greatest possible consumption and investment options by utilising the financial tools. However, for smallholder farmers in most developing nations, including India, access to finance continues to be a significant problem[1], [28], [29]. The issue is sometimes expressed in terms of having limited access to production credit to pay for non-family farm labour, Insurance and other farm maintenance expenses, and the purchase and usage of farm inputs[6], [30]. Despite existing technologies for producing higher yields, farm productivity on smallholder farms frequently remains low because farmers cannot afford yield-enhancing inputs[31], [32]. The farmers, on the other hand, frequently feel forced to sell the majority of their produce at harvest when prices are very low due to the significant difficulty they have securing post-harvest loans[1]. As a result, they frequently have severe financial limitations. They are also unable to condition their produce to satisfy the high standards set by premium markets due to financial restrictions[33]–[35]. They lose out on chances to earn more money for their family as a result. Due to the dearth of financial institutions offering such services in rural areas and also have limited access to institutional savings facilities[4]. A properly functioning agricultural sector requires the right infrastructure, such as roads to connect remote rural areas to markets, irrigation technology to lessen farmers' reliance on rainfall, storage facilities to safeguard harvests from weather and pests, telecommunications to ensure efficient trading, water supply, and energy, and well-defined, accessing the tailored financial support from the stakeholders. Worldwide, however, accessing [1]the support from the financial institutions is underutilised due to the lack of technology in the payment of agriculture lending[36], [37].

Credit is essential to agricultural financing, whether it is used to pay for ongoing operational expenditures before harvest or to buy agriculture related instruments or inputs or insurance[38], [39]. However, smallholders rarely request credit from banking institutions as they are having challenges in accessing the financial institutions. Most financial institutions cannot afford to examine the client risks and transaction costs associated with disbursing loans through traditional channels[18], [40], [41]. Large assets like land are frequently under the restricted ownership and management of farmers. Additionally, they are unable to provide solid collateral for loans[33], [42]. The literature also emphasises how Farmers have few possibilities to build their social and human capital. In fact, they encounter obstacles when trying to get loans on times, as they require reaching the branches as are located outskirts of villages, undergoing lots of procedures in filling out the forms, lengthy processing time, and fear of hidden charges and requirements of adequate collateral[43].

By digitising financial transactions and fostering better relationships between farmers and their consumers and suppliers, technologies can fortunately assist to remove many of these barriers[16], [47]. Digital payment methods can enable farmers to sell their products more swiftly and profitably, provide them access to much-needed financing for the inputs that will make their food flourish, and enable their governments to provide assistance in the case that crops don't develop[14], [48], [49].

Throughout agricultural value chains, several interactions take place between agribusinesses, neighbourhoods' clients, creditors, input suppliers, farmers, and other stakeholders. Due to the high volume of transactions, any inefficiency, such as cash payments are amplified. Many farmers also run considerable risks when selling their products due of knowledge gaps and other challenges[1], [9], [10], [38], [50]. The digital payments that are quicker and more traceable speed up transactions and make them more transparent transactions. Agribusinesses that purchase from numerous scattered suppliers benefit from the increased security, speed, and efficiency of digital transactions[12], [51], [52]

There are still issues with India's agricultural funding being digitalized despite these developments[7], [61]. There are other obstacles that need to be removed, including the poor internet accessibility in rural areas, the farmers' low level of digital literacy, and the high cost of cell phones and data plans. For the implementation of digital agricultural finance, access to dependable internet connectivity and digital infrastructure is essential[8], [31]. The adoption of digital financial services might be hampered in many rural locations by poor or unstable internet connectivity. For adoption to be facilitated, governments and private sector stakeholders must invest in enhancing and expanding digital infrastructure[5], [52]. The fundamentals of digital financial services and how farmers might use them must be understood by them. Adoption difficulties may arise from a lack of financial literacy. To promote adoption among rural farmers, education and training programmes that concentrate on enhancingdigital and financial literacy are crucial[7], [61]. The protections of data privacy and security, as well as fostering trust in digital platforms, are further on-going problems. Digital payment solution implementation is significantly complicated by rural areas' low network coverage and limited internet connectivity. The broad use of digital payment platforms is hampered by the lack of reliable electricity and internet access in many isolated agricultural areas[3], [6]. Farmers, who frequently have low financial means, may find it difficult to afford smartphones, feature phones, and data subscriptions. For farmers to be able to engage in digital payment ecosystems, issues regarding the cost and accessibility of digital equipment and data services must be solved[38], [62]. In rural areas, many farmers are under-exposed to digital technology and lack the digital literacy skills needed to use digital payment systems efficiently. They become more dependent on cash transactions as a result of being unable to access and use digital financial services[6].

Digital payment system adoption must be widely accepted for security and confidence to exist[7]. Farmers can be worried about possible fraud, technological difficulties, or the security of their financial information. To allay these worries, strong security measures and the development of trust in digital payment channels are crucial[6], [15]. It's critical to establish confidence in online financial services. Many farmers in rural areas can be hesitant or ignorant of the advantages and security of digital platforms. This barrier can be overcome by educating people about the benefits, dependability, and security of digital financial services through demonstrations, workshops, and success stories[14], [32]. Adoption depends on having user-friendly interfaces and basic digital platforms. The design and operation of digital financial platforms should be simple to use and intuitive because many farmers in rural areas may have little familiarity with technology[5]. It's crucial to guarantee accessibility on all devices, including the most basic smartphones.

To address the unique needs of rural farmers, digital agricultural finance solutions should be specialised. This can include alternatives for micro insurance, flexible payback schedules, and content that is localised and available in the native language[6], [14], [17], [27]. By taking into account the particular needs and challenges of rural farming communities, customization can improve adoption. A large percentage of transactions in India's agricultural industry are made in cash, which is the leading form of payment[38]. Moving to digital payments is difficult because of the dependence on cash. To encourage the adoption of digital payment methods by farmers and agribusinesses, awareness-raising campaigns must be launched, as well as attempts to alter people's perceptions about the use of cash[16], [43].

METHODOLOGY

This research paper focuses on digital agricultural financing in to India, specifically looking at the prospects and barriers for adoption as well as the effects on farmers' income, productivity, and financial inclusion. Digital payments, 0nline lending, insurance, marketplaces, and farm management tools are just a few of the digital financial services that are covered in the research. In order to provide a thorough understanding of the topic, the study combines quantitative and qualitative research approaches [2], [9], [10]. Farmers, financial service providers, government officials, and technological specialists are just a few of the stakeholders whose viewpoints are examined in the study. The study intends to produce knowledge and suggestions that can help with policy formation, enhance the design of digital agricultural finance interventions, and promote sustainable agricultural growth in India.

The main purpose of this study is to examine farmers' experiences in switching from cash-based to digital financial systems in the agricultural industry in India. The data will be collected using judgemental sampling techniques[59]. It employs structured questionnaire to collect data from farmers from the state of Karnataka, India. This data can be examined to find patterns, trends, and elements affecting the uptake and success of programmes for digital agricultural finance.

The quality and quantity of the data may have an impact on the study's conclusions. It may be difficult to have access to complete and recent statistics on farmers' acceptance rates of digital agriculture finance initiatives and financial results. The study depends on self-reported information from questionnaires and interviews, which could be skewed by social desirability or recollection bias. Because of the study's emphasis on the Indian context, its conclusions might not be readily transferable to other nations or areas with diverse socioeconomic and institutional environments. The study's findings might be unique to the people in the study or to certain geographical areas, which could pose restrictions to the research's capacity to be generalised. The technical details of digital financial services, such as the creation of particular digital platforms or the intricate design of payment systems, are not covered in great detail in the study. The depth and breadth of data gathering and analysis may be constrained by the research's time and resource limits, which could be problematic. Despite these drawbacks, the study attempts to add to the body of knowledge on digital agricultural finance by supplying insightful information, highlighting areas for the future research, and providing guidance to academics, practitioners, and policymakers in India and elsewhere.

ANALYSIS AND INTERPRETATION

Quantitative Analysis

In order to gain relevant insights from data or information, analysis and interpretation are essential components of the research process. The present study employ mixed method approach using quantitative and qualitative analysis. The quantitative data have been analysed using correlation analysis, factor and cluster analysis. Whereas, the qualitative data have been analysed using sentimental analysis. This section starts with quantitative analysis with demographic representation.

The sample has 556 people in it, or 95.2% of the total population, who are male. With only 28 people (4.8%), there is a substantially lower percentage of women. The percentages related to the age ranges 21–30 and 31–40. The sample included 115 people who are between the ages of 21 and 30 (19.7%) and 120 people who are between the ages of 31 and 40 (20.5%). The data shows a fairly even distribution across various educational levels. While primary, high school, college, and postgraduate/professional education each account for about 20–25% of the respondents, a significant fraction of the sample (20.9%) lacks any kind of formal education. According to the income distribution, the majority of people (20.2%) make less than Rs. 5000 a month. Similar numbers between 19% and 20.7% are found for income levels between Rs. 5001 and Rs. 20,000. Additionally, a sizable percentage of respondents (19.9%) make more than Rs. 20,001 each month. Therefore, the results seem to indicate that is heavily weighted towards men and has a sizable representation of those with lower incomes.

Table 1: Demographic variables

Gender			Age		
	Frequency	*Percentage*		*Frequency*	*Percentage*
Male	556	95.2	21-30	115	19.7
Female	28	4.8	31-40	120	20.5
Total	584	100	41-50	115	19.7
			51-60	114	19.5
			Above 61	120	20.5
			Total	584	100
Education			**Income per month**		
No formal Education	122	20.9	Below Rs.5000	118	20.2
Primary Education	118	20.2	Rs.5,001 to Rs.10,000	121	20.7
High School Education	118	20.2	Rs.10,001 - Rs.15,000	118	20.2
UG	120	20.5	Rs.15,001 - Rs.20,000	111	19
PG/Professional	106	18.2	Above Rs.20,001	116	19.9
Total	584	100	Total	584	100

Source: Computed

Table 2: Variables Used in the Study

Performance Expectancy	
PE1	I would find the digital platforms are useful to get agro finance
PE2	Using digital in agro finance enables me to accomplish tasks more quickly
PE3	Using digital in agro finance increases my productivity
PE4	If I use the digital platforms, I will increase my revenue
Effort Expectancy	
EE1	My interaction through digital platforms would be clear and understandable
EE2	It would be easy for me to become time savvy through digital platforms
EE3	Digital platforms are easy to use
EE4	Learning to operate and receive all service is easy to me
Attitude	
AT1	I enjoy using digital platforms for agro finance
AT2	Digital services are convenient and pleasant
AT3	Navigation of few options are difficult to me
Social Influence	
SI1	My surrounding people who influence me to use digital platforms
SI2	People who are important to me think that I should use digital platforms
SI3	In general, all stakeholders surrounded me also supported the use
Facilitating Condition	
FC1	I have net enabled android phones
FC2	I have the necessary knowledge to use
FC3	Using the digital platforms is entirely within my control
FC4	I can get the help from others when I have difficulties
Perceived Cost	
PC1	I believe the digital usage would be expensive
PC2	I would have financial barriers in order to use smart phone
PC3	Using digital platforms have increases my data costs
Trust	
TR1	Digital platforms are trustworthy
TR2	Agri based digital platforms will not disclose my personal identity
TR3	I think that information provided by digital based agro financial service is true.
Behavioural Intention	
BI1	I intend to use digital based services on regular basis in future
BI2	I will intend to get more information
BI3	I will recommend others to use digital based services
BI4	I will expect more agro based add on services

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Table 3: Factor Loadings

Factors	1	2	3	4	5	6	7	Communalities
PE1	0.67							0.551
PE2	0.67							0.493
PE3	0.73							0.565
PE4	0.87							0.777
EE2	0.61							0.611
EE3	0.66							0.771
EE4	0.80							0.741
AT1	0.76							0.663
AT2	0.75							0.617
AT3	0.90							0.595
SI1	0.89							0.846
SI3		0.438						0.829
PC1		0.523						0.509
PC2		0.758						0.415
PC3		0.701						0.585
BI1		0.532						0.526
FC2			0.697					0.466
FC3			0.305					0.638
FC4			0.766					0.527
TR1			0.501					0.641
FC1				0.75				0.537
TR2				0.489				0.465
TR3				0.526				0.567
BI2				0.642				0.535
EE1					0.74			0.508
SI2						0.647		0.47
BI4						0.500		0.619
BI3							0.661	0.459
Eigen value	6.811	3.247	1.709	1.275	1.234	1.15	1.097	
% of var. explained	24.325	11.598	6.103	4.554	4.408	4.109	3.918	
Cum. % explained	24.325	35.924	42.027	46.581	50.988	55.097	59.015	

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization
Rotation converged in 10 iterations

Source: Computed

The factors (labelled as 1 to 7) that each variable was loaded with are shown in the table. A greater association between a variable and the relevant factor is indicated by a larger factor loading. For instance, the variable PE4 has a significant loading of 0.87 on Factor 1, indicating a substantial correlation between PE4 and Factor 1. The squared correlations between the variables and their factors and the communalities represent the common variation that is explained by each variable, respectively. More shared variance between the variable and the specified causes is indicated by higher communalities. For instance, variable PE4 explains a sizable portion of the dataset's common variance, as evidenced by its high communality of 0.777.

The amount of variance explained by each factor is shown by its eigenvalue. The amount of variance that is explained by a given factor increases with increasing eigenvalue. With an eigenvalue of 6.811, Factor 1 in this instance has the highest value and hence accounts for the most variance in the data. The amount of variance overall that is explained by each factor is displayed in this column. The biggest proportion of variance is explained by factor 1, which accounts for 24.325 percent of the variance. This column displays the total percentage of variance explained when more factors are added. It aids in determining how much of the total variance may be attributed to a particular set of variables. As an illustration, the first three components (1 to 3) together account for 42.027% of the total variation. The majority of the data indicates that the factors discovered by Principal Component Analysis account for a substantial amount of the variance in the dataset, with Factor 1 being the most significant.

Table 4: Correlation Analysis

	PE1	PE2	PE3	PE4	EE2	EE3	EE4	AT1	AT2	AT3	SI1
PE1	1	0.585**	0.558**	0.586**	0.542**	0.434**	0.460**	0.453**	0.432**	0.495**	0.487**
PE2		1	0.538**	0.614**	0.398**	0.376**	0.446**	0.411**	0.421**	0.501**	0.508**
PE3			1	0.562**	0.485**	0.472**	0.488**	0.475**	0.476**	0.597**	0.606**
PE4				1	0.483**	0.517**	0.634**	0.596**	0.570**	0.821**	0.791**
EE2					1	0.768**	0.514**	0.480**	0.468**	0.447**	0.451**
EE3						1	0.559**	0.606**	0.482**	0.508**	0.497**
EE4							1	0.685**	0.670**	0.660**	0.632**
AT1								1	0.622**	0.612**	0.583**
AT2									1	0.606**	0.607**
AT3										1	0.958**
SI1											1

Source: Computed

Positive correlations between the matrix's variables can be seen. As a result, the two variables tend to increase together as one increases. Indicating a connection between these variables is the fact that, for instance, variables PE1, PE2, PE3, and PE4 have positive correlations with one another. The matrix has variables that shows moderate to strong positive relationships.The positive correlation between the variables EE2, EE3, and EE4 suggests that these variables are related to each other. Positive Correlation is also seen between AT1, AT2, and AT3, in a similar manner. The matrix's variables PE4 and SI1 show the largest positive correlation coefficient of 0.791**. This shows that these factors have a reasonably close association. PE1, PE2, PE3, and PE4 are examples of variables that show moderate to high positive correlations within the same concept or domain. This suggests potential multicollinearity, implying that multiple variables may be assessing the same qualities or ideas.

Table 5: Iteration History

	Iteration	Change in Cluster Centres
	1	2
1	4.193	5.443
2	0.338	0.715
3	0.227	0.387
4	0.134	0.209
5	0.09	0.136
6	0.055	0.083
7	0.01	0.016
8	0	0

Source: Computed

The change in cluster centres reaches zero in the eighth iteration, which is consistent with the iteration history, which shows that the algorithm converged after eight iterations. The modifications to the cluster centres increasingly diminish as the iterations go on. Initially, both cluster centres (4.193 and 5.443) underwent a major alteration in the initial iteration. But as the repetitions go on, the modifications get smaller and eventually disappear. In the initial few iterations, the magnitude of the changes in the cluster centers rapidly reduces, demonstrating that the algorithm swiftly modifies the cluster centers to reduce the discrepancies between the data points and their assigned cluster centers. The size of the modifications decreases with each iteration, indicating a slower convergence to the ideal cluster centers.

Table 6: Final Cluster Segments

	Cluster	
	1	2
Gender	1.05	1.04
Age	3	3
Education	3	3
Income	3	3
Digital Literacy (DL)	1.68	2.82
Infrastructure and connectivity (IC)	1.91	3.23
Language and Localization (LL)	2.1	3.58
Trust and security concerns (TS)	1.77	3.19
Affordability (AF)	1.97	3.5
Technical support and Training (TT)	1.97	3.73

Source: Computed

The final cluster segments suggest that the variables associated with DL, IC, LL, TS, AF, and TT were significant in differentiating between the two clusters. When compared to Cluster 1, Cluster 2 typically has these characteristics with higher values.

Table 7: ANOVA

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Gender	0.029	1	0.046	582	0.644	0.422
Age	22.154	1	1.979	582	11.194	0.001
Education	0.034	1	1.973	582	0.017	0.895
Income	1.95	1	2.003	582	0.973	0.324
DL	180.108	1	0.889	582	202.651	0
IC	243.788	1	0.876	582	278.42	0
LL	306.296	1	1.05	582	291.841	0
TS	282.288	1	1.001	582	282.003	0
AF	326.821	1	0.935	582	349.549	0
TT	427.705	1	1.015	582	421.537	0

Source: Computed

The related p-value (Sig.) is 0.422 and the F-value is 0.644. We lack sufficient data to draw the conclusion that there is a significant difference in the mean values of the variable "Gender" between the clusters because the p-value is higher than the normal significance level of 0.05. The corresponding p-value is 0.001 and the F-value is 11.194. Since the p-value is less than 0.05, there is strong evidence that the mean values of the variable "Age" differ significantly between the clusters. There is no statistically significant difference in the mean values of the variables "Education" and "Income," according to their p-values of greater than 0.05. The p-values for DL, IC, LL, TS, AF, and TT are all zero, which is less than 0.05. This provides compelling evidence that the mean values of these variables differ significantly between the clusters. In conclusion, we may deduce from the ANOVA findings that the mean values of the variables "Age," "DL," "IC," "LL," "TS," "AF," and "TT" differ significantly between the clusters.

Qualitative Analysis

To address the grievances of the farmers towards adopting digital-based financial services, the following six questions were asked of selected 15 stakeholders, such as government agencies, financial institutions, network operators, technology providers, and agribusiness companies. The open-ended responses of these stakeholders were consolidated and analyzed by way of qualitative technique. Sentiment analysis was selected to identify the theme of the responses, keywords, and core sentence from the 15 different responses.

Table 8: The Open-ended Questions Asked with Stakeholders

Sl. No.	Questions
1	How do you address the difficulty of the farmer in using digital-based devices to access his financial requirements?
2	What types of steps were taken to address the infrastructure and internet connectivity issues?
3	How are you addressing the language barriers of the farmers during the time they use the devices?
4	What steps have you taken to ensure trust and security are strong enough to use digital-based financial services?
5	How can a farmer improve his or her financial ability to use digital-based financial services?
6	Suggest a few ways to improve the training and technical support for easy access to digital-based financial services.

Table 9: Digital Literacy

Detected Themes	Magnitude	Sentiment Score
Educational materials	0.99	0.747
Dedicated helplines	0.99	0.738
Enhancement assistance	0.99	0.736
Online tutorials	0.83	0.635
Community organizations	0.73	0.618
Digital training centre	0.66	0.563
Areas trainings	0.81	0.414

Source: Computed

To overcome the digital literacy challenge, the stakeholders were provided with sufficient education materials, training, and dedicated helplines were already given to the farmers to easily access digital-based financial services. Mostly, the result of the sentimental analysis also shows that this challenge was properly and positively addressed from the stakeholders' perspective.

Develop the infrastructure, the solutions, and enhance are major themes that have been detected through sentiment analysis. From the stakeholders' responses, developing a comprehensive rural broadband plan, funding, financial incentives, partnerships, renewable energy solutions, and improving the infrastructure are identified as major keywords. The majority replied that sufficient infrastructure was already available. But effective utilization of the available resources is expected from the farmers.

Table 10: Infrastructure

Detected Themes	Magnitude	Sentiment Score
Energy Solutions	1.00	0.985
Enhance	0.71	0.557

Source: Computed

Table 11: Language Barriers

Detected Themes	Magnitude	Sentiment Score
Friendly Language Tools	0.99	0.995
Friendly devices	0.93	0.716
Proficiency training	1.00	0.671

Source: Computed

Implement multilingual interfaces, provide language-specific customer support, Translation facilities should be enhanced, offer language proficiency training, collaborate with language service providers, develop user-friendly language tools, conduct multilingual awareness campaigns, and Training to use the helpline Facilities were major keywords obtained from stakeholders to overcome the language barriers while using the digital-based financial services. One of the stakeholders particularly mentioned that "devices are available in local languages, and voice assistance also available on smart phones and it can easily resolve this issue".

The majority of the stakeholders expressed their satisfaction with the available security measures to protect the users, but only a few of them are expecting that the essential steps needs to be taken to protect their credentials. This has impacted the overall sentiment score in negative, i.e., -0.51. The existing regulations and policies, security options, firewalls, and self-protection are the responses which have been obtained from the stakeholders.

Table 12: Trust and security concerns

Detected Themes	Magnitude	Sentiment Score
Self-protection	1.00	0.749
Inbuilt Security Options	1.00	0.733
Close Monitoring	0.97	0.731
Protect Firewalls of Apps	0.81	0.640
Secure the Operations	1.00	0.628
Effective Supervision	0.73	0.563
Solve this Issues	0.72	0.510
Awareness Programmes	0.95	0.507

Source: Computed

Table 13: Financial Affordability

Detected Themes	Magnitude	Sentiment Score
Payment Plans	0.97	0.736
Profit Entities	0.98	0.727
Basic Plans	0.61	0.558
Free Internet Facilities	0.68	0.557

Source: Computed

The stakeholder expressed that majority of the farmers had switched to smart devices; therefore, getting the device was not a big issue for them. The sentiment score was positive, i.e., +0.61. Few stakeholders said that free Wi-Fi facilities were enabled in public places that could be used to reduce financial issues, and a few of them suggested that people could share their net using hotspots to reduce financial problems. Other than government agencies, they expressed the required financial support in getting devices, equated monthly instalment support, low-rate plans, etc.

The sentiment score for this analysis has been found positive, i.e., +1.00. The majority of the stakeholders expressed that sufficient training and technical support were extended to overcome various issues and that the farmers easily adopted and used the digital-based financial services. Close monitoring, training resources, and organising various awareness programmes have been detected in this analysis as major themes. From the stakeholder perspective, the technical support was already established and executed properly.

Table 14: Technical support and Training

Detected Themes	Magnitude	Sentiment Score
Close Monitoring	0.97	0.731
Training Resources	0.81	0.647
Awareness Programs	0.76	0.626

Source: Computed

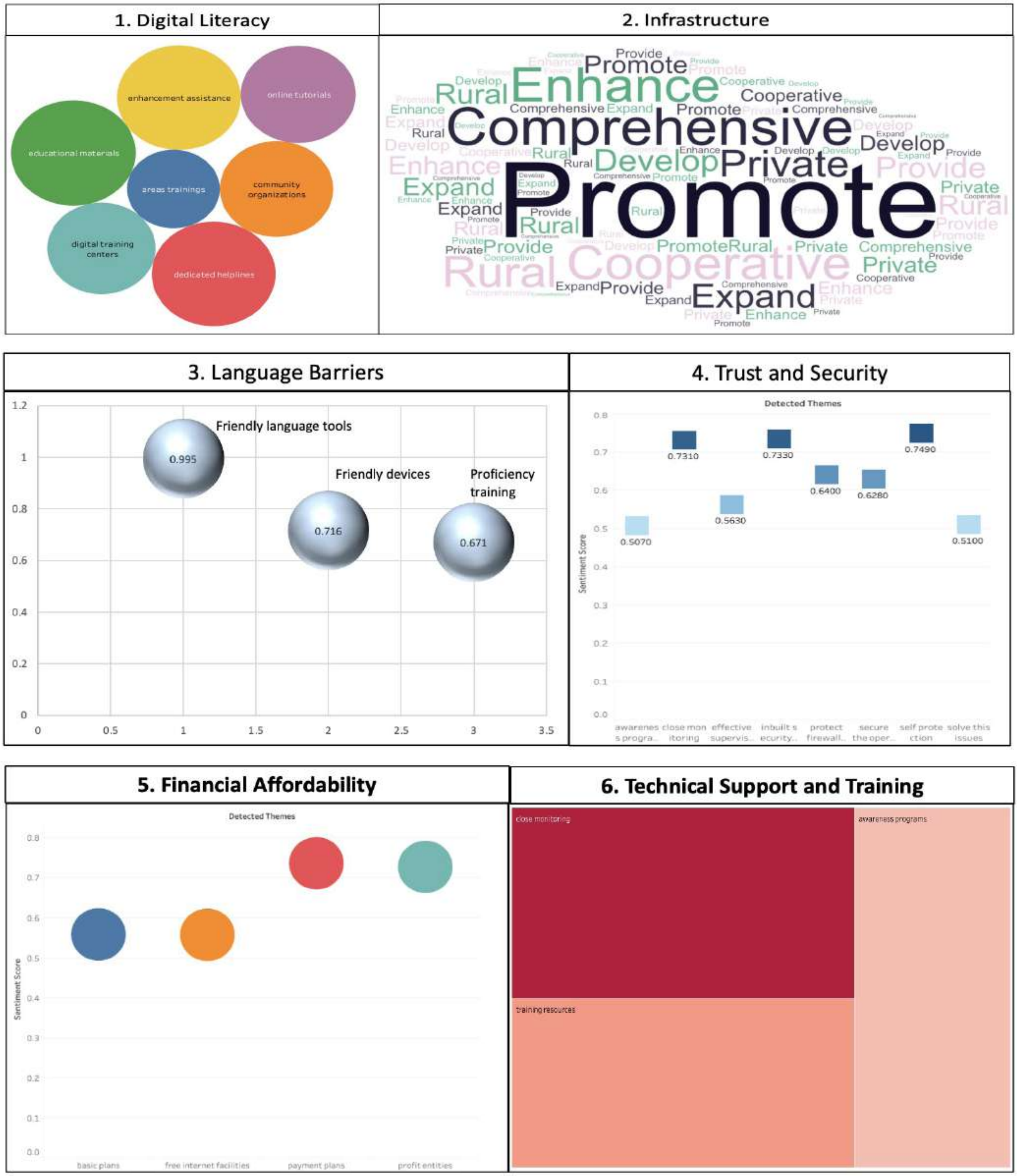

Fig. 1: Sentiment analysis

Source: Developed from analysis

Summary of Sentiment Analysis

The stakeholders effectively handled the digital literacy challenges of the farmers through sufficient education materials and dedicated training. Also sufficient infrastructure facilities were established by the stakeholder's. Still, the farmers are facing a lot of challenges specifically on accessing the available resources. The language barriers of the farmers were addressed through different devices with multi languages. But, they require more training on this to use comfortably. Trust and security issues were addressed through built in firewalls in the device itself. The password loss and money loss threats highly discourages the farmers in using digital-based financial services. To improve financial affordability, free Wi-Fi facilities should be enhanced, specifically in rural areas where people are assembling for the societal purposes. On the outset, excellent technical and training services were rendered by the stakeholders to address the challenges faced by the farmers. Still, there are rooms for an improvement in terms of accessing this facility by the farmers are financial literacy, technical support, adequate accessible infrastructure facilities, security protections and financial affordability.

