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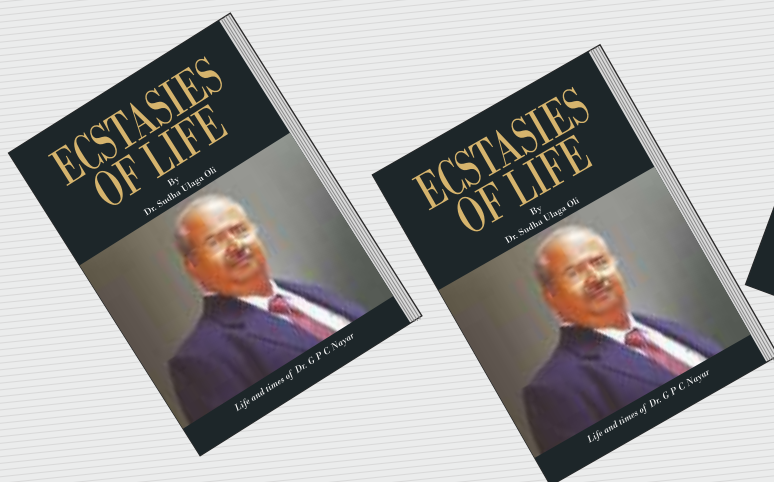
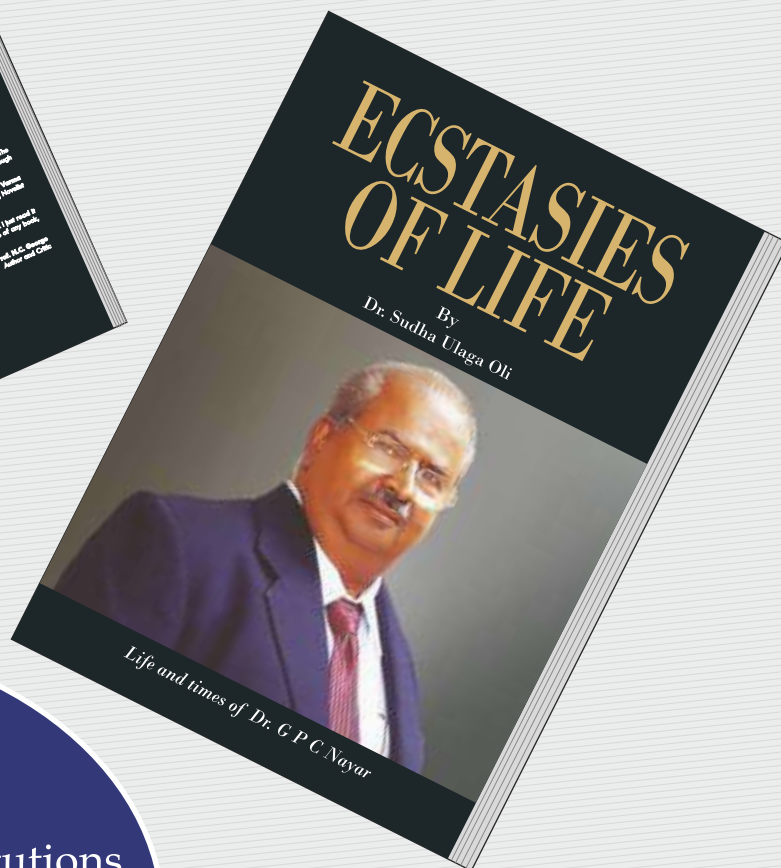
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Here's an entrepreneur
who has created
some excellent academic institutions
in an unfriendly environment.
It is a saga of trials and tribulations
in an extremely readable manner
by a consummate
writer in English.

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Chairman's Overview

Every generation enters adulthood with its own understanding of work, success and society. Generation Z is entering the workplace at a transformative moment, shaped by smartphones, social media, artificial intelligence, economic uncertainty and continuous access to information. As Gen Z enters workplaces and positions of influence, organisations face an important question: What can Gen Z teach us about the future of management?

For much of the twentieth century, careers were imagined as a ladder, with authority largely determined by position and seniority. Gen Z is beginning to challenge this model. Having grown up in a digital environment where authority is constantly questioned and evaluated, they are less inclined to accept authority simply because it comes with a title. For them, credibility increasingly depends on competence, transparency and consistency. This does not mean that Gen Z rejects leadership or hierarchy. Rather, it seeks a different kind of leadership. Deloitte's 2025 Global Gen Z and Millennial Survey found that only 6 per cent identified reaching a senior leadership position as their primary career goal. Learning, meaningful work, financial security and well-being are increasingly important measures of career success. In India, 94 per cent of Gen Z respondents considered on-the-job learning the most helpful tool for career growth. While 62 per cent wanted more guidance from managers, only 44 per cent felt they were receiving adequate guidance.

Gen Z is therefore not asking for less leadership; it is asking for better leadership- managers who teach, coach, listen and provide meaningful feedback. It values autonomy, but also expects accountability and opportunities to learn.

Artificial intelligence adds another dimension. Deloitte's 2026 India findings indicate that 93 per cent of Indian Gen Zs use AI in their day-to-day work. The challenge is no longer simply learning how to use AI, but knowing when to trust it, question it or avoid it. As AI handles more information-based tasks, critical thinking, creativity, empathy, ethical judgement and communication become increasingly valuable. This has important implications for management education. Business schools must prepare students not only for existing jobs but for constantly changing roles and organisations. Technical competence must be complemented by adaptability, communication, critical thinking, ethical reasoning and lifelong learning.

At the same time, Gen Z should not be treated as a homogeneous generation. Not every young employee reject hierarchy, prefers remote work or prioritises purpose over salary. The deeper lesson is not that Gen Z is right and previous generations are wrong, but that organisations must learn to listen. The future of management should not be a contest between generations. It should bring together experience and experimentation, institutional wisdom and digital fluency, stability and innovation. Managers may increasingly need to act as mentors, facilitators and enablers. Their authority will remain important, but it will have to be continuously earned.

The question is no longer, "How do we manage Gen Z?"

It is: "What kind of organisations are we willing to build with Gen Z?"

Dr. G. P. C. NAYAR

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Editorial



The *SCMS Journal of Indian Management*, in its third issue of Volume 23, brings together eleven scholarly contributions examining corporate governance, behavioural finance, systemic credit structures, organizational performance, and micro-entrepreneurship across emerging markets.

Sustainable governance and institutional adaptation represent a cornerstone of this issue. The papers herein investigate the managerial cognition underpinning ESG adoption in MSMEs, the strategic role of shareholder activism across distinct industry risk profiles, and the empirical link between corporate social responsibility expenditures and banking performance in Bangladesh.

The volume further addresses the human dimensions shaping modern financial markets. Studies evaluate how expert recommendations interact with retail investor biases, conceptualize the effects of choice overload in mutual fund selection, and assess the concurrent economic and psychological dimensions of the Startup India Initiative.

Examining systemic stability and credit mechanisms, our contributors critically analyse the implementation gaps within India's Insolvency and Bankruptcy Code (IBC), present qualitative evidence on wilful defaulters within rural informal credit systems, and employ count data modelling to identify the key determinants of corporate share repurchase decisions.

Rounding out the volume, the focus shifts to organizational agility and targeted empowerment. Empirical research illustrates how competitive capabilities drive institutional performance, while a newly developed Multidimensional Success Index offers a comprehensive framework for evaluating women-led enterprises in West Bengal.

Collectively, all the eleven articles provide critical insights into how institutions, organizations, and individuals adapt within an evolving economic ecosystem. By bridging empirical inquiry with practical application, this collection offers a nuanced understanding of the strategic, regulatory, and psychological dimensions shaping modern commerce.

This volume offers timely, actionable insights for managers, policymakers, and scholars working to build resilient organizations and markets. We trust these studies will inspire further academic inquiry, foster constructive debate, and provide practical strategies for navigating an increasingly complex economic landscape.

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Decoding the ESG Adoption Paradox: Managerial Cognition and Institutional Enablers in MSMEs

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A b s t r a c t

Environmental, Social, and Governance (ESG) adoption among Micro, Small, and Medium Enterprises (MSMEs) has gained increasing policy and managerial attention; however, empirical evidence on how managerial awareness and public policy mechanisms translate into actual adoption remains limited, particularly in emerging economies. This study examines the managerial and institutional determinants of ESG adoption among Indian MSMEs, with a specific focus on the conditional role of government support. Using survey data collected from 357 MSMEs across multiple sectors in India, the study employs a regression-based analytical framework to examine direct, mediating, and moderating relationships among ESG awareness, perceived strategic benefits, government support, and ESG adoption. The findings indicate that ESG awareness alone does not strongly influence adoption, underscoring an implementation gap. Perceived benefits play a critical role in translating awareness into adoption, while government support exhibits a positive but modest conditional effect by strengthening this translation under certain organisational contexts. The study contributes to ESG and MSME literature by reframing public policy as a contextual enabler rather than a universal driver of sustainability adoption. By highlighting the importance of managerial interpretation and strategic feasibility, the findings offer nuanced insights for policymakers and practitioners seeking to design more effective ESG support mechanisms for MSMEs in emerging economies.

Keywords: *ESG adoption; MSMEs; government support; sustainability strategy; emerging economies; managerial decision-making*

1. Introduction

The Indian economy comprises Micro, Small and Medium Enterprises (MSMEs), which play a significant role in employment and gross domestic product. Over the past few years, Environmental, Social, and Governance (ESG) practices have become an important avenue for improving sustainability, regulatory compliance, and long-term business resilience. Although its relevance is increasing, ESG adoption among Indian MSMEs remains very low, limited by enduring financial constraints, the technology divide, and regulations (KM et al., 2022).

Beyond compliance, ESG adoption has also been shown to enhance market access, risk management, and organisational image, especially in sustainability-sensitive supply chains. In response, SIDBI, NITI Aayog, and the World Bank have launched sustainable finance tools such as green bonds, microfinance programs, and impact investment programs to support ESG transitions among MSMEs (Adhana, 2023). These initiatives align with India's long-term sustainability goals, such as net-zero emissions by 2070, which is estimated to require nearly USD 280 billion in green infrastructure investments (Agrawal and Kumar, 2024). Slow sustainability change can be very costly in macroeconomic terms, and climate change is expected to cost India about 2.8% of GDP by 2050 (World Bank, 2018). This has made ESG disclosure and implementation a central practice of corporate responsibility and risk management, particularly among high-carbon industries like cement, chemicals, metals, oil, and automobiles (Bania & Biswas, 2024). Sustainability-oriented business practices are also linked with broader economic, social, and environmental outcomes, particularly where firms operate within community-based or locally embedded business ecosystems (Fionasari, 2024). According to recent empirical studies, several organisational and contextual factors affect ESG preparedness. Non-parametric tests such as the Kruskal-Wallis and Dunn tests have been used to identify sectoral differences in ESG adoption, and the findings suggest implications for investor confidence and investment policy development (Luckyardi, 2024). Current research largely focuses on large businesses or offers generalised sustainability evaluations and lacks empirical data on the combined impact of business size, industry, government support, and stakeholder participation on ESG uptake in MSMEs, especially in developing economies. Sector-specific challenges, regional differences in access to finance, and the perception-implementation gap in ESG practices remain under-researched. No empirically tested models

combine organisational preparedness, technological ability, and external institutional assistance in the MSME context.

Against this background, this research paper examines ESG awareness, adoption, and implementation among Indian MSMEs, particularly the roles of business size, industry sector, perceived benefits, financial and regulatory barriers, and external support mechanisms. Accordingly, this study addresses the following research questions:

RQ1: To what extent do firm size and industry characteristics influence ESG adoption among Indian MSMEs?

RQ2: What are the major financial, regulatory, technological, and organisational barriers that hinder ESG adoption among Indian MSMEs?

RQ3: Does perceived strategic benefit mediate the relationship between ESG awareness and ESG adoption among Indian MSMEs?

RQ4: Does government support moderate the relationship between ESG awareness and ESG adoption among Indian MSMEs?

RQ5: Does stakeholder support moderate the relationship between ESG-related barriers and ESG adoption among Indian MSMEs?

The primary objective of this study is to examine the managerial and institutional determinants of Environmental, Social, and Governance (ESG) adoption among Indian Micro, Small, and Medium Enterprises (MSMEs). Specifically, the study aims to:

1. Examine how firm size and industry type influence ESG awareness, adoption orientation, and overall ESG adoption among Indian MSMEs.
2. Evaluate the direct relationship between managerial ESG awareness and actual ESG adoption.
3. Investigate the mediating role of perceived strategic benefits in the relationship between ESG awareness and ESG adoption.
4. Determine whether government and policy support strengthen the relationship between ESG awareness and ESG adoption.
5. Assess whether stakeholder support mitigates the adverse effects of financial, regulatory, and technological barriers on ESG adoption among Indian MSMEs.

2. Literature Review

For companies seeking long-term sustainability, regulatory compliance, market competitiveness, and organisational resilience, ESG adoption has become increasingly important. Initially, ESG practices received attention primarily among large corporations; however, their relevance has increasingly expanded to smaller enterprises, including MSMEs in developing economies. MSMEs are key players in job creation and boosting local economies. However, ESG remains a challenge for small businesses that lack funds, management skills, technical skills, and seldom engage in sustainability reporting. This illustrates that ESG is not only about the rule of law; it is also about managerial awareness, management benefits, stakeholder expectations, and policy support for smaller companies. They are heavily influenced by the resources that are available to them. Therefore, ESG is not only relevant for larger firms but also for companies seeking long-term sustainability, regulatory compliance, market competitiveness, and organisational resilience. While ESG practices were initially popular among large companies, they are increasingly important for micro, small, and medium-sized enterprises (MSMEs), particularly in developing nations. Small businesses contribute significantly to employment generation and economic Development in these regions. However, ESG adoption still lags in MSMEs. These businesses most often report cash flow problems, weak governance, limited tech expertise, and limited experience with sustainability reporting. ESG is not simply a matter of compliance with the rules; it is about awareness, strategic benefits, external pressure and the government support and resources a firm has at its disposal.

Environmental, social and governance (ESG) related systems and eco-friendly financing boost the Social and Environmental responsibility of small businesses. As a result, there is growing recognition of these companies' expectations as they join the ESG movement. ESG practices are becoming common among companies seeking to be sustainable, compliant, competitive, and resilient. Although big corporations have led the trend, it is now clear that micro, small, and medium-sized businesses, especially in developing countries, can also benefit immensely. Small businesses contribute significantly to job creation, good production, and economic growth. However, they typically have less capital, management, technical expertise, and reporting experience than larger firms. Therefore, a rigid compliance-oriented approach may not be effective for enabling MSMEs to adopt ESG guidelines. What motivates

their managers and what influences these firms must be examined. When considering ESG compliance, managers consider internal benefits, potential gains, external expectations, government support, and their own constraints. Past studies show that tailored finance and supportive systems improve these small firms' ability to be more environmentally and socially responsible. Awareness of ESG principles does not necessarily translate into implementation. Small and medium-sized businesses often know what sustainability is but struggle to make changes because of limited resources, technology, and unclear ROI. Small and medium-sized businesses may understand sustainability concepts but often lack adequate resources, technological capabilities, and clear returns on investment required for implementation.

However, awareness is only the first step to sustainability; knowing about ESG does not mean businesses will be on board. Another important factor is whether business owners believe that there will be advantages. If managers believe they can achieve easier access to markets, lower risks, a better reputation, regulatory readiness and access to supply chains, they will be more inclined to implement ESG practices. Studies prove this. Gelderman et al. (2021) found that eco-marketing improves customer satisfaction and loyalty, particularly in the B2B sector. Sustainable packaging earns bonus points with both consumers and businesses, as Wandosell et al. (2021) note. Similarly, Even Rahman et al. (2024) argue that green financing and socially responsible operations improve business performance.

Research shows that ESG benefits build awareness and drive adoption, and are especially relevant in MSMEs, where decisions are based on possible outcomes. The industry a company is in also matters, as different sectors face different levels of environmental rules, stakeholder scrutiny, resource needs, and sustainability risks.

Consider manufacturing and agriculture small businesses – they are typically more associated with environmental impacts such as resource use, emissions, waste, and regulations. As a result, there is increased pressure on these companies to address the ESG expectations. According to Ashraf et al. (2024), green innovation and business know-how positively impact sustainable performance, especially for firms involved in production. Likewise, Mukhtar et al. (2023) revealed that reporting on all three ESG aspects and creating a green working environment fosters green innovation as part of CSR initiatives. That's why these practices can not only fill-in the boxes, they can also

enhance the environmental performance. However, for service sector MSMEs, the need to adopt ESG practices might not seem as urgent, especially when the impact of their service on the environment is not immediately visible. Per Debnath et al. (2024), a company choosing green practices hinges on several problems such as operational roadblocks, financial strain, and differing payoffs. The type of business is very critical when talking about ESG involvement, so it's particularly important. The ease of implementing ESG is also influenced by the size of the company. Mid sized businesses are more likely to have access to capital, formal management structures, reporting skills, and outside connections than their micro business peers. Further, the needs of customers, suppliers, and government organisations are driving smaller and medium sized companies to increase their eco-awareness. However, merely being larger does not ensure ESG practices as larger MSMEs may be hesitant because investability risks or costs are perceived as too high. Therefore, the size of the company, along with its familiarity with ESG issues and benefits, as well as institutions' support, should be taken into account. The motivation for sustainability and ESG activities arises from increasing pressure on companies by their stakeholders, who push them around with customers, suppliers, investors, industry stakeholders, government bodies and local communities. Stakeholders' goals and dependence influence the content of companies' ESG disclosure (Liu et al., 2022). Wong et al. (2023) further indicated that external stakeholders have a significant contribution toward ESG reporting. Plus, Xie et al. (2024) pointed out that stakeholder pressure, along with awareness of environmental issues and ethical direction, boosts green innovation and better performance. The governance aspects of an ESG, such as the diversity of board membership, are also important. This is associated with reduced carbon emissions as reported by Nuber and Velte (2021). But this pressure from the stakeholders affects small and medium businesses (MSMEs) differently than large corporations. There are a lot of MSMEs that do not attract the focus of investors a lot in the capital markets and hence do not undergo rigorous scrutiny. For these smaller companies, therefore, the influence of stakeholders is only effective when it's related to the practical benefits of the company or receives institutional backing.

Government and policy support is a key factor in enabling emerging economies to get into ESG practices. After all, incentives, subsidies and training make ESG less daunting and expensive to small businesses. Fahrati et al (2024) revealed that infrastructure, finance, innovation and policies

make a difference in enhancing MSME performance. Li et al. (2024) also found that, as governments tighten up on environmental information, companies do better on ESG. Wang and Sun (2022) found that more stringent environmental regulations incentivise companies to make greater ESG strides and green innovations. It is very significant in India, where there are numerous small businesses that face difficulties in going green independently. Still, government assistance doesn't work the same for everyone. Whether business owners are aware of ESG and feel it will benefit them differs. Awareness and understanding are also key at this point. Various financial and regulatory challenges still prevent the application of ESG in MSMEs. Most of them are restricted by factors such as lack of money, lack of awareness, digit literacy, and regulation. Moreover, there is no clear picture of the benefits of compliance. In order to enhance sustainability of MSMEs, Sumastuti et al. (2024) recommend increasing green finance, financial literacy, and social capital. According to Saxena et al. (2022), Industry 4.0 and technology could be utilised to promote ESG initiatives, although everyone does not have access to them. Therefore, ESG implementation is a question not only of willingness but also of capability. Although there have been increasing publications on the issue of ESG adoption, some critical gaps still exist. First, existing research is largely based on large organisations, companies listed on stock exchange, or general sustainable Development, but empirical research on ESG adoption among Indian MSMEs is still scarce. There is a significant difference between large organisations and MSMEs regarding their financial capacity, management capability, technological readiness, reporting experience, and exposure to regulatory and stakeholder pressures. Therefore, the results of such research can not be generalised in relation to MSMEs.

Second, while earlier studies consider managerial awareness, stakeholder pressure, government assistance, organisational readiness, and barriers to ESG adoption as separate determinants, research integrating those factors in one conceptual model is scarce.

Third, the process by which ESG awareness becomes ESG adoption is still poorly understood. Although awareness can help managers learn more about ESG, it is unlikely to result in adoption unless managers see some strategic advantage of ESG in accessing markets, managing risks, compliance, reputation, and competition. The mediating effect of benefits on the awareness–adoption relationship thus needs to be empirically investigated.

Fourth, the effects of government and stakeholder support are often treated as direct influences, with limited attention to their conditional roles. Government support may strengthen the conversion of ESG awareness into adoption, while stakeholder support may reduce the adverse influence of financial, regulatory, and technological barriers. These moderating mechanisms remain underexplored in the context of Indian MSMEs.

This study addresses these gaps by developing and empirically testing an integrated managerial-institutional framework using data from Indian MSMEs. It combines firm characteristics, ESG awareness, perceived benefits, implementation barriers, government support, and stakeholder support within a single analytical model. The novelty of the study lies in explaining not only whether these factors influence ESG adoption, but also how managerial perceptions mediate the awareness-adoption relationship and how institutional support conditions the implementation process.

2.1 Theoretical Framework

For his 2020 study, Kumar and Krishnamoorthy used TOE to help them grasp how Indian companies select new technologies. To analyse how MSMEs adopt ESG practices, we have adopted a mix of three theories that are- TOE framework, Stakeholder Theory, and Institutional Theory. It's not a case of what managers know, but of what the organisation can do, pressures from stakeholders and institutional support from outside. To begin with, the TOE framework outlines that the decision to adopt depends on the company's tech skills, internal factors such as size and resources, and external factors. In the ESG field, internal factors include the size of the business, management awareness and business resources. On the environmental end, things such as government encouragement, regulatory hurdles, stakeholder expectations and peer industry influence play a role as well. In this regard, the TOE approach highlights that ESG adoption among MSMEs depends on organisational readiness, technological capability, and external support conditions. It necessitates a match between the firm's preparedness, size, and external support, provided by institutions and stakeholders.

Second, Stakeholder Theory aids in describing the influence of different external stakeholders on ESG-related decisions by MSMEs. These companies engage with customers, suppliers, investors, regulators, industry groups and the local community. All of these stakeholders have the ability to encourage companies to embrace ESG through their

market expectations, requirements on their supply chains, reputation management and regulatory pressure. However, it is not always the case that these small businesses "adopt ESG practices. This remains challenging with their limited resources and non-binding reporting rules. Nonetheless, that stakeholder push can become much more effective and gain institutional support if it is also a stakeholder's own thinking about what the business can gain. Institutional Theory is also relevant here, as it demonstrates the influence of government policies on ESG. All of this takes into account rules, incentives, subsidies, advisory programs and green guidelines. In emerging economies small businesses may be intimidated by the various formal ESG categories, and the idea may feel more accessible and manageable when government assistance is there.

Fourth, the integrated theoretical perspective recommends considering the ESG adoption process of MSMEs as a managerial-institutional process. The awareness of managers is the beginning, the first step toward the understanding of ESG practices. Then, once managers are aware of the benefits, it becomes a true motivation. Also, help from the government and stakeholder's makes ESG adoption easier by cutting down on hurdles and making it more feasible. Therefore, the proposed model, which links internal thoughts, organisational requirements and institutional support to the adoption behaviors of ESG, has a theoretical soundness. Here is the essence of the theory used for this study:

1. **TOE Framework:** For companies to adopt ESG, they need to be ready internally and tech-wise. It also relies on their size, the industry they're in, and support from outside factors.
2. **Stakeholder Theory:** Customer, suppliers, investors, regulators, and other industry players can impact ESG choices. Still, how much they affect things depends on whether MSMEs see ESG as relevant and doable.
3. **Institutional Theory:** Incentives from the government, policies they support, clear regulations, and helpful advice can cut down on confusion and boost ESG efforts. Institutions make it easier for businesses to follow ESG rules, which helps a lot.
4. **Managerial Cognition Perspective:** ESG awareness alone is insufficient. MSME managers need to see ESG as helpful, doable, and worth the strategy before they'll actually adopt it.

2.2 Hypotheses Development

Based on the literature reviewed, the various factors that influence the adoption of ESG in MSME include managerial mindsets around the benefits of strategic adoption, level of sector exposure, and organisational readiness for ESG adoption, as well as external support. The research employs the Technology-Organization-Environment (TOE) framework and integrates Stakeholder and Institutional theories to establish key hypotheses. In the TOE framework, firm size is related to financial resources, management structures and other factors. Capacity and awareness of ESG vary significantly among micro, small, and medium enterprises (MSMEs). Larger companies are more likely to adopt and implement ESG practices. Thus, larger MSMEs generally do better at grasping and executing ESG measures due to their superior resources and structure.

H1: Business size significantly influences the level of ESG adoption among Indian MSMEs.

Industry type shapes ESG adoption, given differences in environmental impact and other factors. These sectors differ in environmental impact, regulations, resource consumption, and stakeholder expectations. It is reasonable to assume that these elements influence the extent to which companies adopt ESG principles.

H2: Industry type significantly influences ESG awareness and adoption orientation among Indian MSMEs.

Managerial awareness is key for ESG adoption. In small businesses, owners or managers usually call the shots. So, their understanding of ESG practices can affect those choices. However, awareness alone is insufficient. Managers also need to see the value and practicality of ESG. Otherwise, it probably won't get implemented.

Therefore:

H3: ESG awareness is positively associated with ESG adoption among Indian MSMEs.

Managers turn ESG awareness into action when they see its benefits. They'll adopt it if they think it opens up markets, cuts risks, boosts reputations, and helps with regulations and future competition. So, perception really drives implementation here.

Therefore:

H4: Perceived benefits mediate the relationship between ESG awareness and ESG adoption.

Government support also shapes the environment for ESG adoption. It offers incentives, subsidies, and advice to ease the process for small businesses. Clear policies and training help too. So, government backing might translate ESG awareness into actual practices.

Therefore:

H5: Government support moderates the relationship between ESG awareness and ESG adoption, strengthening the positive relationship.

Stakeholder support reflects external market and relational pressure from customers, suppliers, investors, industry associations, and other business actors. Such support can reduce the negative effect of ESG-related challenges by improving legitimacy, market motivation, and supply-chain encouragement. Therefore:

H6: Stakeholder support moderates the relationship between ESG-related challenges and ESG adoption, reducing the negative effect of challenges on adoption.

3. Methodology

The study will use a quantitative approach to determine perceptions and the reality of ESG implementation in the Indian MSME industry. In this respect, a survey of MSMEs from different industries and geographical localities will be conducted as a data collection method.

The research design and approach will be determined by the nature of the research and the type of data obtained through the research process.

3.1 Research Design and Approach

This study employed a quantitative, cross-sectional research design to examine the managerial, organisational, and institutional factors associated with ESG adoption among Indian MSMEs. A structured survey was used to collect information from MSME owners, managers, and organisational decision-makers concerning ESG awareness, adoption, perceived benefits, implementation challenges, government support, and stakeholder support.

The quantitative design was selected because the study sought to examine relationships among the identified ESG constructs and assess differences in ESG awareness and adoption across business-size and industry categories. The cross-sectional approach enabled data collection from participating MSMEs at a specific point in time.

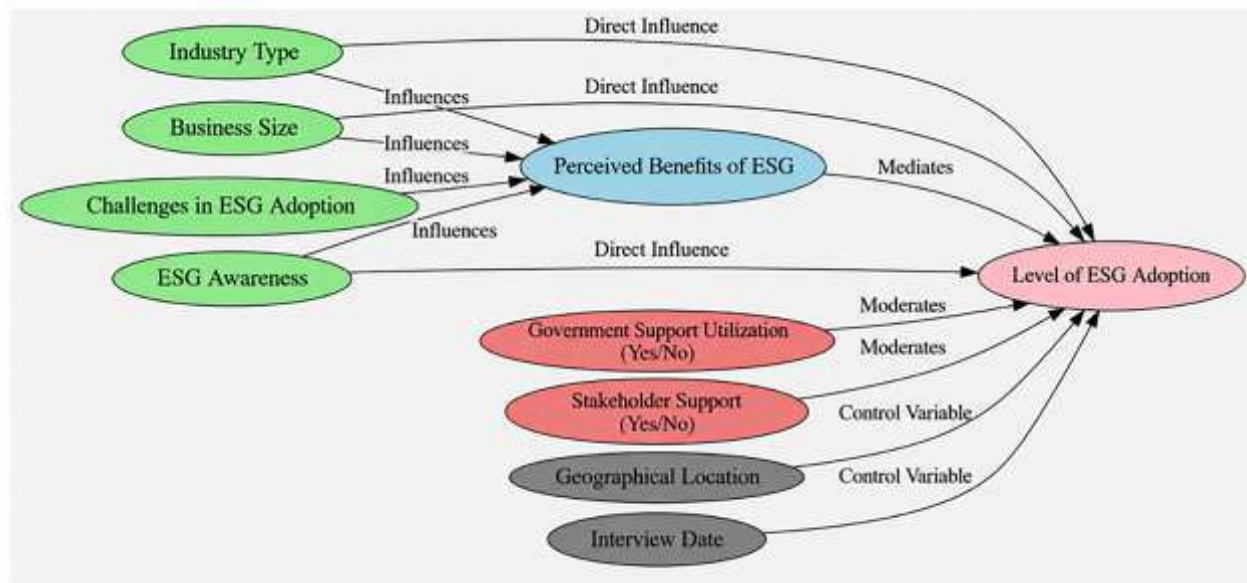


Fig.1. Measurement Framework for ESG Constructs

3.2 Data Collection and sample design

Primary data were collected from **357 respondents representing 357 Indian MSMEs** operating in the manufacturing, service, and agriculture sectors. One respondent represented each participating MSME. Respondents included owners, senior managers, and organisational decision-makers familiar with their firms' operations and ESG-related practices. Thus, the total respondent sample was **N=357**.