FINDINGS, SUGGESTIONS AND CONCLUSIONS

The sample contains a sizable representation of people between the ages of 21 and 40 and most of them are male[16], [18]. The sample is diverse in terms of educational attainment, yet a sizeable chunk lacks a formal education. With a sizable component of the sample falling into the lower income groups, the sample represents a spectrum of income levels[4], [51].

To find underlying factors in the dataset, PCA was used. With an eigenvalue of 6.811, factor 1 consists of Performance Expectancy, Effort Expectancy except interaction through digital platform are clear and understandable, Attitude and stakeholders support under Social Influence have been explained the most variance (24.325%). Together, the first three elements (1-3) consists the item given in factor 1 and Facilitating Condition, Perceived Cost falls under the factor 2 and 3 have been explained 42.027% of the overall variation. The PCA identified numerous variables, with Factor 1 being the most important, that collectively account for a sizeable amount of the variance in the dataset[1], [6], [10], [15], [62].

The correlation matrix shows a strong correlation between different variables falls under Performance Expectancy, Effort Expectancy and Attitude, implying links between them. Within the same concept or domain, certain variables displayed varying degrees of moderate to strong positive correlations among the variables of effort expectancy, potentially indicating multicollinearity[14], [16], [18], [39], [51]. It is advised to conduct additional research to determine the degree of overlap across variables and, if necessary, to improve the measuring tools in order to address potential multicollinearity.

The cluster analysis reached a solid solution after eight iterations. For variables like gender, age, DL, IC, LL, TS, AF, and TT, the ANOVA analysis indicates substantial variations in mean values between clusters. The statistically significant variations between clusters were not present for Education or Income[10], [38], [42], [50], [59].

To address the issues with literacy in the digital format various stakeholders gave educational resources, helpline support and training to them. Stakeholders positive reactions revealed by the sentiment research shows that the current measures improves digital literacy and should be maintained well and improved further[7], [59]

As effective strategies, farmers cited intensive observation, training tools, and awareness campaigns. Technical assistance, training, and awareness campaigns must continue, and they must also undergo regular evaluations to determine their success and indicate areas for development[6], [16].

Farmers are receiving guidance as well as encouragement from stakeholders as part of their support to solve the issues with digital literacy. Nevertheless, these activities need to be continually improved upon and assessed. The importance of reducing language barriers has been acknowledged by stakeholders, who have proposed a number of actions to improve accessibility and support for local languages. Even though most stakeholders recognize the value of current security measures, credential protection worries must be addressed if we wish to continue to increase stakeholders' trust and confidence. Stakeholders recognize the significance of financial accessibility and recommend strategies to lower cost barriers, such as providing free Wi-Fi and support for the acquisition of devices. A positive acceptance and utilization of digitally based financial services has been achieved and thanks to stakeholders' satisfactory technical assistance and training.

The application of ANOVA, PCA, correlation analysis, cluster analysis found the existence of challenges to digital literacy, language barriers, trust and security, financial accessibility, and technical support/training. Other aspects discovered through the study includes gender representation, age distribution, educational levels, income distribution, and technical support/training. While the recommendations give potential solutions to the problems found, the reported findings offer insightful information about the community under study. The stated challenges must be overcome in order to increase the targeted population's accessibility, usability, and efficacy of digital-based financial services. This requires ongoing efforts, evaluations, and collaborations across stakeholders.

REFERENCES

1. U. Kambali and N. Panakaje, "A Review on Access to Agriculture Finance by Farmers and its Impact on their Income," *Int. J. Case Stud. Business, IT, Educ.*, vol. 6, no. 1, pp. 302–327, 2022, doi: 10.47992/ijcsbe.2581.6942.0166.
2. A. Imran and R. Md Yusoff, "International Journal of Economics and Financial Issues Empirical Validation of Qualitative Data: A Mixed Method Approach," *Int. J. Econ. Financ. Issues,* vol. 5, no. 5, pp. 10–11, 2015, [Online]. Available: http:www.econjournals.com
3. B.D. Pal, S. Kapoor, S. Saroj, M.L. Jat, Y. Kumar, and K. H. Anantha, "Adoption of climate-smart agriculture technology in drought-prone area of India – implications on farmers' livelihoods," *J. Agribus. Dev. Emerg. Econ.,* vol. 12, no. 5, pp. 824–848, 2022, doi: 10.1108/JADEE-01-2021-0033.
4. U. Kambali and Niyaz, "An Overview of Agriculture Finance in India," *Int. J. Case Stud. Business, IT, Educ.*, no. November, pp. 197–210, 2021, doi: 10.47992/ijcsbe.2581.6942.0129.
5. S. Sivakumar *et al.*, "Evaluating the Expediency of Smartphone Applications for Indian Farmers and Other Stakeholders," *AgriEngineering,* vol. 4, no. 3, pp. 656–673, 2022, doi: 10.3390/agriengineering4030042.
6. R. S. Gautam, V. M. Bhimavarapu, and D. S. Rastogi, "Impact of Digitalization on the Farmers in India: Evidence using Panel Data Analysis," *Int. J. Manag. Humanit.*, vol. 6, no. 1, pp. 5–12, 2021, doi: 10.35940/ijmh.l1372.0851221.
7. M. Asif, M. N. Khan, S. Tiwari, S. K. Wani, and F. Alam, "The Impact of Fintech and Digital Financial Services on Financial Inclusion in India," *J. Risk Financ. Manag.*, vol. 16, no. 2, 2023, doi: 10.3390/jrfm16020122.
8. K. Vishwavidyalaya, I. Pragya Chandrakar, A. Vashishth, A. Gauraha, S. Kumar Joshi, and P. Chandrakar, "Present status and future prospects of digital transformation of Indian agriculture sector: A review," *~ 686 ~ Pharma Innov. J.*, vol. 10, no. 9, pp. 686–694, 2021, [Online]. Available: http://www.thepharmajournal.com
9. D.A. Abowitz and T.M. Toole, "Mixed Method Research: Fundamental Issues of Design, Validity, and Reliability in Construction Research," *J. Constr. Eng. Manag.*, vol. 136, no. 1, pp. 108–116, 2010, doi: 10.1061/(asce)co.1943-7862.0000026.
10. B.B. Sinha and R. Dhanalakshmi, "Recent advancements and challenges of Internet of Things in smart agriculture: A survey," *Futur. Gener. Comput. Syst.*, vol. 126, pp. 169–184, 2022, doi: 10.1016/j.future.2021.08.006.
11. C.J. D.Dewbre *et al., The future of food and agriculture: trends and challenges*, vol. 4, no. 4. 2014.
12. Q. Omar, C.S. Yap, P.L. Ho, and W. Keling, "Predictors of behavioral intention to adopt e-AgriFinance app among the farmers in Sarawak, Malaysia," *Br. Food J.*, vol. 124, no. 1, pp. 239–254, 2022, doi: 10.1108/BFJ-04-2021-0449.
13. U. Kambali and Niyaz, "An Overview of Agriculture Finance in India," *Int. J. Case Stud. Business, IT, Educ.*, vol. 5, no. 2, pp. 197–210, 2021, doi: 10.47992/ijcsbe.2581.6942.0129.
14. T. Havemann, C. Negra, and F. Werneck, "Blended finance for agriculture: exploring the constraints and possibilities of combining financial instruments for sustainable transitions," *Agric. Human Values,* vol. 37, no. 4, pp. 1281–1292, 2020, doi: 10.1007/s10460-020-10131-8.
15. A. Finance and M. Process, "The Role of Digital Payments," no. October, 2017.
16. K. Nayal, R. Raut, P. Priyadarshinee, B.E. Narkhede, Y. Kazancoglu, and V. Narwane, "Exploring the role of artificial intelligence in managing agricultural supply chain risk to counter the impacts of the COVID-19 pandemic," *Int. J. Logist. Manag.*, vol. 33, no. 3, pp. 744–772, 2022, doi: 10.1108/IJLM-12-2020-0493.

17. G20 Global Partnership for Financial Inclusion (GPFI)., "Synthesis report: New trends in agricultural finance.," no. October, 2015.
18. G. Yu and H. Xiang, "Rural E-commerce development and farmers' digital credit behavior: Evidence from China family panel studies," *PLoS One*, vol. 16, no. 10 October, pp. 1–21, 2021, doi: 10.1371/journal.pone.0258162.
19. C.H. NGUYEN, "The Impact of Foreign Direct Investment, Aid and Exports on Economic Growth in Vietnam," *J. Asian Financ. Econ. Bus.*, vol. 7, no. 10, pp. 581–590, 2020, doi: 10.13106/jafeb.2020.vol7.no10.581.
20. I. Gocer, T. Akin, and S. Alatas, "The effects of saving-investment gap on economic growth in developing countries: A clustering and panel data analysis," *Theor. Appl. Econ.*, vol. 2, no. 607, pp. 157–172, 2016.
21. S.R. Sutradhar, "The impact of remittances on economic growth in Bangladesh, India, Pakistan and Sri Lanka," *Int. J. Econ. Policy Stud.*, vol. 14, no. 1, pp. 275–295, Feb. 2020, doi: 10.1007/s42495-020-00034-1.
22. N. Tabri and C.M. Elliott, *Principles and Practice of Structural Equation Modeling*, vol. 1, no. 1. 2012. doi: 10.15353/cgjsc.v1i1.3787.
23. P. Misztal, A. Samantaraya, and S.K. Patra, "The Relationship between Savings and Economic Growth in Countries with Different Level of Economic Development," Econ. Res. Int., vol. 2014, pp. 1–8, Jul. 2014, doi: 10.1155/2014/454675.
24. E.T. Megbowon, S. Ngarava, and A. Mushunje, "Foreign Direct Investment Inflow, Capital Formation and Employment in South Africa: a Time Series Analysis," *Int. J. Econ. Financ. Stud.*, vol. 8, no. 2, pp. 1309–8055, 2016.
25. Agency report, "Sri Lanka Economic Crisis: Five Other Countries Facing A Similar Catastrophe," *Outlook Web Desk*, p. International, 2022.
26. M.K.M., P.S. Aithal, and S.K.R.S., "Impact of Sustainable Finance on MSMEs and other Companies to Promote Green Growth and Sustainable Development," *Int. J. Appl. Eng. Manag. Lett.*, 2022, doi: 10.47992/ijaeml.2581.7000.0120.
27. C. McIntosh and C. S. Mansini, *The {Use} of {Financial} {Technology} in the {Agriculture} {Sector}*, no. 872. 2018.
28. P. K. Chugan, Y. Mungra, and K. Mehta, "Challenges and policy implications for marketing green bonds," *Consum. Bahaviour Contemp. Mark. Strateg.*, 2016.
29. Saksham Misra, "Regulatory Issues in Green Sovereign Bonds and How To Handle Them," *Moneylife*, Mumbai, Feb. 16, 2022.
30. P. Garg and M. Panchal, "Study on Introduction of Cashless Economy in India 2016: Benefits & Challenge's," *IOSR J. Bus. Manag.*, vol. 19, no. 04, pp. 116–120, 2017, doi: 10.9790/487x-190402116120.
31. M. Javaid, A. Haleem, R.P. Singh, and R. Suman, "Enhancing smart farming through the applications of Agriculture 4.0 technologies," *Int. J. Intell. Networks*, vol. 3, no. August, pp. 150–164, 2022, doi: 10.1016/j.ijin.2022.09.004.
32. OECD, "Adoption of Technologies for Sustainable Farming Systems," *Wageningen Work. Proc.*, p. 149, 2001.
33. T. Hammer and P. Siegfried, "Financial Management. Green Bonds-Success or Failure?," *Expert J. Financ.*, vol. 9, no. December, pp. 1–8, 2021, [Online]. Available: http://finance.expertjournals.com
34. B. Y. Guillemette, A. De Mauro, and D. Turner, "PROJECTIONS IN LONG-TERM SCENARIOS Table of contents," 2018.
35. T. Manickam, G. Vinayagamoorthi, S. Gopalakrishnan, M. Sudha, and S. P. Mathiraj, "Customer Inclination on Mobile Wallets With Reference to Google-Pay and PayTM in Bengaluru City," *Int. J. E-bus. Res.*, vol. 18, no. 1, pp. 1–16, 2022, doi: 10.4018/IJEBR.293295.
36. N.M. Kumar and P.K. Mallick, "Blockchain technology for security issues and challenges in IoT," *Procedia Comput. Sci.*, vol. 132, pp. 1815–1823, 2018, doi: 10.1016/j.procs.2018.05.140.
37. L. Ming Ming, M.Y. Leong, and J.H. Kwan, "Technology readiness and UTAUT2 in e-wallet adoption in a developing country," *F1000Research*, vol. 10, pp. 1–13, 2021, doi: 10.12688/f1000research.72853.1.
38. V. Braun, "Working Paper 159," no. 159, 2017.
39. Q. Omar, C.S. Yap, P.L. Ho, and W. Keling, "Can technology readiness predict farmers' adoption intention of the e-AgriFinance app?," *J. Agribus. Dev. Emerg. Econ.*, vol. 13, no. 1, pp. 156–172, 2023, doi: 10.1108/JADEE-04-2021-0090.
40. M. Blakeney, *Agricultural Innovation and Sustainable Development*, vol. 14, no. 5. 2022. doi: 10.3390/su14052698.
41. S.J. Kaur, L. Ali, M.K. Hassan, and M. Al-Emran, "Adoption of digital banking channels in an emerging economy: exploring the role of in-branch efforts," *J. Financ. Serv. Mark.*, vol. 26, no. 2, pp. 107–121, 2021, doi: 10.1057/s41264-020-00082-w.
42. S. Yadav, D. Garg, and S. Luthra, "Development of IoT based data-driven agriculture supply chain performance measurement framework," *J. Enterp. Inf. Manag.*, vol. 34, no. 1, pp. 292–327, 2020, doi: 10.1108/JEIM-11-2019-0369.
43. S. V Rasheed, "Agricultural extension in India: current status and ways forward," *Backgr. Pap. Prep. roundtable Consult. Agric. extension, Beijing, March*, pp. 15–17, 2012.
44. O.B. Adekoya, J.A. Oliyide, M.G. Asl, and S. Jalalifar, "Financing the green projects: Market efficiency and volatility persistence of green versus conventional bonds, and the comparative effects of health and

financial crises," *Int. Rev. Financ. Anal.*, vol. 78, 2021, doi: 10.1016/j.irfa.2021.101954.

45. A. Malorgio, E. Teti, and M. Dallocchio, "Green bonds: The evolution of a sustainable financial instrument on the cutting edge," *International Review of Environmental and Resource Economics*, vol. 15, no. 1–2. 2021. doi: 10.1561/101.00000134.
46. O.D. Zerbib, "The effect of pro-environmental preferences on bond prices: Evidence from green bonds," *J. Bank. Financ.*, vol. 98, 2019, doi: 10.1016/j.jbankfin.2018.10.012.
47. B. Krishnamoorthy and M. Damle, "Models of innovations: An overview of perspectives and expositions," *Int. J. Value Chain Manag.*, vol. 8, no. 4, pp. 342–362, 2017, doi: 10.1504/IJVCM.2017.089374.
48. World Trade Organization, "Economic resilience and trade," 2021. [Online]. Available: https://www.wto.org/english/res_e/booksp_e/wtr21_e/00_wtr21_e.pdf
49. A. Monk and R. Perkins, "What explains the emergence and diffusion of green bonds?," *Energy Policy*, vol. 145, 2020, doi: 10.1016/j.enpol.2020.111641.
50. O. Elijah, T.A. Rahman, I. Orikumhi, C. Y. Leow, and M. N. Hindia, "An Overview of Internet of Things (IoT) and Data Analytics in Agriculture: Benefits and Challenges," *IEEE Internet Things J.*, vol. 5, no. 5, pp. 3758–3773, 2018, doi: 10.1109/JIOT.2018.2844296.
51. Y. Liu, C. Liu, and M. Zhou, "Does digital inclusive finance promote agricultural production for rural households in China? Research based on the Chinese family database (CFD)," *China Agric. Econ. Rev.*, vol. 13, no. 2, pp. 475–494, 2021, doi: 10.1108/CAER-06-2020-0141.
52. D. Landmann, C.J. Lagerkvist, and V. Otter, "Determinants of Small-Scale Farmers' Intention to Use Smartphones for Generating Agricultural Knowledge in Developing Countries: Evidence from Rural India," *Eur. J. Dev. Res.*, vol. 33, no. 6, pp. 1435–1454, 2021, doi: 10.1057/s41287-020-00284-x.
53. B. Manohar and C.H.V. Kumar, "GREEN BANKING: 'Bye-Bye Cheques, Hello Electronic Payments,'" *Asia Pacific J. Manag. Entrep. Res.*, vol. 1, no. 3, 2012.
54. A. Dash, "IRFC – the beginning of a green era," *Emerald Emerg. Mark. Case Stud.*, vol. 11, no. 1, 2021, doi: 10.1108/EEMCS-07-2020-0253.
55. N. Arora, "India's New Stance on Global Warming," *Focus J. Int. Bus.*, vol. 3, no. 1, 2016, doi: 10.17492/focus.v3i1.6814.
56. Abhinav Sharma, "UPI payments — Google Pay vs PhonePe," *Bootcamp*, 21AD. https://bootcamp.uxdesign.cc/upi-payments-google-pay-vs-phonepe-bd2ed14f3561
57. C. Thathoo, "PhonePe, Google Pay Continue Their Dominance, Process 83% Of UPI Transaction Value," Inc42, p. 1, 2022. [Online]. Available: https://inc42.com/buzz/phonepe-google-pay-continue-their-dominance-process-83-of-upi-transaction-value-in-june/
58. D. Prajapati, D. Paul, S. Malik, and D.K. Mishra, "Understanding the preference of individual retail investors on green bond in India: An empirical study," *Invest. Manag. Financ. Innov.*, vol. 18, no. 1, 2021, doi: 10.21511/imfi.18(1).2021.15.
59. H.H. Ahmad and A. Azhari, "The performance and corporate risk-taking of firms: evidence from Malaysian agricultural firms," *J. Agribus. Dev. Emerg. Econ.*, vol. 12, no. 5, pp. 791–808, 2022, doi: 10.1108/JADEE-11-2020-0267.
60. D. Lesley, L. Nicholas, M. Meritxell, M. Hamilton, and N. Mandana, Handbook: *Digital Financial Services for Agriculture*. 2018. [Online]. Available: https://www.ifc.org/wps/wcm/connect/region__ext_content/ifc_external_corporate_site/sub-saharan+africa/resources/dfs-agriculture
61. S. Banerjee and M. Sinha, "Banerjee & Sinha | Promoting Financial Inclusion Central Bank Digital Currency," vol. 17, no. 1, p. 176, 2023.
62. J.H. Al-Ammary and M.E. Ghanem, "Information and communication technology in agriculture: awareness, readiness and adoption in the Kingdom of Bahrain," *Arab Gulf J. Sci. Res.*, 2023, doi: 10.1108/AGJSR-07-2022-0113.
63. A. Beriya, "Digital Agriculture: Challenges and Possibilities in India," Cent. Sustain. Dev., no. August, pp. 2–12, 2020, [Online]. Available: https://www.econstor.eu/handle/10419/249824%0Ahttps://www.econstor.eu/bitstream/10419/249824/1/ICT-India-Working-Paper-35.pdf
64. T. Qin, L. Wang, Y. Zhou, L. Guo, G. Jiang, and L. Zhang, "Digital Technology-and-Services-Driven Sustainable Transformation of Agriculture: Cases of China and the EU," *Agric.*, vol. 12, no. 2, pp. 1–16, 2022, doi: 10.3390/agriculture12020297.
65. P. Nivedita, "AGRICULTURAL FINANCING: AN OVERVIEW," vol. 05, no. 02, pp. 131–136, 2019.

Product Life Cycle Dynamics and Market Segments Restructuring

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ABSTRACT

This study investigates the strategic consequences of Product Life Cycle (PLC) progression, demonstrating how the sequential emergence of superior product forms, driven by exogenous technological improvements, fundamentally restructures competitive markets. The core mechanism involves the creation of new market segments, initiated when the comparative advantage of a new product form precipitates a demand switch from incumbent offerings. Grounded in Everett Rogers's Diffusion of Innovations (DOI) 5-Factor Model, the research empirically analyzed the transition across CRT, Plasma, and LCD television product forms. Data collected from corporate executives and customers, quantified using a seven-point scale, was subjected to cluster analysis to measure the differentiation between successive product forms. The findings reveal that during this inter-segment demand transition, competitive brands face three critical strategic outcomes: market share retention, expansion, or contraction. The paper concludes that a firm's capacity to manage this transition is essential, as the resulting restructuring profoundly affects the overall market structure and competitive equilibrium at the product class level.

INTRODUCTION

The essence of PLC theory is that the market environment changes along the PLC curve and these environmental changes continuously pose new challenges as well as opportunities to organizations. This drives them to redraft their strategies in order to make their value proposition intact and continuously appealing to their target market segments. Along the progress of PLC curve, many market characteristics change and one such change is emergence of new market segments due to successive introduction of new product forms. As observed by Staudt *et al.* 1976, the progression in PLC curve is characterized by evolution of advanced product forms in sequential manner as a result of exogenous technological improvements (Kimberly, J. R. , 1979).

The new product forms emerge with comparative advantages over its predecessors in terms of better product features or advanced technology. Due to these comparative advantages of a new product

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forms over the existing product ones, there will be a gradual shift in consumer preferences towards an advanced product form, leading to a demand switch from the earlier product form to the later product form. Due to this, the industry demand gets fragmented into many segments created due to product differentiation offered by different product forms ***(Samuelson, 1976)***. This phenomenon will lead to gradual swelling of the new market segment and dwindle the market size of the earlier product form. This happens despite market inertia and resistance from the earlier product form. After some period of parallel existence of both product forms with mutual resistance, the later product form establishes its lead over the predecessor by making it exit the market eventually (Hofer, 1975).

The creation of new segments due to product differentiation has been observed by many research papers. *Smith (1956)*, in his classic article, maintains that market segmentations and product differentiations, as alternates rather than complimenting each other.

The successive emergence of new market segments provides new opportunities to marketers to reset their marketing objectives, and accelerate their growth rate as well as to improve their market shares. At the same time, this can as well pose threats, with a potential to diminish their market shares.

The key strategic concern for companies, during the demand transition between the market segments created by successive product forms, is whether their brand will be able to carry forward its market shares to the emerging segments. The paper reveals that the market shares of competing brands may get restructured during the demand transit, and thereby affect the market structure and equilibrium. Hence, the paper concludes that, during the emergence of new product forms and consequent demand shift, the brands can experience one of three consequences; first, manages to carry forward the market share for the new segment, second, uses the emerging market segment as an opportunity to increase the market share and three, inability to defend the market share. All the three consequences will have its impact on the overall market structure at the product class level.

This paper is based on Everett Rogers's 5 factor model (Rogers, 1962), stated in his diffusion of innovations theory. The interviews of respondents were aimed at identifying the extent of innovation in terms of newness of each product forms of television industry like CRT, Plasma and LCD. The extent of newness of each product form was later correlated with the growth rate of the corresponding segment created by each product form. The five factors considered for assessing the newness of the product forms are Relative Advantage, Compatibility, Complexity or Simplicity, Trialability and Observability. These factors have been measured on a seven point scale.

The pattern in which a new product gets dissipated into the market over a period of time is the essence of PLC theory. According to the PLC theory, products emerge and evolve through various phases from birth to maturity and eventually from decline to extinction. During the introduction phase, a pioneering firm will introduce a new product to the market and does the promotion. When the demand starts growing few other firms join the bandwagon and offer different versions of products. The market starts growing rapidly until the sales reaches saturation and starts diminishing thereafter giving way to a much superior new product. As the demand for the product gradually changes during the different phases of PLC, all the corresponding market characteristics also keep changing necessitating the companies to respond strategically. The key environmental parameters whose changes can be of immense strategic importance are technology, market structure, product forms, competition intensity, product mix, budgets, pricing considerations, associated services, etc. Gradually, though the market continues to grow, the number of entries reduces and number of exits overtakes the entries. The number of players and their respective market shares keeps fluctuating until a shakeout phase in PLC curve, and subsequently the situation becomes more stable thereby reaching a phase of competitive equilibrium.