The dataset was examined for missing responses before conducting the statistical analysis. Complete information on ESG-adoption status was available for **227 respondents**, whereas 130 respondents did not provide a valid response for this variable. Consequently, analyses involving ESG adoption were conducted using the available complete cases. The valid sample size used for each statistical test is reported with the corresponding table.

Fig.1 presents the conceptual research model, which defines the nodes of each research variable and categorises them as independent variables (IVs), moderating variable (MV), moderating variables (ModVs), dependent variable (DV), and control variables (CVs). Directed edges show the relationships between these variables, whereby independent variables exert both direct impacts on the mediating variable and the dependent variable. The

mediating variable also influences the dependent variable, and the moderating variables change these relationships. Control variables are added to ensure objective analysis and account for external impacts.

Table 1 presents the constructs included in the study, their corresponding measurement items, and the item codes used in the survey instrument. ESG Awareness (EA1-EA3) includes knowledge of basic principles, regulations, and ESG training. ESG Adoption includes business strategies, compliance monitoring and performance monitoring (ED1-ED3). Stakeholder Support includes an analysis of industry operations, consumer demand, and investor pressure (SS1-SS3). Financial and Regulatory Barriers include financial constraints, regulatory complexity, and technological preparedness (FRB1-FRB3). Government & Policy Support deals with interference in incentives, policy utilisation, and the availability of subsidies regarding their influence on ESG utilisation (GPS1-GPS3). Under this framework, it becomes easier to measure ESG integration in companies systematically.

The research will use a quantitative method to explore perceptions and the reality of ESG implementation in the Indian MSME industry. To this end, data will be collected through a survey of MSMEs across different industries and geographical areas.

Table 1. ESG Constructs, Measurement Items, and Variables Used in the Study

Construct	Factor Loading Items	Symbol
ESG Awareness	Level of awareness about ESG principles	EA1
ESG Awareness	Knowledge of ESG regulatory requirements	EA2
ESG Awareness	Involvement in ESG-related training programs	EA3
ESG Adoption	Adoption of ESG strategies in business operations	ED1
ESG Adoption	Implementation of ESG compliance measures	ED2
ESG Adoption	Monitoring and reporting ESG performance	ED3
Perceived Benefits	ESG improves market access	PB1
Perceived Benefits	ESG reduces business and regulatory risk	PB2
Perceived Benefits	ESG improves reputation and competitiveness	PB3
Stakeholder Support	Engagement with industry stakeholders on ESG initiatives	SS1
Stakeholder Support	Customer demand for ESG compliance	SS2
Stakeholder Support	Supplier and investor pressure on ESG implementation	SS3
Financial & Regulatory Barriers	Financial constraints limiting ESG adoption	FRB1
Financial & Regulatory Barriers	Regulatory complexity affecting ESG compliance	FRB2
Financial & Regulatory Barriers	Technological readiness for ESG implementation	FRB3
Government & Policy Support	Participation in government ESG incentive programs	GPS1
Government & Policy Support	Utilisation of policy support for ESG initiatives	GPS2
Government & Policy Support	Impact of subsidies and grants on ESG adoption	GPS3

Note: The table identifies the indicators used to measure ESG awareness, ESG adoption, perceived benefits, stakeholder support, financial and regulatory barriers, and government and policy support.

Source: Authors' survey instrument.

3.3 Variable and Instrument Design Measures

The study constructs were developed from prior ESG, sustainability, MSME, and institutional support literature and adapted to the Indian MSME context. All constructs were measured using multi-item indicators on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

ESG Awareness was assessed based on how well managers understood ESG principles, knew the regulations, and took part in related training. This shows how ready MSME decision-makers are to grasp ESG expectations and sustainability practices. Earlier studies stress that ESG awareness, knowledge of sustainable finance, and tech

readiness really shape sustainability adoption in MSMEs (KM et al., 2022; Saxena et al., 2022; Agrawal & Kumar, 2024).

ESG Implementation includes using ESG strategies within the business, implementing compliance policies, and measuring and reporting ESG performance. This represents the actual application of ESG practices by MSMEs. Scientific evidence is in full support of this statement as well – it correlates ESG practice with improved sustainability, environmental innovation, environmental responsibility, and competitiveness within the business environment (Adhana, 2023; Ashraf et al., 2024; Bania & Biswas, 2024; Wang & Wang, 2025).

Perceived benefits refer to the perceived benefits of implementing ESG, which include market access, risk reduction, reputation enhancement, regulatory readiness, and competitive advantage. This indicates that MSME management views ESG as beneficial to their strategy, beyond mere compliance. Prior research indicates that green marketing, sustainable packaging, CSR-based sustainability, and green financing improve market valuation, stakeholder trustworthiness, and company performance (Gelderman et al., 2021; Wandosell et al., 2021; Rahman et al., 2024; Sumastuti et al., 2024).

Support from government and policies supporting access to incentives, policies, subsidies, advisory, and ESG-related assistance formed the basis for the measurement. This indicates the support provided by institutions to help reduce uncertainties, costs and implementation difficulties for the MSMEs. Previous studies have shown that government interventions, infrastructure development, financial inclusion, regulatory and environmental information, and policy tools affect MSMEs and ESG performance (Adobas et al., 2024; Fahrati et al., 2024; Li et al., 2024; Han & Cai, 2024).

Stakeholder support includes customer demand, supplier pressure, investor expectations, and engagement with industry stakeholders, and it is based on Stakeholder Theory. It shows how external pressure and support drive ESG adoption. Earlier studies show that stakeholder goals, resource dependence, expectations for ESG disclosures,

ethical pressure, and stakeholder engagement can affect sustainability and ESG-related decisions (Liu et al., 2022; Wong et al., 2023; Xie et al., 2024; Talan et al., 2024)

Financial and Regulatory Barriers were measured through financial constraints, regulatory complexity, and technological readiness limitations. These items capture the practical obstacles that restrict ESG implementation among MSMEs. Earlier studies have identified limited capital, procedural complexity, weak financial inclusion, regulatory burden, and technological limitations as major challenges for MSME sustainability adoption (Chaora, 2024; Monachan et al., 2024; Debnath et al., 2024; Esubalew, 2024).

Recent MSME research also indicates that owners' expectations regarding data-driven business process management are relevant to organisational readiness and technology-enabled transformation (García-Vidal et al., 2025).

3.4 Assessment of Reliability and Validity.

Cronbach's alpha was used to measure the internal consistency of the measurement scales, and all constructs met the recommended level of 0.70, indicating that the scales are reliable. The measurement items were adapted from existing studies, and expert review was used to ensure content validity. Correlation analysis was used to assess construct validity, confirming that items loaded correctly on their respective constructs.

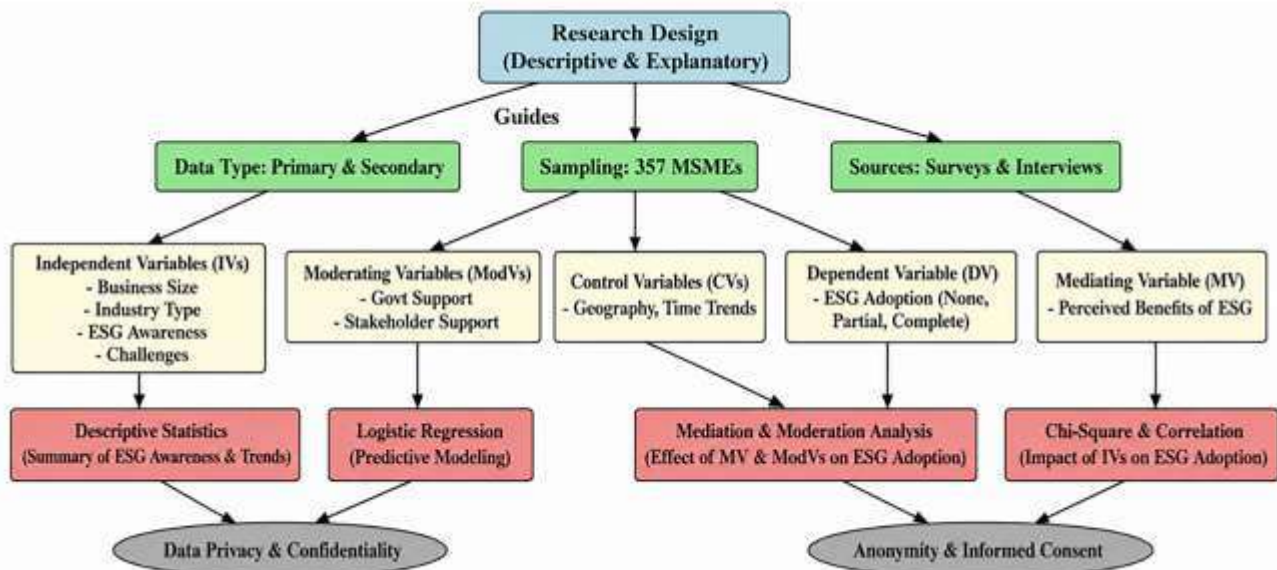


Fig.2. Methodological Framework

3.5 Data Analysis Strategy

The data were initially screened for missing values and coding consistency. Descriptive statistics, including frequencies and percentages, were used to summarise the characteristics of the participating MSMEs and describe the distributions of ESG awareness, adoption, perceived benefits, implementation challenges, government support, and stakeholder support.

Group-comparison and association tests were used to examine whether ESG awareness and adoption differed according to business size and industry type. The Chi-square test of independence was used to evaluate associations between categorical variables. In contrast, regression-based analyses examined the relationships among ESG awareness, institutional support, and ESG adoption.

The total respondent sample comprised 357 MSMEs. However, because some variables had missing responses, statistical analyses were conducted using complete cases for the variables included in each test. Therefore, the valid analytical sample size is stated separately in each table. Statistical significance was evaluated at the 5% level, with $p < 0.05$ indicating a statistically significant result.

Statistical and analytical techniques are used to explore ESG adoption by MSMEs. Descriptive statistics from the base

analysis summarise the key variables in terms of levels of ESG awareness, adoption trends, and perceived benefits. Using measures such as mean, frequency distribution, and percentages, this approach provides an overview of how MSMEs perceive and integrate ESG practices into their operations (refer to Fig. 2).

Figure 3 shows the conceptual model that outlines the proposed adoption of ESG by Indian MSMEs. The model indicates the hypothesised associations between firm size, industrial sector, ESG awareness, benefits perception, ESG barriers, governmental support, stakeholder support, and ESG adoption. The figure emphasises the direct impacts of the organisation's characteristics on ESG adoption, the mediation effect of benefits perception, and the moderation effect of governmental and stakeholder support.

Correlation analysis and the Chi-square test are used to establish relationships between categorical variables. These tests can be used to determine the significance of business size, industry type, and geographical location in relation to the level of ESG adoption. The research will therefore seek to establish the correlation between these variables to identify trends in ESG adoption across different sectors and business sizes. The analysis of the influence of key determinants on the likelihood of adopting ESG practices will use logistic regression to determine how government

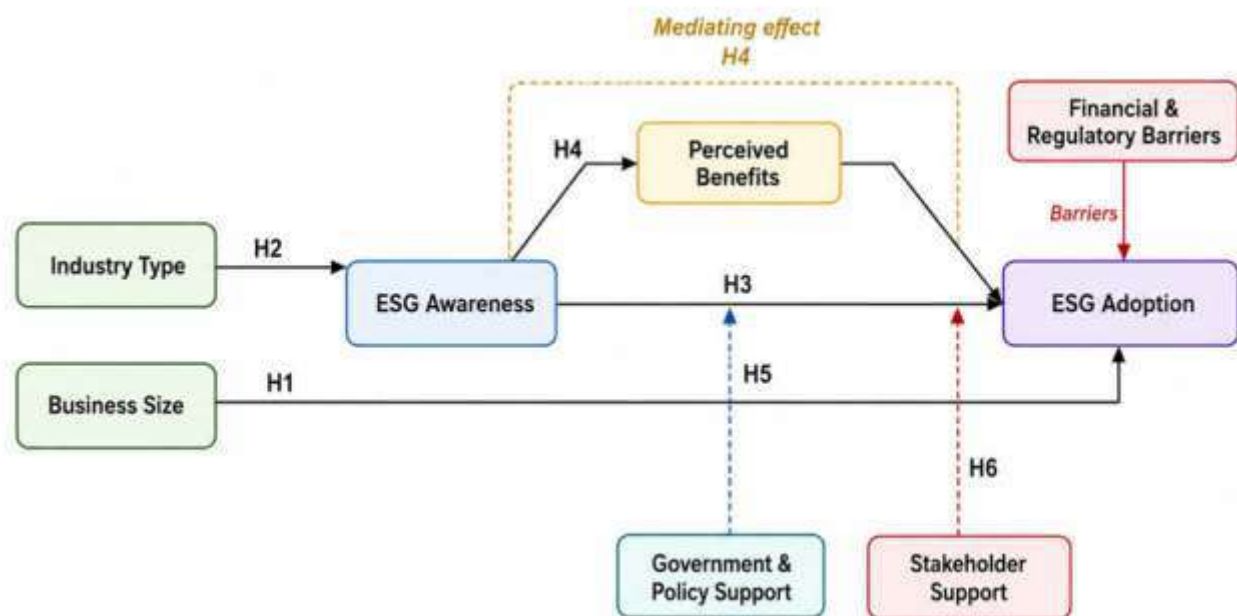


Fig.3. Conceptual Model of ESG Adoption among Indian MSMEs

support, stakeholder involvement, and regulatory challenges affect adherence to ESG practices. The method will help determine the likelihood of ESG practice adoption among MSMEs based on influencing factors, which will be useful to policymakers and other industry stakeholders. Sentiment analysis can also be used to gain deeper insight into favourable, neutral, or unfavourable feelings about ESG uptake in the MSME sector, based on textual data obtained through interviews or open-ended survey responses.

Firm size, industry, and firm tenure were included as control variables to reduce confounding effects. A statistical analysis was performed using standard tools used in management research, making the results robust and easy to interpret.

4. Result

The final sample comprises 357 MSMEs operating in the manufacturing, service, and agriculture sectors in India. Business owners and senior managerial personnel who are directly involved in strategic decision-making were the respondents. The representation of micro, small, and medium enterprises was good, with clear differentiation based on the size of the organisation and its business setting. This diversity allows us to compare ESG awareness and adoption patterns across industries and firm sizes, which is particularly important.

4.1 Descriptive Analysis of ESG Awareness and Adoption

H2: Industry Type and ESG Awareness/Adoption Orientation

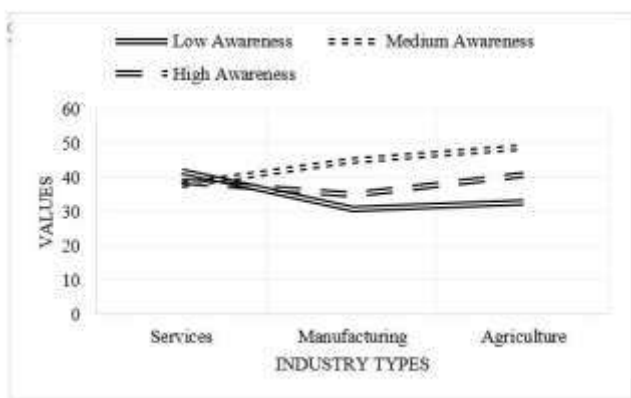


Fig.4. ESG Awareness by Industry Type

H2 suggests industry type affects ESG awareness and adoption among Indian MSMEs. It looked at this by comparing ESG knowledge across firms in Agriculture, Manufacturing, and Services.

Figure 4 reveals companies' awareness of ESG issues across industry sectors. Manufacturing- and agriculture-based MSMEs appear more knowledgeable about ESG than businesses in the service sector. This may be because these businesses are often subject to environmental regulations and must be more concerned with the sustainable use of resources. However, increased ESG awareness doesn't necessarily translate into full ESG implementation. The results indicate that the agriculture and manufacturing MSMEs are more aware of ESG principles, but certain managerial, financial and operational challenges are likely to limit their adoption. In addition, service companies are not as familiar with ESG. Therefore, the results are consistent with hypothesis two. The extent to which companies know about ESG and plan to act appears to depend on the industry. Firms in agriculture and manufacturing are more aware of environmental and compliance issues than other firms are. Overall, the findings suggest that tailored ESG programmes and targeted policies are needed to level the playing field in ESG knowledge levels among MSMEs.

H1: Business Size and ESG Adoption

H1 suggests business size greatly affects how much Indian MSMEs adopt ESG. This was tested by examining ESG patterns in micro, small, and medium firms.

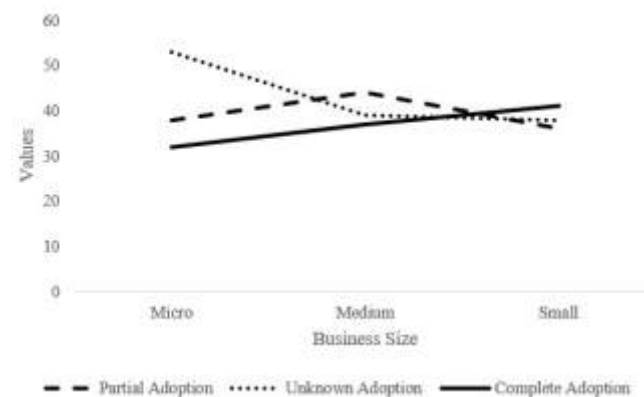


Fig. 5. ESG Adoption Level by Business Size

Table 2. One-Way ANOVA Results for ESG Adoption Across Business-Size Categories

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-Statistic	P-Value
Between Groups	4.3	2	2.15	2.22	0.110
Within Groups	12.7	177	0.072	-	-
Total	17.0	179	-	-	-

Note: The dependent variable is ESG adoption, and the grouping variable is business size. The analysis used the valid observations available for this test.

Source: Authors' analysis based on survey data.

Table 3. Chi-Square Test of Association Between ESG Awareness and ESG Adoption

Test	Value	df	p-value
Chi-Square	8.89	2	0.064

Note: The test evaluates the statistical association between ESG-awareness categories and ESG-adoption categories.

The table should report the valid sample size included in the test.

Source: Authors' analysis based on survey data.

Figure 5 also highlights that uncertainty surrounding ESG adoption is higher in micro enterprises than in small and medium enterprises, where ESG implementation is either partial or full. This implies that larger MSMEs may be better able to manage their businesses, have stronger finances, more formal procedures, and greater awareness of regulatory requirements, which helps them with their ESG activities. However, the ANOVA results in Table 2 show that business size doesn't significantly predict ESG adoption at the 0.05 level.

The one-way ANOVA results show that ESG adoption did not differ significantly across micro, small, and medium enterprises, $F(2, 177) = 2.22, p = 0.110$. Since the p -value is greater than the 0.05 significance threshold, H1 is not statistically supported. Although the descriptive results suggest that micro enterprises may have comparatively lower levels of ESG readiness and adoption than small and medium enterprises, these observed differences are not statistically significant. Therefore, firm size alone is not a significant determinant of ESG adoption among the surveyed MSMEs. The findings suggest that other organisational and institutional factors, including industry type, perceived strategic benefits, government support, stakeholder support, and financial and regulatory barriers, may also influence ESG adoption.

4.2 Statistical Analysis and Test of Hypothesis.

H3: ESG Awareness and ESG Adoption

The results indicate a positive relationship between ESG awareness and ESG adoption in Indian MSMEs, as suggested in H3. To test this, a Chi-square test was conducted on ESG awareness levels and adoption status. It aimed to determine whether there is a relationship between knowledge of and engagement in ESG practices among MSMEs.

The Chi-square test results presented in Table 3 indicate that the association between ESG awareness and ESG adoption among MSMEs is not statistically significant at the 5% significance level ($\chi^2 = 8.89, p = 0.064$). Since the p -value exceeds the 0.05 threshold, the results do not provide sufficient statistical evidence to confirm a significant relationship between ESG awareness and adoption status. Although the observed pattern suggests that higher ESG awareness may contribute to greater adoption tendencies, awareness alone does not necessarily translate into actual implementation. The findings indicate that MSMEs may face additional challenges, including financial limitations, regulatory complexity, technological constraints, and uncertainty regarding the strategic benefits of ESG practices. Therefore, H3 is not statistically supported.

Overall, the results highlight an awareness–implementation gap, suggesting that managerial understanding of ESG principles must be complemented by adequate organisational capabilities and institutional support to achieve effective ESG adoption among Indian MSMEs.

H4: Perceived Benefits mediate ESG Awareness and ESG Adoption

H4 proposes that managers' perceptions of ESG's value to their business drive the relationship between ESG awareness and adoption. Therefore, knowledge of ESG is not enough – managers must recognise the benefits of it. In this research, those benefits include easier market entry, lower risks, better reputation, preparedness for regulations, and stronger long-term competitive positions. In short, the data reveal that these potential benefits strongly influence managers' decisions. Risk mitigation, market access, and reputation enhancement were identified as important expected outcomes of ESG adoption. This suggests that MSME managers are more likely to consider ESG implementation when they see ESG not only as a compliance requirement but also as a strategic business opportunity. However, the present analysis does not include a full statistical mediation test such as bootstrapped mediation, PROCESS macro, or structural equation modelling. Therefore, H4 cannot be claimed as fully statistically supported. Instead, the findings provide descriptive support for the mediating role of perceived benefits. This suggests that perceived benefits may explain why awareness translates into adoption for some MSMEs but not others.

Thus, H4 is partially supported at the descriptive level. Future studies may test this relationship more rigorously using formal mediation analysis to examine whether perceived benefits significantly transmit the effect of ESG awareness on ESG adoption.

H6: Stakeholder Support and ESG Adoption

H6 proposes that stakeholder support moderates the relationship between ESG-related challenges and ESG adoption. Stakeholder support includes customer demand,

supplier pressure, investor expectations, and industry-level encouragement for ESG practices. Since the available statistical test examines the direct relationship between stakeholder support and ESG adoption, the result is interpreted as supportive evidence rather than a complete moderation test.

Table 4 presents the correlation between stakeholder support and ESG adoption. The correlation between stakeholder support and ESG adoption indicates a very weak and statistically insignificant relationship ($r = 0.029$, $p = 0.583$). Facilitating stakeholder support alone has very limited impact on ESG adoption by MSMEs without other factors such as internal feasibility, perceived benefits, or institutional support. Large enterprises typically take a severe financial hit from investor scrutiny, face formal reporting obligations, and face significant reputational backlash. But small businesses are usually more concerned about running smoothly, costs, what they have, and keeping things simple with the regulators. As a result, stakeholder support will have limited impact, unless tied to tangible business advantages, access to the supply chain, or government assistance. Thus, there is no support for our hypothesis H6. Yet this weak link doesn't entirely rule out stakeholder support. Rather, it functions indirectly or is contingent on other benefits or aligned market opportunities.

Additional Analysis: Financial and Regulatory Barriers to ESG Adoption

Financial and regulatory barriers make ESG adoption difficult for SMEs. But firms still face challenges in moving from learning about ESG to taking action, including financial, complexity, and technical issues. Cash flow problems are a real hardship for small businesses. They typically have a small budget and don't have extra funds for things like ESG reporting, eco-upgrades, staff training, or establishing compliance systems. Plus, there's a lot of red tape in regulations – which is another stress! These smaller companies may lack the resources to manage the complexities of ESG regulations. Today, ESG involves digital record-keeping and tracking, and data-driven

Table 4. Pearson Correlation Between Stakeholder Support and ESG Adoption

Variable 1	Variable 2	Correlation Coefficient	p-value	Significance
Stakeholder Support	ESG Adoption	0.029	0.583	Not Significant

Note: The dependent variable, predictors, and valid analytical sample are reported in the table. Statistical significance was evaluated at $p < 0.05$.

Source: Authors' analysis based on survey data.

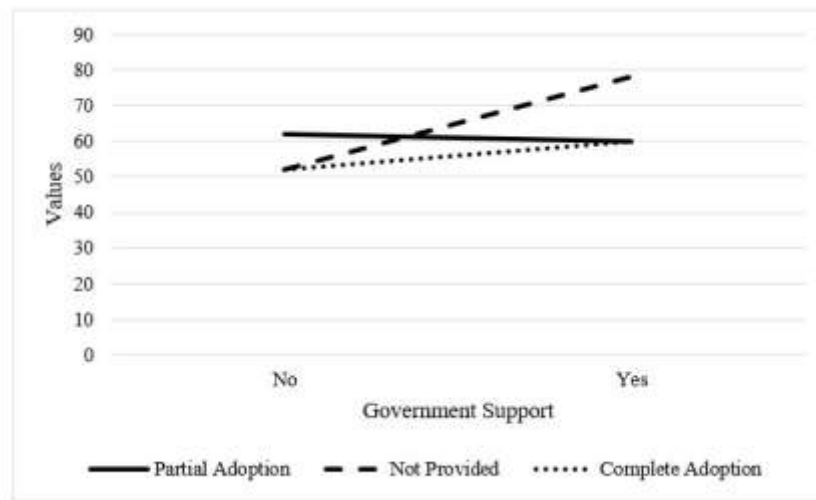


Fig. 6. ESG Adoption Level Across MSMEs With and Without Government Support

checks. Even if an MSME is aware of the significance of ESG, it might not have the technical know-how to put these plans into practice. The study showed that awareness of ESG perks alone isn't enough. ESG practice is low without support, clear guidance, and tech support. So, for MSMEs, the money and regulation issues are key reasons for the variable uptake of ESG.

H5: Government Support moderates ESG Awareness and ESG Adoption

H5 suggests that government support weakens the link between ESG awareness and ESG adoption. This help can be incentives, subsidies, clear policies, advice, training, and other kinds of aid. All these tools make it easier for small businesses by cutting their costs and reducing confusion about what they need to do.

Figure 6 contrasts the ESG adoption practices of MSMEs that are receiving government support from those which are not getting any such help. This means there is a gap between awareness and implementation of ESG principles, particularly for MSMEs with limited resources and this gap may be reduced through effective government involvement. However, it is essential to keep in mind the part of the government. Providing support does not mean that all small businesses will suddenly be ESG ready. It appears to be more of an enabler rather than a 'must-have' as it seems to be useful only when MSME managers are already aligned with the ESG principles and recognise the strategic importance. Thus, H5 will be supported in the intended direction. Plus,

incentives, tips, and easier rules and training increase ESG uptake. However, these relationships should be confirmed by further analysis, employing interaction-based regression.

4.3 Policy-Oriented Hypothesis Testing Results

To look deeper at how ESG adoption affects policies, a regression analysis was done, focusing on government support. Prior research has demonstrated that simply knowing about ESG is not enough – firms require more than the knowledge to actually implement ESG practices. So, the researchers examined the correlation between the government's support and awareness of ESG. The researchers set out to determine whether such support would help to strengthen the relationship between awareness and implementation of ESG. As seen in Table 5, the results indicate a positive effect, although it is not statistically significant, and are caused by ESG awareness. This coefficient is positive ($\beta = 0.037$), but the p value is greater than 0.05 ($p = 0.553$). Being aware of ESG is important, but not sufficient for ESG adoption by MSMEs. It gets things going, but requires additional impetus such as government assistance to get things moving. There does not appear to be direct support from the government for ESG. The actual value of the coefficient is negative ($\beta = -0.082$), and has a very high p-value (0.661). So, when looked at by itself, more support from the government isn't tied to ESG adoption increases. Practically, this shows that MSMEs might not always take advantage of available government programs because they might not get the point of ESG or see

Table 5: Moderation Analysis of Government Support in the Relationship Between ESG Awareness and ESG Adoption

Predictor	Coefficient (β)	Std. Error	t-value	p-value
Intercept	1.375	0.136	10.079	0.000
ESG Awareness	0.037	0.062	0.594	0.553
Government Support	-0.082	0.187	-0.439	0.661
ESG Awareness $\times$ Government Support	0.066	0.084	0.789	0.431

Note: Dependent variable: ESG Adoption. Predictor variables include ESG Awareness and Government Support, with the interaction term ESG Awareness $\times$ Government Support representing the moderation effect. Statistical significance was evaluated at $p < 0.05$.