The paper reveals that such competitive equilibrium attained in an industry can get disturbed due to the emergence of new product forms with subsequent changes in the segment-wise configuration of market shares of competing brands. The potential ripples, created in the industry by the introduction of new product forms, can sway the fortunes of the brands. Whenever a new product form is introduced with a significant comparative advantage over the existing product forms, the tendency of the market would be to switch to the new product form from the existing one. This creates an internal competition between the successive product forms with the latest trying to grab the market share from the former. In this competition, the demand flow will take place from the segments created by existing product form to the new form. This demand flow between existing segments to emerging segments can pose challenge and opportunities to brands to retain, improve or lose the prevailing market share. As the later segment expanding and the former segment shrinking, the segment-wise break-up of the total market gets altered leading to changes in the market structure. The research indicates three categories of impacts on the brands. First, the brands that will manage to carry forward their market share from the existing segment to the new segment. Second, the brands that utilize this as an opportunity to increase their market share in the new segment, and third, the brands that will fail to defend their market share in the emerging new segment created by a new product form. Any of these three developments will eventually have an impact on the market structure at the product class level.

This paper provides strategic insights on how the emergence of new product firms along the PLC curve can re-organize the market segments and competitive equilibrium of the industry. The study has been carried out based on the television market in India.

MARKET SEGMENTS AND PLC

Marketing texts and research studies have identified several ways of segmenting the market, but the basic premise remains that each segment is different by characteristics that demands customized marketing mix offerings from the suppliers. The research has indicated that, in consumer electronics industry, product forms have been considered as the primary criteria for segmenting the market, and each such segments are further sub segmented based on other segmentation variables.

In an industry, various product forms emerge along the progress of PLC curve, giving raise to subsequent market segments. Take, for example, the global televisions market has seen many product forms till date. It started with black & white televisions and followed by successive product forms like CRT (Cathode ray tube) color TVs, CRT flat screen TVs, LCD (Liquid crystal display) TVs, Plasma TVs, Projection TVs, LED (Light emitting diode) TVs. Further, with an introduction of each of the successive product forms, a new market segment was created. The new segment thus created made the suppliers offer customized product variants. Though all these forms come under the category of the same product class, the research has revealed that the companies are treating these each segment as different market itself. Their business goals and marketing programs would vary with each segment.

Another important factor to be noticed is that there is a time overlap between the introduction of the new form and disappearance of the earlier form. Both product forms coexist in the market during the overlapping period. In practice, more than two successive product forms coexist and compete with each other but the later form showing the highest growth rate than the predecessors.

The rate of demand transition between the two product forms depends on many factors like comparative advantages of the new product form, intensity of resistance shown by outgoing form, perceived risk in switching, effective communications etc. Another crucial factor that affects the demand flow is the market inertia, due to which the customers take a considerable time to change their perspectives and adapt to new changes.

A PLC curve for a product class, in this case television, can be viewed as a summation of the life cycle curves of all the integrated market segments created by different product forms like CRT, Plasma, LCD and LED TVs.

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In consumer electronic industry, it is obvious that there was a demand flow from black and white TVs to color TVs and conventional CRT TVs to flat screen CRT TVs. Now, the market for LCD is swiftly replacing the still dominant CRT technology, and it is likely to surpass the CRT technology in terms of revenue in this fiscal year. Though the LCD is now taking momentum, the next in order product forms like LCD-LED, 3D and smart TVs have already entered the market and showing signs of future product forms which can potentially displace LCDs in future.

This demand transition gives an opportunity to the challenging brands to put their leading competitors behind the race in the new segment created by the new product form, with their product leadership, and best of the marketing mix strategies. If this new segment created by new product form eventually emerges as larger segment due to shift in demand from existing product forms, the market share will also shift from the market leaders in the existing segment to the leaders in the new segment and thus affecting the existing market structure.

INDUSTRY EVIDENCE: CASE STUDY OF TV INDUSTRY

Indirectly, the war between the two product forms can be a battle between two brands for dominance. Most often it can be seen that different brands leading each product forms, and in the war between product forms, virtually two brands are competing. This tussle between product forms has the potential to alter the market structure and disturb the prevailing market equilibrium. During the transition, for leading brands it would be a challenge to manage its product leadership and extend its brand equity to emerging form. Whereas, for a challenging brand, the period of transition between product forms is an excellent opportunity to reduce the lead or even to improve its market share.

Though the televisions were introduced in India in the year 1959, due to extremely high Government regulations and highly limited broadcasting abilities the industry barely made any progress for next 15 years. At this juncture, the broadcasting was available only in black and white, and thus only black & white with CRT (Cathode ray tube) technology were introduced.

In the year 1976, mere 141000 units were sold in the whole country, and gradually the sales rose to 435000 units by 1981.

METHODOLOGY

The paper is based on primary research covering the corporate executives and customers of televisions. The study covered 12 corporate executives selected on a judgment basis, and 33 television customers selected randomly. The responses for a five factors were collected on a seven point scale and a cluster analysis was carried out to assess the distance between the cluster centers, which indicate the extent of differentiation between the successive product forms. To analyze the impact of different product forms, Rogers 5 forces model has been used in this paper. Rogers defines several intrinsic characteristics of innovations that influence an individual's decision to adopt or reject an innovation.

Table 1

Factor	Definition
Relative Advantage	How improved an innovation is over the previous generation.
Compatibility	The level of compatibility that an innovation has to be assimilated into an individual's life.
Complexity	If the innovation is perceived as complicated or difficult to use, an individual is unlikely to adopt it.
Trialability	How easily an innovation may be experimented. If a user is able to test an innovation, the individual will be more likely to adopt it.
Observability	The extent that an innovation is visible to others. An innovation that is more visible will drive communication among the individual's peers and personal networks and will in turn create more positive or negative reactions.

Four successive product forms have been considered for the study and the comparative impact of the innovations have been assessed based on the factors suggested by Rogers. Each of the five factors have used with a 7 point scale in the questionnaire to get the respondents opinion on each product forms. The five product forms considered for the study are; CRT Black & White, CRT Color, Plasma, LCD and LED TVs. The responses were collected on comparative basis paired two forms together. The different paired forms used are; a) CRT (B&W) versus CRT (color), b) CRT (color) versus Plasma c) CRT (color) versus LCD and d) LCD versus LED. For each pair, comparative inputs were taken. The descriptive analysis of the inputs taken from 50 respondents for each of the four paires and the findings are given hereunder.

Table 1: Perceived Relative Advantage

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
CRTBW_CRTCLR	49	6.12	.781	.112	5.90	6.35	4	7
CRTCLR_PLASMA	50	5.36	.563	.080	5.20	5.52	4	7
CRTCLR_LCD	50	6.04	.755	.107	5.83	6.25	4	7
LCD_LED	50	1.66	1.437	.203	1.25	2.07	0	5
Total	199	4.79	2.066	.146	4.50	5.08	0	7

Table 2: Compatibility

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
CRTBW_CRTCLR	48	1.63	.906	.129	1.37	1.89	0	4
CRTCLR_PLASMA	50	2.06	.998	.141	1.78	2.34	0	4
CRTCLR_LCD	50	2.92	.944	.134	2.65	3.19	0	5
LCD_LED	50	1.78	.954	.135	1.51	2.05	1	5
Total	199	2.10	1.068	.076	1.95	2.25	0	5

Table 3: Simplicity

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
CRTBW_CRTCLR	49	6.12	.781	.112	5.90	6.35	4	7
CRTCLR_PLASMA	50	5.36	.563	.080	5.20	5.52	4	7
CRTCLR_LCD	50	6.04	.755	.107	5.83	6.25	4	7
LCD_LED	50	1.66	1.437	.203	1.25	2.07	0	5
Total	199	4.79	2.066	.146	4.50	5.08	0	7

Table 4: Trialability

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
CRTBW_CRTCLR	48	2.29	.582	.084	2.12	2.46	1	3
CRTCLR_PLASMA	50	2.40	.571	.081	2.24	2.56	1	3
CRTCLR_LCD	50	2.30	.580	.082	2.14	2.46	1	3
LCD_LED	50	2.40	.571	.081	2.24	2.56	1	3
Total	198	2.35	.574	.041	2.27	2.43	1	3

Table 5: Observability

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
CRTBW_CRTCLR	48	4.06	0697	.101	3.86	4.26	3	5
CRTCLR_PLASMA	50	4.10	.707	.100	3.90	4.30	3	5
CRTCLR_LCD	50	4.10	.707	.100	3.90	4.30	3	5
LCD_LED	50	4.10	.707	100	3.90	4.30	3	5
Total	198	4.09	.699	.050	3.99	4.19	3	5

Based on the extent of difference between the successive product forms in terms of their impact, this paper identifies two important product forms, as per the Rogers 5 factors, in the TV industry. They have been presented as phase one and phase two in the following paragraphs.

Phase One: Demand Transition Between Segments Created Between B&W and Color TVs

In the year 1982, color televisions were introduced in India. Due to obvious comparative advantages the color TVs had over black & white televisions, the market witnessed the shift in preferences leading to shift in demand between these two product forms. In the same year of introduction, 1981, the color TV sales touched 70,000 units and gradually went up to 1,30,0000 units in the year 1988. During this period both forms of televisions; color and black & white TVs, expanded its sales due to rapid growth of television market in India. Gradually color TV sales started surpassing the black & white TVs sales, with the sales touching 2.1 million units in 1996 and 5 million units in the year 1999. In contrast, the sales of black & white televisions witnessed constant decline in sales. By the year 2006, the sales came to mere 1,50,0000 units as against the sales of CTVs at 11.75 million units. Color TVs had grown by 560% over 10 years.

Despite of immense comparative advantages of the color TVs, it took more than 25 years to see most of the market to shift to the new product form, and during these years, the two product forms had engaged in an intense competition. In the process of demand transit between successive product forms, the then prevailing market structure was restructured with many changes in the competitive positions of the leading brands. The leading brands in black & white TVs segment like Crown, Bush, Dyanora, Solitaire, EC etc, started losing their market shares along with the decline of the segment. Other leading national brands like BPL, Videocon and Onida, which could establish market lead in the new segment created by new product form demonstrated their growth along with the growing market segment.

The dominance of national brands like BPL, Onida and Videocon in CRT segment continued until there was an introduction of Flat screen CRT TVs. With the introduction of new product form, the market again witnessed the demand shift from the earlier product form to the latest. During this demand transit, brands like Samsung, LG, Sony and Philips, started building their market share taking advantage of their strengths in new product form. This affected the market structure to a significant extent. British Physical Laboratories (BPL), who was leading the market with 20% market share and comparatively new global players like LG was way behind with 4.7% market share. Gradually the numbers got swapped and by 2003, the trends reversed with LG emerging as the market leader with 20.1% market share followed by Samsung with 15.2% and BPL with a mere 6.1%.

Phase Two: Demand Transition Between Segments Created between CRT TVs and LCD TVs

Each Segment has Different Market Structure

In the year 2002, Plasma TVs and LCD TVs were introduced into the market with fully advanced technologies. These new forms of televisions had enormous comparative advantages against the both conventional and flat screen color televisions. The market again started witnessing demand shift from flat screen color TVs to the LCD TVs. In the year 2003, out of 8 million television units sold, 1,45,0000 were CRT flat screen, 1900 were plasma, 590 were LCD TVs, and the rest were conventional color TVs. In the year 2004 the sales of LCD rose to 2850 units (CEAMA) and by 2005, LCD sales rose to 17,000 (TV Veopar journal, May 2006). The sales of LCD TV constantly kept on rising as against the CRT segment. At this point of time, three types of product forms of televisions were competing against each other; Conventional CRT, Flat screen CRT, and LCD TVs.

The table 1 provides the total market of color TVs in the year 2010 along with breakup of CRT and LCD TVs. In general the overall television market in India has grown by 17% between the years 2009 and 2010. The break-up between the CRT and LCD TVs show that former is in the declining trend with a negative growth of 4.6% between 2009 and 2010 with the decline in sales from 18870000 units to 18000000 units. Whereas the LCD TVs are showing 100% growth for the last two consecutive years from sales of 1500000 units in 2009 to 3000000 units in 2010, indicating that the displacement process has started. It is expected that the composition of CTV market between CRT and LCD TVs will reach the global standard of 8 to 10 percent in next 7-10 years time**.

Impact of Two Phases on Market Structures

From the table 1 it is noticed that the market structure in the two market segments created by the CRT and LCD TVs are quite different with variation in market dominance of different brands. There are brands like LG which was the market leader in CRT product form and has been successful in carrying forward its market dominance to the new product form (LCD) as well. It has a market share of 20.5 % in CRT product form segment and 24% share in LCD segment, making it a market leader in the overall CTV market with 21.1% market share. Sony has been an excellent example for utilizing the emergence of new product form segment and establishing the good market share by product leadership and effective marketing mix strategies. In the CRT segment, Sony had only 5% market share, and has effectively established its lead in LCD segment with market share of 24%. This has shifted the overall market share of Sony to 7.7%. Sony has effectively used the demand transfer between CRT to LCD TVs as a right opportunity to increase its market share. Similarly, Samsung had a market share of 12.8% in the year 2010 in the CRT segment, but has been able to establish a share of 24% in the new emerging segment of LCD to effectively increase its market share to 14.4%. In the case of Videocon, their dominance in CRT segment with 17.2% share has been diluted to 8% by bringing down their overall market share to 15.8%.

As a summary, the emergence of successive product forms in progressive PLC phases has the potential to alter the overall market structure; due to demand flow between the segments created by existing and emerging product forms. The emergence of new market segment due to introduction of LCD

TVs, with significant comparative advantages over CRT TVs, has shaken up the market structure of Indian television industry with brands like Sony and Samsung establishing initial lead in the new segment to take their total market share up. Whereas, Videocon, a leading brad in CRT segment has lost its overall market due to their not so good performance in the LCD product for. By considering the present trend that the LCD is rapidly replacing the CRT segment, those brands who have been able to establish initial lead are likely to flourish with the growing segment thereby improving their overall market share in television industry. On the other hand the brands which were holding a good share in the CRT segment and could not able to penetrate the LCD segment are likely to lose their overall market share along with the declining CRT segment.

When the demand shifts between successive brands, the market share is likely to disturb as the market shares of the brands may alter during the transition. There can be three possibilities of paths a brand's market share can assume. One, the brand may be successful in projecting its market share in the present product form segment to the emerging new form segment. An example for this is LG from Indian television industry. Second, the brands may use the new emerging segment to improve their market share as compared to their present share from the present segment. This can help the brand in improving the overall market share. An example for this is Sony and Samsung. Sony, which only has a market share of 5% in CRT segment, has gained 24% market share in LCD segment thereby increasing its overall market share to 7.8% .Third, the brands may not be able to carry forward their present market share to the emerging segment and end up in compromised market share in the new segment. Eventually when the present market segment reduces giving way to new segment, the brand's market share may also reduce along with that. An example for this is Videocon, which was second largest brand in CRT segment and

The next emerging product form of television market appears to be 3D TVs. Though the product is introduced in the market by major brands, the consumer acceptance is quite slow, due to hindrances like exceptionally high prices, lack of 3D content, necessity of the viewers to wear glasses, and hidden costs such as buying a 3D Blue ray player or more glasses. Once these issues are addressed by the manufacturers, we can expect the demand shift from LCD-LED forms to 3D form.

CONCLUSIONS

The evolution of different product forms is one of the many characteristic changes along the phases of PLC curve. Often, the successive product forms that emerge are superior to its predecessors with many comparative benefits over them. The consumer preference was shifted with the emergence of each successive form, resulting in movement of market demand between different market segments created by successive product forms and creating internal competition among the product forms. In the new market segment created by the new product form, the brands with the product leadership, effective communications and innovative marketing mix are likely to get the initial breakthrough and stand a chance of gaining a good market share. Eventually when the market segment grows bigger by superseding the earlier product forms, it has the potential overturn the overall market structure of the market by changing the market standings of leading brands. In the televisions market in India, it is seen that, with the introduction of color TVs, the demand gradually shifted from black & white TVs towards color TVs due to the vast comparative advantages of the later form. Of course, the demand shift takes place gradually and during the shift; there will be an overlapping period where the product forms compete with each other. The factors like market inertia, intensity of resistance shown by outgoing product form, the comparative advantages of the new form, perceived risk in switching etc will determine the rate of demand transfer between two segments. Similarly, the demand movements were evident with the subsequent product form introductions in the market. There was a demand flow from CRT TVs to plasma TVs in the large screen TV segment, though in normal and small screen TVs, the plasma TVs did not impact much demand flow. When the LCD TVs were introduced, there was a clear consumer preference in shifting from CRT TVs to LCD TVs again due to significant comparative advantages. Now, in the color TV market, the LCD is swiftly replacing the still dominant CRT technology, and it is likely to overtake the CRT technology in terms of revenue in this fiscal year. Though the LCD is now taking the momentum, the next in order product forms like LCD-LED, 3D and smart TVs have already entered the market and showing signs of future product forms which can potentially displace LCDs in future.

REFERENCES

1. Hofer, C. W. (1975). Toward a contingency theory of business strategy. *Academy of Management Journal,* 18(4), 784–810.
2. Kimberly, J. R. (1979). Issues in the creation of organizations: Initiation, innovation, and institutionalization. *Academy of Management Journal*, 22(3), 437–457.
3. Rogers, E. M. (1962). *Diffusion of innovations*. Free Press.
4. Samuelson, P. A. (1976). Illogic of the lottery. The *American Economist*, 20(2), 1–6.
5. Smith, W. R. (1956). Product differentiation and market segmentation as alternative marketing strategies. *Journal of Marketing*, 21(1), 3–8.
6. Staudt, T. A., Taylor, D. A., & Grether, E. T. (1976). *A managerial introduction to marketing* (3rd ed.). Prentice-Hall.

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The Impact of COVID-19-induced Job Insecurity on Teacher Withdrawal: The Mediating Role of Rumination and the Moderating Effect of Gender

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KEYWORDS

COVID-19 PJI, rumination, WI, gender, moderated mediation model.

ABSTRACT

Drawing on conservation of resources theory and threat rigidity theory, this study explores the relationship between COVID-19 pandemic and withdrawal intentions (WI) among teachers through rumination, one of the under-researched area in the literature. We collected data from various teachers working in deemed and private universities. We tested a moderated mediation model and found the relationship between COVID-19 pandemic and withdrawal intentions (WI) is mediated by rumination and the mediating effect of rumination is moderated by gender. This is one of the few studies to explore the mentioned relationships among teachers, one of the most affected sector of pandemic and from India, one of the most infected country globally. The study also highlights implications, limitations and future research directions for further studies.

INTRODUCTION

COVID-19 pandemic has reinstigated many researchers to explore the JI topic (Aguiar-Quintana *et al.*, 2021; Chen & Eyoun, 2021; Jung *et al.*, 2021). Recent literature has studied JI among employees of different industries and countries like Canada (Pacheco *et al.*, 2020), United States (Chen & Eyoun, 2021), Spain (Aguiar-Quintana *et al.*, 2021), India (Chander *et al.*, 2020), South Korea (Hwang *et al.*, 2020), UK (Swainston *et al.*, 2020) during pandemic. Multiple studies in the literature has explored PJI and its related consequences, however, the results are mixed in nature (Debus *et al.*, 2019; Kim *et al.*, 2020). For example, JI (hereafter JI) has been studied in relation to emotional exhaustion (Chen and Eyoun, 2021), turnover intention and job engagement (Jung *et al.*, 2021), job performance (Aguiar-Quintana *et al.*, 2021), employee mental health and wellbeing (Pacheco *et al.*, 2020; Chander *et al.*, 2020). Recent study also confirmed COVID 19 PJI reduced the job engagement of employees (Jung *et al.*, 2021) which made researchers to focus on studies to emphasize the role of organizations in reducing COVID- 19 PJI (Wilson *et al.*, 2020). Education sector is one of the most impacted sector during COVID-19 pandemic (Blankenberger & Williams, 2020). Researchers have highlighted how the COVID-19 JI among faculties of social sciences made them to experience the shock and doubts on their abilities to deliver teaching virtually.

Literature have linked PJI with withdrawal behaviours such as task avoidance, tardiness and

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absenteeism (Probst, 2003). Few other studies in the literature have shown that PJI is inversely related to employees' intention to stay in the organizations. This relationship is further confirmed by meta-analysis studies (Cheng & Chan, 2008; Sverke *et al.*, 2002). Very few studies in management literature have explored the relationship between COVID-19 PJI and WI through rumination among teachers.

Furthermore, it is necessary to investigate and get clarity on the impact that gender may have on such relationship, as literature has found difference between females and males with respect to PJI, rumination and WI. For instance, studies in the literature have shown that PJI is experienced less among women than men (Witte, 1999). Also, researchers have found support to explain women employees experience more job uncertainty than men (Mauno & Kinnunen, 2002). Rosenblatt *et al.* (1999) shown that the PJI among male teachers is more as compared to the female teachers. These inconsistent results in the literature call for further investigation. The present research overcomes the above-mentioned research gaps by proposing a moderated mediation model examining the impact of COVID 19 PJI on employee WI, through rumination as mediator and gender as moderator thus promising significant contributions to the organization behaviours, human resource management and psychology literature.

Economic instability, uncertain market conditions and ever-changing organization requirements has instilled job insecurity (JI) among employees. Perceived job insecurity is "the level of uncertainty a person feels in relation to his or her job continuity" (Wang *et al.*, 2015). Perceived job insecurity and its related consequences has been well researched and documented, but the results are mixed in nature (Arnold & Feldman, 1982; Bernhard-Oettel *et al.*, 2020; Cheng & Chan, 2008; Debus *et al.*, 2019; Erdogan *et al.*, 2020; Kim *et al.*, 2020; Li *et al.*, 2020; Roll *et al.*, 2015). Earlier studies revealed that employees facing perceived job insecurity may respond in either positive or negative way. In the former, employees may increase their productivity to secure their position (Shoss, 2017). In the later, employees will reduce their efforts and collaboration in the work, avoid pro-social behaviors or even quit the organization (Berntson *et al.*, 2010; De Jong *et al.*, 2016). Few studies (Probst, 2003) have linked perceived job insecurity with withdrawal behaviors such as absenteeism, tardiness and task avoidance. Some other studies in the literature have shown that perceived job insecurity is inversely related to employees' intention to stay in the organizations (Cavanaugh & Noe, 1999; Hellgren *et al.*, 1999). This relationship is further confirmed by meta-analyses studies (Cheng & Chan, 2008; Sverke *et al.*, 2002). Moreover, job insecurity has an effect on the nation's growth and sustainable development, especially in the third world countries like India. A secure job is one that provides the employee with fulfillment, financial independence, social security, and peace of mind. Secure employment promotes efficiency, greater production, an organization's long-term viability, and a transparent and corruption-free work environment (Arugu & Eke, 2019). Job insecurity perceptions and their consequences should be studied not only through the use of personal resources, but also through the promotion of a sustainable working environment that can serve as a source of resources and help employees perceive themselves as more in control of their work and personal lives, and thus perceive their jobs as less insecure. Therefore, job insecurity is critical from the sustainability aspect as well. Till date, several studies have examined the antecedents and outcomes of perceived job insecurity (Jiang & Lavaysse, 2018). However, so far less studies have been conducted to explain why perceived job insecurity is associated with detrimental outcomes.

Historically, the concept of decent work has been examined from a macroeconomic perspective (Di Ruggiero *et al.*, 2015)but psychological and individual perspectives has been overlooked, which are inextricably linked to meaningful and purposeful labor. Organizations have concentrated their efforts on wealth production, largely motivated by a profit motive and with the core goal of maximizing their wealth (Carroll & Shabana, 2010). However, there has been a paradigm shift in the way organizations operate over the last two decades as a result of intense competition both within and outside of countries that forced organizations to look beyond the traditional way of conducting operations, resulting in the prominence of the sustainability concept in the fight for survival and growth of organizations

(Cho *et al.*, 2015).Efforts are being made to enhance human resources and sustainable organizations are gaining momentum. Sustainability is not only about lowering greenhouse gas emissions, enhancing the health and well-being of employees or making a contribution to society (Chillakuri & Vanka, 2021). The UN General Assembly (UN-GA) established the Sustainable Development Goals (SDGs) in 2015 with the goal of achieving them by the year 2030. There are 17 interconnected goals in the Sustainable Development Goals which serve as a "blueprint for a better and more sustainable future" for everyone. SDG 3 aims to promote well being and healthy lives. SDG 5 focuses on achieving gender equality whereas sustainable economic growth that benefits all people and ensures a fair standard of living for all people is underlined in SDG 8. Therefore, the aim of this study is to extend the understanding of this goal from sustainable HRM perspective highlighting job insecurity, rumination and the withdrawal intention. The term sustainable human resource management is a relatively new concept (Wikhamn, 2019). A sustainable human resource management strategy is defined as one that aims to meet financial, social, and ecological objectives while also reproducing the human resource base over the long term (Kramer,2014). According to (Ehnert *et al.*, 2014a) , sustainable human resource management is a design option for the employment relationship and a contribution to corporate sustainability. They contend that sustainability encompasses more than economic and environmental viability. Additionally, it is about employee growth, employability, employee health and well-being, employee engagement, and justice. As per (Hobelsberger, 2014), sustainable HRM tasks are twofold: 1) providing human resource strategies based on a systematic and long-term approach, in order to stimulate and support an organization's sustainability plan, and 2) contributing to an organization's survival by attracting, maintaining and developing personnel in order to preserve a quality human resources. Sustainable human resource management revolves around soft issues such as demonstrating sincerity toward employees, which includes providing a decent work environment and working conditions, providing development opportunities, and monitoring employees' physical and psychosocial well-being on the job. (Baum, 2018) defines sustainable human resource management as a proactive approach to employment relationships that enables firms to justify their business activities in the eyes of the public. Although sustainability is highly being discussed, however, previous studies have failed to highlight perceived job injustice through the prism of sustainable HRM. Job insecurity is seen as a threat and an impediment for workers in their pursuit of a good and sustainable level of well-being at work and in life. It is also a significant barrier to achieving a high quality of work and a decent job in today's more complicated and unpredictable workplaces (Giunchi *et al.*, 2019; Kaufmann, 2008)

Job insecurity is also important from the standpoint of internal CSR. Internal CSR practices refers to the CSR activities that benefit internal stakeholders and includes activities that promote employee well-being, invest in their training and development, and promote work-life balance. Additionally, it refers to the inherent standards and ideals that govern how an organization behaves (Duthler & Dhanesh, 2018). From organizational perspective, it is important to understand the mechanisms of perceived job insecurity among employees and their subsequent behaviors. The main purpose of this research is to explore how perceived job insecurity is related to employees' withdrawal intentions. For the same, we define perceived job insecurity as the "perceived fear of being dismissed from the workforce, as well as a stressor of threatening work situation". In line with the above definition, we consider perceived job insecurity as a stressor which leads to a sense of uncertainty among employees who fear losing their job even after nonwork hours. This phenomenon is referred as rumination. Rumination is defined as a state of preoccupation with repetitive conscious thoughts of an event or common theme (Martin & Tesser, 1996). Employees experiencing perceived job insecurity may or may not actually leave their jobs, but they may keep experiencing anxiety for a long period due to rumination. This becomes an impediment for achievement of SDG 3 which aims to promote well-being. Furthermore, it is necessary to investigate and get clarity on the impact that gender may have on such relationship, as some differences have been found between females and males with respect to perceived job insecurity, rumination and employee withdrawal intentions. For instance, studies in the literature have shown that the impact of experiencing perceived job insecurity is less for women as compared to men (Ferrie *et al.*, 2001; Witte, 1999). For example, few studies in literature has found support to explain women employees experienced more job uncertainty than men (Mauno & Kinnunen, 2002). On the other hand, Rosenblatt *et al.* (1999) shown that the perceived job insecurity is experienced more by the male teachers as compared to the female teachers. These inconsistent results in the literature calls for further investigation. SDG 5 aims to achieve the equality of gender. We posit that irrespective of gender, perceived job insecurity will hamper the sustainable goals of the organization. The present research overcomes the above-mentioned research gaps by proposing an integrated model which examines the impact of perceived job insecurity on employee withdrawal intention, through rumination as mediator and gender as moderator thus promising significant contributions to the organization behavior, human resource management and psychology literature. First, the study advances an understanding of sustainable HRM and internal CSR by highlighting job insecurity. The present study also suggests the need to incorporate sustainable HRM and internal CSR practices in order to reduce the job insecurity perception among employees. Second, this study addresses (Probst, 2003) the need to pursue more extensively developed and validated data measures of perceived job insecurity. Secondly, this study explores gender moderating the negative effects of perceived job insecurity on withdrawal intention of employees (Sverke *et al.*, 2002) Finally, this study addresses the mechanism linking perceived job insecurity and withdrawal intention of employees (Probst & Brubaker, 2001; Shoss & Probst, 2012).

THEORETICAL FRAMEWORK AND HYPOTHESES

COVID 19 PJI and WI

Recent studies have offered empirical support to the relationship between WI and job satisfaction, work-life balance (Adriano & Callaghan, 2020) and work engagement (Mérida-López *et al.*, 2020). Studies (de Witte *et al.*, 2016) have found the positive link between PJI and WI. Podsakoff *et al.* (2007) metaanalysis also supported the relationship between PJI and increased levels of job and organizational WI. WI was also studied from the perspective of teachers in educational institutions (Mérida-López *et al.*, 2020) where personal resources like emotional intelligence and self-efficacy of the teachers were related to engagement at work and WI. Literature on the relationship between JI and WI (Job, organization, occupation) is scant and there arises an opportunity to study this relationship from the perspective of teachers. Hence, we propose:

Hypothesis 1: COVID 19 PJI will be positively related to a) WIJ b) WIO c) WIOc.

Mediating Role of Rumination

Rumination is defined as the passive and repetitive focus on negative emotions, especially the causes and consequences of distress (Susan Nolen-Hoeksema *et al.*, 2008). There are studies in psychology literature examining rumination in the context of COVID (Dhar *et al.*, 2020;Sanderson *et al.*, 2020; Ying *et al.*, 2020).

Chapman *et al.*, (2020) highlighted in their study that PJI related to COVID-19 lead to greater rumination which eventually resulted in anxiety and depression. COVID-19 JI has made employees to ruminate on the negative thoughts and eventually feel disengaged from their jobs. So far, literature has not explored the mentioned links in the context of COVID-19 among teachers, one of most affected population due to pandemic.

Hypothesis 2: COVID 19 PJI is indirectly and positively related to WIJ via negative rumination, b) WIO via negative rumination, c) WIOc via negative rumination.

Moderating Role of Gender

Literature has found the tendency to ruminate differ based on gender (Keyes & Goodman, 2006; Yan *et al.*, 2021). The gender differences in rumination has also been confirmed by a meta-analytic study (Johnson & Whisman, 2013; Rood *et al.*, 2009). Many studies in literature has explored the gender differences in

JI, rumination, WI (S Nolen-Hoeksema, 1987; Tan & Yip, 2018), however, the moderating role of gender in the explored relationship in this study is novel contribution. When loyalty of employees goes down, the insecure feelings of employees will impact their job continuance and in turn impact the intention of employees to leave the organizations (Podsakoff *et al.*, 2007). In addition to this, literature shows inconclusive results while examining gender in the context of PJI and WI. Hence this study examines gender as a moderator between COVID-19 PJI and WI of employees and hypothesize as:

Hypothesis 3: The conditional indirect effect of COVID 19 PJI in predicting a) WIJ via rumination will be stronger for males than females, b) WIO via rumination will be stronger for males than females, c) WIOc via rumination will be stronger for males than females.

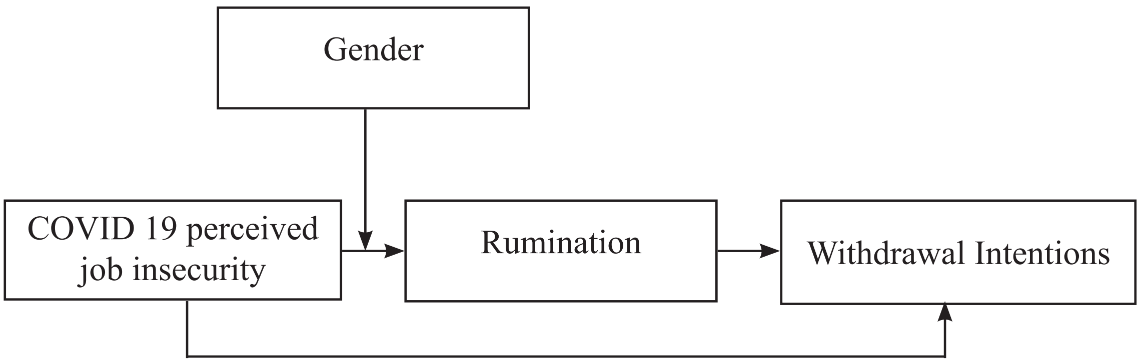

Fig. 1: Conceptual Model

Method

Sample and Procedure

Data were collected using a self-administered questionnaire by means of convenience sampling from the teachers working in deemed and private universities. Participants were offered free coupons to purchase books in order to avoid non-response bias. Out of 680 questionnaires distributed, 630 questionnaires were received, with an effective response rate of 92%. Out of 630 responses, 596 were used for further analysis after data cleaning. We analyzed the data using statistical softwares such as AMOS and SPSS. The sample consisted of 297 males (49.8%) and 299 female respondents (50.2%). 41.4% were between the age group of 21 to 30 years, 30 % were between the age group of 31 to 40 years, 16.1% were between the age group of 41 to 50 years and 12.4 % were above the age of 51 years. Participants' tenure was classified into four tenure bands - less than 1 year (40.9%), 1–5 years (30.4%), 6–10 years (21.5%), and more than 10 years (7.2%).

Measures

COVID-19 Perceived Job Insecurity (PJI) was assessed using a modified version of De Witte's four-item Job Insecurity Scale (Van Hootegem *et al.*, 2019; Witte, 1999; Vander Elst *et al.*, 2014), with a sample item such as "I feel insecure about the future of my job due to the COVID-19 pandemic" (Cronbach's α = 0.97). Rumination was measured using three items adapted from Herman *et al.* (2006) to reflect the COVID-19 context (e.g., "I ruminate about the possibility that I will be fired"), with high internal consistency (Cronbach's α = 0.96). Withdrawal intentions (WI) were measured using a modified version of Carmeli's (2005) scale, covering three dimensions—job, occupation, and organization—each with three items (e.g., "I am actively searching for an alternative to this job/organization/ occupation"). The Cronbach's alpha coefficients for these subscales were 0.97, 0.86, and 0.94, respectively.

Results

Confirmatory Factor Analyses

Confirmatory factor analysis (CFA) were conducted to test the validity of our study variables. The CFA results of our research model shows acceptable fit (CFI = 0.90, TLI = 0.90, SRMR = 0.05, RMSEA = 0.07).

Table 1 shows that the values are above 0.7, indicating discriminant validity. For reliability check, we assessed Cronbach's alpha and composite reliability (CR) estimates of the scales used. Cronbach's alpha values are above 0.70 as recommended by Nunnally & Bernstein (1994). As recommended by Hair *et al.*, (2006) construct reliability was calculated and the values are well above the cut off value of 0.60. Thus, our modified scale is good in terms of reliability and validity. Table 1 results confirm that all correlation values were in the hypothesized directions.

Table 1: Intercorrelations, AVE, CR and Cronbach's Alpha

	Correlation Matrix					
	JI	**Rumination**	**WIJ**	**WIO**	**WIOc**	**Gender**
JI	0.96					
Rumination	.173**	0.94				
WIJ	.263**	.642**	0.96			
WIO	.186**	.500**	.743**	0.810		
WIOc	.179**	.535**	.696**	.709**	0.910	
Gender	-0.14	.024	.117**	.052	.068	-
AVE	0.92	0.88	0.93	0.66	0.83	-
Construct Reliability	0.98	0.96	0.97	0.85	0.94	-
Cronbach's Alpha	0.97	0.96	0.97	0.86	0.94	-

Hypotheses Testing

To test our hypotheses, we used PROCESS Macro suggested by Hayes (2017). We used model 4 of PROCESS macro to test the mediation model. COVID-19 PJI is the predictor variable, whereas WI (job, occupation and organization) as criterion variable, rumination as the mediator analyzed using model 4. To examine the moderation, i.e. the conditional indirect relationships for male and female among COVID-19 PJI, rumination and WI (job, occupation and organization), we used model 7 PROCESS Macro (Andrew F. Hayes, 2017). Thus we tested the moderated mediation model. This approach helped to execute the bootstrapping methods and to test the significance of the conditional indirect effects for gender.

Table 2: Direct and Indirect Effects of Study Variables

Variables			Unstandardized Beta (β)					Bootstrap Results for Indirect effects – 95% CI (1000 bootstraps)		
			Effect of X on M	**Effect of M on Y**	**Total effect X on Y**	**Direct Effect X on Y**	**Indirect Effect**	**SE**	**LL**	**UL**
X	**M**	**Y**	**(a-path) b(MX)**	**(b-path) b(YX.M)**	**(c-path) b(YX)**	**(c′) b(YM.X)**	**(c-c′)**			
JI	Rumination	WIJ	0.147***	0.501***	0.181***	0.108***	0.073	0.029	0.321	0.430
		WIOc	0.147***	0.606***	0.198***	0.109***	0.089	0.026	0.038	0.141
		WIO	0.147***	0.456***	0.133***	0.066***	0.067	0.021	0.026	0.111

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Testing Direct and Indirect Effects

Table 2 presents the direct and indirect effects of the hypothesized study variables. Hypotheses 1a, 1b, 1c predicted that COVID-19 PJI would be positively related to work WI (job, occupation and organization). Results revealed that PJI were significantly and positively related to WIJ ($\beta 1 = 0.010$, $p<.001$) providing support for hypothesis 1a. Results also confirmed that PJI was significantly and positively related to WIO ($\beta\ 2 = 0.109$, $p<.001$) indicating support for H1b. Results also confirmed that PJI was significantly and positively related to WIOc ($\beta\ 3 = 0.066$, $p<.001$) providing support for H1c.

Table: 3: Conditional Indirect Effects of Study Variables

Values of Moderator	Conditional Indirect Effect	SE	Lower CI	Upper CI
WIJ				
Male	0.144	0.034	0.075	0.210
Female	0.009	0.022	-0.034	0.056
Index of Moderated Mediation	-0.134	0.040	-0.209	-0.050
WIOc				
Male	0.174	0.036	0.097	0.238
Female	0.011	0.028	-0.039	0.071
Index of Moderated Mediation	-0.163	0.043	-0.238	-0.067
WIO				
Male	0.131	0.031	0.067	0.189
Female	0.008	0.020	-0.030	0.050
Index of Moderated Mediation	-0.122	0.035	-0.190	-0.050

Hypotheses 2a, 2b, 2c proposed that COVID-19 PJI is indirectly and positively related to WI (job, occupation and organization) via negative rumination. PJI was associated with WIJ indirectly through rumination (Effect = .0738, SE =.0298, LLCI =.0327, ULCI = .4306). Similar support was found for the indirect associations between PJI and WIO (Effect = .0892, SE =.0265, LLCI =.0386, ULCI = .1411), PJI and WIOc (Effect = .0671, SE =.0216, LLCI =.0265, ULCI = .1117). The confidence intervals do not include zero, supporting the indirect effects and confirming hypotheses 2a, 2b, 2c.

Moderated Mediation Analysis

Table 4 shows results of the moderated mediation analysis, testing whether the indirect effect of PJI on work involvement (job, occupation, and organization levels) through rumination differs by gender. Using 5000 bias-corrected bootstrap samples, the analysis found that the indirect effect of PJI on WIJ via rumination was substantial for males but negligible for females. The index of moderated mediation for WIJ confirmed a significant gender difference, supporting hypothesis 3a. Similarly, the indirect effect of PJI on occupational involvement via rumination was notable for males and not significant for females, with the index supporting hypothesis 3b. For organizational involvement, the indirect effect was again stronger for males, and insignificant for females, with the index supporting hypothesis 3c. Overall, these findings indicate that the pathway from COVID-19 PJI to negative rumination impacting work involvement is significantly more pronounced in males than in females.3c. These findings suggest that COVID-19 PJI linked to negative rumination resulting in WI is stronger for males than females.

Discussion

Our study found a mediated relationship examining rumination explaining the link between PJI and WI. We also found the impact of PJI in predicting employee withdrawal intention via negative rumination is stronger for males than females. These findings add to the literature as well as suggest several implications for practitioners.

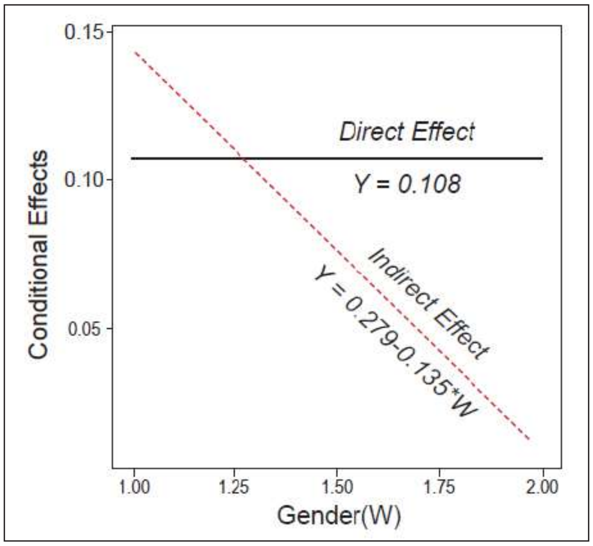

Fig. 2: Moderation Graph for Hypothesis 3a

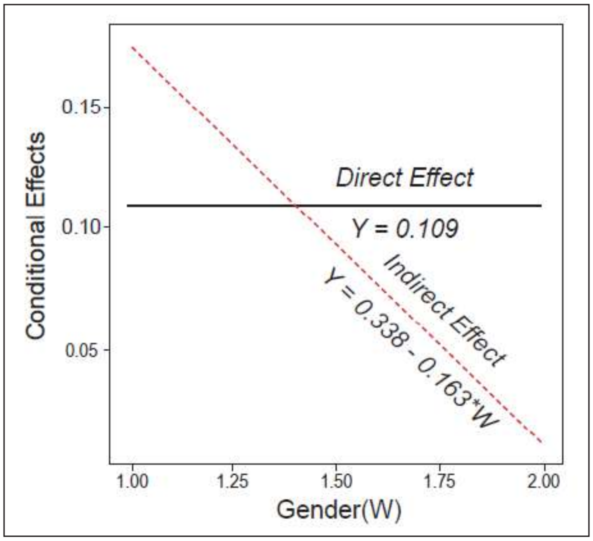

Fig. 3: Moderation Graph for Hypothesis 3b

Theoretical Implications

In the current study, we investigate the influence of PJI on WI via rumination. We adopted conservation of resources theory and threat rigidity theory to explain the hypothesized relationships. As predicted by COR, an organizational context that threatens resources (PJI), turns into a resource conservation behaviour (employee withdrawal). Employees who perceive JI will repeatedly think about future job loss and engage in WI. The study findings further confirms that this relationship is stronger for males as compared to females (Gaunt & Benjamin, 2007). The findings can be better explained using gender role theory (Shimanoff, 2009). The theory says that men generally place greater importance to work and are vulnerable to employment related stress as compared to women. The present findings also support the TRT theory (Staw *et al.*, 1981). The theory suggests that employees behave more rigidly under threatening situations and threat perception leads to rumination further resulting in WI. Thus, this paper extends PJI literature by adding COR and TRT theoretical explanations to explain employee WI through rumination.

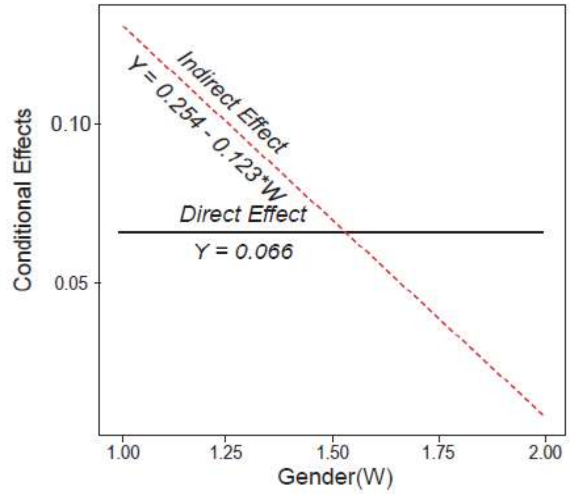

Fig. 4: Moderation Graph for Hypothesis 3c

Practical implications

The study highlights implications for management practice. First, as the findings show that PJI is positively related to rumination and WI, management should take some measures to prevent or curb the detrimental effects of actual or anticipated job loss. For example, the current COVID pandemic has forced many employees to ruminate on job loss. If they are trained on periodic basis, for instance, to handle virtual teaching, they will be more confident to face any job threatening situation or its related adverse outcomes. Additionally, organization has to improve the work climate and create a sense of psychological safety, to avoid WI of the employees.

Secondly, considering that rumination has positive impacts on WI, both teachers and management can adopt some interventions to undermine the rumination effect. More specifically, universities can adopt some workplace fun activities to reduce the prolonged thinking about job loss. In addition to the fun activities, personal interaction with management also help teachers to open up conversations more easily on job issues and develop trust and assurance from the managers on the job security. Additionally, organizations should conduct acceptance and commitment therapy, to ensure teachers learn to live the moment instead worrying about future events (Seear & Vella-Brodrick, 2013). These therapies help employees not to ruminate on JI and potential job loss. Interventions employing cognitive behavioural therapy helps employees to reduce rumination and to improve their work intentions (Querstret *et al.*, 2016).

Gender acts as a moderator on the indirect effect of PJI in predicting employee WI (job, occupation and organization) via rumination. Organizations can consider gender differences at all stages of workplace policies, programs and practices. A gender-based approach systematically integrates the policies, programs and practices carefully designed based on gender and also it helps managers to identify and give proper attention to specific issues to specific group.

LIMITATIONS AND FUTURE DIRECTIONS

We acknowledge certain limitations of this study. First, the sample for this study was limited to teachers. Future research can be conducted on diverse samples to generalize the findings. Second, the background of participants differs in our research; they come from different universities and different positions. This may lead to varying perceptions of COVID 19 PJI and may also contribute to unsatisfactory outcomes. Therefore, further studies can control these demographical variables such as experience, university type, age etc. Third, other moderator variables like resilience, psychological detachment and optimism as coping mechanism can be used to test the relationships explained in our proposed model. Future researchers can also consider to conduct experimental research or longitudinal studies. Despite these limitations, the study offers interesting insights to theory and practice.

AUTHORS CONTRIBUTION

All the authors have equally contributed to study conception, methodology, data collection and writing of this paper.

REFERENCES

1. Adriano, J., & Callaghan, C. W. (2020). Work-life balance, job satisfaction and retention: Turnover intentions of professionals in part-time study. *South African Journal of Economic and Management Sciences*, *23*(1), 1–12.
2. Aguiar-Quintana, T., Nguyen, H., Araujo-Cabrera, Y., & Sanabria-Díaz, J. M. (2021). Do job insecurity, anxiety and depression caused by the COVID-19 pandemic influence hotel employees' self-rated task performance? The moderating role of employee resilience. *International Journal of Hospitality Management*, *94*, 102868.
3. Andrew F. Hayes. (2017). *Introduction to Mediation, Moderation, and Conditional Process Analysis* (2nd ed.). Guilford Publications.
4. Arnold, H.J., & Feldman, D.C. (1982). A multivariate analysis of the determinants of job turnover. *Journal of Applied Psychology*, *67*(3), 350–360.
5. Ashford, S.J., Lee, C., & Bobko, P. (1989). Content, cause, and consequences of job insecurity: a theory-based measure and substantive test. *Academy of Management Journal*, *32*(4), 803–829.
6. Atalan, A. (2020). Is the lockdown important to prevent the COVID-19 pandemic? Effects on psychology, environment and economy-perspective. *Annals of Medicine and Surgery*, *56*, 38–42.
7. Blankenberger, B., & Williams, A.M. (2020). COVID and the impact on higher education: The essential role of integrity and accountability. *Administrative Theory & Praxis*, *42*(3), 404–423.
8. Carmeli, A. (2005). The relationship between organizational culture and withdrawal intentions and behavior. *International Journal of Manpower*, *26*(2), 177–195.
9. Chander, R., Murugesan, M., Ritish, D., Damodharan, D., Arunachalam, V., Parthasarathy, R., Raj, A., Sharma, M.K., Manjunatha, N., & Bada Math, S. (2020). Addressing the mental health concerns of

migrant workers during the COVID-19 pandemic: An experiential account. *International Journal of Social Psychiatry*, 0020764020937736.

10. Chapman, B., Swainston, J., Grunfeld, E.A., & Derakshan, N. (2020). COVID-19 outbreak effects on job security and emotional functioning amongst women living with breast cancer. *Frontiers in Psychology*, *11*, 2864.
11. Chen, H., & Eyoun, K. (2021). Do mindfulness and perceived organizational support work? Fear of COVID-19 on restaurant frontline employees' job insecurity and emotional exhaustion. *International Journal of Hospitality Management*, *94*, 102850.
12. Cheng, G.H.L., & Chan, D. K. S. (2008). Who suffers more from job insecurity? A meta-analytic review. *Applied Psychology*, *57*(2), 272–303.
13. de Witte, H., Pienaar, J., & de Cuyper, N. (2016). Review of 30 Years of Longitudinal Studies on the Association Between Job Insecurity and Health and Well-Being: Is There Causal Evidence? *Australian Psychologist*, *51*(1), 18–31.
14. Debus, M.E., Unger, D., & König, C.J. (2019). Job insecurity and performance over time: the critical role of job insecurity duration. *Career Development International*, *25*(3), 325–336.
15. Dhar, B.K., Ayittey, F.K., & Sarkar, S.M. (2020). Impact of COVID-19 on Psychology among the University Students. *Global Challenges*, *4*(11), 2000038.
16. Durankuş, F., & Aksu, E. (2020). Effects of the COVID-19 pandemic on anxiety and depressive symptoms in pregnant women: a preliminary study. *The Journal of Maternal-Fetal & Neonatal Medicine*, 1–7.
17. Ferrie, J.E., Shipley, M.J., Marmot, M.G., Martikainen, P., Stansfeld, S.A., & Smith, G.D. (2001). Job insecurity in white-collar workers: toward an explanation of associations with health. *Journal of Occupational Health Psychology*, *6*(1), 26–42.
18. Ganson, K.T., Tsai, A.C., Weiser, S.D., Benabou, S.E., & Nagata, J.M. (2021). Job insecurity and symptoms of anxiety and depression among US young adults during COVID-19. *Journal of Adolescent Health*, *68*(1), 53–56.
19. Gaunt, R., & Benjamin, O. (2007). Job Insecurity, Stress and Gender. *Community, Work & Family*, *10*(3), 341–355.
20. Hermans, D., Bergh, O. Van den, P Philippot, De Bruyn, E., & Taeymans, S. (2006). Piekeren over het werk: Symptoom of mechanisme, bewuste inhoud of onbewust proces? *In Najaarscongres of the Dutch Association of Behaviour and Cognitive Therapy (VGCt),*.
21. Hobfoll, S.E. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservation of resources theory. *Applied Psychology*, *50*(3), 337–421.
22. Hwang, H., Hur, W., & Shin, Y. (2020). Emotional exhaustion among the South Korean workforce before and after COVID-19. *Psychology and Psychotherapy: Theory, Research and Practice*.
23. Johnson, D.P., & Whisman, M.A. (2013). Gender differences in rumination: A meta-analysis. *Personality and Individual Differences*, *55*(4), 367–374.
24. Joseph F Hair, William C Black, Barry J Babin, Rolph E Anderson, & Ronald Tatham. (2006).
25. Jung, H.S., Jung, Y.S., & Yoon, H.H. (2021). COVID-19: The effects of job insecurity on the job engagement and turnover intent of deluxe hotel employees and the moderating role of generational characteristics. *International Journal of Hospitality Management*, *92*, 102703.
26. Keyes, C.L.M., & Goodman, S.H. (2006). *Women and depression: A handbook for the social, behavioral, and biomedical sciences*. Cambridge University Press.
27. Kim, J., Yoon, J., Bahk, J., & Kim, S. (2020). Job insecurity is associated with presenteeism, but not with absenteeism: A study of 19 720 full-time waged workers in South Korea. *Journal of Occupational Health*, *62*(1), e12143.
28. Li, V., Jiang, L., & Xu, X. (Violet). (2020). From workplace mistreatment to job insecurity: The moderating effect of work centrality. *Stress and Health*, *36*(3), 249–263.
29. Mauno, S., & Kinnunen, U. (2002). Perceived job insecurity among dual-earner couples: Do its antecedents vary according to gender, economic sector and the measure used? *Journal of Occupational and Organizational Psychology*.
30. McIlveen, P., Hoare, P.N., Perera, H.N., Kossen, C., Mason, L., Munday, S., Alchin, C., Creed, A., & McDonald, N. (2020). Decent Work's Association With Job Satisfaction, Work Engagement, and Withdrawal Intentions in Australian Working Adults. *Journal of Career Assessment*, 1069072720922959.
31. Mérida-López, S., Extremera, N., & Sánchez-Álvarez, N. (2020). The Interactive Effects of Personal Resources on Teachers' Work Engagement and Withdrawal Intentions: A Structural Equation Modeling Approach. *International Journal of Environmental Research and Public Health*, *17*(7), 2170.
32. Nolen-Hoeksema, S. (1987). Sex differences in unipolar depression: evidence and theory. *Psychological Bulletin*, *101*(2), 259–282.
33. Nolen-Hoeksema, Susan, Wisco, B.E., & Lyubomirsky, S. (2008). Rethinking Rumination. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science*, *3*(5), 400–424.
34. Nunnally, J., & Bernstein, I. (1994). *Psychometric theory*. New Delhi: Tata McGraw-Hill Ed.
35. Pacheco, T., Coulombe, S., Khalil, C., Meunier, S., Doucerain, M., Auger, É., & Cox, E. (2020). Job security and the promotion of workers' wellbeing in the midst of the COVID-19 pandemic: A study with Canadian

workers one to two weeks after the initiation of social distancing measures. *International Journal of Wellbeing*, *10*(3).