Source: Authors' analysis based on survey data.

its use for their business. That said, there's a positive spin when you consider awareness too. The coefficient for awareness is positive ($\beta = 0.066$) when looking at how awareness and government support interact. The value of the p-statistic is still relatively high at 0.431 which is not significant. However, once MSMEs develop initial ESG awareness, with its initial understanding and knowledge, MSMEs may reap greater benefits from the additional assistance and are more likely to implement ESG practices. ESG adoption is more likely when institutional support complements internal managerial awareness.

The interaction effect between ESG awareness and government support was positive but statistically non-significant ($\beta = 0.066$, $p = 0.431$). Since the significance level exceeds the 0.05 threshold, the findings do not provide sufficient statistical evidence to support the moderating role of government support in the relationship between ESG awareness and ESG adoption. Therefore, H5 is not statistically supported. However, the positive coefficient indicates a potential enabling direction of government support, which may require further investigation using larger samples and more comprehensive moderation analysis. The key results indicate that managerial awareness, perceived feasibility, institutional support and implementation barriers influence the adoption of ESG in MSMEs. The studies point out that business size and the type of industries vary from company to company. It's an awareness of ESG that sets the scene, followed by perceived benefits that influence the managers' perspective. Interestingly, there is not much direct stakeholder support. Rather, government assistance is only effective under certain conditions. Also, financial and regulatory hurdles explain why being aware of ESG doesn't always lead to actual change.

5. Discussion

5.1 Discussion of Major Findings

The results provide valuable insights into the ESG practices adopted by Indian MSMEs. The results suggest that it is not a single factor that is affecting the adoption, but that it is a mix of factors including aspects of the company, management competencies, perceived benefits, external support and practical challenges. The size of the firm does have an impact on the ESG approach in practice, but is not well supported by the statistics. Thus, the size of the firm is not sufficient to explain ESG uptake completely. Smaller businesses might not have what larger businesses have, and ESG take up requires more, including managers being willing, how feasible it is to implement at the smaller business, and support from institutions. The type of industry certainly matters with regard to the management of ESG issues by MSMEs. Makers and farmers are more into knowing about ESG as they are subjected to more environmental laws and sustainability challenges. Since service sector companies may have less requirements for ESG, this may be a reason for it not being as high. However, not all of these companies will make it happen through knowledge. This shows there's a gap between knowing about ESG and putting it into practice. Even with an awareness of ESG principles, numerous obstacles can prevent managers from implementing the changes they need, such as financial constraints, complex regulations, and an absence of the technology needed. First, managerial perception of ESG benefits plays a critical role. They'd love to adopt it if they believe it will benefit them in the market, reduce risk, enhance their reputation, and/or prepare them for regulations. Regarding government support, the findings indicate that institutional assistance can strengthen ESG implementation when aligned with managerial awareness.

While it's not always a straight line to ESG adoption, it does can help to strengthen the linkage between ESG awareness and implementation. When managers think that they can access the support and that it really is useful. Finally, stakeholder support is weakly positively linked to use of ESG. Typically small and medium companies react to stakeholder pressure only by making minor changes. They require support mechanisms that provide tangible business value, integrate with supply-chain expectations, and align with policy support.

5.2 Theoretical Contributions

This study contributes to the ESG and MSME literature in the following ways:

1. **Extension of TOE Framework:** The study introduces an extension of the TOE model, demonstrating that the adoption of ESG by MSMEs are influenced by organisation readiness, managerial awareness, sectoral exposure, and external policy support.
2. **Application of Stakeholder Theory in MSMEs:** Results from the study further support the concept of the Stakeholder Theory by revealing that stakeholder pressure does not necessarily impact on the adoption of ESG in MSMEs. While large companies might be more driven by external expectations, MSMEs could be more motivated by the internal feasibility and business benefits.
3. **Institutional Support as a Conditional Enabler:** The study adds to the institutional theory by suggesting that institutional support does not necessarily act as a direct driver. Rather, as a contextual enabler that comes into play if firms have a high level of awareness and perceived strategic interest.
4. **Managerial Cognition in ESG Adoption:** The study emphasises managerial cognition in the process of ESG adoption (4). ESG adoption is not only driven by awareness, but also by the feasibility, usefulness, risk and expected business value assessment of managers.

5.3 Managerial Implications

The findings provide the following implications for MSME owners and managers:

1. MSME managers should treat ESG adoption as a strategic capability rather than only a regulatory requirement.

2. ESG initiatives should be associated with concrete business values, including better access to markets, reputation, risk reduction in the business, and competitiveness in the supply chain.
3. Use ESG gradually, incrementally, rather than all at once, with micro and small enterprises.
4. Managers are advised to seek assistance from the government schemes, subsidies, training and advisory programmers to ease implementation.
5. Organisations need to raise awareness within themselves on the ESG concept, as well as implement training initiatives, documentation, digital tools, and ease compliance.

5.4 Policy Implications

The findings also provide useful implications for policymakers:

1. ESG policies for MSMEs should be simple, accessible, and sector-specific.
2. Government agencies should improve awareness about existing ESG incentives, subsidies, and support programs.
3. Policy support should not only focus on financial incentives but also include training, advisory services, compliance guidance, and digital readiness support.
4. Special attention should be given to micro enterprises because they face higher financial and technical barriers.
5. Industry-wise ESG guidelines should be developed because agriculture, manufacturing, and service MSMEs face different sustainability pressures.

5.5 Policy Mechanisms and Managerial Interpretation

The results show that policy support becomes effective only when MSME managers understand and value ESG adoption. Therefore, policy mechanisms should be designed in a way that improves both capability and interpretation. The key mechanism can be explained as follows:

1. **Awareness Creation:** MSMEs must first understand ESG principles, regulations, and expected benefits.
2. **Perceived Benefit Formation:** Managers must recognise that ESG adoption can improve market access, reputation, compliance readiness, and long-term competitiveness.

3. **Institutional Facilitation:** Government support, subsidies, incentives, and advisory programs can reduce uncertainty and implementation costs.
4. **Practical Adoption:** When awareness, perceived benefits, and support mechanisms work together, MSMEs are more likely to move from awareness to actual ESG implementation.

Overall, the discussion confirms that ESG adoption among Indian MSMEs is a managerial–institutional process. Awareness initiates ESG consideration, perceived benefits create motivation, and government support improves feasibility. This explains why ESG adoption remains uneven even when awareness and policy mechanisms are present.

Limitations of the Study

Although this study provides valuable findings regarding the adoption of ESG principles among Indian MSMEs, there are a number of limitations that should be mentioned. First, this research utilises a cross-sectional design that reflects the perceptions and behavior of MSMEs at a particular point in time, thus making it impossible to detect long-term trends or causality associated with ESG adoption.

Second, the study utilises self-reported responses obtained from Indian MSME managers and owners. This approach may raise concerns regarding the potential presence of a response bias, as the awareness, perceptions, and reporting practices of respondents may vary.

Third, as it was mentioned above, the study is conducted for Indian MSMEs only; thus, the findings may be not applicable for MSMEs in other countries, as the regulatory environment and approaches to corporate sustainability practices differ from one national context to another.

Fourth, the process of ESG adoption is affected by various external and internal drivers. Although this study covers a range of significant determinants, such as ESG awareness, expected benefits, governmental, and stakeholder support, as well as ESG implementation barriers, other drivers, such as technological and financial capabilities of organisations, organisational culture, and industry factors, may affect ESG adoption decisions.

6. Conclusion

The study identified the various factors influencing the ESG adoption among Indian MSMEs such as Awareness, Potential Benefits, Government Support, Stakeholder Support, Challenges etc. The findings reveal that it is not enough to know ESG, companies must have more than just

knowledge to actually implement it. Awareness-action gap exists with regards to ESG in MSMEs. But business size and industry type do play a role, and they don't completely account for the adoption or not of ESG practices. Managers are more likely to implement ESG if they think that it can work for them (e.g. making it easier to enter the market, lowering risk, creating a better image, meeting regulations). Moreover, the government's endorsement assists in facilitating businesses to adopt ESG, especially if management is already convinced of the added value. The study contributes to the knowledge about ESG and MSMEs by merging the TOE framework, Stakeholder Theory, Institutional Theory, and opinions on managerial thought processes. Finally, putting in place ESGs with MSMEs is not only a matter of compliance with regulations, but also the result of a management decision and support offered due to the capacity and value perceived by MSMEs. From a practical perspective, the study suggests that ESG policies can help MSMEs by simplifying regulations, providing financial assistance, offering guidance, and conducting training and tailored guidance for the sector. This study could be extended in several ways, such as investigating the same individuals over time, examining industry differences, and conducting mediation/moderation testing.

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Behavioural Biases Among Retail Investors: The Role of Expert Recommendations

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A b s t r a c t

This study investigates how expert recommendations trigger behavioural biases that influence investors' intentions and actual behaviour in the stock market. A mixed-method exploratory design was adopted. The qualitative phase identified fourteen behavioural biases induced by expert recommendations through semi-structured interviews, which were later consolidated into nine key biases for the quantitative phase. Data from individual retail investors in India were analysed using Smart PLS, enabling assessment of these biases' impact on investment intention and behaviour.

The results reveal that anchoring bias, confirmation bias, and overconfidence bias significantly influence both investor intention and behaviour, while other biases such as availability, herding, disposition, and loss aversion exhibit limited or no effect. These findings indicate that expert recommendations serve as powerful market signals that can shape investor psychology and behavioural outcomes. The study provides valuable insights for financial advisors, market analysts, and policymakers by highlighting how expert communications can unintentionally reinforce investor biases. This research offers a comprehensive behavioural framework linking expert recommendations with investor psychology. It is among the first studies to integrate Signal Theory and Prospect Theory to explain expert-induced biases using a mixed-methods approach, contributing both theoretical and empirical value to the behavioural finance literature.

Keywords: Expert recommendations; Behavioural biases; Investor intention; Investor behaviour; Signal Theory; Prospect Theory; Mixed-method research

Paper type: Research paper

1. Introduction

Retail investors operate in environments characterised by information asymmetry, volatility, and incomplete knowledge, which shapes how they process signals and make investment choices. In practice, they do not consistently behave as rational optimisers; rather, they rely on cognitive shortcuts to efficiently interpret complex or ambiguous information (Yasmin, F., & Ferdaous, J., 2023). These shortcuts, while useful for rapid decision-making, give rise to behavioural biases that systematically distort perceptions of risk and return (Srivastava, H., Moid, S., & Rushdi, N. J., 2024). Behavioural finance therefore argues that investment outcomes reflect not just market fundamentals, but also the psychological mechanisms investors use to evaluate information and form judgements (SHA, N., & ISMAIL, M. Y., 2021).

In this context, expert recommendations emerge as a powerful external stimulus that can activate and reinforce these behavioural biases. Analysts, market commentators, and financial advisors simplify complex market signals into digestible directives, often presented as buy, hold, or sell ratings, which provide clarity, reduce cognitive effort, and create a perception of informational advantage (Krishnan & Booker, 2002). While these recommendations are designed to support decision-making, they may unintentionally encourage biased judgment, primarily when investors treat expert advice as authoritative or unquestionable.

This dynamic is particularly evident in the post-COVID era, where retail market participation has expanded rapidly. In India, for example, the number of dematerialised accounts rose from 40.1 million in 2020 to 171 million in 2024, with retail investors now holding 23.4% of total equity ownership (NSDL & CDSL, 2024; Business Standard). The sharp influx of new, inexperienced participants, enabled by digital trading platforms, reduced transaction costs, and social-media-driven market discourse, has increased reliance on expert opinions to navigate market uncertainty.

Authority signals embedded in recommendations can anchor price expectations, confirm pre-existing beliefs, inflate confidence in personal judgment, and trigger herding responses during periods of high market activity. Investors rely on analyst advice because of perceived expertise, the ability to stimulate interest, and access to firm-specific insights (Kelly, Khim, et al., 2011). Research indicates that novice investors are more likely to trust and be influenced by these recommendations than seasoned investors (Jansson, Magnus, et al., 2024).

Although the market-wide effects of expert recommendations, such as short-term price reactions, abnormal returns, and fluctuations in trading volume, are well established in the literature (Womack, 1996; Jegadeesh & Kim, 2006; Moshirian et al., 2009), their behavioural and psychological implications for retail investors remain insufficiently examined. Existing studies acknowledge biases such as anchoring, overconfidence, and herding in investment behaviour (Srivastav & Pandey, 2023; Sahi et al., 2013), yet they primarily analyse these biases in isolation, without explicitly considering how expert recommendations activate or reinforce them. This represents a notable gap, particularly in emerging markets like India, where rapid post-pandemic retail participation and digitally mediated advisory channels have increased investors' susceptibility to judgment errors and authority-driven distortions. Consequently, there is a pressing need to investigate how expert recommendations contribute to the formation and intensification of behavioural biases among retail investors, rather than treating such biases as independent or self-generated phenomena.

The study thus pursues two key research objectives. The first objective is to identify the behavioural biases induced by expert recommendations among investors, which is addressed through qualitative inquiry. The second objective is to empirically examine the influence of these expert-induced behavioural biases on investor intention and actual investment behaviour, using a quantitative research approach.

2. Literature review

The first part outlines the theoretical framework, and the second part reviews existing literature on expert recommendations and behavioural biases.

2.1 Theoretical Framework

2.1.1 Signalling Theory and Expert Recommendation

Signalling Theory (Spence, 1973) argues that under information asymmetry, investors depend on external signals to evaluate firm quality and market direction. Expert recommendations, target prices, and rating revisions operate as market signals that simplify complex information, reduce uncertainty, and guide investor judgment (Connelly et al., 2011). Investors perceive analysts as credible because they are assumed to possess superior evaluation skills, reputational capital, and access to specialised insights (Hsieh, 2021; Handoko et al., 2026).

Recent studies show that these signals are strategic: analysts adjust forecasts to manage reputation (He et al., 2020), issue voluntary non-EPS forecasts to build credibility (Pope & Wang, 2023), and shape market sentiment through public signalling (Cremers et al., 2021; Huang et al., 2014). Because signal effectiveness depends on both sender credibility and receiver interpretation (Hutton et al., 2012; Connelly et al., 2011), expert recommendations can alter investment expectations and behaviour.

2.1.2 Prospect Theory and Behavioural Biases

Prospect Theory (Kahneman & Tversky, 1979; Oktasari et al., 2026) explains how investors deviate from rationality when assessing gains, losses, and risk. Due to limited information-processing capacity, investors rely on heuristics such as anchoring, representativeness, confirmation, and availability, which lead to systematic and predictable behavioural biases (Tversky & Kahneman, 1981; Yadav et al., 2026). Small investors in particular depend on intuitive judgment due to bounded rationality (Simon, 1957), financial complexity, and emotional influence (Das, U., & Mohapatra, S. R., 2017; Dar & Kumar, 2023). These biases encourage investors to overweight expert opinions, follow recommendations without verification, and imitate perceived consensus behaviour (Itzkowitz & Itzkowitz, 2017). Therefore, expert recommendations function simultaneously as information signals and behavioural triggers, shaping both investment intention and actual behaviour.

2.2 Behavioural Biases in Investor Decision-Making

Empirical research shows that investor decision-making is shaped by systematic behavioural tendencies rather than purely analytical evaluation (Joshi, C. S., Badola, S., & Chopra, G., 2022). Retail investors commonly rely on heuristic shortcuts that simplify judgment but distort portfolio and trading decisions (Mushinada & Veluri, 2020). Existing studies indicate that investors often prioritise intuition and familiarity over data-driven analysis, especially under uncertain market conditions, leading to decisions based on subjective confidence rather than objective evaluation (Nguyen, 2020; Jaiyeoba & Haron, 2016).

Prior research also highlights the role of social influence and demographic variables in bias formation (Mehta, K., & Sharma, R., 2015; Lazar, D., & Sundar, V., 2017). Chan and Kogan (2002) report that informal advice from personal contacts affects decision outcomes by providing emotional

reassurance rather than rational justification (Kaur et al., 2024). Sewell's (2007) findings show that anchoring, overconfidence, and regret aversion repeatedly emerge as dominant behavioural patterns, while factors such as mental accounting and availability exert milder but still measurable effects (Banerji et al., 2020). In emerging markets, particularly India, overconfidence is notably widespread, driven by increased retail participation, higher self-assessment of market knowledge, and selective acceptance of information (Prosad, Kapoor, Sengupta & Roychoudhary, 2017; Jaiyeoba et al., 2018). These studies collectively demonstrate that behavioural biases manifest consistently across investor groups, indicating that biased decision-making is not incidental but a regular component of market participation.

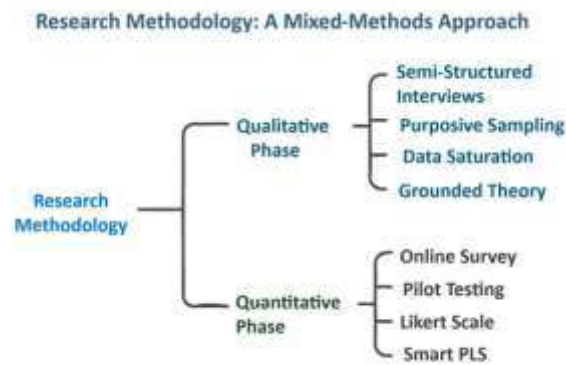
2.3 Expert Recommendations and Investor Response

Research on expert recommendations demonstrates that they influence trading patterns, risk perception, and investor expectations. Investors often attribute informational advantages to analysts and treat analysts' recommendations, such as target price changes or buy/hold/sell ratings, as credible cues for decision-making (Jegadeesh et al., 2004). This perceived informational superiority contributes to increased responsiveness to recommendations, reflected in heightened trade volume and short-term market adjustments following analyst signals (Grinblatt & Keloharju, 2001). Empirical studies further reveal that retail investors disproportionately weight salient recommendations, anchor their expectations on initial forecasts, and selectively validate information that aligns with prior beliefs (Ariely et al., 2003; Andersen et al., 2010; Cai et al., 2022).

Existing studies typically address behavioural biases independently, or analyse expert recommendations from a market-reaction perspective, without evaluating how expert guidance activates or reinforces biases during investment decision-making. This leaves a clear gap in understanding the mechanism through which expert signals translate into biased judgment, intention formation, and investment behaviour—particularly in the context of expanding retail participation in emerging markets like India.

Accordingly, this study aims to identify expert recommendations that induce behavioural biases among retail investors and to analyse how these biases influence investment intention and behaviour. By integrating Signalling Theory and Prospect Theory, the study aims to offer a more comprehensive explanation of expert-driven judgement distortions. Methodology

A mixed-methods approach helps comprehensively understand individual perceptions and strengthens the validity of the results through cross-validation (Lin et al., 2023; Lama et al., 2020).



**Fig.1. Research Methodology:
A Mixed Methods Approach**

Figure 1 explains the research methodology using a mixed-methods design. First, in the qualitative phase, data were collected with semi-structured interviews (Saleuddin R, 2014; Sahi et al., 2013). After a literature review, the authors developed open-ended interview questions (McCluskey et al., 2010). The authors developed an interview guide to ensure consistency while allowing flexibility to explore emerging themes (Nain & Rajan, 2023). The questions were based on signalling and prospect theory literature and

focused on expert recommendations and biases (Li et al., 2021). Six experts—two industry professionals, two academics, and two scholars—reviewed an initial set of questions to ensure relevance and clarity, leading to several revisions. These updated questions were pilot-tested with ten stock investors, and further modifications were made, resulting in 12 final questions.

The study uses purposive sampling to select participants with a demat account, stock market experience, and exposure to expert recommendations via financial advisors, media, or reports (Palinkas et al., 2015). Retail investors were informed about the study, given a formal invitation, and interviewed after providing consent. To protect privacy, we used pseudonyms or codes, and all personal information remained confidential.

While collecting data, we observed new themes emerge as we analysed it simultaneously. Data saturation was reached when no new themes emerged, and patterns remained consistent, indicating that further data collection was unnecessary. The 55 respondents' diverse views adequately meet the study objectives. The 55 investors came from varied backgrounds, ages, income levels, and professions, to represent different investment behaviours. Interviews were audio-recorded with consent and transcribed verbatim. Of these, 29 were in person, and 26 were virtual. The data were analysed using grounded theory (Charmaz, 2006) and the Gioia Method (Gioia et al., 2013). Figure 2 presents the different stages of the research design and process, from the qualitative to the quantitative phase.

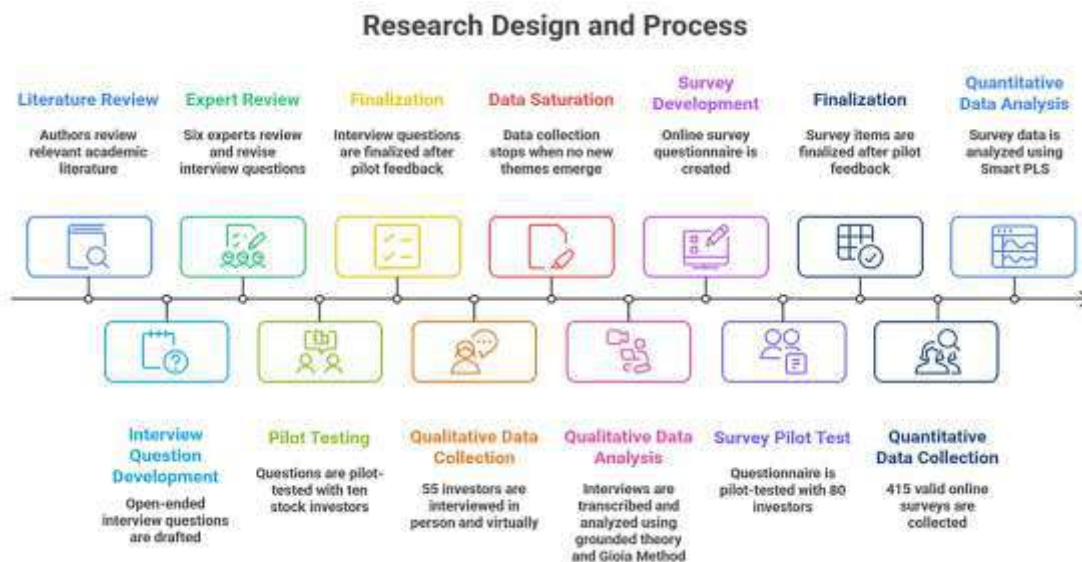


Fig.2. Research design and Process

In the quantitative phase, an online survey of investors was conducted. The questionnaires were all collected online. To ensure questionnaire quality, a pilot test was conducted with 80 investors. After modifying the questionnaire, 39 items were ultimately accepted as valid. All measurement items used a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). A total of 415 valid surveys were successfully collected. Smart PLS was used for data analysis because of its flexibility and ability to handle non-normal data distributions.

3. Data Analysis

3.1 Qualitative Study

Analysis included multiple stages. First, open coding (Strauss & Corbin, 1998) identified relevant data segments, labelling them according to participants' language. For example, *"My previous positive experiences with expert recommendations make me more likely to follow them in the future,"* was tagged as a zero-order code.

Next, we examined "similarities and differences" (Gioia et al., 2012) among open codes. By iteratively integrating, renaming, and refining the codes, we identified **first-order codes** broader, abstract patterns that show how expert recommendations influenced investment behaviour. For example, positive past experiences with expert advice leading to better returns were labelled as first-order concepts.

We then identified **second-order themes** that represent deeper structures across these codes. These themes helped explain observed phenomena. We grouped the first-order codes into fourteen second-order themes, each with 3-5 codes. These themes revealed biases, such as the *Representative Bias*. We grouped the second-order themes into **the Aggregate dimension, representing four key bias types induced by expert recommendations**: Cognitive (e.g., anchoring, confirmation, overconfidence), Emotional (e.g., loss aversion, disposition), Social (e.g., herding, halo), and Informational (e.g., framing, availability).

Table 1 in the Appendix presents data structure into first-order concepts, second-order themes and aggregate dimensions. Experts serve as simplifiers of complex financial information, yet this reliance triggers cognitive, emotional, social, and informational biases. Through qualitative analysis, we identified 14 biases grouped into 4 broad categories. The first category is cognitive biases, being the most prominent. These include representativeness, anchoring, confirmation bias, overconfidence, hindsight

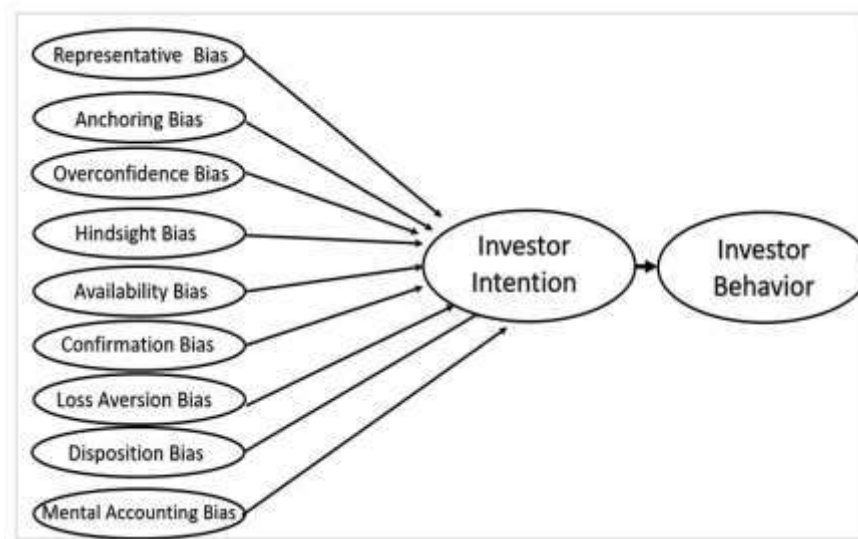
bias, and the illusion of control (Zahera & Bansal, 2018; Mittal, 2022).

Second, Emotional biases also emerged as a key theme, particularly loss aversion, self-attribution, and the disposition effect (Khilar & Singh, 2020; Al Dahan et al., 2019). Third, Social biases, including herding and the halo effect and last category is Informational biases such as recency, framing, and mental accounting were also identified.

3.2 Quantitative study

The qualitative phase identified expert-induced behavioural biases, which directly helped construct development, item generation, and model specification in the quantitative phase. In the qualitative phase, 14 distinct behavioural biases were identified, but some were merged based on the literature. Specifically, self-attribution, framing, illusion of control, hindsight, and halo effect were merged with closely related constructs based on their theoretical interdependence and consistent treatment in prior literature. Overconfidence Bias merges with self-attribution bias and illusion of control. Self-attribution and illusion of control both reflect inflated confidence in one's knowledge, skills, or control over outcomes, which are core dimensions of overconfidence (Barberis & Thaler, 2003; Odean, 1998). Confirmation Bias merges with framing bias and hindsight bias. Framing and hindsight both involve selective perception and interpretation of information that supports existing beliefs or retrospective rationalisation, making them closely tied to confirmation processes (Pompian, 2012; Tversky & Kahneman, 1981). Representativeness Bias merges with the halo effect. The halo effect is a cognitive shortcut in which one positive attribute influences the overall judgment, conceptually aligned with representativeness, which generalises from limited or salient cues (Shefrin, 2007). Moreover, recency bias can be conceptually nested under availability bias, since both rely on the mental shortcut of retrieving "readily available" information (Kliger, D., & Kudryavtsev, A., 2010).

The refinement resulted in the following nine key biases: representative, anchoring, availability, overconfidence, confirmation bias, loss aversion, disposition effect, mental accounting, and herding. Such consolidation is in line with past behavioural finance research, which often integrates conceptually overlapping heuristics and cognitive distortions into broader categories to allow for more parsimonious models and clearer statistical testing (Shefrin, 2007).



Source: Authors' own work

Fig.3. Research Model

To proceed with structural equation modelling (Singh et al., 2025), the study initially evaluated the significant effects of behavioural biases on investor intention, and further examined its influence on investment behaviour (IB). Presented in Figure 3.

A survey instrument is developed considering biases induced by expert recommendations and based on a review of the literature. Preliminary assessment confirmed the validity and reliability of the measurement model. All item factor loadings exceeded 0.60, indicating strong convergent validity. Composite reliability (CR) and Cronbach's alpha (α) values surpassed the 0.70 threshold, demonstrating internal consistency. Additionally, average variance extracted (AVE) values were above 0.50, further supporting convergent validity (Hair et al., 2017) (see Table 2).

Cross-loadings measure the correlation between observed variables and latent factors. Higher values indicate stronger associations. All items load primarily on their respective constructs, supporting the model's convergent and discriminant validity and helping identify potential issues such as multicollinearity.