36. Podsakoff, Lepine, J.A., & Lepine, M.A. (2007). Differential challenge stressor-hindrance stressor relationships with job attitudes, turnover intentions, turnover, and withdrawal behavior: A meta-analysis. *Journal of Applied Psychology*, *92*(2), 438–454.
37. Podsakoff, P.M., MacKenzie, S. B., Lee, J.Y., & Podsakoff, N.P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. In *Journal of Applied Psychology* (Vol. 88, Issue 5, pp. 879–903). American Psychological Association Inc.
38. Probst, T.M. (2003). Development and validation of the job security index and the job security satisfaction scale: A classical test theory and IRT approach. *Journal of Occupational and Organizational Psychology*, *76*(4), 451–467.
39. Querstret, D., Cropley, M., Kruger, P., & Heron, R. (2016). Assessing the effect of a Cognitive Behaviour Therapy (CBT)-based workshop on work-related rumination, fatigue, and sleep. *European Journal of Work and Organizational Psychology*, *25*(1), 50–67.
40. Rood, L., Roelofs, J., Bögels, S.M., Nolen-Hoeksema, S., & Schouten, E. (2009). The influence of emotion-focused rumination and distraction on depressive symptoms in non-clinical youth: a meta-analytic review. *Clinical Psychology Review*, *29*(7), 607–616.
41. Rosenblatt, Z., Talmud, I., & Ruvio, A. (1999). A Gender-based Framework of the Experience of Job Insecurity and Its Effects on Work Attitudes. *European Journal of Work and Organizational Psychology*.
42. Sanderson, W.C., Arunagiri, V., Funk, A.P., Ginsburg, K. L., Krychiw, J.K., Limowski, A. R., Olesnycky, O.S., & Stout, Z. (2020). The nature and treatment of pandemic-related psychological distress. *Journal of Contemporary Psychotherapy*, *50*(4), 251–263.
43. Seear, K.H., & Vella-Brodrick, D.A. (2013). Efficacy of Positive Psychology Interventions to Increase Well-Being: Examining the Role of Dispositional Mindfulness. *Social Indicators Research*, *114*(3), 1125–1141.
44. Shimanoff, S.B. (2009). *Gender Role Theory*. SAGE Publications, Inc.
45. Staw, B.M., Sandelands, L.E., & Dutton, J.E. (1981). Threat Rigidity Effects in Organizational Behavior: A Multilevel Analysis. *Administrative Science Quarterly*, *26*(4), 501.
46. Sverke, M., Hellgren, J., & Näswall, K. (2002). No security: A meta-analysis and review of job insecurity and its consequences. *Journal of Occupational Health Psychology*.
47. Swainston, J., Chapman, B., Grunfeld, E.A., & Derakshan, N. (2020). COVID-19 lockdown and its adverse impact on psychological health in breast cancer. *Frontiers in Psychology*, *11*, 2033.
48. Tan, S.Y., & Yip, A. (2018). Hans Selye (1907-1982): Founder of the stress theory. *Singapore Medical Journal*, *59*(4), 170–171.
49. Van Hootegem, A., Niesen, W., & De Witte, H. (2019). Does job insecurity hinder innovative work behaviour? A threat rigidity perspective. *Creativity and Innovation Management*, *28*(1), 19–29.
50. Vander Elst, T., De Witte, H., & De Cuyper, N. (2014). The Job Insecurity Scale: A psychometric evaluation across five European countries. *European Journal of Work and Organizational Psychology*, *23*(3), 364–380.
51. Wilson, J.M., Lee, J., Fitzgerald, H.N., Oosterhoff, B., Sevi, B., & Shook, N. J. (2020). Job insecurity and financial concern during the COVID-19 pandemic are associated with worse mental health. *Journal of Occupational and Environmental Medicine*, *62*(9), 686–691.
52. Witte, H. De. (1999). Job Insecurity and Psychological Well-being: Review of the Literature and Exploration of Some Unresolved Issues. *European Journal of Work and Organizational Psychology*, *8*(2), 155–177.
53. Yan, S., Xu, R., Stratton, T.D., Kavcic, V., Luo, D., Hou, F., Bi, F., Jiao, R., Song, K., & Jiang, Y. (2021). Sex differences and psychological stress: responses to the COVID-19 pandemic in China. *BMC Public Health*, *21*(1), 79.
54. Ying, D., Yang, Y., Xie, C., Wang, X., Liu, C., Hu, W., & Li, Y. (2020). A positive role of negative mood on creativity: the opportunity in the crisis of the COVID-19 epidemic. *Frontiers in Psychology*, *11*, 3853.

Examining Corporate Governance and Competitiveness in the Context of Firm Performance in India

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KEYWORDS

Corporate governance, ownership, firm performance, sustainability, regression, India JEL Codes: G34, G39, O16

ABSTRACT

Recently, a lot of research studies have studied the drivers of market performance. Considering the financial performance of firms, various competitive and market forces play a role in addition to the managerial interventions. Globally, investors have expressed concern over the governance of firms; particularly with increasing emphasis on voluntary disclosures that provide more qualitative insights about firms, it has become critical for firms to not just comply but go beyond and provide more information about the performance of firms.

Considering the importance given to corporate governance, investors have been concerned about how certain parameters seem to have a subtle influence on the market-based performance of firms. Our study uses the Indian context to identify ownership linked variables and their influence on firm performance. As a point of comparison, certain competitive actions such as those discretionary to firms have also been considered. Using the method of Ordinary Least Squares regression, a sample of 396 firms have been taken up. Results indicate that the promoter stake and the ownership of foreign institutional investors continue to have a statistical say in the market-linked performance of firms.

Surprisingly, for the given sample, the competitive action proxied through the expenditure on marketing, advertisements and developmental activities do not have a significant influence on the firm performance. On the contrary, with increasing size of firms, there is an impact on the market-based performance. Results are mostly in alignment with prior research and shed more light on the ever-growing importance of corporate governance in industrialized India.

INTRODUCTION

Firms have been aggressively expanding in line with the market demand as well as the advances in technology. Expansion is on all fronts and happens through a mix of organic as well as inorganic modes. Organic modes include scenarios where a) firms enhance their market presence – selling more through existing distribution channels and b) firms sell newer products that promise slightly better value proposition to customers. Inorganic modes are through acquisition of new firms that have points of commonality with the focal firms.

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While there are no restrictions on the growth of firms, different countries impose certain guidelines in the form of compliance measures. These are usually in the form of mandatory as well as voluntary measures. Historically, corporate governance stemmed from cases where firms ran afoul of the law. To protect shareholders, governments stepped in and enforced certain mechanisms. Prominent among them is the umbrella of corporate governance. This includes a set of guidelines relating to the composition of the board, disclosures as well as certain processes. These are communicated to shareholders on an annual basis. Occasionally, these are relayed to various stakeholders through quarterly formal communications.

From an academic perspective, scholars are keen to understand the drivers of firm performance. On the industry front, recent news reports are not promising. For instance, the Chinese property market was a source of revenue as well as above-average returns for the American investors during the boom years of 2012-2020. However, a slew of poor governance practices and lack of disclosures, even among leading industry firms such as Country Garden Holding Co. (Zhou & Liu, 2023) have led to loss of investor confidence. In such cases, investors are unable to identify potential success factors for firms. Hence, while industry may not consult academicians to understand reasons for lapses in corporate governance, academic research often looks to identify key reasons for firm performance.

Firm performance is an abstract notion especially in a context where studies are undertaken to identify impact of corporate governance on performance; reasons are due to corporate governance being a composite mix of compliance measures (Yoshikawa, *et al.*, 2014; Misangyi & Acharya, 2014) disclosures (Eng & Mak, 2003; Assidi, 2023) and processes. On the other hand, performance is concrete when expressed in the form of revenue growth and profitability of firms. Our paper addresses a key part of the explanatory power of corporate governance as well as competitive actions of firms in firm performance. The paper begins with a detailed review of literature followed by the conceptual framework as well as the logical development of the hypotheses. Subsequently, the paper identifies the sample of firms, uses Ordinary Least Squares (OLS) regression methods to test the hypothesis. This is followed by an explanation of the findings. Conclusions and implications for practitioners forms the last part of the paper.

THEORETICAL BACKGROUND AND LITERATURE REVIEW

Prior to the industrial revolution, organized firms and industries were relatively less. There was emphasis on the individual and skills. This was an era of craftsmanship (Mourtzis & Doukas, 2014) and skill sets were in demand (Taylor, 2004). Post the industrial revolution and scientific management principles that were put into practice, organizational structure as well as strategy became critical to performance (Child, 1972; Dalton *et al.*, 1980; Olson *et al.*, 2005). Around the same time, the two world wars polarized the globe as it led to the growth of superpowers who dictated terms with more production volumes and imposed sanctions on those non-favoured nations. On the eastern part of the globe, countries were not so well developed. Economies were shattered during the second world war and re-building efforts started rapidly with globalization. At a deeper level, increasing returns to shareholders, amongst firms in the United States and Europe resulted in leaders and managers resorting to unfair practices. Focus on near term results – quarterly 'fire' (Guthrie & Sokolowsky, 2010; Filatotchev & Nakajima, 2014) led to malpractices in accounting and suppression of critical information about firms. This led to calls for stringent measures – one of which assumed the umbrella term 'Corporate Governance.' (Shleifer & Vishny, 1997; Monks, R.A., & Minow, 2011; Mallin, 2016)

While managers of firms had information which was not privy to shareholders, it resulted in information asymmetry (Healy & Palepu, 2001; Bergh *et al.*, 2019). Shareholders did not have visibility of firms' strategic decisions (Belkaoui & Karpik, 1989; Baah, *et al.*, 2022) which could have furthered their interests. To mitigate this, judicial bodies and regulatory agencies such as the Securities and Exchange Commission (SEC) started developing mandatory processes that should be followed by listed companies. These processes had to be supported with the formation of committees, mandatory disclosures in annual reports and often sought to separate the role of Chairperson of the Board from the Chief Executive Officer, leading to portrayal of an unbiased model of leadership and governance (Elsayed, 2007; Puni & Anlesinya, 2020) The CEO and the team of managers were expected to act in the interests of shareholders. However, the managers took decisions that served their own interests (Larwood & Whittaker, 1977; Clapham & Schwenk, 1991) and not shareholders leading to them being called 'agents.' Quickly, the emergence of 'agency' where non-alignment of interests between the shareholders (owners) of the firm with its managers took roots both in industries as well as academia. Scholars expounded upon the agency theory and much later, stewardship theory took roots – a scenario where the appointed managers would usually take decisions on behalf of the shareholders – these decisions would drive the firms towards profitability while increasing returns for owners.

Ownership and Firm Performance

Owners are keen to maximize profits for their firms; consequently, the actions and decisions taken are geared towards sustained revenue as well as profit growth. Shareholders seek similar returns on their investments. This leads to two lines of arguments a) Owners take decisions that have a strong influence on performance and b) owners take risky decisions that may not align with long term goals of the firm.

In the western context, founders and promoters dilute their shareholding to a very small percentage. In the developing world, while considering countries such as China, Thailand and India, promoters hold majority stake (Kumar & Singh, 2013; Bhimavarapu *et al.*, 2023) – 'promoter' is a word peculiar to the Indian context and substitutes for founders and founding family members. In any survey undertaken, when a sample of 500 domestic firms listed on the Bombay Stock Exchange is considered, we observe that the average promoter stake is 50%. From real world observations, firms that are part of large business groups such as Tata, Reliance and Birla in the Indian context (Manikutty, 2000) are also lauded for their market linked performance. Firms belonging to these business groups have flourished over the last century and have been leading in several industries. Leadership decisions at these firms are rarely challenged by the investors. Academic research studies relating ownership with firm performance, however, presents a mixed set of results.

Within the strategy literature, Corporate Governance studies often use proxies to test the influence on firm performance. For example, a dominant shareholder could influence the firm performance. Ownership by foreign investors in the form of shares could also signal to markets that such firms are superior to others (Alabdullah, 2021); in turn this may lead to better performance metrics in the marketplace. FIIs trading volume can also be uni-directional or bi-directional depending on the returns the stock is generating, that in turn depends on the company performance (Chandra, 2012). Khan, *et al.* (2017) found that firm performance increases significantly in presence of associated and institutional ownership whereas it shows a negative impact in the case of family ownership Some studies found a strong influence of such measures on performance while others report absence of concrete inferences. In a study by Kumar & Singh (2013), it was found that board size had a negative relationship with firm value; however, a significant positive association of promoter ownership with firm performance was observed. The study suggests that only above a critical ownership level of 40 percent does promoter's interest become aligned with that of the company, resulting in positive effect on firm value and it also depicts that in emerging markets like India, greater control by the promoters is considered good for enhancement of company value.

Ownership structure and capital structure have a positive correlation (Tripathi, *et al.*, 2019), where high promoter stake in the company allows more efficient use of debt capital and increases debt taking capacity. It also poses low risk to lenders since equity linked vehicles are tied against such debt capital and this enriches the capacity of the company to utilise debt judiciously, earn cashflow from debt-funded capital, generate revenue alongside profitable growth and carry out business operations in a sustainable manner.

Competitive Actions and Firm Performance

All firms manifest their intentions towards innovation or market expansion through explicit as well as implicit means (Sternberg & Horvath, 1996; Duan *et al.*, 2022). A study was conducted on 1091 Spanish Small and Medium Enterprise (SME) firms (Auken, *et al.*, 2008) and the results showed that innovation positively influenced their performance in both low and high technology industries. Innovation was more important for high technology firms than low technology firms to gain competitive advantage over others. Early management research used indicative proxies such as research intensity to signify the firms' intentions towards innovation. Subsequent tests on whether research intensity influenced the performance featured in several studies undertaken by scholars. Similar line of approach was adopted in the area of marketing intensity which indirectly signalled corporate aggressiveness. Product, Price, Place, Promotion – the 4 Ps of marketing followed by After Sales Services are significant joint predictors of business performers in terms of profitability, return on investment, expansion and market share and hence businesses produce high quality products, charge competitive prices and position themselves appropriately (Adewale, *et al.*, 2013). Research studying actions of firms resulted in significant findings leading scholars to believe that the market implicitly factored them into superior performance; measures could be price-to-earnings multiple or price-to-book value of shares.

Sustainability and Firm Performance

Firms are keen to ensure that all business processes within their complex structures comply with guidelines on sustainability (Vigneau *et al.*, 2015; Grimm *et al.*, 2023). From an operational perspective, it means that there is due diligence and careful checks in place to ensure that different elements such as supply networks, capacity decisions and new product development are sensitive to the environment and adopt stringent measures. Investors outside the firm and not privy to the rationale behind the actions are still concerned about firms conduct business; this in turn, leads to superior market-linked performance of firms in the long run. Performance, therefore, does not restrict itself to accounting measures, but rather most regulators are concerned with sustainability reporting in the form of Business Responsibility and Sustainability Reports (Mahajan, 2023; van Oorschot *et al.*, 2024) which have now become mandatory. Hence, from the point of view of firms, it is not merely compliance, but more to do with how the relevant qualitative information is disclosed to the external stakeholders.

DEVELOPMENT OF HYPOTHESES

Ownership in the emerging market context is different from that of the developed markets. In India, promoters continue to hold more than 50% shares in their founding organizations even after decades of ongoing business operations. Hence, we find that over the years, the analysts, capital market pundits and various stakeholders have appreciated this, resulting in ascribing higher valuation to such firms. Logically, one would expect that such promoters have their reins firmly over the firms, thereby controlling and monitoring the performance over the long term. From strategy literature we know that strong monitoring and resource deployment mechanisms lead to sustained superior performance of the firms (Mankins & Steele, 2005; Liao *et al.*, 2020; Giang & Dung, 2025). Hence, we may put forth the first hypothesis thus,

H1: Promoter stake has a strong and positive influence on the firm performance, in the context of emerging market firms.

As institutions matured and markets gained credibility in India, foreign interest continued to rise. With the triple pronged strategy of liberalization, privatization and globalization in the early 1990s (Haokip, 2011; Chadchan & Shankar, 2012) the country responded by allowing foreign participation in a wide variety of industries, leading to more foreign investments. Subsequent development of the economy happened with a lag of about a decade leading to more explosive growth in the first decade of the twenty first century. Foreign participation in the stock markets was in the form of foreign institutional investors such as Canadian pension funds and various credible investors from across the globe. They saw the merit in Indian firms that were on the developmental path; moreover, participation from such investors found favour in the eyes of investors who were generally outside the firm. At a broad level, FIIs were expected to increase the legitimacy and credibility of the Indian firms. Accordingly, one may say put forward the hypothesis,

H2: Foreign institutional investor stake has a positive influence on firm performance, in the emerging markets context.

Firms take various decisions as part of their long-term approach to business (Ortiz-de-Mandojana & Bansal, 2016; Köseoglu *et al.*, 2020). For instance, strategy-making involves suitable attention being paid not only to financial metrics such as revenue and profit growth but also to formulation and implementation of approaches that would lead to sustained competitive advantage (Rouse & Daellenbach, 1999; Kabeyi, 2019) for firms. Consequently, we note that such approaches predominantly focus on a) growing the market through effective sales and marketing strategies as well as b) investments in innovation with the intent to come up with new or newer products and services. Most firms are comfortable directing a portion of their reserves towards research; the apportioning leads to considerable work undertaken by the development teams which could be part of divisions such as 'new product development'. The expectation is that incrementally newer versions of products or value-adds to existing services would subsequently improve the profitability of firms. Consequently, we may posit that this would lead to better firm performance, leading to the hypothesis,

H3: Firm actions directed towards intent-to-innovate have a strong and positive influence on the market performance of firms.

DATA & METHODS

From a large set of listed companies, samples were drawn from three distinct industry groups – namely 1) Drugs and Pharmaceuticals, 2) Computer and software services and 3) Cement and Steel. All the chosen companies were listed on the Bombay Stock Exchange. These groups had 193, 122 and 81 firms respectively. For the year 2021-22, the list was arrived at by removing all the firms which had missing data, especially those relevant to the study. The rationale behind the choice of these industry groups leaned towards a good mix of industries that had tangible output compared to industries where intellectual capital remained the mainstay – for example, the computer and software services industry. After cleaning the data, the final set of firms was taken up for multivariate regression analysis.

The independent variables are promoter stake, foreign institutional investor stake and research intensity. The first two variables depict the ownership characteristics of firms while the third portrays the intent-to-innovate. A suitable proxy for the third variable is the ratio of research and development expenditure to the sales value, which is termed as the research intensity. The dependent variable, firm performance was measured through price-to-book value. Sales and age of firms were taken as the control variables. Table 1 indicates the variables in the study.

Table 1: Variables in the Study

Name	Description	Measure
PRICETOBOOKVAL	Price to book value	Taken from PROWESS
INDUSTRY	Industry Classification	Classification Used
PROMSTAKE	Promoter Stake	% shareholding of Promoters
FIISTAKE	Foreign Institutional Investor Stake	% shareholding of FII
DEVEXPRATIO	Development Expenditure Ratio	Amount spent on R&D divided by Sales
AGE	Age	Years since inception of firm
SALES	Sales	Revenue taken from PROWESS
PAT	Profit After Tax	Profitability measure

RESULTS & DISCUSSION

Table 2. Descriptive Statistics

	Mean	Std. Deviation	N
PRICETOBOOKVAL	3.14	5.45	396
INDUSTRY	1.51	0.50	396
PROMSTAKE	53.28	18.54	396
FIISTAKE	3.78	7.27	396
DEVEXPRATIO	0.06	0.12	396
AGE	35.63	18.10	396
SALES	4.06	2.90	396
PAT	3662.69	20682.85	396

Table 3. Correlation Table

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
[1] PRICETOBOOKVAL	1.00	-	-	-	-	-	-	-
[2] INDUSTRY	-0.11	1.00	-	-	-	-	-	-
[3] PROMSTAKE	0.11	0.08	1.00	-	-	-	-	-
[4] FIISTAKE	0.23*	0.00	-0.24*	1.00	-	-	-	-
[5] DEVEXPRATIO	-0.03	0.13	0.00	0.00	1.00	-	-	-
[6] AGE	-0.01	0.26*	0.06	0.02	0.08	1.00	-	-
[7] SALES	-0.10	0.56*	0.00	0.25*	0.16	0.30*	1.00	-
[8] PAT	0.13	-0.04	-0.02	0.35*	-0.02	0.08	0.17*	1.00

Descriptive statistics relating to the study have been provided in Table 2. A key finding is that the average shareholding of promoters in the 396 firms is 53% indicating very high concentrated ownership. This is true for any sample of listed firms taken from the Indian context (Waheed & Malik, 2019; Nashier & Gupta, 2023) irrespective of industry. A key feature is the low metric of R&D intensity observed at 6% due to the higher domination of firms (N=193) belonging to the group, 'Drugs and Pharmaceuticals'. Actual proof of investments in Research and development for the other two groups is even lower and tends to be in the zone of 0.0001 to 0.0003 which is negligible considering the comparison with the pharmaceutical industry.

The correlations between all the variables under study has been duly included as Table 3. Key points of interest are the significance of correlations between promoter stake and FII stake indicating that where ownership concentration is high, foreign institutional investors also hold higher shareholding. A few other significant correlations such as the one between sales and profitability are more logical in the Indian context; larger Indian firms have historically been more profitable.

Table 4: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1387.382	7	198.197	7.439	.000b
	Residual	10337.439	388	26.643		
	Total	11724.821	395			

a. Dependent Variable: PRICETOBOOKVAL

b. Predictors: (Constant), PAT, DEVEXPRATIO, PROMSTAKE, AGE, INDUSTRY, FIISTAKE, SALES

The F value is 7.439 indicated in Table 4. This value is significant at the 1% level of confidence, leading us to a valid rationale for using the regression as a method. The R2 value is 10.2% indicating that a small fraction of the variance in the firm performance is explained by the variables under study. Low values are common in management research especially in scenarios where we have utilized proxies that represent the firm's decisions. To support, Dawson (2014) indicates that more studies should focus on understanding the interaction effects of variables especially in social science research.

The Ordinary Least Squares regression indicates key findings for our understanding. Based on interpretation of results in Table 5, we note that the promoter stake as well as the foreign institutional investor stake has a significant influence on firm performance indicating that there is a certain amount of explanatory power of these factors. Surprisingly, AGE which is taken as one of the control variables has no significant influence on firm performance. Similar findings can be seen for Profitability (represented as PAT). However, large firms have a significant impact on market linked performance as indicated by the variable SALES.

Table 5: Regression Results

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**	**Collinearity Statistics**	
	B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
(Constant)	0.80	1.17		0.68	0.50		
INDUSTRY	-0.26	0.65	-0.02	-0.40	0.69	0.64	1.56
PROMSTAKE*	0.05	0.01	0.19	3.76	0.00	0.93	1.07
FIISTAKE*	0.23	0.04	0.30	5.58	0.00	0.77	1.29
DEVEXPRATIO	0.16	2.15	0.00	0.08	0.94	0.97	1.03
AGE	0.01	0.02	0.03	0.52	0.60	0.89	1.12
SALES*	-0.34	0.12	-0.18	-2.90	0.00	0.58	1.72
PAT	0.00	0.00	0.06	1.09	0.28	0.85	1.18

The regression results indicated that the ownership characteristics, namely promoter stake and the foreign institutional investor stake had a strong and significant impact on firm performance while the firm actions in the form of intent to innovate (measured through research intensity) did not have any impact on firm performance. Support, therefore, is available for hypothesis H1 and H2. In the case of development expenditure which is indicated by the progressive nature of firms by their spends on research, clearly market performance has not favoured the firms, leading us to find lack of any support for hypothesis H3.