After assessing reliability and validity, the study used a standard bootstrap procedure to estimate path coefficients. The t-statistic and the bootstrap value for evaluating the significance of relationships are also presented in Figure 4. Indicators, including beta, path coefficient, t-value and p-value, were calculated to test the significance.

Table 2. Reliability and Convergent Validity

Construct	Items	Outer VIF	Factor Loading	Inner VIF	Cronbach's Alpha	Composite Reliability (Rho_C)	AVE
Anchoring Bias	A1	1.557	0.873	2.962	0.749	0.843	0.647
	A2	1.385	0.63				
	A3	1.654	0.884				
Availability Bias	AV1	1.748	0.91	3.384	0.802	0.877	0.706
	AV2	1.641	0.77				
	AV3	1.796	0.834				
Confirmation Bias	C1	2.155	0.876	4.135	0.842	0.905	0.76
	C2	2.37	0.904				
	C3	1.751	0.834				

Disposition Bias	D1	1.921	0.871	2.255	0.835	0.9	0.75
	D2	1.937	0.838				
	D3	1.97	0.888				
Herding Bias	H1	1.578	0.906	2.37	0.792	0.864	0.681
	H2	1.934	0.857				
	H3	1.658	0.699				
Loss Aversion Bias	LA1	1.634	0.822	3.389	0.8	0.883	0.715
	LA2	1.706	0.844				
	LA3	1.859	0.869				
Mental Accounting Bias	M1	1.479	0.819	2.566	0.725	0.873	0.775
	M2	1.479	0.938				
Overconfidence Bias	OC1	1.732	0.854	4.529	0.806	0.871	0.629
	OC2	1.894	0.829				
	OC3	1.547	0.741				
	OC4	1.502	0.741				
Representative Bias	R1	1.793	0.907	2.672	0.799	0.909	0.832
	R2	1.793	0.918				
Investor Intention	I1	2.538	0.895	2.294	0.869	0.92	0.794
	I2	2.985	0.925				
	I3	1.952	0.851				
Investor Behaviour	IB1	1.707	0.84		0.743	0.849	0.653
	IB2	1.605	0.754				
	IB3	1.323	0.827				

Table 3. Structural Path Analysis

Path	B	T	P	Result
Anchoring Bias → Investor Intention	-0.137	2.36	0.018	Supported
Availability Bias → Investor Intention	-0.055	0.947	0.344	Not Supported
Confirmation Bias → Investor Intention	0.220	2.988	0.003	Supported
Disposition Bias → Investor Intention	0.030	0.664	0.507	Not Supported
Herding Bias → Investor Intention	0.059	1.204	0.229	Not Supported
Loss Aversion → Investor Intention	0.020	0.284	0.777	Not Supported
Mental Accounting → Investor Intention	-0.102	1.801	0.072	Not Supported
Overconfidence → Investor Intention	0.152	2.175	0.030	Supported
Representative Bias → Investor Intention	0.037	0.657	0.511	Not Supported
Investor Intention → Investor Behaviour	0.376	6.586	0.000	Supported

Source(s): Table by authors

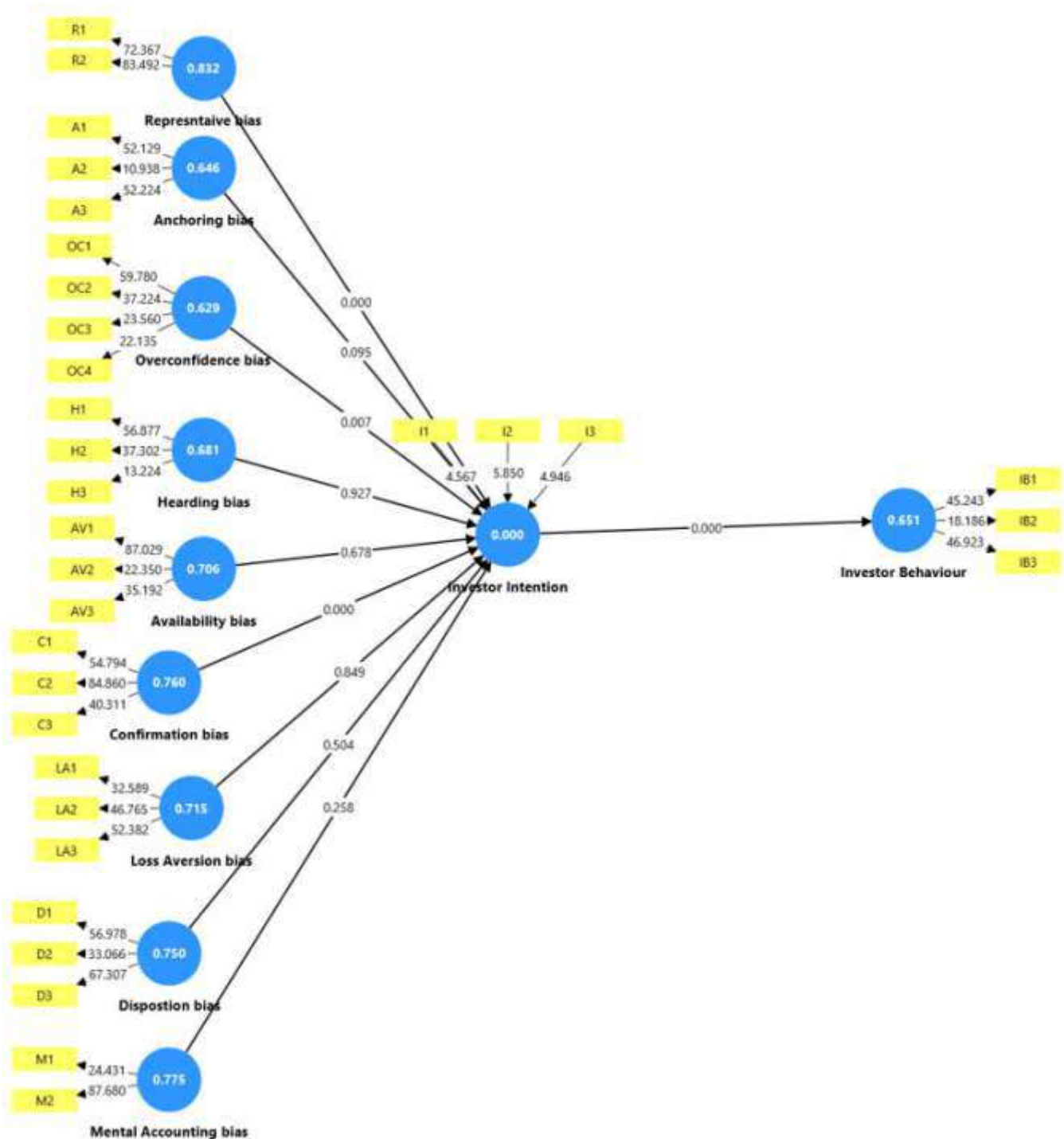


Fig. 4. Significance of Variable Relationships Using Partial Least Squares (Bootstrapping)

Source: Author's computation using Smart-PLS

We exhibit the testing results in Table 3.

Table 3 statistics indicate that cognitive biases have a significant impact on investor intentions in the stock market. Anchoring bias shows a negative, significant effect ($\beta = -0.137, t = 2.36, p = 0.018$), indicating that investors who rely too heavily on initial reference points provided by experts are less likely to develop strong investment intentions. In contrast, Confirmation bias shows a positive and significant relationship with investor intention ($\beta = 0.220, t = 2.988, p = 0.003$), suggesting that investors who seek or interpret information consistent with their prior beliefs are more inclined to invest. Similarly, Overconfidence bias exerts a positive influence ($\beta = 0.152, t = 2.175, p = 0.030$), reflecting the tendency of investors to overestimate their knowledge and judgment, thereby reinforcing their willingness to invest. The analysis indicates that Anchoring Bias, Confirmation Bias, and Overconfidence Bias significantly influence Investor Intention. These biases, often shaped by expert advice, can lead to misjudgement or overestimation in stock market investment decisions. Moreover, there is a significant positive relationship between Investment Intention (IIN) and Investment Behaviour (IB).

4. Discussion

4.1 Qualitative Study

The result of qualitative study highlighted four categories of biases, among which the most prominent is cognitive biases, which include six biases: representativeness, anchoring, confirmation bias, overconfidence, hindsight bias, and the illusion of control. Representative bias leads investors to extrapolate past successes, anchoring induces fixation on initial values (Adhytya & Rafik, 2026 ; Irshad, Badshah, & Hakam, 2016), confirmation bias prompts selective information processing, and hindsight bias fosters post-event overconfidence. Overconfidence and the illusion of control intensify investors' belief in their ability to predict outcomes (Riaz & Iqbal, 2015; Sp et al., 2026), which is usually reinforced by expert commentary.

Second, emotional biases also emerged as a key theme, particularly loss aversion, self-attribution, and the disposition effect (Khilar & Singh, 2020; Al Dahan et al., 2019). Loss aversion encourages holding losing stocks when experts signal possible recovery, while self-attribution leads investors to misattribute positive outcomes to skill. The disposition effect, premature profit-taking, was likewise amplified under expert influence.

The third category, social biases, including herding and the halo effect, was influenced by external cues (Chowdhury et al., 2026). Herding occurred when multiple experts

delivered convergent advice (Saxena et al., 2016; Patro & Kanagaraj, 2012), a tendency especially pronounced in emerging markets such as India. The halo effect made investors over-rely on expert reputation rather than objective analysis.

Lastly, informational biases such as recency, framing, and mental accounting were also identified. Recency bias refers to the preference for the latest online recommendations (Nan & Wen, 2014). Framing altered risk preferences depending on how information was presented (Kartini & Nahda, 2021; Nair et al., 2022). Mental accounting resulted in treating funds differently based on their source (Jain et al., 2022).

4.2 Quantitative study

The quantitative part of the study examines how expert-induced behavioural biases, identified in the qualitative stage, influence investors' decisions in the stock market, integrating Signalling Theory and Prospect Theory. Drawing on signalling literature (Akerlof, 1970; Certo, 2003), the findings confirm that credible market signals such as analyst reports or institutional endorsements shape investor perceptions but simultaneously activate cognitive limitations described by Prospect Theory (Kahneman & Tversky, 1979; Vuković & Pivac, 2024).

The quantitative results showed that of the nine consolidated biases, anchoring, confirmation, and overconfidence were significant predictors of both investment intention and behaviour. This aligns with foundational behavioural finance literature (Tversky & Kahneman, 1974; Barberis & Thaler, 2003) and offers new empirical evidence in the context of expert recommendations.

Anchoring bias demonstrated a significant negative influence on investor intention and behaviour, consistent with earlier studies that identified it as a general tendency among investors to rely excessively on initial reference points (Andersen et al., 2010; Kartini & Nahda, 2021). Our findings align with those of Owusu and Laryea (2023), who reported that anchoring is strongly associated with demographic and knowledge-based factors. Confirmation bias exhibited a significant positive effect, reinforcing the notion that investors selectively interpret information consistent with their prior beliefs (Pompian, 2012; Chang & Cheng, 2015; Cai et al., 2022). This finding aligns with research indicating that investors and analysts actively seek information that validates their expectations, particularly in information-rich environments (Chang & Cheng, 2015). Similarly, Cai et al. (2022) found analysts' earnings predictions often reflect confirmation of earlier forecasts, while Trehan and Sinha (2021) documented confirmation tendencies among online investors engaging in virtual

communities. Overconfidence bias also emerged as a significant positive predictor, consistent with prior findings that investors often overestimate their financial judgment and control over outcomes (Qasim et al., 2019; Khilar & Singh, 2019). Our results support the view that expert validation further fuels this overestimation, leading investors to underestimate risk and engage in excessive trading. The study findings reinforce the argument that in contexts where expert influence is pronounced, the overconfidence bias persists as a significant determinant of investor actions.

In contrast, other behavioural biases including availability, herding, disposition, representativeness, loss aversion, and mental accounting did not demonstrate significant effects on investor behaviour, though some exhibited minor influences on intention. The mixed results across studies suggest that contextual factors, investor sophistication, and trust in expert sources may moderate these relationships. For instance, availability bias was found to have no effect in specific contexts (Jain, Walia, & Gupta, 2020), while other studies identified significant effects (Sumantri, Susanti, & Yanida, 2024). Similarly, research on herding bias presents contradictory findings: while some report insignificant effects (Hossain & Siddiqua, 2024), others document significant and positive impacts (Abideen et al., 2023; Jain, Kartini & Nahda, 2021; Madaan & Singh, 2019). Disposition bias also shows conflicting outcomes: while some studies report no significant influence (Abideen et al., 2023; Adil, Madaan & Singh, 2019; Asad, Khan, & Faiz, 2018), others find it moderated by financial literacy (Adil, Singh, & Ansari, 2022) or influenced by media responses (Khilar & Singh, 2019). Research on representativeness bias likewise presents divergent findings: while some studies note no significant relationship with investor outcomes (Aigbovo & Ilaboya, 2019). Similarly, loss aversion and mental accounting biases were largely insignificant in influencing investor behaviour (Jain, Walia, & Gupta, 2020; Sukamulja, Meilita, & Senoputri, 2019). Such mixed evidence highlights that the relevance of these biases may be highly context-dependent, varying across investor segments, market conditions, and cultural settings. The consistency of our non-significant findings with a substantial strand of literature suggests that in the Indian stock market, particularly under expert influence, these biases may not dominate decision-making.

Finally, investor intention significantly predicted investor behaviour, reinforcing the Theory of Planned Behaviour (Ajzen, 1991; Saravanan, S., & Satish, R. 2017) and the Theory of Reasoned Action (Fishbein, 1979; Montano & Kasprzyk, 2015). Intention thus remains the strongest determinant of actual investment action, especially when perceived behavioural control is high.

4.3 Practical implications

The findings of this study carry several practical implications for investors, financial advisors, and policymakers. First, the evidence that expert recommendations induce systematic behavioural biases underscores the need for investors to adopt critical evaluation strategies before acting on such advice. Retail investors, in particular, should be trained to recognise biases such as anchoring, confirmation, and overconfidence, as these tendencies can significantly distort rational decision-making and reduce portfolio efficiency. Financial advisors and brokerage firms should complement their recommendations with investor education programs that emphasise risk awareness, alternative perspectives, and structured decision-making frameworks to mitigate bias. Second, for policymakers and regulators, the study highlights the importance of ensuring transparency and accountability in the dissemination of expert recommendations. Regulatory bodies, such as SEBI, could mandate more transparent disclosure of analysts' assumptions, potential conflicts of interest, and the historical accuracy of their recommendations. Such measures would enhance the credibility of recommendations as market signals while reducing the asymmetric information gap between professionals and retail investors. Finally, for financial service providers, the results suggest the value of integrating behavioural insights into advisory platforms and fintech applications. By embedding bias check tools, interactive nudges, and counter-framing techniques, these platforms can help investors make more balanced decisions. Recent advances in behavioural interventions within digital finance indicate that simple design changes such as presenting alternative reference points or highlighting downside risks can significantly curb the impact of biases on investment choices (Kliger & Kudryavtsev, 2013). Thus, the study offers actionable strategies that bridge academic insights with practical applications, ultimately contributing to more resilient and informed investor behaviour in the stock market.

5. Conclusion

This study offers novel insights into how expert recommendations serve as critical market signals while simultaneously inducing behavioural biases that shape investor intentions and behaviour. By employing a mixed-methods design, the research first identified a comprehensive set of biases through qualitative exploration

and then quantitatively validated their effects on investment outcomes. The results demonstrated that among the nine consolidated biases, anchoring, confirmation, and overconfidence emerged as the most influential predictors of both intention and actual behaviour, thereby reinforcing the explanatory power of Prospect Theory in capturing deviations from rational choice. At the same time, the study extends the application of Signal Theory by showing that the credibility and interpretation of expert recommendations determine their behavioural impact. Collectively, these findings contribute to a more nuanced understanding of the interplay between informational signals and cognitive biases in financial decision-making. Despite these contributions, the study has limitations. The focus on Indian retail investors constrains the generalizability of findings across different cultural and institutional contexts. Moreover, while the mixed-method approach offered depth and validation, future studies could integrate longitudinal data to capture changes in bias susceptibility over time or during market shocks. Another avenue for advancement lies in examining the interaction effects between biases, such as how anchoring interacts with confirmation bias under varying levels of financial literacy. Additionally, given the increasing role of fintech platforms, robo advisors, and AI-driven investment tools, future studies should investigate how digital ecosystems mediate the relationship between expert recommendations, behavioural biases, and investor outcomes.

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Appendix A

Table 1. Data Structure

Narratives	First-order concept	Second-order themes	Aggregate dimension
"I believe that experts can consistently pick winning stocks based on their past successes."	Experience Professional advice	Representative Bias	Cognitive biases
"I generally get better profits when I follow the advice of analysts."	Boast investment return Past success		
"I believe that I will achieve good returns by following expert advice."	Likely to follow in future		
"My previous positive experiences with expert recommendations make me more likely to follow them in the future."			
"The initial price target set by an expert significantly influences my expectations for a stock's future performance."	Initial price target Stock price forecast as a benchmark	Anchoring Bias	
"I rely on the first expert's advice to set my risk tolerance for a particular stock."	First advice Hard to revise		

Narratives	First-order concept	Second-order themes	Aggregate dimension
"Once an expert provides a stock price forecast, I tend to use it as a benchmark for my investment decisions."			
"I find it challenging to change my investment plan after setting it based on an initial expert recommendation."			
"When an expert recommendation confirms my initial thoughts about a stock, I feel more confident in my decision."	Confirms my initial thoughts Reinforce my existing investment	Confirmation Bias	
"I tend to seek out expert opinions that reinforce my existing investment strategy."	Confirm my initial analysis		
"My confidence in an investment increases when I find expert recommendations that confirm my initial analysis."	Align with my investment choices		
"After an investment outcome, I feel that I could have predicted the result based on expert recommendations."	Predicted the result Also expected that result	Hindsight bias	
"After seeing the results, I think the expert's recommendation was clearer and more accurate than I initially thought."	Learned to better predict market Good grasp of the market Investment outcome seem more obvious		
"When an expert's prediction comes true, I tend to believe I also expected that result."			
"I believe that following expert recommendations makes me more knowledgeable about the stock market."	Feel confident Selecting winning stocks increase Confident enough to increase my investment Larger investments in the future	Overconfidence Bias	
"After considering expert advice, I feel confident that I can make better investment decisions than the average investor."			
"I am more confident in my stock picks when they align with expert recommendations."			
"Expert recommendations reinforce my belief that I can achieve higher returns than the average market participant."			

Narratives	First-order concept	Second-order themes	Aggregate dimension
"I believe that following expert recommendations gives me more control over my investment outcomes" "When I use expert advice, I feel that I can better predict market movements." "I believe that my chances of success in the stock market increase when I follow expert advice." "Expert recommendations help me avoid losses by making more informed decisions."	Control on investment outcome actively managing my investments control of my financial future	Illusion Of Control	
"I am more likely to follow expert recommendations that emphasise avoiding potential losses." "I give more weight to expert opinions that discuss the potential losses rather than the potential gains of an investment." "I prefer expert recommendations that focus on minimising losses over those that emphasise maximising gains." "I often choose investments that experts describe as low-risk, even if they offer lower returns."	More weight to expert opinions that discuss the potential losses Focus on minimising losses Choose investments describe as low - risk Avoid potential losses	Loss Aversion Bias	Emotional biases
"When I make profitable investments after following expert recommendations, I believe it was due to my own skill." "I believe that my understanding of the market plays a larger role in my success than the expert recommendations I follow." "When an investment based on expert advice performs poorly, I attribute it to external factors beyond my control."	Due to my own skill Expert advice performs poorly, I attribute it to external factors Failure was due to unpredictable factors	Self-attribution Bias	

Narratives	First -order concept	Second -order themes	Aggregate dimension
"I feel more confident selling a profitable investment when an expert suggests it's a good time to do so." "I am more likely to sell a stock that has gained value if an expert recommends taking profits." "I tend to hold onto a stock that has decreased in value, especially when experts suggest it will recover." "I often hesitate to sell a stock at a loss if an expert advises that it might recover in the future."	Selling a profitable investment Hesitate to sell a stock at a loss Hold onto losing stocks Feels good after seeing rising prices in stocks	Disposition Bias	
"I am more likely to invest in a stock if I know that many experts recommend it." "I tend to follow expert recommendations if I see that many other investors are doing the same." "I prefer to invest in stocks that are popular among experts, believing that it reduces my risk."	Many experts recommend Other investors are doing the same Stocks that are popular Stocks that are widely discussed and endorsed by experts	Herding bias	Social bias
"I feel more comfortable investing in stocks that are widely discussed and endorsed by "Analysts have more time, resources and skill than me." "Expert knowledge and experience help me to make the right decision in the stock market." recommended by a "I am more likely to invest in a stock if it is well known expert." "I assume that stocks recommended by a famous expert are less risky."	Difficult to go against the trend Analysts have more time, resources and skill knowledge and experience well-known expert highly regarded in the media having more potential	Halo Effect	
"When making investment decisions, I tend to prioritise the most recent expert recommendations over past ones." "I believe that the latest expert opinions are more relevant to my investment strategy than older insights." "I often change my investment strategy based on the latest expert recommendations."	Recent News Most recent expert advice More accurate and up -to-date Latest Information	Recency Bias	Informational biases

Narratives	First-order concept	Second-order themes	Aggregate dimension
"I believe that recent expert recommendations are more accurate and up-to-date, and therefore more reliable."	Financial Education and knowledge frame a stock as a 'safe bet Describe using positive terms Focus on negative aspects	Framing Effect	
"Analyst report not only suggest me stock but give me the knowledge and financial education."			
"After watching videos of stock analysts on YouTube, I feel financially competent and aware."			
"If an expert frames a stock as a 'safe bet,' I am more inclined to invest, even without further research."			
"Looking back, I realise that my investment choices were influenced by the way experts framed their recommendations."	Bonus Money Extra Money Surplus Money Risky Stock Investment Investment categories	Mental	
"I am more likely to follow expert advice on how to allocate funds into different investment categories."			
"Bonus money I used to invest in risky stocks recommended by the analyst."		Accounting Bias	
"I consider expert recommendations when deciding how to reinvest profits from a particular investment."			

Source: Author's own work

Impact of Corporate Social Responsibility Expenditures on the Financial Performance of Commercial Banks in Bangladesh: A Statistical Study

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A b s t r a c t

This study examines the impact of Corporate Social Responsibility (CSR) expenditure on the financial performance of commercial banks in Bangladesh using secondary data from 2014 to 2024. Financial performance is measured using two multiple regression models in which operating profit and net income are treated as dependent variables. In contrast, CSR expenditure, interest income, total assets, owners' equity and total loan intensity are treated as the independent variables. Descriptive statistics, a correlation matrix, and multivariate linear regression were used to analyse the data. CSR expenditure has a significant negative effect on operating profit, indicating that increased CSR spending may temporarily reduce short-term profitability by increasing operational costs. For net income, CSR expenditure shows a negative but statistically insignificant effect, suggesting a weak influence on overall annual profitability when considered alongside other financial components. The study reveals that CSR expenditure does not enhance the short-term financial performance of commercial banks in Bangladesh and may even reduce operating profit. In contrast, systemic issues such as loan delinquency, financial crime and weak credit governance significantly weaken the real profitability of interest-earning activities. Strengthening credit discipline, improving loan monitoring, and enhancing regulatory oversight are essential for sustainable financial stability in Bangladesh's banking sector.

Key Words: Corporate social responsibility (CSR), Financial performance, Operating profit (OP), Net income (NI), Total Assets (TA), Interest income (II)

1. Introduction

Corporate social responsibility (CSR) is a management concept that describes how a corporation contributes to the well-being of communities and society. It is a type of business self-regulation aimed at social accountability and creating a positive impact on local communities, fostering social responsibility across business sectors. A bank is a financial institution of a country, and it has a responsibility to contribute to social welfare, protect the environment, protect the welfare and safety of employees, and ensure sustainable development beyond profit maximisation (Chin-Huang Lin *et al.*, 2009; Barauskaite & Streimikiene, 2020; Coelho *et al.*, 2023). CSR has become an integral component of modern banking activities, particularly in developing economies such as Bangladesh, where social, ethical and environmental expectations from financial institutions continue to rise (Kabir & Chowdhury, 2023; Niaz Mohammad & Kamal, 2016). CSR plays a vital role in attracting employees, increasing one's appeal to investors, and improving customers' perception of the institution. Over the past decade, the banking sector has expanded rapidly alongside increasing pressure to operate responsibly, driving development in financial stability, resource allocation, and human welfare (Kabir & Chowdhury, 2023; Dela, E., Ye, J., & Berhe, H. M., 2024).

CSR activities in Bangladesh have grown substantially in financial institutions, particularly among commercial banks. As a financial sectors of Bangladesh, commercial banks are now investing comprehensively in education, health, environmental conservation, poverty alleviation, rural development, employee welfare, disaster relief and rehabilitation, skill development and training, women empowerment and social welfare initiatives in response to regulatory encouragement by Bangladesh Bank and rising stakeholder expectations (Chowdhury & Nehal, 2020; Islam & Das, 2018; Kabir & Chowdhury, 2023). Recent studies indicate that employee-focused CSR initiatives enhance organisational commitment, service quality and long-term institutional sustainability in the banking sector (Ngoc Khuong Mai *et al.*, 2023). A study highlights that CSR expenditure can influence a bank's financial performance, which has been shown to improve the reputation and performance of their companies (Muzammal Ilyas Sindhu *et al.*, 2024). Several empirical studies in Bangladesh give us an insightful findings which detect a positive association between CSR expenditure and financial performance such as return to asset (ROA), return to equity

(ROE) (Coelho *et al.*, 2023; Dela *et al.*, 2024; Islam & Das, 2018), while another studies find insignificant effects depending on bank size, authority structures, governance practices and market competition (Chowdhury & Nehal, 2020; Hassan & Siddiqi, 2016). Some recent literature suggests that the effectiveness of CSR expenditure depends not only on the total amount spent but also on the strategic integration of CSR into core banking operations and governance frameworks (Sri Utami Ady *et al.*, 2025; Sharma & Chakraborty, 2024; Muzammal Ilyas Sindhu *et al.*, 2024).

Some studies suggest that CSR expenditure can enhance long-term profitability by improving reputation, raising customer loyalty, and reducing operational risks for financial institutions in Asian countries (Pi-Hui Ting *et al.*, 2018; Canh Thi Nguyen *et al.*, 2022; Tony Chieh-Tse Hou, *july*, 2018). Evidence shows that transparent CSR disclosure and third-party CSR assurance strengthen stakeholder trust and enhance firm value, particularly in regulated financial sectors (Ahum Choi *et al.*, 2025; Chai-Aun Ooi *et al.*, 2021). On the other hand, a few studies argue that excessive CSR spending may yield limited financial returns and could burden banks already struggling with inefficiency, financial distress, and cost control (Liu *et al.*, 2020; Deepa Sharma *et al.*, 2024).

A major challenge for commercial banks in Bangladesh is the continual rise in non-performing loans (NPLs), which directly threaten profitability, capital adequacy, and financial sustainability. Research indicates that NPLs significantly reduce bank profitability and decrease stakeholder confidence (Karim & Alam, 2013). Current statistics show that Bangladesh's banking sector now has some of the highest default loan levels in its history, with NPLs reportedly reaching 34%, the highest in 25 years (Hasan, The Daily Star, 14 January 2025). The highest financial distress may weaken the short-term financial benefits of CSR, even when social engagement remains durable (Kyumin Cho *et al.*, 2020; Liu Wu *et al.*, 2020). Some studies show a meaningful association between CSR expenditure and the improvement of firm value (Tito Tomas Siueia *et al.*, 2019; Islam & Das, 2018), while others emphasise contextual factors such as ownership structure, audit quality, regulatory enforcement and governance mechanisms that shape this relationship (Nemiraja Jadyappa *et al.*, 2019; Kabir & Chowdhury, 2023). Moreover, CSR expenditure patterns among commercial banks in Bangladesh differ widely depending on regulatory nurture, social priorities, and institutional capacity.

These empirical findings and the growing financial risks in Bangladesh's banking sector motivate this study. This paper aims to analyse how CSR spending influences the financial performance of commercial banks and to identify the relationships between CSR expenditure and financial performance indicators in Bangladesh. This study will also assist us to know whether CSR's expenditure serves as a strategic investment or functions as a driven expenditure of banks.

2. Methodology

This is a quantitative and explanatory research design to examine how Corporate Social Responsibility (CSR) expenditure effects the financial performance of commercial banks in Bangladesh. The research design is appropriate because it allows us for empirical study of causal relationships by using numerical data which extracted from audited financial statements. Descriptive statistics, correlation matrices, and multiple linear regression models were applied to identify the trends, evaluate the associations and estimate the directional impact of CSR's expenditure on profitability.

The population consists of 61 commercial banks which is listed in the Dhaka Stock Exchange (DSE) in Bangladesh. From these banks, a sample of 17 banks were purposively selected based on the availability and consistency of CSR's expenditure and financial data over the last eleven-year (2014–2024). In this study, we have chosen 17 commercial banks which are Arab Bangladesh bank Ltd. (ABBL), Al Arafa Islamic bank Ltd. (AIBL), Bank Asia Ltd. (BAL), City bank Ltd. (CBL), Dutch Bangla bank Ltd. (DBBL), Eastern Bank Ltd. (EBL), Exim bank Ltd. (EXBL), First security Islamic bank Ltd. (FSIBL), Mercantile bank Ltd. (MBL), Mutual trust bank Ltd. (MTBL), National credit and commerce Bank Ltd. (NCCBL), Prime Bank Ltd. (PBL), Pubali bank Ltd. (PUBL), South east bank Ltd. (SEBL), Trust Bank Ltd. (TBL), United commerce Bank Ltd. (UCBL) and Dhaka bank Ltd. (DBL).

The study completely depends on secondary data, collected from annual reports of the 17 banks, Bangladesh Bank publications and website of Dhaka stock exchange limited, yielding 188 panel data. This study considered two dependent variables namely, operating profit (OP) which measures profit from core banking operations before giving tax and provisioning and net income (NI) which is the final

profit after giving interest expenses, taxes, provisions, depreciation and other adjustments. The independent variables that are used in the study are CSR's expenditure (CSR Exp), interest income (II), total assets (TA), Owner's equity (OE) and Total Loan Intensity (TLI).

Hypotheses are formulated to test the impact of CSR expenditure on bank's financial performance in our study. The hypotheses are –

H₀₁: CSR expenditure has no significant impact on the operating profit of listed commercial banks in Bangladesh

H₀₂: CSR expenditure has no significant impact on the net income of listed commercial banks in Bangladesh

To estimate the effect of CSR's expenditure on bank's financial performance, we considered two multiple regression models which are –

Model 1: CSR and Operating Profit

$$OP_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 II_{it} + \beta_3 TA_{it} + \beta_4 OE_{it} + \beta_5 TLI_{it} + \epsilon_{it}$$

Model 2: CSR and Net Income

$$NI_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 II_{it} + \beta_3 TA_{it} + \beta_4 OE_{it} + \beta_5 TLI_{it} + \epsilon_{it}$$

Where, *i* = bank, *t* = year (2014–2024) and ϵ = error term

Descriptive statistics, correlation matrices and multiple linear regression models were used to analyse the data. We have justified the fitness of the models through robustness test. We also conducted multicollinearity tests using the correlation matrix and VIF. The analysis was conducted by using Microsoft excel and SPSS version 25.

3. Results and Discussion

The descriptive analysis shows considerable variation in profitability, CSR expenditure, and financial structure among the commercial banks of Bangladesh. Operating Profit ranges from BDT 613 million to BDT 184,600 million, while Net Income spans BDT 41 million to BDT 191,800 million, indicating substantial differences in operational efficiency. CSR expenditure also fluctuates sharply from BDT 4.57 million to BDT 11,184 million, demonstrating that banks differ meaningfully in their level of social engagement and profitability.

Table 1. Descriptive Analysis of Variables (in Million BDT)

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Operating Profit (BDT)	187	613	184,600	10,690.05	13,597.50
Net Income (BDT)	187	41	191,800	3,731.59	13,888.61
CSR Expenses (BDT)	187	4.57	11,184	621.69	1,827.96
Interest Income (BDT)	187	5,599	255,100	24,316.32	24,307.36
Total Assets (BDT)	187	101,464	4,342,800	407,803.38	423,676.92
Owners' Equity (BDT)	187	4,780	264,666	25,437.53	19,643.11
Total Loan Intensity	187	0.073	7.0789	0.7208	0.4793

Source: Annual report of Commercial banks of Bangladesh

Total Assets range from BDT 101,464 million to BDT 4,342,800 million, indicating the coexistence of small, medium, and large banks within the dataset. The mean owner's equity is **BDT 25,437.53 million**, ranging from **BDT 4,780–264,666 million**, indicating large variation in banks' capital strength and loss-absorbing capacity. The mean loan intensity is **0.7208**, ranging from **0.073 to 7.0789**, indicating wide variation in lending aggressiveness and credit risk exposure across the banks. This heterogeneity strengthens the empirical validity of the regression models.

The following correlation matrix presents the Pearson correlation coefficients for bivariate relationships. The table shows that operating profit and net income are very strongly correlated, supporting the internal consistency between the two profitability measures.

CSR expenditure shows a weak, negative correlation with both operating profit and net income, indicating an insignificant association between CSR expenditure and profitability. Total assets show a strong positive correlation with profitability, while total loan intensity displays a mild negative association. The correlation matrix also shows a mild positive association between interest income and financial performance. These preliminary findings justify the use of multivariate linear regression to isolate CSR's effect.

Model 1 explains 71% of the variation in operating profit, indicating that the independent variables have strong explanatory power for the dependent variable. CSR expenditure has a negative and statistically significant impact on operating profit, meaning CSR expenditure

Table 2. Relationship among The Different Variables (Correlation Matrix)

Variables	OP	NI	CSR	II	TA	OE	TLI
Operating Profit (OP)	1						
Net Income (NI)	.952**	1					
CSR Expenses (CSR)	-.043	-.025	1				
Interest Income (II)	.348**	.238**	.052	1			
Total Asset (TA)	.776**	.669**	.064	.411**	1		
Owners' Equity (OE)	-.011	-.048	.121	.061	.060	1	
Total Loan Intensity (TLI)	-.168*	-.111	.001	-.105	-.120	-.032	1

Table 3. Model Diagnostic and Robustness Test

Diagnostic Measure	Operating Profit	Net Income	Interpretation
R ²	0.709	0.590	The models explain 71 % and 59% of the variation in operating profit and net income, indicating strong explanatory power.
Adjusted R ²	0.699	0.577	Adjusted R ² values are very close to R ² (difference = 0.010 and 0.013), showing that added regressors improve explanatory power rather than inflate R ² , confirming the absence of overfitting.
F-Statistic (Sig.)	73.424 (0.000)	43.448 (0.000)	Both models are jointly significant at the 1% level, confirming overall validity of the regression specifications.
Durbin–Watson	2.284	2.463	Durbin–Watson values lie within or close to the acceptable range of 1.5 –2.5, indicating no serious autocorrelation in residuals.
Maximum VIF	2.032<5	2.032<5	VIF values well below the critical threshold of 5 confirm absence of multicollinearity among regressors.

primarily works as an immediate cost for banks rather than a profit-enhancing activity in the short term. Total assets emerge as the most influential positive predictor, highlighting a larger scale of economy among commercial banks. Interest income exhibits a negative and significant effect, reflecting structural sectoral issues such as high loan

defaults, high non-performing loans, money laundering, fund diversion, illegal siphoning of loans abroad and provisioning pressures. Other variables, including owner's equity and total loan intensity, were found to be statistically insignificant in this study.

Table 4. Regression Analysis of Operating Profit and Net Income

Predictor	Model-1			Model-2		
	Beta	t	Sig.	Beta	t	Sig.
Constant	5162	3.738	.000*	–695	–0.412	.681
CSR Expenses	–.085	–2.080	.039*	–.056	–1.143	.255
Interest Income	–.411	–7.146	.000**	–.478	–6.944	.000**
Total Asset	1.066	18.491	.000**	1.012	14.665	.000**
Owners' Equity	–.041	–1.010	.314	–0.073	–1.502	.135
Total Loan Intensity	–.085	–2.098	.037	–.043	0.875	.383

Note: Beta intercept are in million BDT

Model 2 explains 59.1% of the variation in net income by using these explanatory variables. For business, management, banking and social science data, this level of explanatory power is considered satisfactory and demonstrates that the model fits the data reasonably well. CSR expenditure in Model 2 again shows a negative but statistically insignificant association, meaning CSR expenditure does not significantly affect final profit once provisions, depreciation, taxes, non-operating items, and other adjustments are included. Total assets remain a strong positive determinant of profitability, indicating that bank size matters for final profitability. Interest income again shows a negative significant effect, indicating that rising non-performing loans, money laundering, high loan defaults, and loss of expected interest payments may have reduced effective interest earnings and lowered overall profitability. Owner's equity has a positive effect, but total loan intensity has a negative effect on financial performance, though both are found insignificant in our analysis.

CSR expenditure (in billion BDT) among the commercial banks of Bangladesh shows a dynamic upward-moving pattern (Fig. 1) with notable fluctuations.

2014–2017: Gradual rise from BDT 1.55 billion to BDT 3.00 billion, reflecting early addition of CSR guidelines and steady economic growth.

2018: A dramatic jump to BDT 21.67 billion, indicating expanded CSR programs, enhanced reporting, and larger banks leading to social initiatives.

2019: A sharp drop to BDT 4.16 billion, possibly due to budget shifts or accounting adjustments.

2020: A rise in waves to BDT 19.12 billion driven by COVID-19 relief operations, including health, food, and community support activities.

2021–2022: Post-pandemic balance at BDT 12.90 billion and BDT 15.47 billion, indicating normalisation after the emergency spending.

2023: Highest CSR expenditure in the dataset at BDT 23.62 billion, which drove strong bank earnings and enhanced regulatory encouragement.

2024: A decline to BDT 12.03 billion reflecting liquidity adjustments and strategic reprioritisation.

From the figure - 1, we have shown the CSR expenditure has grown substantially with the major spikes in 2018, 2020 and 2023, demonstrating bank's evolving social responsibility role.

Analysis of cumulative CSR spending across the 17 banks indicates substantial variation in commitment levels.

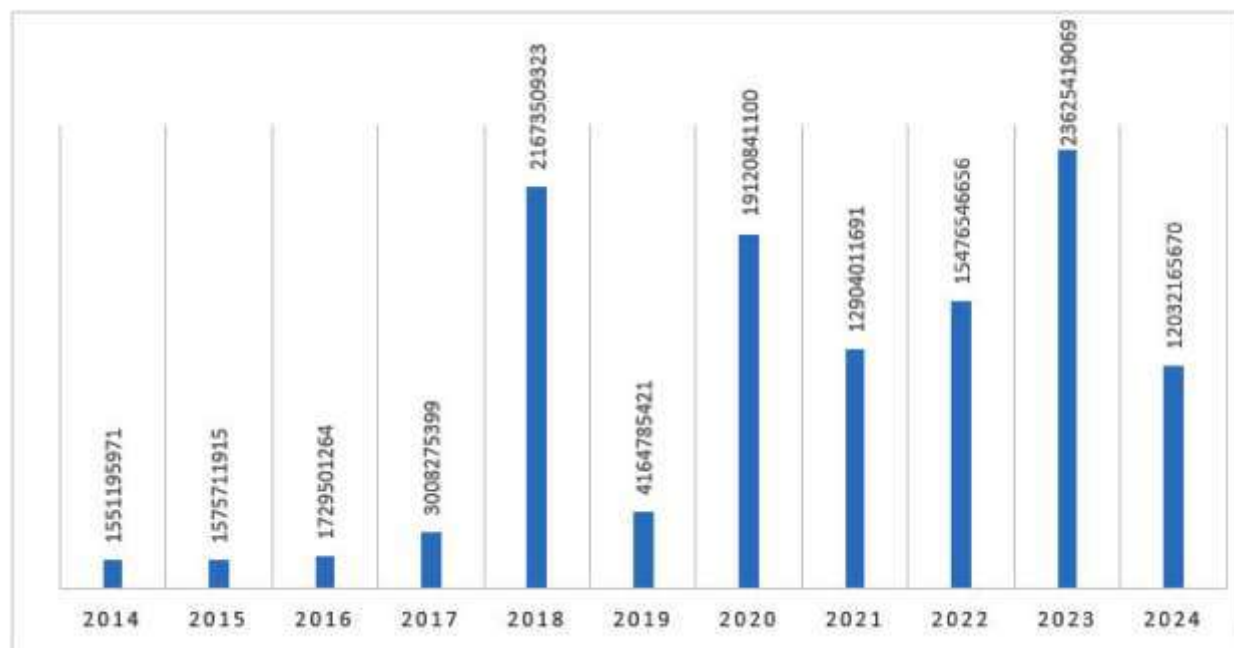


Figure 1. CSR Trend over The Last 11 Years (2014–2024)

SEBL and UCBL are the highest CSR spenders among Bangladesh's commercial banks. These institutions operate large branch networks and maintain strong profitability, enabling them to invest greatly in CSR initiatives such as education, healthcare, climate resilience, employee welfare and community development. Among commercial banks in Bangladesh, FSIBL, MBL, EBL, and BAL are the moderate CSR spenders. They maintain regular CSR's expenditure engagement but do not undertake large scale CSR projects annually. Comparatively lower CSR allocations among the selected banks are ABBL, AIBL, CBL, DBBL, MTBL, NCCBL, PUBL and PBL. These banks generally show tighter cost structures, smaller CSR budgets or limited involvement in long-term CSR programs. Differences in CSR spending depend on total assets, annual profitability, number of depositors, branch coverage, regulatory compliance strength, one-time large CSR projects (e.g., COVID-19 relief), strategic orientation toward reputation building, etc.

4. Conclusion

This study examined the impact of corporate social responsibility (CSR) expenditure on the financial performance of commercial banks in Bangladesh over the last eleven years (2014–2024). Using panel data from 17 listed banks and applying descriptive statistics, correlation analysis, and multivariate linear regression models, the study provides empirical evidence that CSR expenditure functions as a strategic investment that reduces short-run bank benefits but increases financial performance by building reputation and improving brand image in the long run. CSR's expenditure has a negative and statistically significant effect on operating profit, indicating that CSR's expenditure primarily increases operational costs without generating immediate financial profits. While CSR's expenditure also shows a negative coefficient in the net income model, the effect is statistically insignificant, indicating that CSR's expenditure has played weak influence on financial performance after provisions, taxes, depreciation and other financial adjustments. Across both models, bank size (total assets) arises as the strongest and most reliable predictor of profitability, highlighting the importance of scale in the banking sectors. On the other hand, interest income shows a negative impact on profitability which is opposite to expectations that reflecting deeper structural issues such as high loan default, high non-performing loans, money laundering, fund diversion, illegal siphoning of loans abroad, uncollected interest and provisioning pressures.

The analysis of CSR's expenditure trends reveals considerable growth over the decade with noticeable spikes in 2018, 2020 and 2023. These peaks match with enhanced CSR reporting standards, pandemic related humanitarian programs and the importance of CSR's expenditure. However, in spite of rising CSR activity, the financial benefits remain limited in the short run. The study concludes that while CSR's expenditure is socially valuable and essential for building acceptability, reputation, long term stakeholder trust and attracts new customers but its financial benefits do not appear immediately within the banking context of Bangladesh. Profitability continues to be made primarily by internal bank characteristics particularly by total assets, asset quality and capital effectiveness rather than not by CSR's expenditure investment levels.

The findings highlight the need for banks to adopt more strategic, outcome oriented CSR programs that align with core business objectives and generate measurable value. Policymakers may also consider enhancing CSR governance frameworks to ensure that CSR interventions achieve meaningful social and economic impact. All of the commercial banks in Bangladesh must be strictly followed the CSR guidelines under the direction of Bangladesh Bank. To introducing the schemes like national level CSR funds, public–private partnerships and coordinated sectoral CSR programs in banking segment, can boost a positive impact on CSR spending. To assess causality more robustly, future research may explore long-term or lagged effects of CSR with incorporate multidimensional CSR indices.

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Determinants of Share Repurchase Decisions: Evidence from Count Data Models

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Abstract

Share repurchases have gained significant importance in India following the Securities and Exchange Board of India's decision to gradually phase out open market offers and the increasing prominence of the tender offer route. Drawing on Signalling Theory and Agency Theory, this paper analyses the effects of macroeconomic factors: inflation, interest rate, exchange rate and economic policy uncertainty and market conditions: Nifty 50, volatility index (VIX), foreign institutional investors (FII) and domestic institutional investors (DII) on share repurchase decisions in India. This study uses count data models: Poisson and Negative Binomial models. We consider the monthly dataset of tender offer mode from April 2008 to March 2025 for analysis. The empirical analysis reveals the following findings. First, macroeconomic factors: inflation and exchange rates have a significant and negative effect on the number of tender offer buybacks. Second, stock market indicators, namely Nifty 50 and VIX, show weaker and model-sensitive effects. Third, FII and DII have an insignificant impact on buyback activity. This study produces policy-relevant implications for regulators (e.g. SEBI) and investors regarding the timing and frequency of buybacks. Further, this study offers novel evidence on the factors affecting share repurchase frequency after SEBI regulatory changes.

Keywords: *Macroeconomic Factors, Market Conditions, Buyback of Shares, Share Repurchase, Count Models, Poisson Model, Negative Binomial Model, India.*

1. Introduction

Share repurchases, also referred to as share buybacks, have emerged as a significant mechanism for corporate payout and capital restructuring globally. Companies use buyback of shares program for capital structure adjustment, signalling undervaluation, utilisation of excess cash and earnings per share enhancement (Ashitha & Naresh, 2024; Asimakopoulos et al., 2025; Jamadar et al., 2024; Kaur, 2012; Khan & Khanna, 2025; Saxena & Sahoo, 2022; Thaker, 2015).

This research is motivated by the fact that the empirical research has been relatively limited in the Indian context. Much of the existing literature analyses the determinants of method choice and the impact of buyback announcements on the stock market (Agarwal & Kandi, 2024; Arora, 2022; Gopalaswamy, 2013; Goyal & Mangala, 2025; Kumar Jena et al., 2020; Thaker, 2015; Varma & Munjal, 2016). However, the previous studies focus on the decision to initiate a buyback and not on the frequency in a given macroeconomic and market conditions. Further, there is no substantial research modelling tender offer buyback frequency driven by changes in macroeconomic and market conditions, with the Securities and Exchange Board of India (SEBI) scaling back open market buyback. Hence, the interaction of macroeconomic and market conditions on the buyback of shares has not been fully explored.

There are primarily two modes of share repurchase in India: Tender Offer and Open Market Purchase. However, it is interesting to note that the recent SEBI reforms (2023) have phased out Open Market Purchase by April 2025¹. Previous studies suggest that companies use tender offers to send strong undervaluation signals or during high promoter holdings. In this scenario, it seems probable that their frequency is more sensitive to external shocks such as inflation, exchange rate and market volatility. The upcoming regulatory shift away from the open market buybacks heightens the imperative to comprehend determinants of tender offer activity.

The relationship between macroeconomic situation and share repurchase decision can be understood with various established theories such as Singling Theory, the Free Cash Flow Hypothesis and Market Timing Theory. These theories conceptually explain how external economic and market conditions affect companies' share repurchase decisions.

This paper addresses two unanswered questions. First, it is expected that various macroeconomic and market-specific

factors influence the frequency of share repurchase. In this context, this attempts to answer what are the macroeconomic and market-specific factors significantly associated with the frequency of share repurchases of listed companies in India? Second, the influence of these variables may not be immediate on the frequency of share repurchase. In this regard, we include contemporaneous, one-lag and two-lag specifications in the analysis to understand whether the impact is immediate or extent over subsequent periods, thereby validating the robustness and persistence of the findings?

This paper investigates the impacts of macroeconomic factors: inflation, interest rate, exchange rate and economic policy uncertainty (EPU) and market conditions: Nifty 50, volatility index (VIX), foreign institutional investor (FII) and domestic institutional investor (DII) on the share repurchase decisions using the Count data models: Poisson and Negative Binomial models. The several reasons justify the inclusion of macroeconomic factors and market condition variables that influence companies' share repurchase decisions. Inflation influences operating costs, cash flow availability and company profitability, while exchange rate affects import costs and export competitiveness. EPU reflects uncertainty about government policies, taxation, regulations and economic reforms. Further, Nifty 50 serves as a barometer of Indian stock market. Market downturns may create undervaluation opportunities that encourage buyback activity. On the other hand, stock may become undervalued during the periods of increased volatility that can promote buybacks. With regards to FII and DII, outflow may create downward pressure on stocks that can encourage buyback.

Our research adds several contributions to the existing research. First, to the best of found knowledge, this paper extends previous research by incorporating both macroeconomic and market-level factors as determinants of share repurchase in India using the count data models. Second, this paper offers a novel empirical analysis employing Count Data models: Poisson and Negative Binomial to reflect the discrete nature of buyback events. Third, this study produces policy-relevant implications for regulators (e.g. SEBI) and investors regarding the timing and frequency of buybacks.

The remaining structure of the paper is as follows. Section 2 provides the review of literature. Section 3 covers data and variables. Section 4 presents methodology. Section 5 displays empirical results and discussion. Section 6 concludes the paper.

¹ Since Open Market Purchase mode was phased out by April 2025, we did not include this mode in the analysis.

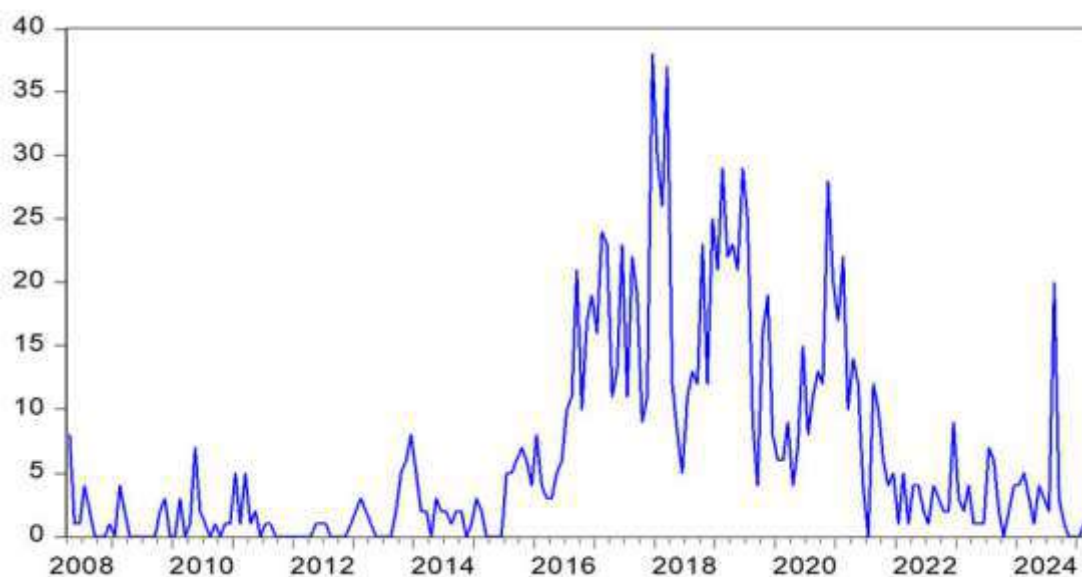


Fig 1. Number of Tender Offers

2. Review of literature

Most of the existing studies on share repurchases are conducted in foreign countries. A latest study by Ahmed et al. (2026) consider share repurchase announcements from 1992 to 2019 in US and use event study methodology. They find that share repurchase announcements are more credible when executive incentives are connected with shareholders. (Bektić & Jahnke, 2026) demonstrate that share repurchase are not only affected by firm-level factors but also by changes in ownership concentration and investor coordination using game theory-based conceptual framework. (Asimakopoulos et al., 2025) analyse how US companies optimally choose between dividends and buybacks with firm-specific data. (Elgouacem & Zago, 2023) use panel regression and panel data of US-listed companies to find that buyback of shares reduces the cost of debt financing. However, this relationship weakens because the tightening of monetary policy increases borrowing costs. (Jamadar et al., 2024) find that undervaluation, excess cash and leverage are the key determinants of buyback of shares in the UK using logistic regression, OLS and Tobit regression. (Demirag et al., 2022) find that buybacks are aligned with long-term strategic aims in eight companies listed on the London Stock Exchange using a qualitative research approach. (Hamouda, 2021) find that economic shocks affect buyback using the Structural Vector Autoregression model for US companies. (Abdou & Gupta,

2021) find that share repurchases show significant positive long-term cumulative abnormal returns in the US firms. (Dayanandan et al., 2020) use the event study method and find that announcements of buyback positively influence the share price, while open market buybacks improve liquidity than tender offers. (Sonika et al., 2014) employ the Two-step Heckman selection model and demonstrate that leverage, profitability and stock undervaluation are the key factors affecting the decision and timing of share repurchase of the UK firms. (Yarram, 2014) analyse the effects of financial and governance factors (board size or independence, CEO duality) on the decision of on-market buyback of shares in Australia using Probit panel and random effects model. He finds that firm size, undervaluation and leverage positively affect buyback decisions. (Andriosopoulos & Hoque, 2013) find that firm-specific factors, namely, company size, dividend payments and ownership concentration affect buyback of shares using panel data in the UK, Germany and France. (Wu, 2012) find that companies with higher insider ownership integrate further information in announcements, repurchase fewer shares and perform better post-repurchase in Taiwan. (Lee & Suh, 2011) analyse the influence of cash holdings on share repurchase decisions across Australia, Canada, France, Germany, Japan, the UK and the US using logistic regression. The study finds that companies with higher cash holdings conduct share repurchases. Similarly, (Saxena & Sahoo, 2010) also confirm the same using panel

data regression. (Farrugia et al., 2011) analyse motivations for repeated open market share repurchase with economic conditions using event study and regression analysis. This study finds that market timing and undervaluation are stronger motivations during a recession. (Benhamouda & Watson, 2010) show that expected earnings and surplus cash are the key determinants of repurchase of shares of large UK companies using two-way fixed effects regression and multinomial logit models. (Lee et al., 2010) use 512 repurchase programmes and notice that repurchases announcement brings positive returns in Germany, Italy and the UK, while France experiences no impact using the event study methodology. (Caudill et al., 2006) find that companies with stock underperformance prefer open market or fixed price offers, while low shareholder valuation heterogeneity leads to special dividends. Payout choice depends on company performance, size, ownership and undervaluation. In the Indian context, a recent study by Goyal & Mangala (2026) find that information asymmetry and undervaluation affect buyback decisions using a Tobit regression approach. (Goyal & Mangala, 2025) use an event study and 307 listed companies in NSE to show that open market repurchase gives higher abnormal returns than tender offers. (Agarwal & Kandi, 2024) analyse Paytm's unconventional share repurchase decision post-IPO. They emphasise investor scepticism and the strategic signalling role of buyback. (Arora, 2022) considers Indian non-financial companies and shows that theories of repurchase motivation; signalling and undervaluation affect repurchase using Tobit regression. (Varma et al., 2021) employ multinomial logit with a Bayesian approach for 754 payout announcements to reveal that Indian companies prefer both open markets offer and tender offer during misvaluation, while high takeover threat and large size are linked with open market mode. Companies prefer the tender offer mode during high agency costs, high takeover threats, undervaluation and low shareholder heterogeneity. (Kumar Jena et al., 2020) analyse the effects of firm-specific factors on the choice of shares of buyback methods: open market and purchase and tender offer using a binary logistic regression model in India. Authors find that companies with higher promoter shareholding go with a tender offer, and higher return on assets and dividend payout go with the open market method. (Anwar et al., 2018) show that the majority of Indian finance managers assert that the buyback of shares boosts investors' confidence in companies. (Varma & Munjal, 2016) employ event study methodology and demonstrate that stock prices react positively to the short-term post-buyback of shares done using the tender offer

route in India. (Thaker, 2015) uses a qualitative case study approach for Infosys Ltd. and finds that share repurchase is a viable option to improve earnings per share and investor confidence. He also shows that share repurchases enhance corporate image in the IT sector. (Chatterjee & Dutta, 2015) demonstrate that announcements of open market share repurchases do not generate abnormal stock returns in the Bombay Stock Exchange. (Kaur, 2012) demonstrates that Indian companies undertake share buybacks to improve financial performance and return surplus cash.

The above literature review indicate that past studies predominantly focus on firm-level determinants of share repurchase and market reactions to announcements of share repurchase. However, these studies have given limited emphases on the frequency of share repurchase, the use of count data models, the role of macroeconomic and market-specific factors and the persistence of the effects through lag structures.

3. Data and variables

This study analyses the impact of macroeconomic and market-specific factors on share repurchase decisions in India. Our dependent variable is the monthly tender offer buyback count, which is a discrete and non-negative integer variable. We include macroeconomic and market condition-specific factors as independent variables. Macroeconomic factors consist of inflation and the exchange rate. Market-specific factors include Nifty 50, VIX, FII and DII. The dataset is fixed between April 2008 and March 2025 based on availability. The data of buyback frequency are fetched from the SEBI website. The data of inflation and exchange rate are captured from the FRED database. The data of EPU has been collected from the website of policyuncertainty.com; the data of Nifty 50 from niftyindices.com and FII and DII data from the Moneycontrol database.