IMPLICATIONS FOR PRACTITIONERS AND ACADEMICIANS

The findings of the study point to an overwhelming emphasis on the ownership concentration which is a key feature of Indian firms. This, surprisingly is appreciated by capital markets in the form of larger valuations. Firm performance hence seems to have a small measure of explanatory power that is being provided merely one of the corporate governance characteristic, which is promoter stake. This implicitly assumes that the larger set of investors outside the firm are able to ascribe superior decision-making powers to the management, which largely comprises of the founding family. Support has been found from several recent studies also; for instance Chatterjee, M., & Bhattacharjee (2021) as well as Al Farooque *et al.* (2020) have papers that substantiate our paper's key finding in different countries. Implications for practitioners mainly point to continuing with the status quo – keep the promoter stakes at more than 50%. Reasons could be that in an emerging market such as India where institutional enforcements and contract mechanisms are still emerging and have not become dominant, investors have shown more confidence when owners remain at the helm.

Support for this point can be seen from the way in which family-managed business conglomerates such as Tata, Reliance and Birla have shaped up.

The role of foreign institutions and their shareholding in Indian firms becomes prominent in determining market linked performance. Our findings here point to how investors view the participation of foreign investors. Despite being passive shareholders in the Indian firms, it is quite clear that market performance rewards the ownership aspect of the FIIs. Notable point is that none of the FIIs are part of the family or promoters or founding members. From a practitioner standpoint, it is quite clear that FIIs should be encouraged to identify leading firms in India and make substantial investments; over the long term, it would lead to superior return on their investments.

LIMITATIONS & CONCLUSIONS

The results indicate that the ownership characteristics have been found to influence firm performance significantly while the actions undertaken by firms implicitly have had no influence on firm performance. This reinforces the findings of earlier research while justifying the need for deeper studies in this domain. Management thinkers and scholars may find these results illuminating; nevertheless, the limitations are the smaller size of the sample and therefore the generalizability of the results to a larger population.

Suitable proxy measures to include sustainability in empirical research often involves the use of ESG indices such as the one developed by Credit Rating and Investment Services India Limited (CRISIL) or by Bloomberg; these have not been incorporated in this research. Going forward, such indices would feature as suitable measures to identify with sustainability; this is a major limitation of the current study.

Considering that ownership concentration is likely to be held at relatively higher levels in India, it is important that the investor community take note of this. It is quite possible that large ownership concentration leads to better and more profit-oriented decisions that are taken by the top management of these firms. Similarly, one can see that the FII shareholding is viewed very positively by the investor community, leading to a win-win situation. In the long run, these studies are oriented more towards reporting of results, that reflect the marketplace reality.

REFERENCES

1. Adewale, G., Ayo-Oyebiyi, G.T., & Adebayo, S.A. (2013). An Empirical study of factors that influence the adoption of ecommerce in Nigerian business organizations. *International Journal of Business and Management Invention*, *2*(9), 28-33.
2. Al Farooque, O., Buachoom, W., & Sun, L. (2020). Board, audit committee, ownership and financial performance–emerging trends from Thailand. *Pacific Accounting Review*, *32*(1), 54-81.
3. Alabdullah, T.T.Y. (2021). Ownership Structure and the Failure or Success of Firm Performance: Evidence from Emerging Market; Cross-sectional Analysis. *International Journal of Business and Management Invention*, *10*(8), 17-20.
4. Assidi, S. (2023). Voluntary disclosure and corporate governance: substitutes or complements for firm value?. *Competitiveness Review: An International Business Journal*. (In Press) DOI: https://doi.org/10.1108/CR-08-2022-0112
5. Auken, H.V., Guijarro, A.M., & de Lema, D.G.P. (2008). Innovation and performance in Spanish manufacturing SMEs. International Journal of Entrepreneurship and Innovation Management, 8(1), 36
6. Baah, C., Acquah, I.S.K., & Ofori, D. (2022). Exploring the influence of supply chain collaboration on supply chain visibility, stakeholder trust, environmental and financial performances: a partial least square approach. *Benchmarking: An International Journal*, *29*(1), 172-193.
7. Belkaoui, A., & Karpik, P.G. (1989). Determinants of the corporate decision to disclose social information. *Accounting, Auditing & Accountability Journal*, *2*(1), 36-51.
8. Bergh, D.D., Ketchen Jr, D.J., Orlandi, I., Heugens, P. P., & Boyd, B. K. (2019). Information asymmetry in management research: Past accomplishments and future opportunities. *Journal of Management*, *45*(1), 122-158.
9. Bhimavarapu, V.M., Rastogi, S., & Kanoujiya, J. (2023). Ownership concentration and its influence on transparency and disclosures of banks in India. *Corporate Governance: The International Journal of Business in Society*, *23*(1), 18-42.
10. Chadchan, J., & Shankar, R. (2012). An analysis of urban growth trends in the post-economic reforms period in India. *International Journal of Sustainable Built Environment*, *1*(1), 36-49.

11. Chandra, A. (2012). Cause and effect between FII trading behaviour and stock market returns: The Indian experience, *Journal of Indian Business Research*, *4*(4), 286-300.

12. Chatterjee, M., & Bhattacharjee, T. (2021). Ownership concentration, innovation and firm performance: empirical study in Indian technology SME context. *South Asian Journal of Business Studies*, *10*(2), 149-170.

13. Child, J. (1972). Organizational structure, environment and performance: The role of strategic choice. *sociology*, *6*(1), 1-22.

14. Clapham, S.E., & Schwenk, C.R. (1991). Self-serving attributions, managerial cognition, and company performance. *Strategic Management Journal*, *12*(3), 219-229.

15. Dalton, D.R., Todor, W.D., Spendolini, M.J., Fielding, G. J., & Porter, L. W. (1980). Organization structure and performance: A critical review. *Academy of management review*, *5*(1), 49-64.

16. Dawson, J.F. (2014). Moderation in management research: What, why, when, and how. *Journal of Business and Psychology*, *29*(1), 1-19.

17. Duan, Y., Yang, M., Huang, L., Chin, T., Fiano, F., de Nuccio, E., & Zhou, L. (2022). Unveiling the impacts of explicit vs. tacit knowledge hiding on innovation quality: The moderating role of knowledge flow within a firm. *Journal of Business Research*, *139*, 1489-1500.

18. Elsayed, K. (2007). Does CEO duality really affect corporate performance?. *Corporate Governance: An International Review*, *15*(6), 1203-1214.

19. Eng, L.L., & Mak, Y.T. (2003). Corporate governance and voluntary disclosure. *Journal of accounting and public policy*, *22*(4), 325-345.

20. Filatotchev, I., & Nakajima, C. (2014). Corporate governance, responsible managerial behavior, and corporate social responsibility: organizational efficiency versus organizational legitimacy?. *Academy of Management Perspectives*, *28*(3), 289-306.

21. Giang, H.T.T., & Dung, L.T. (2025). Sharing economy and retailer sustainable performance: the mechanisms via business model innovation and digital capabilities. *Journal of Innovation and Entrepreneurship*, *14*(1), 27.

22. Guthrie, K., & Sokolowsky, J. (2010). Large shareholders and the pressure to manage earnings. *Journal of Corporate Finance*, *16*(3), 302-319.

23. Grimm, J.H., Hofstetter, J.S., & Sarkis, J. (2023). Corporate sustainability standards in multi-tier supply chains–an institutional entrepreneurship perspective. *International Journal of Production Research*, *61*(14), 4702-4724.

24. Haokip, T. (2011). India's look east policy: Its evolution and approach. *South Asian Survey*, *18*(2), 239-257.

25. Healy, P.M., & Palepu, K.G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of accounting and economics*, *31*(1-3), 405-440.

26. Kabeyi, M. (2019). Organizational strategic planning, implementation and evaluation with analysis of challenges and benefits. *International Journal of Applied Research and Studies*, *5*(6), 27-32.

27. Köseoglu, M.A., Altin, M., Chan, E., & Aladag, O.F. (2020). What are the key success factors for strategy formulation and implementation? Perspectives of managers in the hotel industry. *International Journal of Hospitality Management*, *89*, 102574.

28. Kumar, N., & Singh, J.P. (2013). Effect of board size and promoter ownership on firm value: some empirical findings from India. *Corporate Governance: The International Journal of Business in Society*, *13*(1), 88-98.

29. Larwood, L., & Whittaker, W. (1977). Managerial myopia: Self-serving biases in organizational planning. *Journal of Applied Psychology*, *62*(2), 194.

30. Mahajan, R. (2023). Measuring sustainability in india: a comparative assessment of frameworks and key challenges. In *Measuring Sustainability and CSR: From Reporting to Decision-Making* (pp. 179-195). Cham: Springer International Publishing.

31. Mallin, C.A. (2016). *Corporate Governance*. Oxford University Press.

32. Manikutty, S. (2000). Family business groups in India: A resource-based view of the emerging trends. *Family Business Review*, *13*(4), 279-292.

33. Misangyi, V.F., & Acharya, A.G. (2014). Substitutes or complements? A configurational examination of corporate governance mechanisms. *Academy of Management Journal*, *57*(6), 1681-1705.

34. Monks, R.A., & Minow, N. (2011). *Corporate Governance*. John Wiley & Sons.

35. Mourtzis, D., & Doukas, M. (2014). The evolution of manufacturing systems: From craftsmanship to the era of customisation. In *Handbook of research on design and management of lean production systems* (pp. 1-29). IGI Global.

36. Nashier, T., & Gupta, A. (2023). Ownership concentration and firm performance in India. *Global Business Review*, *24*(2), 353-370.

37. Olson, E.M., Slater, S.F., & Hult, G.T.M. (2005). The performance implications of fit among business strategy, marketing organization structure, and strategic behavior. *Journal of Marketing*, *69*(3), 49-65.

38. Ortiz-de-Mandojana, N., & Bansal, P. (2016). The long-term benefits of organizational resilience through sustainable business practices. *Strategic Management Journal*, *37*(8), 1615-1631.

39. Puni, A., & Anlesinya, A. (2020). Corporate governance mechanisms and firm performance in a developing country. International Journal of Law and Management, 62(2), 147-169.

40. Rouse, M.J., & Daellenbach, U.S. (1999). Rethinking research methods for the resource-based perspective: isolating sources of sustainable competitive advantage. Strategic management journal, 20(5), 487-494.

41. Shleifer, A., & Vishny, R.W. (1997). A survey of corporate governance. The Journal of Finance, 52(2), 737-783.

42. Sternberg, R.J., & Horvath, J.A. (Eds.). (1999). Tacit knowledge in professional practice: Researcher and practitioner perspectives. Psychology Press.

43. Taylor, F.W. (2004). Scientific management. Routledge.

44. Tripathi, V (2019). Agency theory, Ownership structure and capital structure: An empirical investigation in the Indian automobile industry. Asia-pacific Management Accounting Journal, 14(2), 1-22.

45. Van Oorschot, K.E., Johansen, V.A., Thorup, N.L., & Aspen, D.M. (2024). Standardization cycles in sustainability reporting within the Global Reporting Initiative. European management journal, 42(4), 492-502.

46. Vigneau, L., Humphreys, M., & Moon, J. (2015). How do firms comply with international sustainability standards? Processes and consequences of adopting the global reporting initiative. Journal of business ethics, 131, 469-486.

47. Waheed, A., & Malik, Q.A. (2019). Board characteristics, ownership concentration and firms' performance: A contingent theoretical based approach. South Asian Journal of Business Studies, 8(2), 146-165.

48. Yoshikawa, T., Zhu, H., & Wang, P. (2014). National governance system, corporate ownership, and roles of outside directors: A corporate governance bundle perspective. Corporate Governance: An International Review, 22(3), 252-265.

49. Zhou, W. & Liu, P. (2023). China's property crisis exposes corporate governance failure to the world. Retrieved from https://www.business-standard.com/world-news/china-s-property-crisis-exposes-corporate-governance-failure-to-the-world-123090700103_1.html, Accessed 27 September 2023.

Beach Warriors™ India: Balancing Growth and Integrity

"Mera Kachra, Meri Zimmedari
Two Hands Can Do Wonders, Insaan Bano"
—Chinu Kwatra (Beach Warriors™
by Khushiyaan Foundation, Founder)

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Beach Warriors™ India, Chinu Kwatra, Environmental Activism, Community Engagement, Corporate Partnerships, Organizational Sustainability and Social Entrepreneurship

ABSTRACT

This case highlights the growth of Beach Warriors™ India, founded by Chinu Kwatra, from a local beach cleanup initiative to a nationally recognized environmental movement. It focuses on the challenges of scaling community-driven environmental activism while maintaining authenticity, public trust, and organizational sustainability. The case will be useful for understanding the strategic considerations of partnering with corporate sponsors versus remaining independent. It also provides insights into balancing social impact, growth, and credibility in civic environmental leadership.

In September 2024 in Mumbai, India, Chinu Kwatra, Founder of Beach Warriors™ India thereby under the Khushiyaan Foundation, faced a very important decision. Through the movement's launch on September 3, 2017, Kwatra succeeded in turning the small nature-friendly actions aided by volunteers into a national insignia of community-initiated environmental campaigns[1]. Up until now, Kwatra has taken away more than 4,000 tons of waste from the coastline and is still cleaning on weekends summer every four days at the beaches. World fame came their way when the documentary Oceans Under Siege, which included Kwatra and his team, was exhibited at the 10th Positive Cinema Week in Cannes, France, winning the screening spot[2].

With international attention and growing expectations, Kwatra now faced a crucial strategic dilemma: should Beach Warriors™ enter formal partnerships with corporations and institutional sponsors to scale nationally, or retain its independent,

[1]Khushiyaan Foundation, "Beach Warriors."

[2]Hindustan Times, "From Dadar to Cannes: Dadar Beach Warriors Take India's Coastal Conservation to the Global Stage."

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community-led model that had built public trust and authenticity? Corporate collaborations could provide access to funding, technology, and broader reach but risked compromising the grassroots ethos that defined the initiative.

Remaining independent would preserve credibility and community ownership but might constrain resources and long-term sustainability. The decision, which is due by the end of 2024, will affect the future of Beach Warriors™ in terms of striking a balance between social contribution and organizational scalability, together with integrity, thus determining their future as both a movement and a model for civic environmental leadership in India that is sustainable.

BIRTH AND EXPANSION OF BEACH WARRIORS™

On the early morning of September 4, 2017, three childhood friends- Chinu Kwatra, Shraddha, and Akshay decided to go to Dadar beach for a casual outing. What is destined to happen unfolds in the ways we never imagine. Their visit coincided with the aftermath of the 1.5-day Ganpati Visarjan, during which submerged idols had washed ashore. While these idols were just debris for people visiting the beach, Chinu and his friends decided to do something immediately.

Wearing the hats as social workers, three of them began collecting the submerged idols near the shore with pure hearts to clean the beach. They say it only takes one person to ignite a movement in others. Inspired by the trio's selfless actions and concern towards the environment, around 15 beachgoers joined them, and within an hour, Dadar Beach was evidently much cleaner than before.

There was more waiting for them. When Chinu and his friends returned the next day, they found that the idols had washed back onto the beach. The incident revealed the temporary nature of ad-hoc cleanups and highlighted the need for a structured waste collection and processing system. That was the day when Chinu met his mentor, Professor Indu Mehta, who was equally dedicated to supporting their initiative for the environment.

"That morning in September 2017, we went for a casual visit to the beach. When we saw the idols washed up after the Ganpati Visarjan, we immediately decided to clean up. What amazed all of us was how quickly other people also joined us in cleaning the beach. It was just a mere instinct to act, but soon became a movement. In later interviews, Kwatra noted that the early response from beachgoers demonstrated how a small voluntary act could inspire collective action.

A one-day activity soon turned into five, with more and more Mumbai residents joining them. (Exhibit 1). Dadar Beach never looked this spotless after the Ganpati festival. What followed was more intense. Taking inspiration from a social activist and a lawyer synonymous with the world's largest beach clean-up work at Versova Beach, Afroz Shah's3 and guidance from Professor Indu Mehta, they decided to take the plunge of cleaning every weekend, which eventually led to the birth of 'Beach Warriors™.'

"In the month following the Ganpati festival, we continued our clean-up initiatives without any support and funded our own supplies collectively. Our work caught media attention, and even many influencers and celebrities started supporting our movement. When Professor Indu Mehta referred to all the volunteers as 'Ninja Warriors', the name 'Beach Warriors' finally came into place."

The[4] Report says that India will release 391,879 tonnes of microplastics into the water. The statistics also mention that India is projected to become the second leading polluter of water bodies after China. Since 2017, Beach Warriors™ have completed seven years of clean-ups and removed approximately 40,000 tonnes of waste. It has conducted clean-up activities on eight different beaches in Mumbai, namely Bandra, Worli, Gorai, Juhu, Malad, Cuffe Parade, Dadar and Khar.

"Our dedication has earned us many recognitions, including a National Record in the 'Limca Book of Records' in 2018 and a World Record from 'Harvard

[3]CHAMPIONS OF THE EARTH, "Afroz Shah - Inspiration and Action."

[4]Plastic Overshoot Day Report, "In 2024, India to Be among the Top 4 Contributors of Microplastics Released into Water Bodies." Down to Earth."

World Records' in 2021 and many more recognitions and awards, which motivate us to keep pushing our boundaries to serve the community."

CORPORATE ESG AND VALUE CREATION

The efforts of Beach Warriors™ are a perfect example of how community engagement leads to environmental and social benefits.

In the first edition of the Principles of Community Engagement, Center for Disease Control and Prevention (CDC) provided a working definition of community engagement:

"…the process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the well-being of those people. It is a powerful vehicle for bringing about environmental and behavioral changes that will improve the health of the community and its members. It often involves partnerships and coalitions that help mobilize resources and influence systems, change relationships among partners, and serve as catalysts for changing policies, programs, and practices"[5].

Environmental, social and governance (ESG) issues are becoming increasingly important than ever to improve social responsibility and encourage community support & involvement. Chinu rightly said, "We have raised public awareness of sustainability issues in seven years of our journey. Our efforts are not only to educate residents but also to help other authorities, investors, and members of society make informed and educated decisions. Our message was so powerful and clear that it motivated the different parties to talk between them. At first, our goal was just to make cleanup awareness, but now we have developed a complete platform that even considers MRF recycling as part of our mission."

The action has gotten rid of a great amount of plastic waste, and at the same time, it has dealt with the pollution in rivers and lakes and the number of informed residents has gone up by thousands. The work of Beach Warriors™ finds its place right next the main Environmental, Social, and Governance (ESG) objectives[6].

ENVIRONMENTAL IMPACT

On the Environmental (E) front, Beach Warriors™ has made a significant change by reducing plastic waste from beaches and waterways (Exhibit 2). This initiative addresses the root causes of pollution through consistent beach cleanup activities (Exhibit 3) and tackling pollution in rivers and lakes. As they are spreading the awareness of responsible waste management, it has prevented further environmental degradation. Moreover, it also encourages hands-on sustainability education by educating local communities and residents regarding sustainability practices and waste disposal. (Exhibit 4)

Waste Management

One of the prime focuses of Beach Warriors™ has been to unite local communities and encourage a sense of shared responsibility, which finally led to the creation of a power-packed volunteer-driven collective action.

According to Beach Warriors™' Annual Report 2020, approximately 3,100 people participated in beach clean-ups across nine locations and collected approximately 36 tons of waste. The pandemic brought a halt to beach cleanup, but as soon as restrictions were lifted, volunteers gathered in numbers to restart their cleanup activities. It resumed from 29th August 2020, which saw around 150 participants. They collected 2.4+ tons of waste from beaches like Dadar, Juhu, and Gorai.

Year after Year, Beach Warriors™ has observed a considerable increase in volunteerism. 2021 saw a noticeable increase in participation. To highlight, the cleanup from September 12, 2021, to September 21, 2021 (exhibit 5 [a]) saw more than 2000 volunteers, particularly for the Ganpati Visarjan season. They cleaned over 20+ tons of waste. The same year, Beach Warriors™ partnered with various groups, including corporates, colleges, and BMC (e.g., Patkar

[5]Community Stress Resource Center, "Principles of Community Engagement (2nd Edition)."

[6]workiva, "What Is ESG? Everything You Need to Know About Environmental, Social, and Governance."

College, Chetna College, and corporate teams), to drive participation and maximise the reach. In another instance, on November 6, 2021, Beach Warriors™ supported and emphasised women's empowerment, where female students of Patkar College of Commerce and Economics joined hands and led a cleanup. 2022 also kicked off with multiple cleanups, leading to the collection of tons of waste. This year's highlight in terms of highest participation was on January 23, 2022, when 4,000+ participants across India collected over 10 tons of trash. (Exhibit 5 [b]).

In 2023 and 2024, Beach Warriors™ continued to grow in both participation and impact and further solidified its role in environmental stewardship.

SOCIAL IMPACT

In terms of Social (S), Beach Warriors™ promotes community engagement as volunteers and residents actively involve themselves in the clean-up initiatives. It helps promote and build a generation of environmentally conscious people when youth participate in the initiatives. They are becoming environmental stewards by letting their actions speak louder than words.

Statistics also reveal that in June 2022, the participation in cleanups was quite modest, with community members and RWA participants making up the majority. At the beginning of the year, the number of volunteers for Beach Warriors™ was only 15, but they grew spectacularly in just 3 months. Through the end of September 2022, the community and RWA participant numbers were almost the same. The month of December 2022 and March 2023 witnessed an enduring rise, as the Community Participants, RWA Participants, and Government Representatives kept exceeding the number of 200 participants all the time. This increase indicates the growing interest of local communities. (Exhibit 6)

On the other hand, another area, which had a positive outlook, was the student participation. The data points out that the count of student participants gradually rose during the time from June 2022 to March 2023. Starting with 1,070 students on June 30, 2022, the number more than doubled by September 30, 2022, reaching 2,853 participants. By the end of 2022, on December 31, student involvement further increased to 3,730. This upward trajectory continued into the new year, culminating in an impressive 5,302 student participants by March 31, 2023.

Social media has a bigger role to play in increasing the involvement of students in cleanup activities. The way social media platforms spread the word about Beach Warriors™, success stories, activities, campaigns, before & after videos of cleanups, and other impactful visuals, turned cleanup events into meaningful community-driven gatherings where youth feel motivated and empowered to take action for the environment.

In addition, WhatsApp has been used extensively as a primary communication channel for planning, coordination and real-time updates. (Exhibit 7). Through WhatsApp, Beach Warriors™ send location details, safety guidelines, and waste segregation instructions directly to participants.

In Year 1, Beach Warriors™ witnessed a 15% growth in volunteer numbers by the end of the year. Due to the popularity of influencer-supported events and well-coordinated social media calls to action, Year 2 saw a 30% increase in volunteer sign-ups. In Year 3, the volunteer base increased by 45% due to impact reporting, influencer partnerships and community-focused content.

GOVERNANCE AND VALUE CREATION

From a Governance (G) perspective, Beach Warriors™ demonstrates strong ethical practices by operating without any official funding or external financial support from authorities. It maintains transparency and accountability in how resources are managed and used. Clean-up activities by Beach Warriors™ also promote responsible tourism and public interest.

Its selfless efforts, transparency and accountability towards the environment can be clearly analysed when one looks at the recognition and awards received by the Beach Warriors™ (Exhibit 8). It has been covered by many media platforms like Mumbai Mirror, Zee Business News, and Hindustan Times, which document their beach cleanups and volunteer efforts, such as the International Coastal Cleanup Day at Dadar Beach, where 2,000 volunteers participated. Collaborations like the Eco-Bappa Morya Campaign with actress Amrita Rao also highlight Beach Warriors™' dedication towards an eco-friendly action.

Chinu Kwatra actively represented Beach Warriors™ at various national and international platforms such as Innofest India 2024, the Sustainability Hour in Dubai, IIT Bombay, and the MOSAIC SDG Conclave in Gorakhpur. He not only shared the story of his transition from 'the garbage guy' to 'the cleanliness guy' but also encouraged the youth and the audience to take on the challenge of environmental change by being responsible personally.

Beach Warriors™ maintains transparency on its social media platforms by sharing real-time updates and impactful stories. With 549k (as of November 2024) followers on Instagram, the posts frequently showcase the collaborations, recognitions and new initiatives that Chinu Kwatra do (Exhibit 9). The NGO page Khushiyaan Foundation, with a follower count of 18.8k (as of November 2024), showcases before-and-after cleanup visuals, volunteer contributions, and partnerships with influencers and public figures. (Exhibit 10)

This is the era of digital interconnectedness, where social media has a pivotal role to play in mobilising communities for social and environmental causes. According to certain reports, as of 2024, there are over 4.8 billion people who consume social media (Facebook, Instagram, Twitter and other such platforms) 7. In India alone, there are approximately 467 million social media users, which makes this medium ideal for driving collective action.

For Beach Warriors™, social media played a pivotal role in turning a small beach clean-up into a widespread movement. In the early days, Chinu and his friends started sharing photos and videos of their clean-up efforts on platforms like Instagram and Facebook. These posts quickly gained traction and motivated thousands of inspired users to join the cause.

[7]Statista, "Number of Internet and Social Media Users Worldwide as of October 2025 (in Billions)."

From 2017 to 2024, Beach Warriors™ saw exponential growth in its social media presence. Through platforms like Facebook, Instagram, and later LinkedIn, Beach Warriors™ reached a wide audience and successfully engaged individuals, particularly youth, to take action.

Gradually, Beach Warriors™ became successful in showing real-time updates, success stories, and transformation photos of beaches with the support of their social media handles. Consistent posting across these platforms created a community that not only liked and shared content but also joined clean-ups, which was the real intent.

According to Kwatra's public statements, the year 2017 marked a major turning point for Beach Warriors™. The team's before-and-after images of beach cleanups went viral on social media, drawing widespread admiration and engagement. The endeavor quickly garnered notoriety among the stars, politicians, and big news channels, resulting in more than a hundred news features in a single year. Kwatra's increasing recognition as a social entrepreneur not only widened his reach but also gave him a bigger platform to talk about and promote environmental awareness throughout India.