Table 1 indicates that the bulk of monthly observations (over 60%) recorded 0-4 tender offers, which shows that tender offers are comparatively rare in most months. A limited number of months experience high activity with extreme cases, such as 37 and 38, which occur only once each (0.49%).

Table 2 demonstrates descriptive statistics and unit root results. The descriptive statistics indicate that all variables show non-zero means and substantial dispersion, with FII and DII showing high variability which is reflected in their large standard deviations. The positive skewness of most variables (except Nifty 50) suggests a longer right tail,

especially extreme for VIX and FII which indicate occasional spikes. High kurtosis for all variables, particularly VIX (146.91) and FII (197.46), confirms leptokurtic distribution, suggesting heavy tails and outliers. The Jarque-Bera test values are highly significant ($p < 0.01$) which indicates that the null hypothesis of normality for all

series is rejected. The ADF and PP unit root tests confirm stationarity of all variables at the level. Overall, the data is non-normal but stationary and suited for count-based econometric modelling like Poisson or Negative Binomial regression.

Table 1. Frequency of Tender Offer

Tender Offers	Frequency	Percent	Cumulative
0	44	21.57	21.57
1	28	13.73	35.29
2	22	10.78	46.08
3	12	5.88	51.96
4	15	7.35	59.31
5	11	5.39	64.71
6	8	3.92	68.63
7	4	1.96	70.59
8	6	2.94	73.53
9	4	1.96	75.49
10	4	1.96	77.45
11	6	2.94	80.39
12	6	2.94	83.33
13	3	1.47	84.8
14	1	0.49	85.29
15	1	0.49	85.78
16	2	0.98	86.76
17	2	0.98	87.75
19	3	1.47	89.22
20	2	0.98	90.2
21	3	1.47	91.67
22	3	1.47	93.14
23	4	1.96	95.1
24	1	0.49	95.59
25	2	0.98	96.57
26	1	0.49	97.06
28	1	0.49	97.55
29	2	0.98	98.53
30	1	0.49	99.02
37	1	0.49	99.51
38	1	0.49	100
Total	204	100	

Table 2. Descriptive Statistics and Unit Root Test

	Inflation	ER	EPU	Nifty 50	VIX	FII	DII
Mean	0.005	0.004	0.073	-1.661	1.287	65.217	2.001
Median	0.005	0.002	0.006	-1.004	-1.266	-0.615	-0.375
Maximum	0.046	0.068	2.711	38.375	313.345	13138.000	264.750
Minimum	-0.016	-0.036	-0.552	-67.417	-25.778	-843.130	-158.012
Std. Dev.	0.008	0.017	0.443	9.128	23.854	926.194	33.628
Skewness	0.767	0.853	2.097	-1.911	11.468	13.953	5.019
Kurtosis	6.603	4.851	11.024	21.552	146.907	197.458	45.142
Jarque-Bera	129.731***	53.560***	693.368***	3034.814***	179615.300***	326428.600***	15873.890***
ADF	-5.470***	-11.053***	-18.942***	-14.659***	-14.321***	-14.213***	-14.271***
PP	-11.063***	-10.809***	-21.567***	-14.672***	-14.321***	-14.213***	-14.271***
Observations	203	203	203	203	203	203	203

*p < 0.10 **p < 0.05 and***p < 0.01.

4. Methodology

This paper uses a quantitative, analytical research design aimed at identifying and estimating the impact of macroeconomic and financial market indicators on the frequency of buybacks of shares via tender offer mode in India. Since the dependent variable is the monthly number of tender offer buybacks, a non-negative count variable (discrete and integer-valued), traditional linear regression models such as ordinary least squares are inappropriate because they assume normality, homoscedasticity, and linearity. To address the count nature and inherent distributional properties of the dependent variable, the study uses Poisson regression and its extended variant, the Negative Binomial regression model. The cumulative pattern shown in Table 1 reveals a highly skewed distribution with a long right tail, which justifies using count data models because of likely overdispersion.

4.1. Poisson Regression Model

The Poisson regression model serves as the baseline approach for modelling count data. It assumes that the probability of observing a count Y_i (number of buybacks) for observation i follows the Poisson distribution, governed by:

$$P(Y_i = y_i | X_i) = \frac{e^{-\lambda_i} \lambda_i^{y_i}}{y_i!}, y_i = 0, 1, 2, \dots$$

Where $\lambda_i = \exp((x_i' \beta))$ is the mean (and variance) of the distribution, a log-linear function of the covariates and β represents the vector of regression coefficients.

This model imposes the equi-dispersion assumption, that is, that the mean and variance of the dependent variable are equal. The independent variables in the vector include key macroeconomic and financial variables.

Maximum Likelihood Estimation is used to estimate the model parameters. However, in the presence of overdispersion where the variance exceeds the mean, the Poisson model may yield biased standard errors and inefficient estimates.

4.2 Negative Binomial Regression Model

To address overdispersion observed in the data (as confirmed by large variance and significant alpha), we extend our analysis to the Negative Binomial regression model, which generalises the Poisson model by introducing an unobserved heterogeneity component.

The Negative Binomial model assumes:

$$Y_i \sim \text{NegBin}(\mu_i, \alpha)$$

Where $\mu_i = \exp(X_i' \beta)$ and α is the dispersion parameter that accounts for the extra-Poisson variation. The variance function becomes:

$$\text{Var}(Y_i|X_i) = \mu_i + \alpha\mu_i^2$$

The model thus allows the variance to exceed the mean, and the parameter α governs the extent of overdispersion. A significant positive value of α (e.g., 14.471 in our results) justifies the NB specification over the Poisson model.

Estimation is again performed using Maximum Likelihood Estimation, and the log-likelihood of the NB model accommodates the extra dispersion via a gamma-distributed latent heterogeneity term. The statistical significance of α provides empirical evidence supporting overdispersion and renders the Negative Binomial model more appropriate and robust for inference.

This study also uses a lag structure because share repurchase decisions may not respond immediately to changes in macroeconomic and market conditions. Firms need time to understand economic developments before making share repurchase decisions. Thus, one-month and two-month lag structures help understand delayed impact and assess robustness.

5. Empirical results and discussion

5.1: Determinants of Share Repurchase at Contemporary Level

Table 3 presents the results on the impact of macroeconomic and market-level factors on the frequency of share buybacks using count data models. The Poisson regression results indicate that several macroeconomic and financial market variables have a statistically significant effect on the number of share buybacks through tender offers. Most notably, inflation shows a highly significant negative relationship with buybacks, which the Negative Binomial model also confirms. This suggests that during periods of rising inflation, companies are significantly less likely to announce tender offer buybacks, possibly due to higher input costs, tighter profit margins, and macroeconomic uncertainty. Alternatively, inflation may pressure companies to prioritise cash holdings over share repurchases —(Chen, 2025; Ye et al., 2024). Further, the inflation finding supports the Free Cash Flow Hypothesis, which suggests that discretionary cash available for shareholder distributions declines under inflationary pressure (Jensen, 1986). A similar and consistent trend is observed for the exchange rate, where depreciation of the Indian rupee (i.e., an increase in the exchange rate value) negatively affects buyback activity. The exchange rate coefficient in both models indicates that currency weakness may increase the cost of imported raw materials or heighten external uncertainty, so companies

prefer to preserve cash (Allayannis & Weston, 2001; Bartram et al., 2010).

The EPU shows a weak negative relationship with buybacks in the Poisson model, but this effect is statistically insignificant in the Negative Binomial model. This implies that firms may be cautious in committing to buybacks when policy uncertainty is high, but the effect is not robust across model specifications. Similarly, DII shows a weakly significant negative coefficient in the Poisson model, but not in the Negative Binomial model, while FII appears to have no statistically significant impact in either model. This suggests that institutional flows, whether domestic or foreign, do not directly influence a firm's decision to initiate a buyback through a tender offer.

Regarding financial market indicators, the Nifty 50 index has a statistically significant negative coefficient in the Poisson model, indicating that when market valuations are high, firms are less inclined to repurchase shares, potentially due to higher repurchase costs or a preference to conserve cash. This result is consistent with Market Timing Theory, which suggests companies tend to repurchase shares during bearish markets when stocks become undervalued (Dittmar, 2000; Jagannathan et al., 2000). However, the same variable becomes statistically insignificant in the Negative Binomial model, suggesting that this relationship is not stable when accounting for overdispersion in the count data. Lastly, the VIX, a proxy for market uncertainty and investor fear, shows a weakly significant negative coefficient in the Poisson model but again becomes insignificant in the Negative Binomial regression. This result tentatively supports the hypothesis that firms avoid buybacks in periods of high market volatility, but the evidence is not robust.

Overall, the analysis confirms that macroeconomic factors, especially inflation and exchange rate movements, are key determinants of buyback activity in India. The role of financial market indicators like Nifty and VIX is more sensitive to model specification and appears less consistent. Institutional investments do not significantly drive buyback decisions. These findings underscore the importance of stable macroeconomic conditions in facilitating corporate decisions related to shareholder payouts and reinforce the need for firms to strategically time buybacks in accordance with the broader economic environment.

The alpha value of 14.471 in the Negative Binomial model indicates substantial overdispersion in the count data, meaning the variance far exceeds the mean. This confirms

that the Poisson model's equi-dispersion assumption is violated. A high alpha justifies the use of the Negative Binomial model for more accurate estimation. It reflects unobserved heterogeneity or external shocks affecting buyback frequencies. Thus, the model better captures the real-world variability in tender offer buybacks.

5.2: Determinants of Share Repurchase at one-lag and two-lag specifications (Robustness)

The one-lag and two-lag specifications serve as robustness checks to test whether macroeconomic and market condition effects on buyback frequency persist beyond the contemporaneous period. The results suggest that the core findings remain consistent, though with some interesting shifts. Inflation continues to have a strong negative effect on tender offer buybacks at both one and two lags, though with slightly reduced magnitudes compared with the contemporaneous results. This indicates that inflationary pressures not only constrain buyback decisions immediately but also exert a lingering effect over subsequent months. Similarly, exchange rate movements show robust and

persistent negative effects across specifications, confirming that currency volatility depresses buyback activity in both the present and following periods.

Interestingly, EPU, which was weakly negative contemporaneously, turns positive and significant in the one-lag Poisson model and remains positive at the two-lag level. This suggests that firms may respond to heightened policy uncertainty with a delay, possibly using buybacks as a signalling mechanism to reassure markets. This finding is consistent with Signalling Theory, which suggests companies may go for share repurchases to reassure investors after periods of increased uncertainty. However, the result does not appear in the NB model, indicating sensitivity to distributional assumptions. FII and DII largely remain insignificant, though in the one-lag and two-lag Poisson specifications, both appear negative and significant at conventional levels, with DII showing the more robust effect.

Nifty 50 continues to show a negative and significant impact in the Poisson model up to two lags. Still, the effect does not

Table 3: Results of Effects of Macroeconomic and Market Conditions on Buyback Frequency

	Contemporary		One-Lag		Two-Lag	
	Poisson	Negative Binomial	Poisson	Negative Binomial	Poisson	Negative Binomial
Inflation	-33.824*** (0.000)	-36.878*** (0.002)	-20.525*** (0.000)	-23.522*** (0.052)	-13.932*** (0.000)	-19.325 (0.143)
ER	-10.243*** (0.000)	-15.500** (0.021)	-13.624*** (0.000)	-19.449*** (0.003)	-8.014*** (0.000)	-10.237 (0.111)
EPU	-0.122* (0.076)	-0.119 (0.565)	0.163*** (0.007)	0.186 (0.394)	0.116* (0.059)	0.116 (0.600)
FII	-0.000 (0.510)	-0.000 (0.750)	-0.001* (0.074)	-0.002 (0.237)	-0.001* (0.071)	-0.002 (0.240)
DII	-0.002* (0.096)	-0.002 (0.429)	-0.004*** (0.000)	-0.003 (0.231)	-0.004*** (0.000)	-0.004 (0.152)
Nifty 50	-0.009*** (0.002)	0.014 (0.199)	-0.009*** (0.001)	-0.017 (0.173)	-0.007** (0.010)	-0.013 (0.298)
VIX	-0.003* (0.084)	0.003 (0.504)	-0.003* (0.068)	-0.002 (0.613)	-0.008*** (0.006)	-0.005 (0.185)
α		1.471		1.473		1.524

*p < 0.10 **p < 0.05 and***p < 0.01.

hold in the NB models, suggesting that broad market performance influences buyback frequency mainly in the short term and under equidispersion assumptions. Finally, VIX maintains a weakly negative effect at one lag and strengthens to significance in the two-lag Poisson specification, but again becomes insignificant in the NB framework. This indicates that volatility shocks affect buybacks only temporarily and more strongly when modelled without accounting for overdispersion.

Overall, the robustness checks validate the contemporaneous results: inflation and exchange rate remain the most consistent and dominant determinants of buyback frequency, with their effects persisting even beyond the immediate period. The weaker and short-lived impacts of market volatility, equity index performance, and institutional flows suggest that these factors play a more short-run role in shaping repurchase decisions. In contrast, macroeconomic fundamentals exert a more durable influence.

6. Conclusion

This study investigates the impact of macroeconomic and market-specific factors on the frequency of share buybacks in India using count data models. Our study finds interesting results. First, macroeconomic factors, inflation and exchange rates, have a significant and negative effect on the number of tender offer buybacks. Second, stock market indicators, namely the Nifty 50 and VIX, show weaker, model-sensitive effects. Third, FII and DII have an insignificant impact on buyback activity. These results align with signalling theory, which suggests that companies strategically use share repurchases in response to macroeconomic uncertainty to convey information about undervaluation (Bhattacharya, 1979). Further, the negative relationship between inflation and share repurchases supports the agency theory perspective, where discretionary payouts are constrained by cash flows (Jensen, 1986).

Our findings have practical relevance for various stakeholders. First, investors can interpret high inflation and exchange rate fluctuations as potential signals for reduced share repurchase activity. Second, policymakers should maintain stability in inflation and the exchange rate because companies can return capital via share repurchase which will improve shareholder value. Third, regulators such as the Securities and Exchange Board of India may factor macroeconomic variables when framing or revising policies on share buybacks. This study has certain limitations that future research can address. First, our study can be further

extended to sector-wise heterogeneity in share repurchases. Second, future studies can incorporate company-specific financial variables. Third, company-specific and macroeconomic factors may be integrated simultaneously. Fourth, policymakers may assess whether companies increase repurchase of shares during stable inflationary environments as a signalling factor.

Declaration

All authors declare that they have no conflicts of interest.

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The Insolvency and Bankruptcy Code (IBC) Law: Implementation Challenges and Systemic Gaps in India

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Insolvency resolution systems in emerging economies frequently encounter structural and procedural challenges that affect their effectiveness and timeliness. Therefore, evaluating the impact of recent legal reforms is crucial for policymakers seeking to strengthen financial system resilience. This study examines India's Insolvency and Bankruptcy Code (IBC) by analysing resolution timeframes, recovery rates, and market confidence, before and after its implementation. Using a mixed-methods approach, we analyse 120 resolved and ongoing insolvency cases filed before the National Company Law Tribunal (NCLT). The findings reveal significant improvements in transparency and resolution speed; however, the outcomes remain significantly influenced by judicial capacity and regulatory enforcement mechanisms. While the IBC offers a strong legal framework for insolvency resolution, its effectiveness in emerging economies relies on complementary institutional capacities. This study identifies key success factors and ongoing challenges, including the need for stronger adjudicatory infrastructure, enhanced professional competence, and consistent regulatory oversight. Evidence-based policy recommendations are provided to guide reforms in India and other emerging markets undergoing similar transitions. Ultimately, the long-term success of insolvency reforms depends on aligning legal design with institutional execution to ensure resilience, predictability, and stakeholder confidence.

Keywords: *Insolvency and Bankruptcy Code, NCLT, resolution process, implementation challenges, insolvency professionals, corporate debt recovery*

1. Introduction

The Insolvency and Bankruptcy Code (IBC), 2016, was enacted to consolidate and modernise India's fragmented insolvency framework. It replaces mechanisms such as SICA, RDDBFI, and SARFAESI*. These have been criticised for inefficiency and delays (Pandey et al., 2025; Parker, 2020; Tandon & Tandon, 2018). The IBC introduced a time-bound, creditor-driven resolution process. The National Company Law Tribunal (NCLT) is the adjudicating authority. Insolvency professionals (IPs) are appointed as key intermediaries (Garg, 2025; Sethia & Halder, 2024). The enactment of the Insolvency and Bankruptcy Code (IBC), 2016 marked a transformative reform of India's insolvency regime. Prior to the IBC, India's insolvency framework was fragmented, slow, and ineffective. This often leads to value erosion and prolonged litigation (Ravi, 2017). The IBC has consolidated and amended various laws. The IBC's importance lies in its objective of creating a creditor-in-control mechanism, shifting the power balance from debtors to financial creditors through the Committee of Creditors (CoC), and entrusting insolvency professionals (IPs) with managing distressed firms. This shift was expected to bring transparency, accountability, and expedited resolution to India's financial system. However, the implementation of the IBC has faced several practical challenges, including delays in resolution, capacity limitations of the National Company Law Tribunal (NCLT), variability in the efficiency of IPs, and judicial interventions, raising concerns about the effectiveness of the code in achieving its stated objectives (IBBI, 2022; Singh & Mathew, 2021).

While the existing literature has extensively explored macroeconomic impacts, such as resolution timelines and recovery rates (Choudhury, 2020; Das et al., 2021), few studies have conducted a qualitative enquiry into process clarity, procedural bottlenecks, and perceptions under the IBC regime. This represents a critical gap, especially as the IBC matures and adapts to amendments and judicial pronouncements. Moreover, the performance and professionalism of insolvency professionals—as frontline executors of the Code—warrant deeper investigation into their challenges, capabilities, and roles in influencing outcomes.

This study addresses this gap by conducting a qualitative analysis of IBC implementation from 2017 to 2023, using NVivo software for thematic coding and analysis. The study is based on primary data collected through semi-structured interviews with insolvency professionals, CoC members, legal practitioners, and regulatory officials. This study aims to provide policymakers, regulators, and professional bodies with actionable insights to strengthen the institutional delivery of IBC and improve the long-term outcomes.

The IBC's reforms in corporate debt resolution support the United Nations Sustainable Development Goals (SDGs). This study supports these goals directly and indirectly, particularly those related to economic growth, industry innovation, and institutional strengthening. The IBC enhances credit discipline, facilitates faster resolution of distressed firms, and preserves viable businesses. Thus, it helps safeguard jobs and maintain economic activities (Bose et al., 2020). By reducing the time and cost of resolving insolvency (from 4.3 to 1.6 years), the IBC supports a more dynamic and resilient economy. This fosters sustainable growth and employment (Bose et al., 2020). [SDG 8: Decent Work and Economic Growth] The IBC promotes investment, innovation, and the effective utilisation of industrial assets. Thus, it supports the development of robust infrastructure and industrialisation, which are key targets under SDG 9 (Bose et al., 2020). [SDG 9: Industry, Innovation, and Infrastructure] IBC strengthens legal and institutional frameworks for resolving corporate distress. It enhances accountability, transparency, and the rule of law in the financial markets. Efficient insolvency processes build trust between investors and creditors. According to (Bose et al. 2020) and (Fallah Shayan et al. 2022), as detailed in the Table below, this will contribute to the development of effective, accountable, and inclusive institutions. [SDG 16: Peace, Justice, and Strong Institutions] The IBC engages insolvency professionals, creditors, regulators, and the judiciary. This demonstrates the importance of partnerships in achieving systemic reform and sustainable development (Fallah Shayan et al., 2022). [SDG 17: Partnerships for the Goals] The IBC also helps preserve viable businesses and jobs, which indirectly supports poverty alleviation (SDG 1). Its focus on asset maximisation and efficient resource allocation aligns with sustainable production practices (SDG 12).

Table 1: Summary of Contribution and SDG Goals

Authors	Contribution	SDG Goal
(Bose et al., 2020)	Faster resolution, job preservation, and improved credit access	Decent Work & Economic Growth (SDG 8)
(Bose et al., 2020)	Revitalises distressed firms, encourages investment and innovation	Industry, Innovation & Infrastructure (SDG 9)
(Bose et al., 2020;) (Fallah Shayan et al., 2022)	Strengthens legal frameworks, transparency, and institutional trust	SDG 16: Peace, Justice & Strong Institutions
(Fallah Shayan et al., 2022)	Multi-stakeholder collaboration in insolvency resolution	Partnerships for the (Goals SDG 17)

2. Literature Review

The entire reform may be seen as a landmark structural reform in the form of the Insolvency and Bankruptcy Code (IBC), 2016. The IBC was drafted to address the shortcomings in India's insolvency regime. The Code came at a pivotal time and has been noted by scholars as essential for improving credit recovery and for urging more responsible lending (Menon & Bhatia, 2018). It consolidated older insolvency laws into a single, creditor-controlled process. This marked a paradigm shift in how insolvency is understood and handled in India.

Implementation of the IBC has been uneven. The law provides a 180-270 day period to resolve matters. However, in reality, cases drag on due to process issues and court delays (Desai, 2020). A body of research examines the effectiveness of the IBC. These studies generally depend on macro-level data such as recovery rate, cases closed on time, and the effect of deterrence on wilful defaulters (Sen & Pillai, 2021). These numbers are helpful but fail to convey the reality on the ground. Little is said about what unfolds for the people that will run it.

These studies are confusing when it comes to clarity in relations to processes under the IBC. The Code provides a matrix for resolving. That said, many areas remain ambiguous in practice. There are many conflicting interpretations of the law, (Gupta & Nayar, 2019) and uncertain procedural matters. Judicial interpretation is needed to break the logjam along the way. This confusion delays the resolution process and does not give market

participants peace of mind. Insolvency professionals (IPs) are at the heart of the functioning of the IBC in practice. IPs run the corporate insolvency resolution process (CIRP). Their abilities, honesty, and judgment directly affect outcomes. But research shows that IPs also lack institutional support, face role ambiguity, and must navigate complex legal protections. All of these factors affect the nature of resolutions (Rathod & Jain, 2020).

Another common issue is information asymmetry. Poor transparency in the resolution process undermines creditors' confidence. This can result in a suboptimal liquidation decision, which is why Thakkar et al. (2025) and Mohanty et al. (2025) call for increased information utilities and disclosure. They propose that improved information sharing (IS) leads to better outcomes and fewer delays. Theories supporting the design, implementation, and analysis of IBC and resolution processes differ. The following frameworks are completely relevant in the literature:

The mainstream approach to studying IBC is a law-and-economics approach. It explores the link between law, economic behaviour, and market efficiency, and focuses on the effects of information asymmetries, creditor confidence, and resolution outcomes. Without adequate information, the resolution process of liquidations may work out worse than it could. The Absolute Priority Rule (APR) is at the heart of the IBC's payout hierarchy, with financial creditors getting preference over operational creditors on this view. However, Indian scholars have criticised the APR on its own terms, based on the classic creditors' bait-and-switch theory, arguing that a better, negotiated division of value would be

more suitable and better able to generate the most value. An additional point in value-based theory is that resolution should preserve "asset value" through transparent, pragmatic decision-making (Iyer & Prasad, 2025).

A third lens, uniting with corporate governance, is agency theory, which is particularly relevant to the structure of boards and the duality of CEOs. This is a control mechanism to reduce the risk of bankruptcy. A strong governance regime, including splitting the CEO and chair roles and ensuring boards remain active, seems to reduce the risk of bankruptcy in the IBC regime. A parallel move has been described by (Lewis 2014) and is traceable by (Deb & Dube, 2020) as the transition from manager led to creditor-led insolvency system, which has been occurring since the early 1980s. But in India, the design of the IBC does not control outcomes and managerial control is dominant.

Despite this focus on financial results and legal design, qualitative research on the IBC remains sparse. The majority of the studies rely on figures and underestimate the 'real-life' picture. The qualitative work, content analysis and semi-structured interviews that have been applied in a few recent papers to interpret the dynamics of the insolvency proceedings are now used to focus on those themes, (Joshi & Agarwal, 2023) with fewer still applying coding and interpretation software, such as NVivo, to systematically code and interpret these themes.

Identified Gaps and Need for the Study

- ✓ The review of the literature reveals the following key gaps that this study aims to address:
- ✓ The lack of qualitative, ground-level analysis of IBC implementation goes beyond statistics to understand the process challenges and operational bottlenecks.

Limited academic work utilises qualitative analysis tools such as NVivo, which can help capture nuanced themes and unspoken concerns of practitioners and regulators.

An underexplored area of process clarity and its impact on resolution efficiency, particularly from the perspective of IPs and CoC members.

Given these gaps, this study adopts a qualitative approach, utilising NVivo-based thematic analysis of interviews with insolvency professionals, legal experts, and regulatory authorities. This study aims to provide insights into the implementation of

the IBC from 2017 to 2023 and offer practical recommendations to improve the institutional efficiency and overall effectiveness of the code.

Building on these gaps, this study is guided by the following research questions:

How do insolvency professionals and members of the Committee of Creditors perceive the effectiveness and implementation challenges of the Insolvency and Bankruptcy Code (IBC) between 2017 and 2023?

What are the critical procedural and institutional factors affecting process clarity and resolution efficiency in the IBC?

3. Research Methodology

This study employed a qualitative research design. It focuses on capturing the nuanced experiences and perceptions of key actors involved in implementing the Insolvency and Bankruptcy Code (IBC). Data were collected through semi-structured interviews. The study included 15 seasoned professionals, including insolvency practitioners, legal experts, and cost accountants. The purposive sampling strategy ensured the selection of participants with extensive expertise, most of whom had more than 15 years of experience in insolvency resolution.

NVivo software was used to analyse the interview transcripts for thematic coding. Thematic analysis enables the identification of recurring patterns, concerns, and insights. The analysis follows a systematic coding process. Initial code generation is based on word similarity and frequency. Subsequently, they were grouped into broad thematic categories. These included (1) Challenges and Issues in Insolvency and Liquidation, (2) Effectiveness of the IBC, (3) Legal and Regulatory Framework, and (4) Process Clarity. The final themes were derived iteratively through automated clustering and manual refinement to ensure analytical rigour and depth.

Thematic Model:

The figure below presents a model of a conceptual framework that illustrates the factors influencing insolvency outcomes. It highlights the roles of insolvency professionals (IPs), the committee of creditors (COC), and regulators, along with moderating factors such as the experience of IPs and the clarity of regulations, which interact with thematic drivers. These drivers encompass challenges and issues within the insolvency process, legal and regulatory

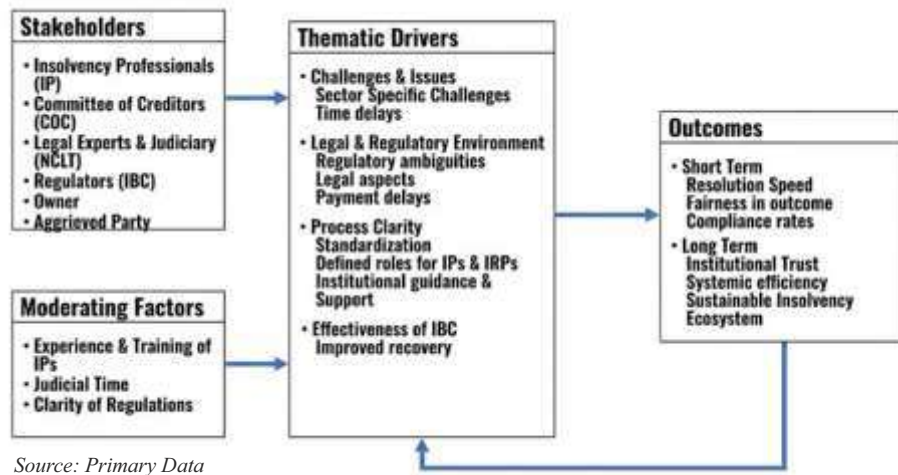


Figure 1. Thematic Model

environment, process clarity, and effectiveness of the insolvency and bankruptcy code (IBC). Ultimately, these elements collectively shape both short-term outcomes, such as resolution speed and fairness, and long-term outcomes, including institutional trust and sustainable insolvency ecosystems.

4. Research analysis

Several recurring themes emerged in the analysis of the qualitative data using the NVivo tool. These are related to the challenges and issues faced during the implementation of IBC. The overburdened infrastructure of the National Company Law Tribunal (NCLT) was the principal concern expressed by insolvency professionals (IPs) and legal advisors. The results led to frequent delays in hearings and the approval of resolutions. Additionally, insolvency professionals highlighted the inconsistent application of the code across jurisdictions. Procedural confusion often results in uncertainties. Another critical challenge is the limited capacity and training of IPs. This, when coupled with litigation from promoters and operational creditors, delays the timely and effective closure of Corporate Insolvency Resolution Processes (CIRPs).

The theme of the Legal and Regulatory Framework is intertwined with that of process clarity, both of which were seen as fundamental to the IBC's effectiveness. Respondents emphasised the lack of standardised procedures. The highlighted areas were claim verification, valuation, and voting thresholds. This leads to discretionary practices

among the IPs. NVivo thematic coding further highlighted stronger process clarity. This was due to better institutional support, increased legal awareness, and clear regulatory guidance. The resolution outcomes were more efficient and perceived as fair. Hence, the study confirms that procedural transparency and regulatory consistency are critical enablers of the IBC's success and must be strengthened for a long-term impact.

The demographic composition of the expert panel (Table 2 above) interviewed in this study comprised ten experts. These experts represented fields including cost accounting, chartered accountancy, company secretarial services, and legal backgrounds. There were nine male cost accountants (M1, M2, M3, M4, M5, M6, M7, M8, and M9) and one female cost accountant.

Most had more than 15 years of experience in bankruptcy and insolvency. All respondents demonstrated a considerable depth of practical knowledge. Thus, the data gathered represent the opinions of seasoned specialists with rich experience in the insolvency resolution process. While one expert had five to ten years of expertise, the other three had ten to fifteen years, demonstrating a firm grasp of the topic. Insolvency professionals were recognised and authorised to handle insolvency cases. Nine specialists with backgrounds in accounting and finance recommended a solid accounting and financial foundation. One specialist offered a legal perspective as an advocate. Four experts were registered as valuers, indicating their expertise in asset appraisal. One expert was a forensic auditor. Thus, the

Table 2. Respondents' Profile

Participant	Gender	IRP*	RP**	Liquidator	Voluntary Liquidator	RP for Pre-Pack	Total	Education	Approx. Age
1	Male	10	12	2	0	0	24	CMA	40-45
2	Male	4	1	0	0	0	5	CA	40-45
3	Male	9	10	1	0	0	20	CA	55-60
4	Male	11	9	5	4	0	29	CS	60-65
5	Male	13	11	2	0	0	26	CS	40-45
6	Female	3	5	3	0	0	11	CA	40-45
7	Male	8	6	3	1	0	18	CA	55-60
8	Male	6	2	0	2	0	10	CS	60-65
9	Male	6	6	5	9	0	26	CS	55-60
10	Male	2	0	0	0	0	2	CMA	40-45
11	Female	3	7	3	0	0	13	CS	40-45
12	Male	2	2	0	0	0	4	CMA	65-70
13	Male	10	11	1	3	0	25	Advocate	40-45
14	Female	0	0	0	3	0	3	CMA	45-50
15	Male	2	5	1	2	0	10	CA	45-50

*IRP (Interim Resolution Professional)

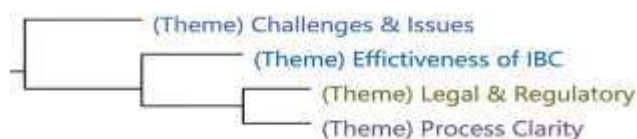
**RP (Resolution Professional)

respondents' panel was apt and had a level of expertise, experience, and professional diversity in the area of insolvency and bankruptcy. The interview data included a deep and comprehensive understanding of the complexities and difficulties inherent in the insolvency resolution process.

Using NVivo, the cluster analysis initially generated many child codes based on word similarity. These codes were further analysed and grouped into four main themes, as shown in Figure 1.

- (1) Insolvency and Liquidation Issues and Challenges.
- (2) Effectiveness of the Insolvency and Bankruptcy Code (IBC)
- (3) Legal and regulatory framework
- (4) Clarity of insolvency and liquidation processes.

Items clustered by word similarity



Source: Primary Data

Table 3 shows the number of interview transcripts in which each theme was identified and classified, as indicated in the 'Files' column. This implies the extent to which each theme was represented by the viewpoints of experts. For example, the 'Challenges & Issues' subject appeared in six of the 10 interview transcripts. This indicates its acceptance as a crucial aspect of the insolvency environment. On the other hand, the 'References' column indicates the total number of distinct coding instances or textual passages found in all of the interview transcripts connected to each topic. A theme with a higher number of references indicated a deeper level of discussion. 'Process Clarity' received the highest number of references (42). This is in contrast to 27 of the Legal and Regulatory, which both have seven interview files. Thus, the experts addressed and provided a substantial number of specific remarks, experiences, or ideas.

Therefore, the 'References' column highlights the depth and extent to which each theme was developed during the interviews. The 'Files' column shows the breadth of a theme's identification across the expert panel. Together, these two measures provided a sophisticated understanding of the themes' depth and importance (Table 4). Hence, they helped uncover the intricacies of the insolvency resolution process, as experienced by the surveyed experts.

1) Theme: Challenges & Issues

Table 3. Thematic References

Theme	Files	References
Challenges & Issues	6	33
Effectiveness of IBC	4	11
Legal & Regulatory	7	27
Process Clarity	7	42

Table 4. Theme: Challenges & Issues

Name	Files	References
Challenges & Issues	6	33
Challenges for Units	6	14
Challenges in the RE and MF sectors	5	17
MF Sector	1	1
RE Projects	1	1

The theme "Challenges and Issues" revealed several subcategories. These sub-themes contribute to the complexity of the bankruptcy resolution process. NVivo analysis revealed 33 distinct coding instances in six interview files referencing the parent code "Challenges & Issues." Upon closer examination, the sub-code 'Challenges for Units' was found in six files with 14 references. This indicates a recurring set of issues faced by the corporate debtor or a specific business unit that is experiencing financial difficulties and may be on the verge of bankruptcy. The sub-code 'Challenges in the RE and MF sectors (Real Estate and Manufacturing sector)' was found in five interview files, totalling 17 references. This highlights the peculiarities and challenges specific to these two industries that experts consider particularly relevant to the insolvency framework. It is interesting to note that the research also identified more specific sub-codes, such as "MF sector" and "RE projects." These appeared in a single interview file, accompanied by a single reference file. This could imply isolated or particular difficulties related to the manufacturing industry in general or specific real estate projects that were raised by individual experts but did not represent a commonly discussed topic throughout the entire panel.

"Challenges for Units" and "Challenges in RE and MF sector" have more files and references. This highlights their importance as significant obstacles to a successful bankruptcy resolution process, which necessitates further research and targeted solutions.

2) Based on the Files count, as shown in Table 5, the theme "Effectiveness of IBC" was found and coded in four out of the ten expert interview transcripts. This implies that a sizable percentage of the professionals interviewed spoke directly about the perceived effectiveness and results of the Insolvency and Bankruptcy Code (IBC). Eleven separate instances demonstrating the success of the IBC were referenced or commented upon inside these four files, as indicated by the corresponding 'References' count of 11. It is interesting to note that a sub-code called "Positive Impact of IBC" manifests in four files with eleven references and has the same statistics. When experts discussed the "Effectiveness of IBC," they mainly focused on its positive contributions to the insolvency resolution landscape and its favourable outcomes, as indicated by the strong alignment between the parent code and this particular positive sub-code.

3) Seven out of ten expert interview transcripts, as per Table 6 above, identified and tagged the subject "Legal & Regulatory," which emerged as a crucial part of the insolvency resolution process. This suggests widespread agreement among professionals regarding the significance and effects of laws and regulations governing insolvency. The theme received a total of 27 mentions, indicating that there were many detailed remarks and thoughts about this topic in all interviews. 'Legal aspect,' an identically linked sub-code, also surfaced in seven files with 25 references. Discussions about the legal and regulatory environment often became entangled with the particular legal issues of

Table 5. Theme Classification A

Name	Files	References
Effectiveness of IBC	4	11
Positive Impact of IBC	4	11

Table 6. Theme Classification B

Name	Files	References
Legal & Regulatory	7	27
Legal Aspect	7	25
Payment to RP	2	2

Table 7. Interview Transcript Summary

Name	Files	References
Process Clarity	7	42
CIRP Process	7	29
IRP or RP Role	6	11
MF Role of IP	2	2

Table 8. Respondents' Theme Matrix

Themes & Cases Matrix Query	F1	M1	M2	M3	M4	M7	M8
Challenges & Issues	5	11	0	1	4	3	2
Effectiveness of IBC	4	0	0	3	2	1	0
Legal & Regulatory	5	5	4	2	3	3	2
Process Clarity	2	4	7	6	7	3	3

(F: Female respondent and M: Male respondent)

the IBC and the insolvency process. This is indicated by the identical 'Files' counts for both the main topic and this sub-code. Although the legal dimension was regularly discussed, the lower number of references for "Legal aspect" may indicate that the larger "Legal & Regulatory" theme covered more ground than just particular legal provisions. These could be the functions of regulatory bodies or the overall effect of the legal framework.

The sub-code "Payment to RP" (Resolution Professional) was found in only two interview files. The lower frequency indicates that, within the larger "Legal & Regulatory" theme, the issue of compensation or payment to the Resolution Professional was not central. Instead, it may

have been a more specific or less prominent concern, as expressed by a minority of experts. According to statistics, the expert interviews focused more on the general legal and regulatory environment.

4) Seven of the ten interview transcripts highlighted the theme "Process Clarity" as a crucial component, as indicated in Table 7 above. These Files demonstrate how widely professionals agree that a precise and well-defined insolvency resolution process is essential. Additionally, out of all the themes identified, this one had the most exact coding instances ('References' count of 42). This suggests that the subtleties of process clarity were heavily emphasised and thoroughly discussed. "CIRP process"

(Corporate Insolvency Resolution Process), a closely comparable sub-code, also surfaced in seven files, totalling 29 occurrences. Discussions on process clarity often focus on the details of the CIRP. The somewhat smaller number of references for the "CIRP process" than for the parent subject may indicate that "Process Clarity" covered more ground than the CIRP procedural phases. "IRP or RP role" (Interim Resolution Professional or Resolution Professional position) was the sub-code found in six interview files with eleven references. This suggests that although less stressed than the CIRP process as a whole. However, the clarity surrounding the duties and responsibilities of the IRP and RP is a noteworthy component of the process clarity debate.

Lastly, only two files with two references had the sub-code "MF role of IP" (Manufacturing Sector Role of Insolvency Professionals). This implies that, in contrast to the more general concerns of process clarity and the overall CIRP framework, the precise nature and clarity of the Insolvency Professional's position within the manufacturing sector were less frequently discussed topics. According to research, although process clarity is a well-known and frequently discussed issue, sector-specific details are given less attention than the general CIRP and the roles of the major experts involved.

The given matrix coding query further refined the study by segmenting the expert interviews into cases based on the professional backgrounds of the respondents, as shown in Table 8. (a "Female Cost Accountant" (F1) and numerous "Male Cost Accountants" M1, M2, M3, M4, M7, M8). Again, the number of entries in the matrix reflects how often each of the four primary themes—"Challenges & Issues," "Effectiveness of IBC," "Legal & Regulatory," and "Process Clarity"—was classified in the relevant interview transcripts. An analysis of the theme 'Challenges & Issues' reveals that this was a prominent topic for several male and female cost accountants (five references), with M1 having the most references (11). This indicates that difficulties in the insolvency process are a significant topic of discussion among cost accountants of various genders and professional backgrounds.

The engagement of male cost accountants with the theme of "Effectiveness of IBC" varied. Respondent M3 displayed the most references (3), and M2 and M8 displayed no direct coding for this theme. Female cost accountants contributed a significant number of references (4). Based on personal experiences or roles, this could suggest varying viewpoints or degrees of attention to the results and effectiveness of IBC.



Figure 3. Word Cloud

Both male and female cost accountants (with two to five references) exhibit a comparatively constant level of engagement with Legal & Regulatory issues. This indicates that, regardless of gender, members of this professional group share a common understanding of the significance and prevalence of legal and regulatory matters within the insolvency sector.

In summary, Process Clarity exhibits diverse patterns. Although the female cost accountants had only two references, some male cost accountants (M2, M3, and M4) had more references (four, six, and seven, respectively), suggesting that some male respondents in this cohort may have placed more importance on the procedural and clear aspects of the insolvency process.

In conclusion, our analysis, which is broken down by the gender of cost accountants, shows that there may be differences in focus among the four main topics, as well as common concerns. 'Challenges & Issues' and 'Legal & Regulatory' seem to be consistently relevant, although opinions on 'Effectiveness of IBC' and 'Process Clarity' vary considerably within this particular occupational group. Several important themes identified in our NVivo analysis were visually reinforced by the word cloud created from the interview transcripts, as shown in Figure 3 below. The word 'challenge' is prominent, which is in line with the 'Challenges & Issues' theme. This suggests that experts often discuss a range of challenges and barriers to the insolvency resolution process. 'Bench,' 'approval,' 'judicial,' and 'court' are words that fit the 'Legal & Regulatory' theme and emphasise the important role of the legal system and adjudicating authority.

The thematic map prominently highlights the issue of "challenge." This indicates persistent difficulties in implementing and operationalising the IBC reforms. This resonates with the extant literature. (Garg & Bali, 2020; Singh & Kaur, 2021) asserted that despite legislative advances, impediments do exist. Practical hurdles, including judicial delays and procedural complexities, remain significant obstacles to the efficient resolution of insolvency. The prominence of "bench" and "judiciary" underscores the significant role of judicial efficiency in the insolvency process. These findings corroborate that faster case adjudication is linked to improved creditor recovery and higher resolution success rates.

Notably, "timelines" and "delays" emerged as critical themes. This reflects the widespread concern over protracted insolvency proceedings. Extended timelines often lead to increased financial distress and erosion of asset

values. According to Singh and Gupta (2022), this limits the economic benefits of reform.

The terms "financial," "company," "estate," and "insurance" appear frequently. Such terms indicate the varied stakeholders and sectors involved or affected by the insolvency processes. This aligns with prior research by Kumar and Aggarwal (2020). The authors demonstrate the complexity of corporate insolvencies, which often involve multiple creditor classes and require specialised procedural handling. The themes of "approval," "process," and "professional" underscore the importance of procedural clarity—the crucial role of insolvency professionals in facilitating successful resolutions. Professional expertise and governance standards have a significant impact on the quality of insolvency outcomes. Chakraborty and Deb (2021) detail the role of insolvency practitioners in emerging markets.

The recurrence of "getting," "required," and "improve" signals ongoing efforts. The purpose was to further enhance the insolvency framework. It streamlines court procedures and reinforces regulatory mechanisms to support timely resolutions. The World Bank (2023) has pointed to this progressive outlook. The reports emphasise that countries must implement reforms that are responsive to their institutional realities and economic conditions. The word "process" is used frequently, highlighting the significance of the "Process Clarity" topic, which implies that the professionals surveyed considered procedural details and the necessity of a clear framework. Words like "timelines" and "difficult" provide greater detail about the difficulties the process presents, possibly indicating problems with efficiency and complexity. It is interesting to note that words like "financial," "creditors," and "promoters" are also frequently used, indicating important players in the insolvency ecosystem. The terms "estate" and "management" allude to the challenges in managing assets during the settlement process, which is a sub-issue frequently addressed under the broader difficulties.

The validity of our qualitative analysis is strengthened by the congruence of the word cloud with the themes identified through systematic coding in NVivo, which provides a visual overview of the most commonly used terms. The expert interviews' emphasis on the obstacles, the legal landscape, and the procedural elements of insolvency resolution is supported by the graphic emphasis on "challenge," "bench/judicial," and "process." A thorough understanding of the main topics of concern and conversation among the surveyed insolvency professionals

was made possible by the convergence of the results from qualitative coding and word frequency analysis.

5. Discussions

The Insolvency and Bankruptcy Code (IBC), 2016, has significantly transformed India's economic governance by consolidating various insolvency processes into a single framework. Its intended goals are theoretically sound, aiming to ensure credit discipline, boost investor confidence, and achieve timely resolutions of distressed projects. However, this study identifies a persistent gap between the legislative framework and its practical application in the field.

Through qualitative analysis using NVivo, systemic barriers hindering the Code's effectiveness were identified. Common issues, such as overburdened National Company Law Tribunal (NCLT) benches, insufficient infrastructure, and procedural delays, indicate that the institutional capacity has not evolved to meet the Code's ambitious objectives. These challenges are not merely administrative; they directly affect the IBC's fundamental principle of timeliness, thereby weakening creditor confidence and reducing the deterrent effect on defaulters.

Industry-specific challenges further complicate this issue. In sectors such as real estate and manufacturing, the diversity of assets and contractual obligations complicates the valuation and resolution processes. Insolvency professionals (IPs), who are crucial to the corporate insolvency resolution process (CIRP), frequently report inadequate training, unclear roles, and a lack of institutional support in India. This highlights a structural deficiency in professional capacity building, which affects the consistency and quality of resolution outcomes.

Legal and regulatory uncertainties are also significant concerns. Although the IBC's legal framework is robust, its ongoing evolution, characterised by frequent amendments and judicial reinterpretations, has introduced unpredictability. Discrepancies in the interpretation of provisions related to voting thresholds, claim priorities, and the eligibility of resolution applicants have led to disputes and delays in the process. This suggests that while adaptability in legal design is beneficial, it requires concurrent investment in regulatory clarity and interpretative guidance to maintain procedural efficiency.

A key insight from this analysis is the importance of process clarity. Thematic coding revealed that stakeholders consistently emphasised the need for standardised

procedures throughout the CIRP lifecycle. Issues such as the responsibilities of interim resolution professionals (IRPs), timelines for claims verification, valuation norms, and communication protocols with the Committee of Creditors (CoC) were frequently mentioned. The prevalence of these references indicates that procedural transparency is not a peripheral concern but a determinant of perceived fairness and efficiency. Thus, process clarity serves as a mediator between legislative intent and practical outcomes.

6. Conclusion

This study reaffirms the transformative potential of the IBC but emphasises that its effectiveness depends on addressing implementation deficits. The evidence suggests that while stakeholders broadly support the Code's design, its operational success relies on three interrelated conditions:

Institutional strengthening: Expanding NCLT capacity, improving infrastructure, and enhancing case management are essential for reducing systemic delays. **Professional capacity building:** Improving training, role clarity, and institutional support for IPs will enhance the consistency and quality of resolution processes.

Legal predictability: Stabilising the regulatory environment through clear guidance and consistent judicial interpretation reduces uncertainty and disputes.

7. Limitations

As in any qualitative study of this nature there are some limitations: The sample consisted of 15 (seasoned) professionals, with more than 15 years of experience in insolvency resolution. This scale is close to the established qualitative research scale for the IBC which is also based on detailed interviews with a small number of experts. A purposive snowball sampling strategy was employed. The design effectively achieves the goal of documenting rich and first-hand knowledge, and not statistical generalist knowledge. Concurrently, the members of the panel were practitioners from the areas of accounting and law. There was no direct representation of promoters, operational creditors or representatives of financial institutions. Their points of view may contribute additional dimension to some of the issues raised in this section. Interview data used captures perceptions and experiences of the study participants from the field. However, it does not include direct observation at the case level. As observed in all thematic coding, certain decisions had to be made about how the responses were organised, although the process

used a systematic and iterative approach. Lastly, the period from 2017-2023 is adhered. IBC is a continuously developing body of law, and some of the observations made may change as closer to the full implementation of the Code goes. Also, the analysis is placed in the Indian context, and the message(s) may be valid in other countries, but have been need to test further for transfer to other jurisdictions.

Future Scope: These findings could be extended in a number of ways in future research. Sharing the expert panel with promoter, financial creditors and judges would provide a comprehensive multi-party view of the implementation of the IBC. Recursion could be used in conjunction with a larger quantitative questionnaire to validate and extend the themes found here around a wider set of cases. Tracking the life cycle of individual CIRPs would support the understanding of how delays, procedures become clear and how outcomes change over time. Comparative studies to consider the IBC with insolvency regimes in other emerging countries may identify context specific enablers and constraints, and more generic ones. The authors could explore some of the challenges these sectors presented to this study in a more in-depth and focused research. In-depth study of digital case tracking, E-Filing and other technology projects in NCLT may be performed to see if they play their part in eliminating delays. Lastly, future research may investigate focused training and capacity development initiatives for the Insolvency Professionals and judicial officers, providing a meaningful picture for policy makers to focus on institutional investments.

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A Qualitative Case Study Analysis of Wilful Defaulters in the Informal Credit System in Rural India

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A b s t r a c t

This study explores the complex dynamics of informal lending in rural Haryana, focusing on the emergent phenomenon of wilful defaulters and its influence on economic and social structures. Informal credit, rooted deeply in kinship, trust, and social norms, remains the dominant source of financing in rural households. Through qualitative analysis of 15 in-depth case studies and ethnographic conversations, this study illustrates how borrowers increasingly exploited traditional social bonds of brotherhood and mutual aid with deliberate defaults. The findings depict the breakdown of social trust, the manipulation of dispute mechanisms, and psychological and financial distress. This study further identifies the reasons for such informal engagement with lenders. The findings align with SDG Goal 1 (No Poverty), Goal 8 (Decent Work and Economic Growth), and Goal 16 (Peace, Justice, and Strong Institutions), highlighting the need for policy interventions to regulate informal credit practices and protect rural lenders. The findings deepen understanding of rural credit while underscoring the need for policy interventions.

Keywords: *Informal credit, lenders, Borrowers, rural areas, Haryana, Wilful defaulters, social trust, financial inclusion*

1. Introduction

Informal credit in rural India continues to play a significant role despite the expansion of formal financial systems. Despite seven decades of policies aimed at expanding formal finance, informal credit in rural India remains persistent, expensive, and unevenly distributed. Almost one-third of the outstanding rural household debt in India still comes from informal lenders—mainly professional and agricultural moneylenders, traders, landlords, and relatives—and historical efforts, such as the introduction of rural cooperatives in the 1950s and the expansion of branch banking in the 1970s, aimed at reducing reliance on traditional moneylenders. However, surveys indicate that moneylenders remain prominent in the rural credit market (Bell, 1990). Informal rural credit markets are highly adaptive and respond to both environmental changes and borrower characteristics (Iqbal, 1988). In India, informal credit markets are deeply embedded and are often operated by ethnic communities and traditional norms. These markets offer essential services not provided by formal banks, and even with the rise of modern banking, they account for approximately 30% of the commercial credit in India (Timberg & Aiyar, 1984). Shaped by local conditions and entrenched sociocultural practices, informal sectors create complex landscapes for lenders. The usual discussion of informal credit is that it plays a crucial role for borrowers, especially in rural and economically challenged regions. This source often serves as a lifeline for borrowers who cannot access formal financial institutions because of a lack of collateral, credit history, or the complexities of formal credit systems. Although recent financial inclusion initiatives have shifted deposit behaviour, they have yet to resolve the issue. Informal credit is an integral part of rural households in India, and the existing research on financial inclusion addresses such issues. Informal lending and borrowing originate in rural social structures. From a financial perspective, the literature focuses on financial literacy and inclusion; however, social borrowing is largely absent from Indian literature. This persistence reflects both the supply- and demand-side dynamics of the informal market and the distinct borrower behaviors shaped by urgency, trust, and social networks. The following analysis synthesises recent empirical studies to illuminate perspectives on the prevalence and magnitude of borrowing, borrower motivations, source-selection criteria, repayment patterns, default risks, and coping strategies, which have substantial policy implications. The need for immediacy, trust in local intermediaries, and social network

enforcement drive borrower behaviour in rural India's informal credit market. According to NSSO data, 34% of rural household debt is informal, with moneylenders accounting for 22% and relatives/friends for 15% (Surendra, 2020).

Further, in low-income households (annual income <₹200,000), informal loans exceed formal borrowing by a factor of 2.6, rising by 6% annually between FY19 and FY23 (Das, 2025). The informal sector in rural Haryana is experiencing a considerable increase in wilful defaulters, leading to social disruption and damaging social relations within communities. While traditional concerns often focus on informal lenders exploiting rural borrowers, this study focuses on wilful defaulting, exacerbating mistrust and conflict among borrowers involved in informal and unregulated credit activities. This represents a new dimension of financial misconduct in rural Haryana that undermines both economic stability and social harmony. Ethnographic insights reveal that these frauds are not isolated financial transactions; they deeply affect community trust, social relations, and the effectiveness of rural development initiatives. Addressing this issue requires strengthening formal credit access, improving digital literacy, and fostering transparent local governance to foster social cohesion and financial inclusion. The existing literature predominantly positions rural borrowers as victims of exploitative lenders. In contrast, the phenomenon of borrowers as wilful defaulters deliberately exploiting social trust and kinship networks to evade repayment remains largely unexamined. This study directly addresses the perspective that borrowers derive financial gains from social structure.

Credit accessibility substantially affects informal credit management. Various studies (Karlan and Morduch, 2010; Dupas and Robinson, 2009; Han and Melecky, 2013; Zins and Weill, 2016; Omar and Inaba, 2020) have focused on managing credit in the informal sector by diverting it to the formal sector. Developing nations such as India have grown rapidly in economic terms with an increase in inequality over the last several decades, and strategies for combating its influence with financial inclusion are also gaining significance (Mishra et al., 2022; Basumatary et al., 2024; Wanzala and Obokoh, 2025; and Nawaz and Avetisyan, 2025). Credit management at the rural level has been shown to have a considerable effect on income inequality and poverty, especially in developing countries. Although many studies have demonstrated the relevance of formal credit in

the informal sector (Linh et al., 2019), the intricacies of the informal sector have not yet been addressed.

In India, either a sector-specific or a comparative perspective of formal and informal sectors with lenders is at the centre of the problem (Guérin et al., 2012; Bhukuth et al., 2018; Kumar et al., 2017, 2019). Specifically, wilful default in informal credit markets, as documented in Punjab and Haryana, is attributed to borrowers' financial condition or unavoidable income-generation constraints (Kaur, 2021; Singh et al., 2008). Posti et al. (2025) further show that informal lenders in India face asymmetric risks and limited legal recourse, reinforcing the need to study the supply-side vulnerabilities of rural credit. This study examines the intricate nature of informal credit by focusing on borrowers as central to the problem. In addition, the study uses a qualitative perspective to present the actual issues lenders face in the context of wilfully defaulting borrowers. This study also aligns directly with the Sustainable Development Goals (SDGs) agenda. These findings influence inclusive and sustainable economic growth by focusing on financial systems, market stability, access, and regulatory design. It basically covers SDG 8 on decent work and economic growth; SDG 10 focused on reduced inequalities; SDG 9 for industry, innovation, and infrastructure; SDG 17 about partnerships for the Goals; and SDG 16 for Peace, Justice, and Strong Institutions, while it underpins the stability, inclusivity, and efficiency of financial systems needed for sustainable development. The rest of the paper is structured as follows: Section 2 presents the Theoretical Outline; Section 3 presents the background; Section 4 presents the methodology; and Section 5, 6 & 7 simultaneously present the analysis, discussion, and conclusion, with Section 6 highlighting the limitations and future research scope in the field.

2. Theoretical Outline

Since the inception of research on informal credit, there has been a considerable focus on moneylenders (Singh, 2022). This may include rotating savings and credit associations (ROSCAs), peer-to-peer lending, and family and friends providing financial assistance. Studying these alternatives to informal credit is important for supporting individuals and communities (Sekyi et al., 2020; Hue Thu et al., 2021). However, the idea that borrowers adversely influence lenders has not been discussed. In the informal sector, the usual view is that lenders victimise borrowers (Kaur, 2021; Singh et al., 2008). High interest rates and a lack of regulation often disadvantage borrowers in the informal credit sector. Borrowers also hold substantial power in these

relationships.

Recently, a considerable number of cases in rural Haryana have emerged, with borrowers wilfully defaulting and lenders being harassed mentally and emotionally, even inducing suicide or traumatic deaths due to stress. Understanding how borrowers can impact lenders is crucial to developing a more balanced and sustainable informal credit system. By exploring this aspect, researchers can gain a more comprehensive understanding of the risks and benefits associated with informal credit practices. This can help create policies and interventions that promote responsible lending and borrowing, ultimately leading to an inclusive and resilient financial system. This research can also provide insights into how to mitigate the risks associated with informal credit practices such as over-indebtedness and predatory borrowing. By understanding borrowers' impact on lenders, policymakers can design regulations that protect both parties while fostering financial inclusion and stability. Ultimately, a well-informed approach to informal credit can contribute to overall economic development and growth. The present study also draws on three additional theoretical lenses to enrich its conceptual framework. First, financial distress theory (Holmstrom, 1979) explains how borrowers strategically deploy economic vulnerability, both real and feigned, to justify non-repayment. Second, financial inclusion frameworks (Omar and Inaba, 2020; Zins and Weill, 2016) illuminate how exclusion from formal credit systems drives rural households into informal lending arrangements that lack enforceable contracts. The third is social trust theory (Putnam, 1993; Coleman, 1988), which provides the conceptual basis for understanding how kin-based trust enables informal credit while also creating its primary vulnerability.