Along with the regular updates on the amount of waste collected and the completion of various clean-ups, Beach Warriors makes its impact metrics public on social media. They proved to the world how powerful united action can be. This openness allows the volunteers to recognize the importance of their input, which then encourages them to take part and be responsible for the long-term environmental goals.

Year-on-Year Growth in Social Media Engagement

The different Beach Warriors programs have gotten the attention of all demographic groups and engagement has become a steady uptrend as a result of it.

In Year 1, the engagement was moderate. The slow but steady increase in engagement was primarily through community members, grassroots followers and environmental activists. The showing of before and after pictures of clean-ups and other visual content on social media gave a 20% increase in engagement.

In Year 2, when Chinu Kwatra made a decision to partner with local influencers, it resulted in an instant increase in the height of the engagement graph. And the events were even better with the media coverage, seasonal clean-ups as well and thus the engagement of 35% from the previous year was earned. Plus, Ganesh Visarjan and World Environmental Day clean-ups were other sources of engagement increase.

By Year 3, the collaboration of high-profile influencers, the dissemination of more general sustainability messages, and the very precise campaign activities with a huge variety of audiences as their strengths contributed to a 45% rise in the engagement rates. The posts related to the extracted waste amount, the educational content on waste management and environmental conservation, and other metrics were under the spotlight and received great attention.

Beach Warriors™ has employed a diverse range of content, including call-to-action posts, ‘before and after’ pictures of different beaches from cleanups, upcoming events, and campaigns as well. They frequently used hashtags such as #SaveOurBeaches to extend the reach. Educational posts about waste segregation, composting, and reducing plastic use, reinforced by infographics, also contributed greatly to the overall impact.

The posts that present transformational images or videos of the most cleaned beaches so far receive the greatest likes and shares, as they directly appeal to people’s minds. Content promoted by influencers and celebrities resulted in a 30 to 35% increase in engagement, thus generating a wider reach and higher participation[8].

Post comments mostly make positive statements and support the cause, while a number of users are inviting their friends by tagging them to join in. Hashtag performance has been one of the most important metrics, with #SaveOurBeaches and #BeachCleanupMumbai consistently increasing, particularly during the time of major events. The use of campaign-specific hashtags has also been successful in creating targeted conversations and revealing the extent of Beach Warriors™ initiatives.

Strategic Involvement of Influencers

Another significant contributor to the growing engagement and participation in Beach Warriors™ has been the strategic involvement of influencers.

The power of digital influence is undeniable when one looks at statistical data. There are over 5.22 billion internet users worldwide as of October 2024. Chinu knew the potential of social media and how revolutionary this medium can be to mobilise communities. To increase the reach and impact of Beach Warriors™, Chinu collaborated with well-known personalities like renowned dancer Raghav Juyal, Indian rapper Raftaar, famous actress Raveena Tandon, veteran actor Amitabh Bachchan, actor & film producer Sunil Shetty and many more celebrities and influencers. Chinu tapped into their expansive follower networks to instantly amplify the cause’s visibility. (Exhibit 11)

In Year 1, only local figures and community leaders were involved; therefore, the influencer participation was quite limited. Despite this, influencer-driven posts boosted visibility, which led to a 15% increase in follower count.

Year 2 saw the participation of regional celebrities and environmental advocates, which led to a 25% increase in audience reach and a steady rise in volunteer turnout. Cleanup campaigns promoted by influencers not only generated higher engagement spikes but also broadened the demographic reach.

Year 3 saw the involvement of high-profile celebrities, taking the project to another level. The events supported by the influencers combined with promotions across various platforms, resulted in a 50% increase in the engagement during and after each celebrity event.

The partnership between celebrities and Chinu Kwatra resulted in a major increase in awareness

[8]Garcia, Dominguez, and Herrero, “Communication Using Celebrities in the Non-Profit Sector Determinants of Its Effectiveness.”

and involvement. This made thousands of new volunteers come forward to the clean-ups since they were encouraged by seeing the participation of their popular public figures. Moreover, these endorsements attracted media coverage, leading Beach Warriors to be known as an environmental movement in Mumbai.

Material Recovery Facilities and Recycling Initiatives

Chinu Kwatra has not merely limited himself to beach-cleaning but acted through a series of steps by linking cleanup operations with an MRF (Material Recovery Facility) so that no waste would only be cleaned off the beach but also recycled[9].

Chinu's new project took him another step closer to a sustainably innovative world as he turned waste into public benches. Such a project is also an example of the total environmental responsibility concept where the waste destined for the landfill gets turned into community goods.

"These benches are placed in high-traffic areas to serve as a reminder of the impact of Beach Warriors™ and the potential of recycling to create positive change.

STRATEGIC ALTERNATIVES FOR BEACH WARRIORS™

The journey of Beach Warriors™ India was marked by a continual rise over a span of seven years and gaining national recognition at the same time. The decision was now to be taken by the founder, Chinu Kwatra, whether to continue the movement's impact or let it die, but the latter in a way that was still retaining its grassroot integrity. The two strategic alternatives were the result.

Option 1: Expansion through Corporate Partnerships

Beach Warriors™ could get the national scaling by collaborating with the corporates and institutions because it would enable the access to funding, technology, and the volunteer networks under corporate ESG programs. By this way of partnership, the company is sure to be strengthened in its operational capacity and reach out to more people in India. At the same time, these partnerships could risk introducing control through bureaucracy, accusations of "greenwashing," or shifting the focus from the community engagement to brand promotion which might lead to public trust and volunteer motivation being undermined.

Option 2: Maintaining an Independent, Community-Led Model

Continuing as a volunteer-driven project under the Khushiyaan Foundation would not only keep the community involvement, but also the transparency, authenticity of the NGO practice which have been the key factors to the success of the movement. Getting the support of the public would also mean that the organization would not be tied in the decision-making process stuck and hence, movement would continue to be credible. On the other hand, the reliance on the public is a significant drawback because it might not always be steady funding that could lead to restrict expansion, limit infrastructure development, and posing long-term sustainability challenges.

Both options held clear advantages and trade-offs. The founder, Kwatra, now was the one who needed to determine whether to engage in partnerships capable of turning Beach Warriors™ into a national model or maintaining the independence that made it a reliable representer of environmentally friendly changes through non-governmental participation.

The Future

As a Social Activist, Environmentalist, Motivational Speaker, Influencer and Social Entrepreneur, Chinu Kwatra has come a long way with Beach Warriors™.

On the 10th anniversary of the Swachh Bharat Mission (SBM) on October 2, 2024, Beach Warriors™ completed its 348th week of cleanup at Juhu Koliwada Beach. The journey of Beach Warriors™ is a living example of how community engagement, celebrity involvement, and sustainable practices can drive real environmental change in society. Through

[9]Wikipedia, "Materials Recovery Facility."

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the strategic use of social media, Chinu Kwatra amplified the reach of Beach Warriors™, which transformed a local clean-up initiative into a large-scale movement. Social media platforms allowed the initiative to engage thousands of volunteers, share real-time progress, and foster an active online community that extended well beyond Mumbai.

Looking ahead, Beach Warriors™ aims to expand its clean-up model to additional locations, partner with more influencers, and strengthen its recycling network. By enhancing engagement on social media platforms, Beach Warriors™ will continue to inspire a new generation of environmental advocates.

As Beach Warriors™ looks to the future, it raises two important questions:

1. How can we, as individuals and communities, take greater responsibility for our environment in the face of ongoing pollution and damage to the environment?
2. What role does personal accountability play in environmental sustainability?

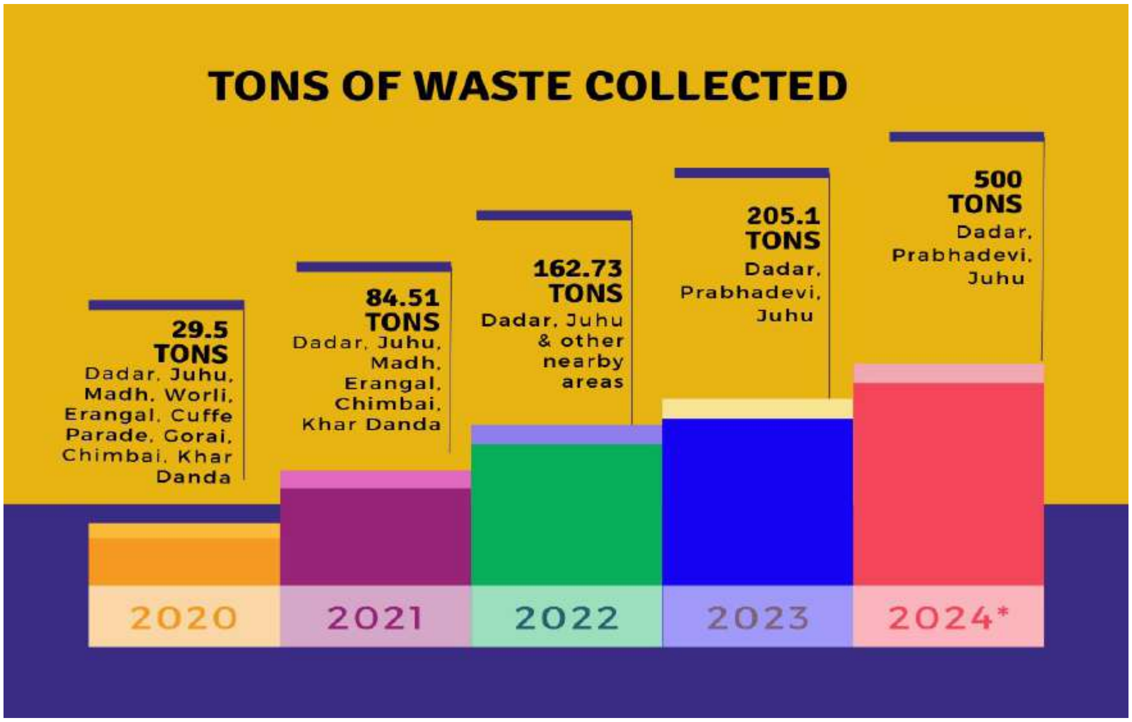
Decision Point

At the end of the year 2024, Chinu Kwatra faced a decisive question for Beach Warriors™ India: should the company tie up with corporate sector players for nationwide expansion or stick to its community-driven, independent existence? The two options came with different but equally attractive and dangerous consequences. The choice would decide the way Beach Warriors™ mixed up the three things, i.e., authenticity, growth, and sustainability, while still being engaged in their mission of being the first in civic environmental matters.

Exhibit 1: Core Team Behind Beach Warriors™

Source: Beach Warriors™

Exhibit 2: Tons of Waste Collected by Beach Warriors™



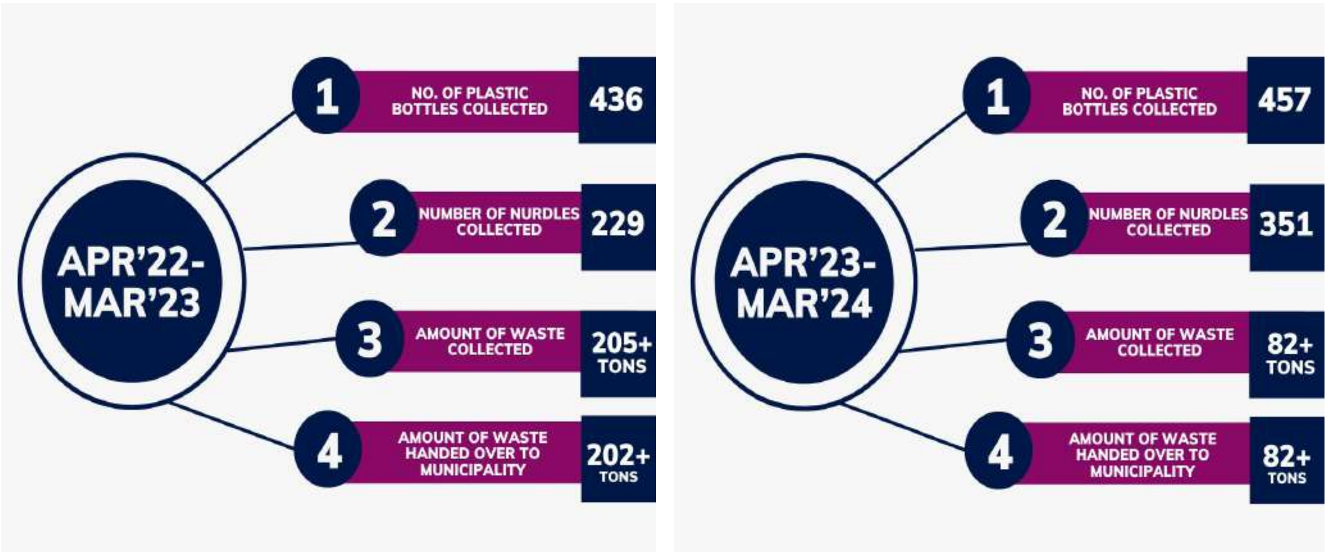
The year 2024 shows data till October 2024

Source: Beach Warriors™

Exhibit 3: Number of Cleanups Done by Beach Warriors™

Source: Beach Warriors™

Exhibit 4: Sustainable Practices Promoted by Beach Warriors™ Through Cleanups

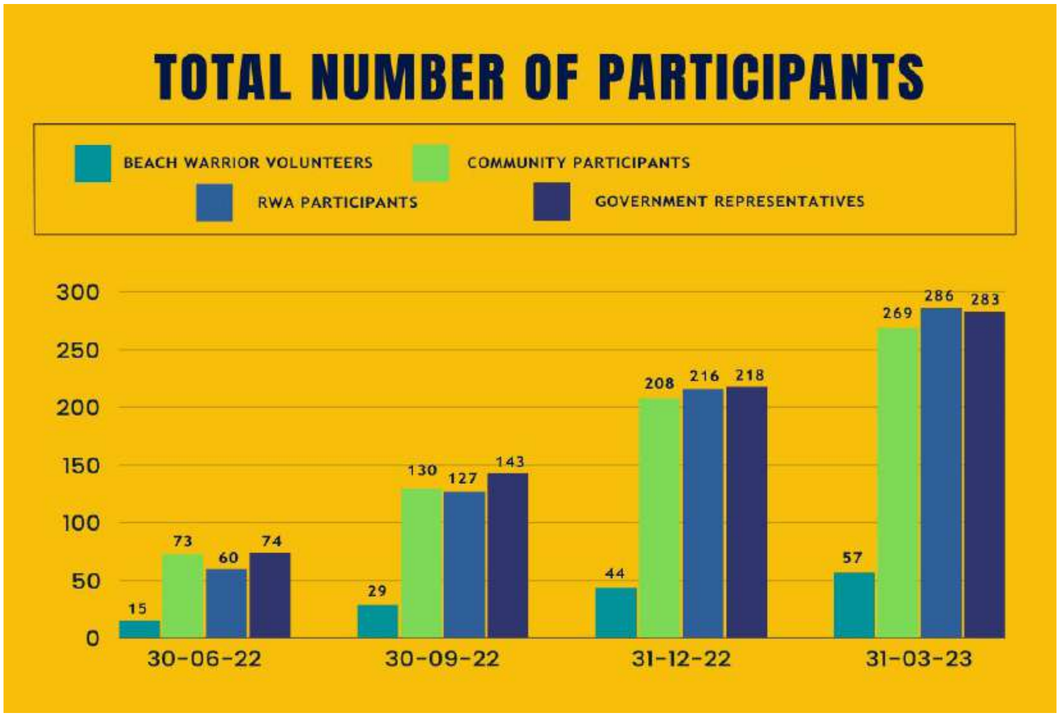


Source: Beach Warriors™

Exhibit 5: One of the Largest Cleanups Conducted on January 23, 2022

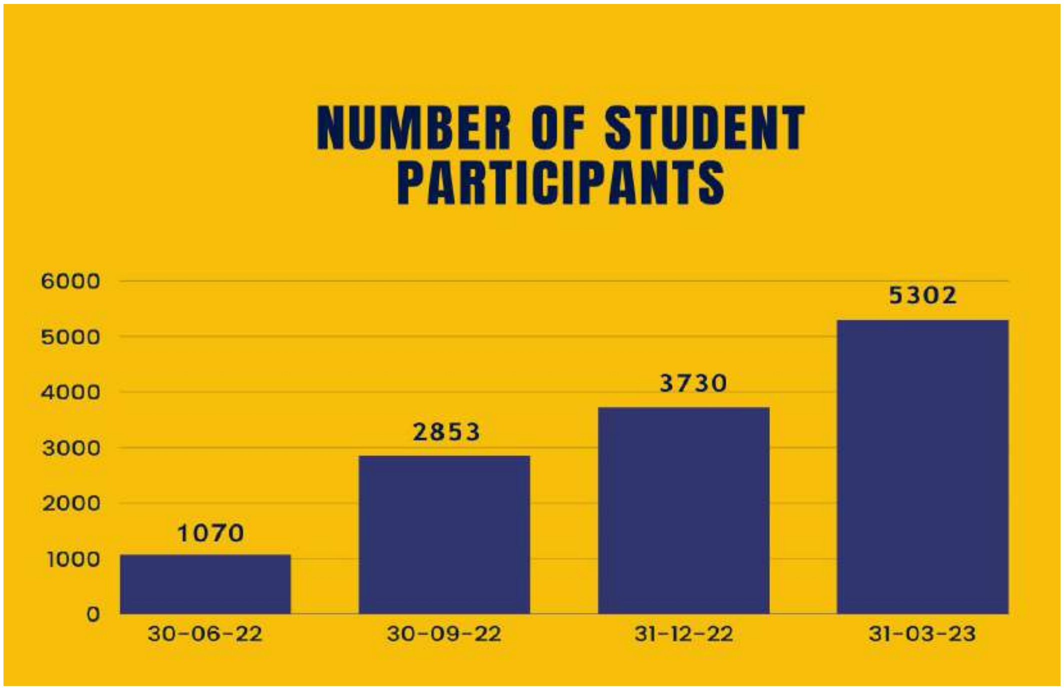
Source: Beach Warriors™

Exhibit 6 (A): Total Number of Participants Participated in Cleanups



Source: Beach Warriors™

Exhibit 6(b)



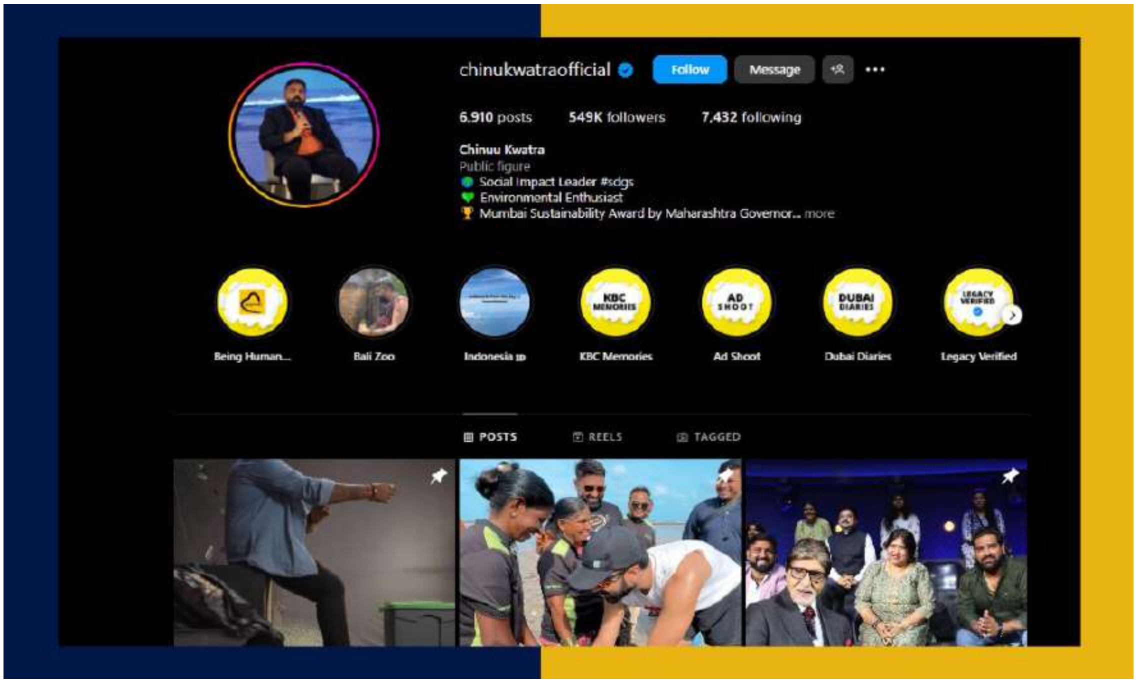
Source: Beach Warriors™

Exhibit 7

Exhibit 8: Awards and Recognitions Received by Beach Warriors

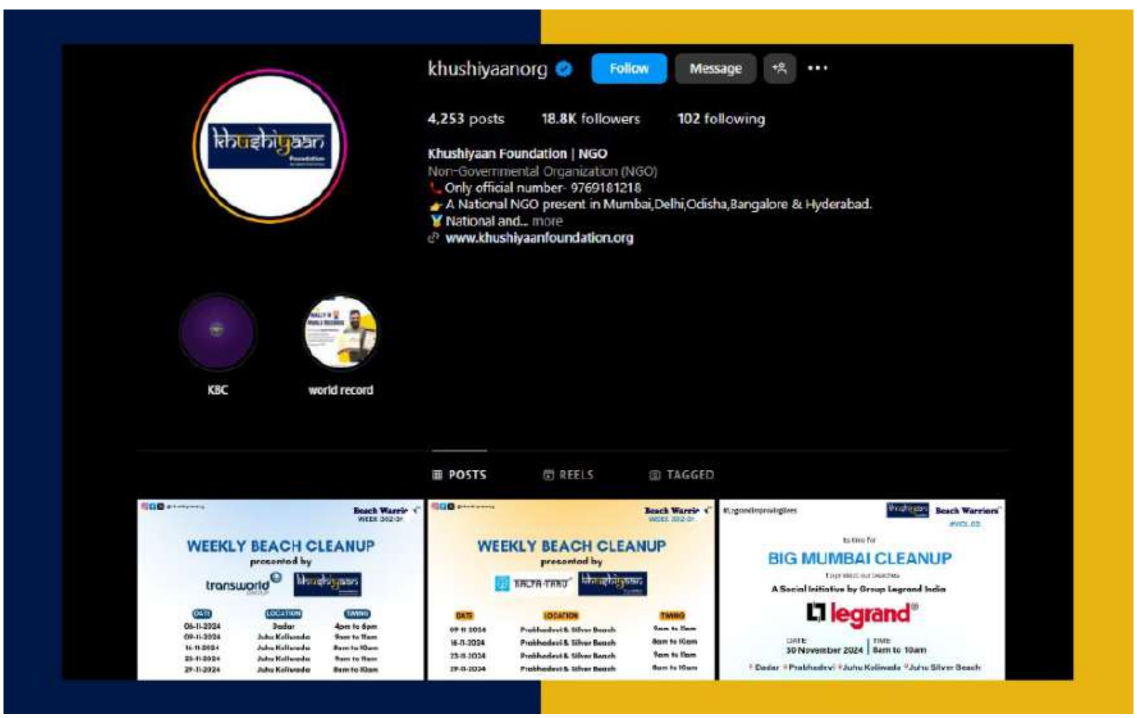
Source: Beach Warriors™

Exhibit 9: Social Media Page of Chinu Kwatra (Instagram)



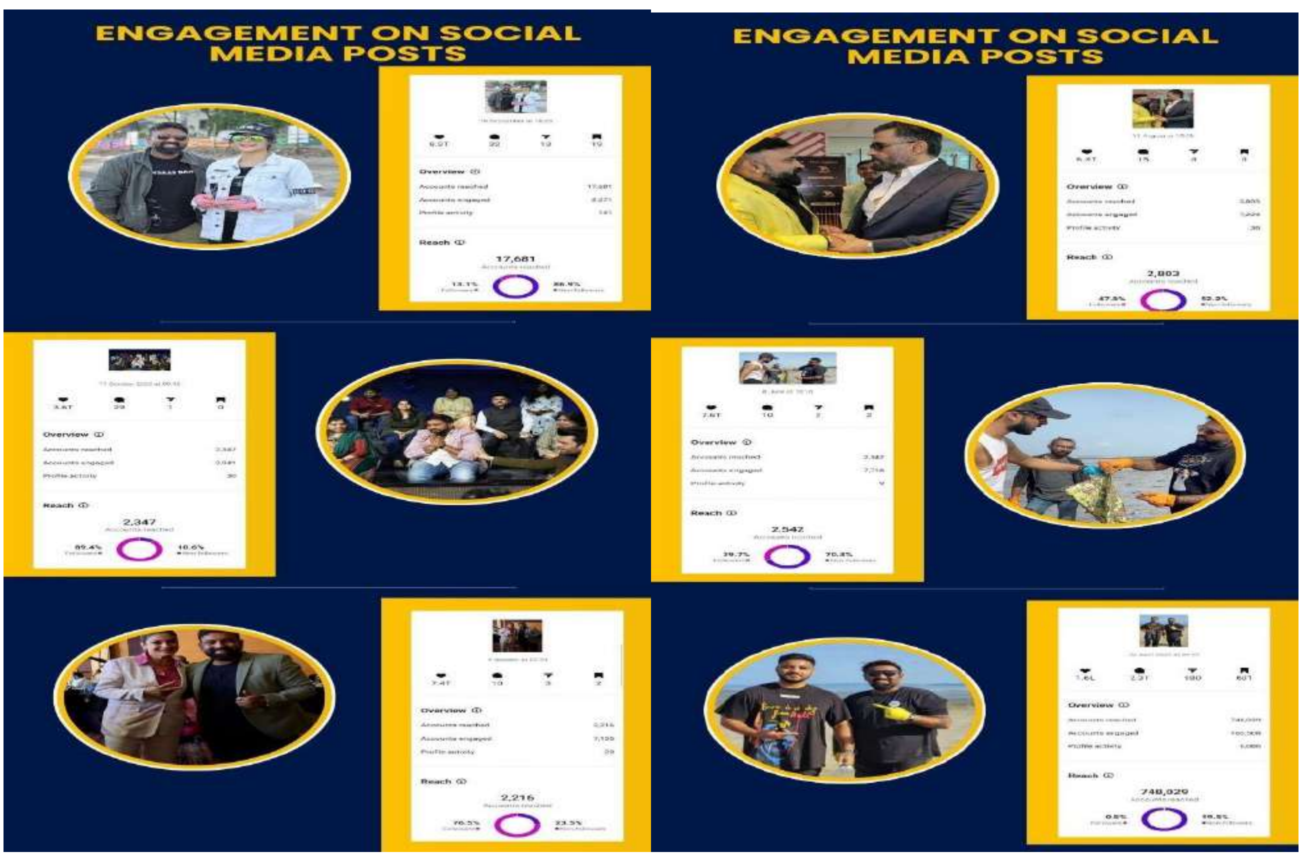
Source: Instagram

Exhibit 10: Social Media Page of Khushiyaaan Foundation 'Beach Warriors' (Instagram)



Source: Instagram

Exhibit 11: Support by Celebrities and Influencers



REFERENCES

1. CHAMPIONS OF THE EARTH. "Afroz Shah - Inspiration and Action," 2016. https://www.unep.org/championsofearth/laureates/2016/afroz-shah.
2. Community Stress Resource Center. "Principles of Community Engagement (2nd Edition)," 2024. https://www.atsdr.cdc.gov/community-stress-resource-center/php/resources/principles-of-community-engagement2.html.
3. Garcia, Mar, Rafael Dominguez, and Angel Herrero. "Communication Using Celebrities in the Non-Profit Sector Determinants of Its Effectiveness" 32, no. McCracken 1989 (2013): 101–19. https://doi.org/10.2501/IJA-32-1-101-119.
4. Hindustan Times. "From Dadar to Cannes: Dadar Beach Warriors Take India's Coastal Conservation to the Global Stage," November 10, 2025. https://www.hindustantimes.com/cities/others/from-dadar-to-cannes-dadar-beach-warriors-take-india-s-coastal-conservation-to-the-global-stage-101748373207701.html.
5. Khushiyaan Foundation. "Beach Warriors," 2025. https://www.khushiyaanfoundation.org/beachwarriors.php.
6. Plastic Overshoot Day Report. "In 2024, India to Be among the Top 4 Contributors of Microplastics Released into Water Bodies." Down to Earth," 2024. https://www.downtoearth.org.in/.
7. Statista. "Number of Internet and Social Media Users Worldwide as of October 2025 (in Billions)," 2024. https://www.statista.com/statistics/617136/digital-population-worldwide/.
8. Wikipedia. "Materials Recovery Facility," 2025. https://en.wikipedia.org/wiki/Materials_recovery_facility.
9. workiva. "What Is ESG? Everything You Need to Know About Environmental, Social, and Governance," 2024. https://www.workiva.com/resources/what-is-esg-environmental-social-governance.

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Artificial Intelligence, Net Asset Value, Gross Asset Value, foreign currency, Financial services

ABSTRACT

The question that this paper raises on the manner in which artificial intelligence is transforming the face of the modern financial path, as far as the money management and foreign exchange trading are concerned, is how artificial intelligence augments routine operations, including fund reconciliation, elimination of discrepancies, and computation of NAV/GAV. In this analysis, the importance of machine learning is highlighted, And robotic process automation in leading to increased accuracy, speed, and strategic power. large organizations. The study is based on published sources and interviews with specialists, and operational evidence and defines the ways in which Artificial Intelligence can help to lower the cost, minimize human error, and prioritize complex trading. Meanwhile it integrates persistent challenges relating to data fidelity and institutional flexibility.. At the end of the paper, practical recommendations to enhance the role of AI in financial services are given and areas where further ethical and operational research are required are identified.

INTRODUCTION

Background

Financial markets, more so the currency market, have been driven to higher levels of complexity, extent and speed through globalization and high rate of technological innovations. Due to this, banks are now faced with the necessity to reconcile accuracy, regulations and profitability coupled with an unseen tenderness in the market in the form of volatility and competition. According to this research, AI creates a paradigm shift in redesigning treasury operations in corporations to establish a tempo with a more vibrant and interdependent financial environment.

Research Problem

In the last ten years, corporations have invested the massive amount of money in AI tools to improve efficiency, reduce the risks of operation, and gain a competitive angle. Monitoring of compliance, the optimization of portfolios, trade execution, and fraud detection have all occurred better because of automation and predictive analytics. The potential of AI to simplify those processes is self-evident: acceleration of data crunching, increased ability to spot anomalies, and human-impossible insight. At present, there is a lack of strong, transparent research that clearly defines the real benefits of AI

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or weighs them against potential drawbacks. The true return on investment of artificial intelligence—and even the unpredictable outcomes—remains somewhat muddled for the majority of stakeholders, from senior executives to regulators to clients. It is not yet fully apparent the degree of impact AI truly has in everyday finance. This calls for a definite need for further in-depth studies and real-world examples that can illustrate exactly how AI serves to enhance efficiency, address risks, and provide a strategic advantage in financial activities.

Objectives

- Evaluate how AI tools influence NAV and GAV calculations.
- Investigate the impact of AI integration on break management and reconciliation.
- Analyze benefits, drawbacks, and industry best practices for AI in institutional currency trading.

LITERATURE REVIEW

Artificial Intelligence (AI) has to do with endowing machines particularly computer systems with the capability of undertaking jobs which most of the times require human intelligence. Such occupations include problem solving and decision making, learning by doing, and comprehending natural language, finding patterns, and adapting. Artificial intelligence in the field of finance is disrupting everyday business processes by increasing performance, reducing expenses, and enhancing decision-making. Among the actual applications which we have observed:

The term monetary refers to anything related to money, finances, or the management of money. It is commonly used in economics, finance, and policy discussions to describe matters involving currency, prices, interest rates, and the supply of money within an economy. For example: Monetary policy refers to the actions taken by a country's central bank (like the Reserve Bank of India or the Federal Reserve in the US) to control the money supply and interest rates in order to achieve economic goals like controlling inflation, encouraging growth, or stabilizing the currency. Monetary transactions are exchanges of goods or services for money. Monetary value refers to the worth of something expressed in terms of money.

The evolution of artificial intelligence in finance has gone a step ahead from intermediate rule-based automation and machine learning methodology to modern generative models, causing significant changes in the data processing and decision-making facets of financial services.

Key Advances Include

- The emergence of algorithmic trading and high-frequency trading techniques.
- The application of natural language processing for sentiment analysis and market analysis.
- The implementation of robotic process automation (RPA) in operational back-office environments.

AI Models and Tools in Foreign Exchange

As of today, new opportunities arise due to the fact that the foreign exchange market is capable of leveraging all the benefits of artificial intelligence. By making the predictive modelling, machine learning and real-time analytics a part of their practice, traders are thus gaining a competitive edge. Such systems allow traders make decisions more wisely, faster, and increase liquidity. Some very practical applications are given below: Pattern recognition on price charts and technical indicators: AI models take in bulk quantities of past and current price data during the process of recognizing patterns, trends, and anomalies that warrant profitable trading chances. The idea is that, with the neural networks, machine learning can discover the new relations between such technical indicators as moving averages, RSI, Fibonacci levels, and price movements, which make a trader conclude in what way the market moves. Sentiment Detection by News, Social Media, and Economic Releases: Natural Language Processing is an AI software that may read and understand large volumes of financial written content to find sentiment that transpires out of unstructured feeds including social media, financial news, and governmental economic reports. It will allow traders to gauge the mood in the market and its movements. The markets are under constant surveillance by advanced algorithms of different aspects. They signal in case they notice the occurrence of some risk factors such as liquidity issues or volatility, price spreads. In line with this, the earlier such risks are identified, the less exposure traders are vulnerable to, and hence end up not making a loss. Trade Executive and Liquidity Management: Artificial Intelligence-Enabled Trading Bots. Algorithms trading bots rely on AI to trade mindfully and at strategic instances to curtail the extent of manual error and latency that would be faced. The trading bots can also assist in ensuring the existence of a liquidity as the bid-ask spreads are modified, orders are placed across various markets, and funds are distributed effectively. Through implementation strategies such as smart order routing (SOR) or transaction cost analysis (TCA), which are powered by Artificial Intelligence, the execution strategies significantly enhance profitability by minimizing the costs incurred by traders by lowering their trading costs and slippage.

Gaps and Opportunities

This research will delve deep into systems of strategic decision-making in the management context and explain how executives use market information, customer expectations, technology expertise, and instructions to devise a strategy. An important area of interest is the manner in which the institutions accept the new technologies, such as artificial intelligence, machine learning, and automation, for saving costs and to avoid errors with translucency. These technologies not only relieve the standard workload from running the normal functions but also create better understanding and responsiveness to service delivery that can eventually create a competitive advantage in the fast-moving finance world of today. This particular research offers an overall perspective into how large financial institutions are trying to balance operational efficiency, speed of strategy, and compliance with laws. Using their own analysis for context, together with the theoretical and empirical analysis, it provides a contribution to the discussion around opportunities and challenges of financial institutions that strive to be flexible and competitive in the complex and dynamic world of the global economy.

Theoretical Framework

There are a number of established theoretical lenses that I utilize in this investigation to look into AI adoption in banking:

- Diffusion of Innovation Theory (Rogers, 2003): The ability of the bank to rule out the AI implementation demonstrates the essential stages of change management with the creation of the sense of urgency, staff empowerment, and new practices as a part of the corporate culture establishment.

RESEARCH METHODOLOGY

In the qualitative aspect, collected observational data, constructed a process map, and organized a set of stakeholder interviews around the firm. In a quantitative sense, able to check out the industry norms as well as our own performance statistics, dig into the system dashboards and read survey comments.

Data Collection

- Daily practice: data related to NAV, GAV, and break management.
- Interview with fund managers, analysts and IT experts.
- Totalization of time-series data and the product of AI-based systems.

Analysis Using the Tool of Descriptive Statistics,

The time savings and reduction of risk using AI are significant measured in quantitative measures.

Operations that used to take several hours, some even days of manual work can now be completed in a few minutes; such are operations NAV and GAV. Reconciliation errors that have been considered a persistent operational pox have dropped significantly enhancing precision and encounter in financial reporting. More speedy delivery of client deliverables and internal reporting has in its part contributed to enhanced operational efficiency and confidence among stakeholders.

RESULTS AND DISCUSSION

Predictive Analytics and Trade Automation

Artificial Intelligence (AI) has enabled banks and hedge funds to search through the piles of data hunting the patterns, forecast how the prices will move and act fast and precisely, something human traders will simply not be able to do. These systems seem interactive and ready to move in any direction the markets move, compared to the old-school, spreadsheet-based methods that we learn how to use in the classroom. One of the outstanding ones is price forecasting. AI can review past market data, historical pointers of macroeconomic variables, sentiment analysis, not forgetting trends picked out of news headlines and social media, using neural networks or deep learning models. The models spew out forecasts of future price changes which are not only more accurate than techniques based on traditional statistics but also faster. All this is possible by learning these non-linear relations and by exploiting these obscured patterns within the anarchy of large amounts of data.

In addition to basic forecasting, machine learning is now allowing traders to computers all aspects of determining whether to open or close. These systems track the real-time stock price alongside historical data, model risk/reward ratios, and in milliseconds, are able to initiate, when the window is available, trading. They reduce the probability for the human error that could flavor wrong decisions. They are capable of more instantly referencing information, and will not introduce any subjective thinking. The realm of algorithmic execution is also enjoying a surge in positive sentiment. In this case, the machine learning based models (algorithms) will smooth out the pitfalls of executing an order to determine a way to minimize slippage, market impact, and maximize access to liquidity pools in the market. These algorithms will incorporate orders of appropriate levels, execute the orders at the proper time, and search through various exchanges (real time) for depth of liquidity, without causing excessive adverse movements on the opposite side of the market for excessive buy side, or excess sell side decision making impacting executions of close, share, or exchange. This stage of elasticity has value, interest, and holistic market edge, especially in thin or extreme volatility.

To summarize, the unification of predictive analytics and trade automation through Artificial Intelligence has fundamentally evolved the way we trade. By providing working insights, increasing implementation productivity, and minimizing operational risk, such technologies supports financial institutions to operate more competitively and smoothly in a highly complex and fast-paced market environment.

Risk Management and Sentiment Analysis

Dynamic risk assessment as an AI-driven procedure is vital in today's fast-paced financial markets including foreign exchange markets, considering market situation have increased the complexities of risk assessments and forecasts. AI has the ability to implement predictive and prescriptive modelling in real-time (or near real-time) for extremely efficient simultaneous analysis of sophisticated types of interdependencies such as correlations or co-movements between currency pairs, asset volatility, or macro implications from potential future events or trade negotiations and geopolitical tensions, or policy changes. An AI-based assessment of risk would allow traders, risk managers, and officers to have better insights with regards to market and risk assessments, where they could implement new strategies and adjust operations nearly immediately to either decrease losses or maximises profits when they see new opportunities. In addition to this AIs also have the capability to implement sentiment analysis based on Natural Language Processing (or NLP) of large scale unstructured media, social media and economic reports. By monitoring market sentiment, those tools identify in advance the signs of a price shift or volatility explosion and so are enabling firms to gain a predictive advantage, responding more quickly to changes in investor sentiment together with unexpected external shocks. It is an instrumental item to remain strong and lucrative at the forex markets of the nowadays.

Real-World Outcomes

1. Speed: Artificial intelligence systems can analyse massive amounts of data on the market in real-time, and identify strong correlation and triggers well before a human analyst would be. It implies that the investors will be able to extrapolate real-time information and respond to fluctuating prices nearly as soon as the market because this is very critical in carrying trades both in the relatively swiftly changing forex and other markets.

2. Precision: The advanced nature of AI pattern-recognition technologies will be able to follow minor trends and indications that human traders might miss. The technology increases the rate of prediction and therefore reduces slippage by making the trades to be executed at the right time thereby increasing the potential profits.

3. Adaptability: The reinforcement learning algorithms allow the AI systems to continue learning and adapting to changes of the microstructure of the market. These algorithms are adaptive algorithms and change their strategies when conditions on which they are applied change real time (trading situations, liquidity patterns, regulatory environments) maintaining similar levels of performance and robustness under volatile and uncertain market conditions.

Automation in Hedge Fund Operations

Scratching the surface of the hedge funds and investment management business is the last thing you can do without having the Net Asset Value (NAV) and Gross Asset Value (GAV) nail in your hands. NAV is simply the value of a mutual fund or ETF assets per share, less liabilities, or the metric that an investor looks at and stares to determine how their holdings stand up. GAV, in its turn, entails the market base value of all the assets in the portfolio of a fund prior to the deduction of such a liability. The accessibility of these two numbers is not negotiable in terms of proper reporting, compliances on regulations, and giving guidance to internal decisions. NAV and GAV crunching used to take a lot of physical effort until a few years ago most of the work was done manually back and forth checks, data entry and reconciliation that went on and on.

The Role of AI in Transforming the Process

With the advent of AI, many of these manual challenges have been addressed effectively. AI technologies now support and automate critical parts of the NAV and GAV calculation workflow, providing several benefits as listed below;

Automated Data Extraction and Processing

AI algorithms, which can literally consume and analyse massive volumes of data drawn in multiple sources, i.e. custodians, prime brokers, internal ledgers, and market data providers, in real time. This is far better compared to the old system where one was required to upload files and then format them manually. These are the latest systems who carry the load:

- Identify the target areas within unstructured, or semi-structured files.
- Normalize the disparity in various data formations.
- Mark any data that is missing or inconsistent in order that someone can come back to see that data. Elimination of such manual preparation saves time, but, more importantly, facilitates the entire process significantly.

Error-Rate Reduction

Devices based on machine learning can work through massive heaps of past information and identify the common tendencies of mismatching. When they have those patterns, they can do such things as: Autotorque discrepancies and bring up the most likely cause of the discrepancy. Recommend corrective actions (where) ever possible or highlight only the actual exceptions which really requires someone to intervene.

Enhanced Auditability and Compliance

With an AI-based system, the complete transparent record of all the tiniest calculations, adjustments, and decision-making steps are computer-generated automatically. That quality of transparency helps the companies to stay with the regulatory requirements and accelerates the internal review as well as the external audit. On top of that, AI is prepared to go with any new requirements that might come down the pike regarding new report formats or disclosure rules, hence enabling firms to avoid last-minute scrambles.

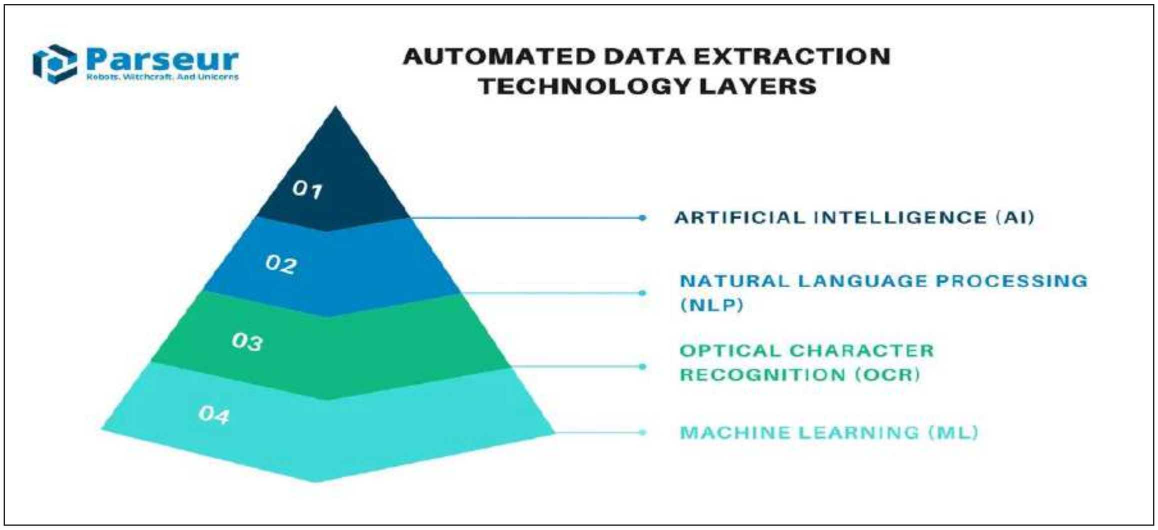

Fig. 1

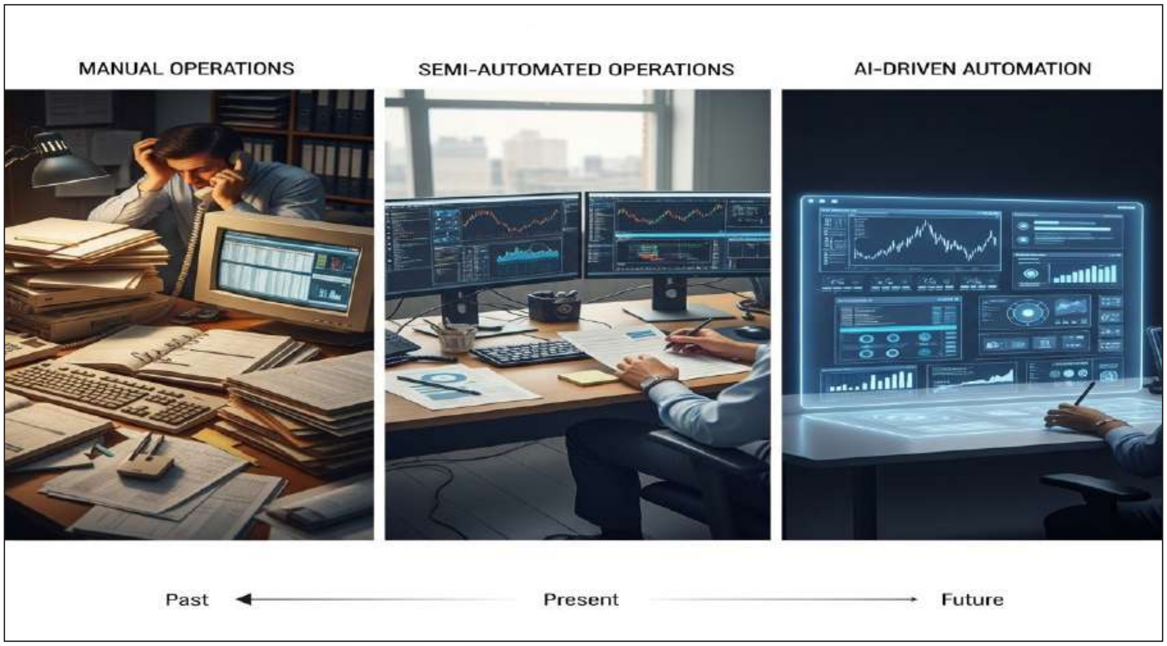

Fig. 2

BENEFITS TO STAKEHOLDERS

Benefits for Operations Teams

Data mining through automated systems draws information at a lot of sources and processes it in real-time, and activities that used to be achieved and executed in several days get achieved and completed in a tiny portion of that time and with such a reduced number of individuals. With the workflow automated, it not only accelerates everything but also allows the release of the staff to work at a higher level of strategy and analysis-related work.

Benefits for Management

Speaking about management and AI, it is apparent that the technology makes decision-makers more confident in financial reporting. Since managers can control operations better, get a real-time monitoring on their performance and be able to handle surprises before they go out of hand by the fact that discrepancies could automatically be identified, there could be a well maintained audit trail and things could be viewed as they occurred. Improved data quality and higher transparency also lead to smarter decision-making, and the management can develop strategies with the confidence that the factual data on which the financial information is based is not only correct, but up to date as well.

Benefits for Investors

To an investor, valuation data is important to allow informed decision making and should be timely and reliable. With the AI-powered systems, NAV and GAV can be more accurate and, therefore, more often calculated, allowing investors to have a better understanding of the development of the value of their assets. It is on this increased range of transparency that the trust between the fund and the investors is established, and this enhances long-lasting association.

ANALYSIS

The statistics tell the story: reduction of processing time, decrease in rates of errors, and even the financial processes crucial to the company are more stable. With the establishment of defining Key Performance Indicators (KPIs), companies will have precise paths of the amount of money they are getting out of what they are putting into their technologies as well as where they are still having to readjust. The calculation of the Net Asset Value (NAV) which must be done daily in a fund accounting has previously taken an average of three hours but currently takes just 45 minutes. Besides accelerating client reporting that drop also allows more time to be devoted to quality checks, which will increase speed and accuracy. It is also the same with Gross Asset Value (GAV) calculations once consuming nearly four hours towards a cycle is now just slightly over one hour. With rapid portfolio valuations, the clients and the internal teams will receive their insights and hence decisions are more accurate, and satisfaction of clients increases.

CONCLUSION

Summary of Key Findings

The reward is huge when the financial world resorts to the use of artificial intelligence (AI) in financing operations and trading in foreign currencies. AI reduces processing times, reduces the operational cost, and minimizes the incident of errors since it handles repetitive and high volumes of the tasks-imagine NAV/GAV calculations, reconciliations of breaks, execution of transactions and client reporting tasks. The result does not only imply faster work but greater accuracy, increased reliability, and happier clients, as well as a greater competitive advantage of the institution. Artificial intelligence technology is an imperative part of any long-term advanced standpoint for a financial institution because of continuous investments in computing its capabilities to meet the dynamic regulatory demands, economic shifts, and customer demands.

Organizational Conversion: This can be a highly thrilling prospect of adding artificial intelligence to the mix as an engineer, but it is the evolution of how the company functions and not the upgrade of the code that eases the adoption of AI. The AI implementation strategy will not be a new technology that is added to an already existing system that remains unchanged it will require the organization change. And as a student that gets to observe the study of change management in the real world, you will be able to see the change management structures arise out of the shadowy and into the forefront. You will meet resistance, there has to be an acceptable method, and a new method of work must be entrenched in daily practice. This is why constant employee training cannot be a last thought. Providing individuals with the freedom and modes of operation alongside AI tools offers individuals a decision on whether to adopt it to remain useful in the work process and it goes an extra mile to add more human value wherever it is most required.

REFERENCES

1. Hasan, I., Li, X., & Takalo, T. (2024). Technological innovation and the bank lending channel of monetary policy transmission.
2. Aldasoro, I., Gambacorta, L., Korinek, A., Shreeti, V., & Stein, M. (2024). Intelligent financial system: how AI is transforming finance.
3. Adrian, T. (2024). Artificial Intelligence and its Impact on Financial Markets.
4. Financial Stability Board (2024). The Financial Stability Implications of Artificial Intelligence.
5. SSRN (2024). AI in Financial Decision-Making: Revolutionizing Investment Strategies and Risk Management.
6. Data Driven Investor (2025). How to Analyze Forex Charts Using AI.
7. DDN (2018 & 2019). Boosting Hedge Fund Performance with AI.
8. Ridzuan, N.N. (2024). AI in the Financial Sector: Innovation and Ethics.
9. Traders Union (2025). AI Forex Trading Guide.
10. Yahoo Finance/Reuters (2024). BNY Mellon advances artificial intelligence tech.
11. PPIPBR Journal (2024). The Impact of Artificial Intelligence on Financial Control.
12. DayTrading.com (2025). Artificial Intelligence in Currency Trading.
13. American Banker. How BNY Mellon is Going Further on AI.
14. ScienceDirect (2024). Transforming banking with AI.
15. Google Play (2025). Chart AI - Trading Analysis.
16. Waters technology (2024). BNY doubles down on AI investments.
17. Taylor & Francis (2023). Financial Field Integrating Artificial Intelligence.
18. LuxAlgo (2025). Best AI Tools for Forex Pattern Detection.
19. AinvesT (2025). BNY Mellon: A Hidden Gem in Financial Services, Powered by AI.

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