3. Background

Rural Haryana presents a distinctive blend of deep-rooted cultural traditions with evolving financial patterns shaped by modernisation and agrarian prosperity. The culture here is anchored by joint family systems, a strong sense of community, brotherhood (*bhaichara*), and an active celebration of festivals (Chowdhry, 2004). The rural social fabric is closely linked to agricultural cycles and local fairs, with folk music and dance, particularly Haryanvi *ragni* and "*Dhamal*," featuring prominently in community gatherings. The close connection between the land and the people is clearly visible in the reverence shown towards nature and the sacred rituals performed (Singh and Kumar, 2026). As modernisation gradually seeps in, a delicate balance

emerges between preserving cultural heritage and adapting to new technologies. Social hierarchies and castes remain influential in daily life and access to resources. In contrast, collective activities such as panchayat meetings and religious observances at local temples ensure social cohesion and reinforce customary values (Dublish and Khan 2021).

In particular, rural Haryana is characterised by a relatively robust and diversified agrarian economy (Kumar & Sekher, 2026). With approximately two-thirds of the state's rural population engaged in agriculture or other related activities, Haryana has the highest average rural income. Consumption patterns reflect increasing prosperity as 65% of income is allocated to household expenses, with credit activity for 2025–26 assessed at over ₹3 lakh crore. In addition, more than half of rural households rely primarily on formal credit channels such as banks and cooperatives, and about 18% are dependent on informal sources such as moneylenders or friends.

4. Methodology

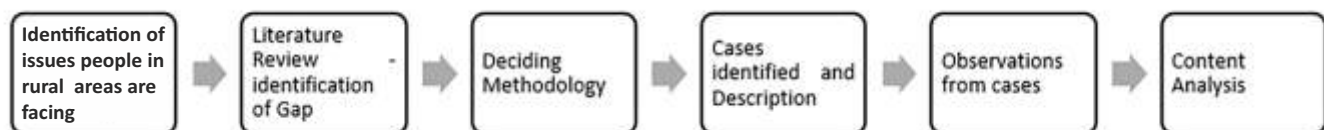
Recently, the authors identified borrowers' behaviour in the unorganised sector. After identifying this issue, the authors conducted a field survey in rural Haryana (Fig 1). Casual group conversations among social circles and relatives are a

major source of data collection (Dhanda & Bhairannavar, 2025). These conversations usually occur in places such as *Chowks*, *Chontras*, and *Mandeers*, where local villagers gather to smoke *hookas* (traditional smoking devices) or spend time. Such places in India have long been major sources of information about day-to-day village activities.

Casual conversations are a major source of information unavailable in formal structures. As part of this study, the point of discussion where such information is available is identified first, and then the author meets with the people from whom it actually emerged. Because it is considered off-limits to discuss whether someone has faced non-payment by borrowers, people in the area avoid acknowledging such events directly. After identifying the cases, purposive sampling was used to select respondents from whom reliable information could be obtained. Respondents were asked about existing cases in the area to ensure authenticity and factual accuracy. Conversations were conducted based on the suitability of the local environment around the location, in multiple sessions of approximately one hour. The discussion involved both group and one-on-one conversations with respondents. However, they were not taped because of their trustworthiness.

Table 1. Parameters used for collecting information during informal communication

Parameter	Purpose in Informal Communication
Lending Relationships	To identify how trust is leveraged in informal borrowing based on the nature and closeness of the lending relationship (family, kin, colleague, or neighbour ultimately focusing on Kinship-based Credit Risk
Repayment Behaviour	To study patterns of wilful default, deliberate avoidance, and excuses given by borrowers, ultimately leading to wilful default under Kinship-based Credit Risk.
Dispute Resolution Mechanisms	To study how informal systems like panchayats are manipulated by borrowers to evade repayment, ultimately leading to systematic moral rationalisation.
Blame Deflection Strategies	Identification of shifted responsibility by borrowers to third parties or intermediaries to maintain social demeanour.
Social and Gender Norms	To understand how cultural expectations, gender roles, and social hierarchies constrain lenders from demanding repayment.
Emotional and Psychological Impact	To illustrate the trauma, mental and financial stress, relationship breakdowns, and deaths resulting from debt structure.
Moral Attitudes Towards Debt	To explore borrowers' rationalisations and entitlement attitudes that trivialise the obligation to repayment.



Source: Authors' compilation

Fig 1. Framework of the study

Instead, we took copious notes while observing respondents' thinking patterns and ideas based on established parameters (Table 1). Pseudonyms are used to ensure confidentiality. The authors' familiarity with rural Haryana, where they were born and raised, proved instrumental in conducting these discussions with respondents. Being local greatly helped in studying the evolving structure of unorganised borrowers' monetary deception and its impact on the financial health of people associated with it.

In the present study, 15 cases were studied. The selection of 15 cases is based on purposive sampling logic and theoretical saturation principles (Patton, 2002; Yin, 2009). Cases were selected to represent geographic diversity across districts of rural Haryana (Hisar, Fatehabad, Rohtak, and Jind), with variation in loan amounts (₹1.5 lakh to ₹3 crore), focusing on diversity in lender-borrower

relationships (kin, colleague, employer-employee) and variation in default strategies employed. Theoretical saturation, also known as the point at which additional cases ceased to yield new themes, was reached at 15 cases, confirming the adequacy of the sample size (Eisenhardt, 1989). Respondents were aged between 25 and 80 years. This is because, in rural Haryana, financial matters are usually handled officially by elderly males in the family. Consistent patterns were identified in the collected data (Bowen, 2009; Nykvist & Maltais, 2022).

The collected responses were compiled, and consistency was mapped to develop thematic patterns. To identify thematic patterns, Braun & Clarke's (2006) six-phase procedure was used, as illustrated in Bowen (2009), Agarwal et al. (2020), and Riege (2003), following an iterative interpretivist approach. To conduct the analysis, the field notes were transcribed to extract recurring behavioural

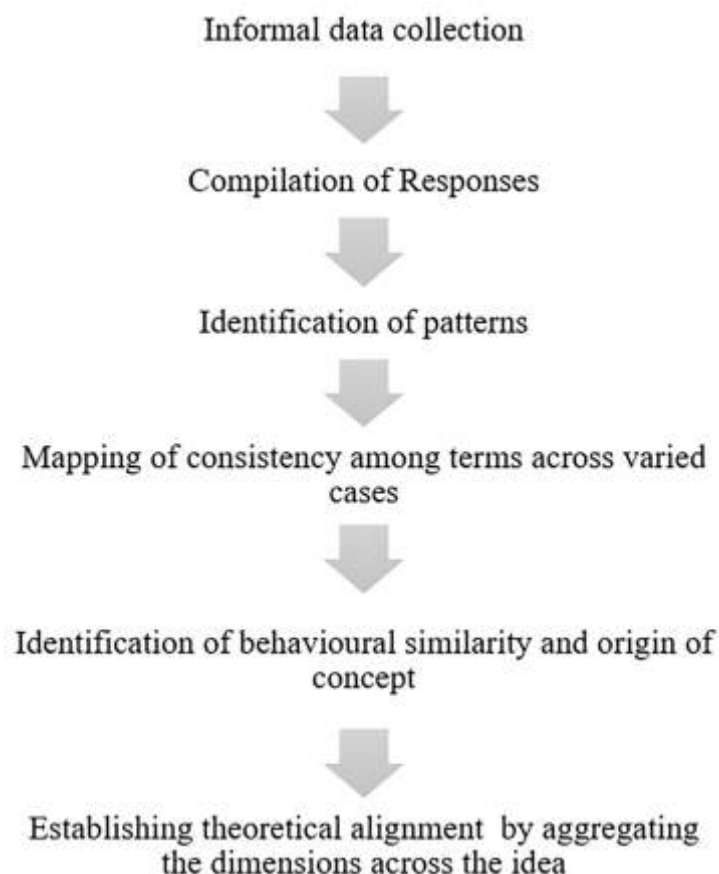


Fig 2. Framework for theme identification

patterns. This was done through repeated reading to improve data familiarisation. This was followed by initial code generation to identify themes by grouping codes. These themes were then reviewed to ensure coherence, definition, and naming (Fig 2). The researcher spent time understanding the research problem, and the case study method helped explore the factors associated with the issue. The data were cross-checked at multiple intervals, with variations in the questions to prevent bias and inaccuracies (Agarwal et al., 2020; Riege, 2003). When necessary, Haryanvi words, terms, and phrases were retained in the transcript to highlight key terms and phrasings. The study strictly adhered to the relevant research protocols. Participants were informed of the study's aims and methodology. They were also informed that their personal identity and data would be protected. They provided oral consent to participate in the study and had their narratives published anonymously.

5. Analysis

5.1 Case Description

Rural Haryana is rooted in brotherhood (*bhaichara*). The philosophy of the people here is that no matter the circumstances, brotherhood should not be compromised. Throughout India, Haryanvi (native to Haryana) is known for its social bonds. However, as society evolves worldwide, beliefs are also changing. The discussion of informal credit for brotherhood involves building social capital. As society evolves, borrowers capitalise on this social bond of brotherhood. The matter of concern is that, in the name of brotherhood, rural Haryana is facing the challenge of wilful defaulters who borrow from them in good faith and bonds. A substantial number of cases have occurred in this scenario. Here, we first reflect on each particular case, followed by discussion and analysis.

Case 1: Samsher and Family: Kumar, a native of Hisar, Haryana, whose father, Samsher, passed away 18 months ago, obtains his savings after a year of struggle with government procedures and formalities, as Samsher was a government employee. It was just a few days after he started receiving calls from borrowers who were his close family and relatives to lend some of the money to them. However, he denied it, as his mother warned him. The amount varied from a few lakhs to 20. His father lost his life because of the trauma of wilful defaulters. His close relatives had borrowed 10 lakhs from him five years ago but never paid it back. Whenever asked, they replied that "*mool jitna to byaz agya.*" Interest payments covered the principal amount. The lady

till date says, "*That paise ka kya h or ajiyega, manase kha se aye.*" Money can be earned, but once you lose your close one, you cannot get it back.

Case 2: Chota and his firm, Chota, from a village near Barwala, who owes around three crores to various creditors, wilfully declared bankruptcy. He owns a substantial amount of agricultural land. Whenever any creditor asked for repayment, he said, '*Zamin lelo.*' Have my agricultural land in your name? One must pay a loan before acquiring that land.

An informal gathering, also known as a Panchayat, took place, and he agreed to take responsibility for payments in instalments. However, once the panchayat was dissolved, he refused to pay on the date of installation. He and his close associates came out of touch when the number of contacts changed or was off. It is not that official complaints are not filed against them; rather, they manage officials financially, and cases are closed in the name of out-of-court settlements.

Case 3: Compounding of Zila: Zila, a person from Uklana called a panchayat in Mandi (marketplace), with renowned members being part of it. The lender asked about the payment, and Zila answered that "*tera mool se ghna hogya se,*" meaning that you are getting an amount greater than your principal amount. Based on this argument, the gathering was dispersed without any solution. When details of the solution are asked, we come to know that "*Mandi mein panchayat ek br hi hoya kare.*" "*Gathering in case resolving in this marketplace happens for once only, whether sorted or not*"

Case 4: Two brothers: In a village in Hisar, two brothers who earned their living exclusively in agriculture lend money from their produce to their cousin's firm, where they usually sold their yield. Their cousin-in-law owns this firm, their second cousin, and another cousin's son. Recently, they learned about conflicts among the owners, and their fifteen years of earnings were stuck with them. When asked, they said another would pay, and it had been happening for eight years.

Case 5: Worker and Borrower: In this case, Mahesh, a mason, started working in one of his villages known as Jind. After working there for a few months, he asked for a loan of two lakhs, which the relative had refused. However, Mahesh, in mutual trust, persuaded the lender to release the amount with the promise of timely payment. The interest payment was made in a timely manner, but then he suddenly disappeared and ignored the efforts to connect with the

lender. When the lender approached his near and dear ones at his home, he replied, "*Tere paas itna sara to hai, yu sochle tera mool to ' agya* '—just be satisfied you get your principal."

Case 6: Retired employee: In this scenario, a retired person invested his/her retirement commutation with the partnership firm of his/her relatives. Sometimes, he himself used to manage accounts for that firm and then suddenly vanished. His payment was turned down, and it has been seven years since then. He is still struggling with repayments. When pressure is induced for repayment, they respond that "*De dange ke leke bhaja ha—We are not running anywhere.*" They behave like it is their own money and do not borrow money.

Case 7: Rambir: A small farmer from the village of Hisar with around four acres of land lost the money he earned from his agricultural yield to intermediaries who were his cousins. Now, ten years later, his money is still with them. When he asked for his money, they replied, "*Tu beth ja mari jgah—you handle this business of ours now.*"

Case 8: Mohit Relatives and Gathering: Once a few relatives gathered (panchayat) as creditors of Mohit, they created pressure to repay the amount. They know he defaulted wilfully but deliberately denied the payment; however, he replied to them, "*Mein b to tara hi hu, chalo sath mein lage ke niklvao paise mere dendaro se—I am also yours; help me get money from my creditors and take your money as you get money from them.*"

Case 9: Jaggu and his credit: A retired headmaster from Fatehabad lends his money jointly to his brother-in-law and nephew. Not only that, but he also loans his married daughter's money to them. However, when asked for repayment, they kept delaying. The pressure from the daughter's family was consistent; however, the borrower (debtor) replied, "*Hamne mange thodi the, taam ape deke gye the. - We did not ask for any loan; you yourself gave it to us for the sake of interest.*" It also comes to light that Jaggu compounded interest time and again.

Case 10: Creditor Son-in-Law: A farmer from Ghirai village in Hisar, Haryana, used to sell his agricultural produce at his son-in-law's shop and kept the credited amount. The total amount of around 25-30 lakh, as derived from the discussion, is for his son's education and wedding. He could not even ask for payment, and as he came to know that his son-in-law became bankrupt, the stress developed into cancer, ultimately leading to his death. He is no longer

alive, and his money is gone.

Case 11: Sunita and nephew: Sunita, empathising with the financial urgency of her nephew, a second cousin, lends him one lakh fifty thousand. Although she was still surviving on a fellowship and was not financially independent, she helped him. However, he did not repay for three years. Ultimately, when she pressured him, she got her amount too because she was a daughter, and it was not auspicious to defraud a daughter in Haryana.

Case 12: Colleague creditor: Shantanu borrowed 20 lakhs from a colleague of his brother from Fatehabad, and he did not repay for five years. The money lost was interest-free. Even then, he denied payment, citing varied reasons, time and again, which ultimately pushed the colleague to approach his native place and relatives. His elders got to know, and when one of the near family members asked for the default, he said, "*Bera hai mein 5 crore ka malik hu—I have five crores of money,*" to which the near and dear one replied, "*De de fer ye to tere lite chitkile angli brabar h tere—Repay it; it is just a small amount for you.*"

Case 13: Om and Son-in-Law: The son-in-law approached Om about lending some amount without interest, as he was building a home. As the elder, he lent the amount to him, only to find out that he had lent the amount with interest to another person. When he discussed this with his father-in-law for security backup, he said, "*Tu jane tera kaam jane—I*

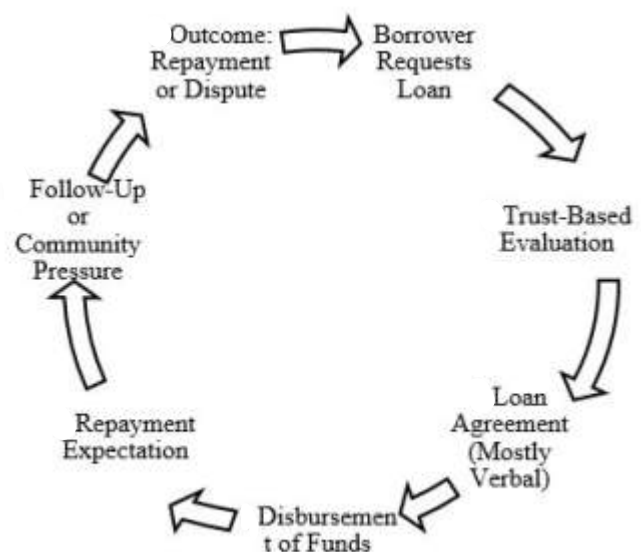


Fig 3. The process of informal credit financing

Case 14: The brother-in-law's creditor, Manmohan from Fatehabad, had lent his money via his brother-in-law to his relative's firm, some 15-16 lakhs. However, when he asked for his money from the borrowers, they replied, "*Tere jije se le lio—approach your brother-in-law.*"

Case 15: Marriage and Debt: Suresh helped his brother-in-law with around seven lakhs for his son and daughter's wedding. After paying five lakhs, he defaulted on the remaining amount for about three years. When asked indirectly, as they cannot ask their in-laws directly, he gets his amount back with a rude attitude and disrespect, as if it belongs to him.

5.2 Analysis and Discussion

The analysis of the case studies reveals several key factors contributing to borrowers' deliberate deception of rural lenders for personal gain. The themes identified address our research objectives and provide insights into the realities of lending practices in rural areas (Table 2). Notably, the cross-case analysis reveals three recurring patterns. First, kin-based trust serves as the principal mechanism of credit access, followed by evasion across all 15 cases. Second, *panchayat*-based dispute resolution generally loses effectiveness when defaulters have greater social capital or economic power. Lastly, moral rationalisation via language-framing default as circumstantial rather than deliberate appears in most cases, thus suggesting a culturally

embedded discursive strategy for legitimising wilful default.

1. Kinship-based credit: The study analyses it as a type of lending that is actually based on personal relationships. In earlier days, it was used for mutual financial support; however, recent research suggests that older people now feel that adults are very opportunistic. In our days, people could not sleep, even thinking about debt. It can be reflected in terms like: "*Ib ke balka mein Kala agya, phle loga ne nind koni aya kr di udhar leke.*" This shows that a delicate balance between financial and personal relationships is missing. In such scenarios, something that once supported people in difficult times and built stronger bonds now strains relationships when borrowed money is not repaid on time. In Haryana, where the philosophy of brotherhood has long prevailed at its core, the new generation, in the name of capitalising on social relations, is damaging the culture. Earlier, the borrower felt a sense of responsibility and obligation to repay the loan, and the lender used to harass them. However, these roles have now reversed. Wilful defaulters harass the lender to help them and give them money. Not only that, but there is also no sense of gratitude, as reflected in old days with terms like "we are not running anywhere," whenever asked for repayment. Additionally, as we have illustrated, there are cases in which a lender may struggle to enforce repayment and cannot even refuse to

Table 2. Identification of themes

1st Order Concepts	2nd Order Themes	3rd Order Aggregate Dimensions
Lending among relatives	Close-Kin and Trusted Relationship	Kinship-based Credit Risk
Refusing to repay with an excuse	Wilful Default & Avoidance Behaviour	Kinship-based Credit Risk
Panchayat meetings	Manipulation of Formal/Informal Systems	Systemic Evasion & Moral Rationalisation
Bribing officials	Systems	Systemic Evasion & Moral Rationalisation
Passing blame to others	Shifting of Blame & Deflection	Systemic Evasion & Moral Rationalisation
Reluctance due to social/gender norms	Social & Cultural Norm Influence	Psychosocial Consequences of Defaults
Emotional trauma/deaths	Emotional & Psychological Impact	Psychosocial Consequences of Defaults
"Money will come and go" attitude	Moral Devaluation of Debt	Systemic Evasion & Moral Rationalisation

Source: Authors compilation

lend. Altogether, it can be concluded that what used to be a helpful culture for the impoverished has become a double-edged sword in the contemporary world. Instead of providing a sense of support and solidarity within the community, it has become a double-edged sword. Not only this, statements such as “*mool jitna to byaz agya- you got your principal amount*” and “*de dange ke leke bhaja ha- We will repay as we are not running anywhere*” clearly reflect the intentional delay and refusal to repay debts, with feeble justifications. Such practices not only harm the lender financially but also strain social relationships and trust within the community. This cycle of distrust and resentment makes it more difficult for those needing financial assistance. In addition, animosity among neighbours and friends can break down a strong support system. Even ignoring calls, changing contact numbers, or taking advantage of informal arrangements further exacerbates the situation, creating a toxic environment within the community. Individuals must honour their financial commitments not only for their own integrity but also for the well-being of the community as a whole. In the long run, the entire community suffers, as it is tied to the fabric of trust and mutual reliance. This is also important for the success of microfinance initiatives and financial inclusion, as this system of trust and community reliance serves as a support system.

2. Psychosocial Consequences of Defaults: Social and cultural norms considerably affect repayment. Debt repayment is substantially influenced by borrowers' and creditors' social and cultural norms. Culturally, there should be a sense of collective responsibility, where one feels a duty to support another financially. In this case, a strong sense of shame is associated with non-repayment, which damages a person's reputation in society. In addition, hierarchical social structures make it difficult for lenders or creditors to assert themselves and demand repayment from borrowers higher in the community hierarchy, as visualised in the case of the two brothers and Rambir. Hesitation and indirectness in demanding repayments, especially among in-laws or the elderly, can further complicate the situation, ultimately leading to financial losses and strained relationships within the community.

Such activities hinder a community's overall economic development by creating distrust and instability in financial transactions. In addition, gendered norms sometimes influence outcomes, such as deceiving daughters, who are considered inauspicious when borrowing money. These complex community dynamics have far-reaching

consequences beyond financial losses. This adds another layer of complexity to the delicate lending and repayment situation within close-knit communities. Such cultural expectations about gender roles may impact financial transactions within communities; in this case, borrowing money from a daughter may be seen as taboo. The emotional and psychological impact of default on repayment is significant for lenders and creditors. The stress and anxiety of not getting the money back lead to feelings of dissatisfaction, betrayal, and anger toward the borrower. This adversely affects creditors' mental health and overall well-being. Apart from this, strained relationships with family and friends due to debt may lead to embarrassment and social isolation, not only of borrowers but also of their kin. These emotional and psychological tolls of default are immense and cannot be overlooked when discussing financial hardships. Another significant consequence is the breakdown of the rule of law and a lack of accountability, further exacerbating emotional and psychological health issues. When lenders or creditors see that justice is not being served and those in power act with impunity, it leads to feelings of helplessness, frustration, and despair. This, as well as this grief, is further compounded by betrayal from close relationships. Lenders in such informal settings expect greater interest compounding while lending, but what they obtain is grief compounding. This cycle of financial hardship, lack of accountability, and betrayal, leading to hopelessness and distrust, deepens feelings of isolation and despair, ultimately leading to increased deaths.

3. Systemic Evasion & Moral Rationalisation: As derived from conversations, borrowers evade legal consequences by managing the system. Incidents, such as bribing officials or relying on out-of-court settlements, complicate the intricate web of social and financial relationships within the community. This not only led to the breakdown of the rule of law but also exacerbated inequality and injustice. In addition, *panchayats* (informal local juries), which mediate disputes, are not taken seriously once the gathering is dispersed or their decisions lack enforceability, leading to a lack of accountability and consistency in conflict resolution. This lack of trust in formal and informal systems perpetuates a cycle of corruption and impunity, reinforcing the idea that those with power or influence can manipulate the system to their advantage. Attitudes of borrowers undermining the obligation of repayment (“*paise ka kya h,*” “*money will come and go, or m b tara hu*”—*I am also yours*) reflect moral devaluation of debts. This not only influences the financial stability of individuals and communities but also erodes the trust and social fabric that holds society together.

It also perpetuates the vicious cycle of economic inequality and social instability. Moral values erode when one begins to view their fellow human beings as mere sources of profit rather than individuals deserving of compassion, and empathy is directly linked to exploitation and dehumanisation inherent in the debt system. When creditors are consistently left without recourse for repayment, they erode their belief in the value of fulfilling financial obligations. This further perpetuates the culture of dishonesty and disregard, weakening the moral fabric of society and leading to a sense of moral decay and disregard for the consequences of one's actions, thus eroding the moral foundation of society. Another idea around moral devaluation is the prevailing presumption that because the creditors are "well off," they do not actually need the money.

Such narratives justifying defaulting on debt and disregarding financial responsibilities are dangerous from a social perspective, fostering the mentality of entitlement for unethical behavior. This lack of empathy towards creditors spreads exploitation and moral decay, ultimately creating a toxic environment while eroding the idea of a just and equitable society. It further deteriorates the moral fibre of society by creating a damaging ripple effect on individuals and communities.

6. Theoretical Implications

The dominant theoretical perspective in informal credit scholarship is about the rural borrower vulnerable subject to usurious rates, coercive enforcement, and asymmetric power relations (Bell, 1990; Iqbal, 1988; Guérin et al., 2012). However, present study with its focus on victimised lenders contributes to financial inclusion literature that expanding credit access to (Karlan and Morduch, 2010 and Dupas and Robinson, 2009). It implies that there is requirement to accommodate a bidirectional vulnerability framework that accounts for lender-side distress as much as borrower-side exclusion. Apart from it, the findings of the study reflect on the weaponisation of social capital as Putnam's (1993) foundational argument that the assumption that kinship and community ties acts as a substitutive collateral to dense social networks ultimately reducing transaction costs and facilitate cooperative outcomes. In present study though the brotherhood (bhaichara) culture of rural Haryana prevails, the findings reveal a dark side. Social capital can be strategically weaponised. The study reflects on the idea of using brotherhood to resist repayment demands and manipulate panchayat proceedings in contrast to Coleman's (1988) concept of social capital as a resource

enabling cooperation. It also resonates with findings of Guérin et al.'s (2012) in South India that social proximity does not guarantee repayment and may absurdly complicate debt collection. Further, taking moral economy framework by Scotts (1976) in concern, the study illustrates that modernisation, urbanisation, and weakened community surveillance are actually hollowing out the normative infrastructure that once enforced informal contracts among rural communities. The subsistence of ethics and norms of reciprocity that constrain economic exploitation within socially acceptable bounds are eroding under contemporary pressures. Study illustrates a systematic devaluation of financial obligations once held sacred by customary ethics. Present study demonstrates that analogous dynamics operate, with important modifications, in informal settings. The key difference is that information asymmetry in informal credit is socially mediated lenders extend credit based on relational knowledge rather than financial signals. The study thus contributes to a theoretical understanding of socially embedded adverse selection a form of moral hazard where relational trust is in context information failure. The study exposes a critical institutional void in context of North (1990) institutional theory that formal and informal institutions together define the rules of economic exchange at the intersection of formal and informal systems. The finding of the study with idea of Acemoglu and Robinson (2012) that extractive institutions perpetuate elite capture, but extends it to the micro-level of rural community governance. Theoretically, the findings contribute to the literature on hybrid institutional failure contexts where neither formal law nor informal norms provide effective sanctioning mechanisms, leaving creditors without recourse.

7. Practical Implications and policy recommendations

Policy frameworks governing rural credit in India are mostly designed to protect borrowers from predatory lenders (Kumar et al., 2017). The findings of present study are that policy must extend recognition to lender-side vulnerability in informal settings. Wanzala and Obokoh (2025) and Nawaz and Avetisyan (2025) also emphasise that institutional design gaps in credit markets impose disproportionate costs on the most economically vulnerable participants. Another reason for lender vulnerability is the absence of documentation. The cases under study are on the basis of mutual trust and based on verbal agreements, with no written record, witness testimony, or timestamp illustrating a major policy gap. Findings by Alhassan et al.

(2019) show that incremental formalisation of informal financial transactions significantly improves repayment accountability without requiring full migration to formal credit channels. Existing financial literacy programmes in India focus almost exclusively on encouraging rural households to use formal financial products and build savings discipline (Omar and Inaba, 2020; Zins and Weill, 2016). The practical implication of this study is to reorient a portion of financial literacy content toward informal lending risk disclosure specifically, educating potential lenders about the legal and practical enforceability limits of oral informal agreements, the risk profile of kin-network lending, and alternative instruments such as post-dated cheques, promissory notes, or registered declarations that carry evidentiary weight. This shift in focus does not discourage informal credit, which will persist given structural barriers to formal access (Karaivanov and Kessler, 2018), but it equips lenders with risk-awareness tools currently absent from the ecosystem. The study's findings highlight SDG framing while documenting pattern of official corruption and panchayat capture points to the need for community accountability mechanisms that reduce the influence of financially powerful defaulters in local governance. Inequalities and financial exclusion from formal credit does not protect rural households from financial harm it merely shifts the source of that harm from institutional actors to social ones. Policy interventions targeting inequality must therefore address the informal credit ecosystem as a site of redistribution risk, not only a gap in formal service provision. A unifying insight that bridges both dimensions is the concept of relational moral hazard a condition specific to socially embedded financial systems where the very intimacy that enables credit access simultaneously disables enforcement. Theoretically, this concept extends the classical moral hazard framework (Holmstrom, 1979) into non-market relational settings. Practically, it suggests that interventions cannot rely solely on either formal institutionalisation or community norm reinforcement both approaches fail independently, as documented in this study. What is required is a layered institutional architecture that combines light-touch documentation, community accountability mechanisms, psychological support, and selective formal backstop options each calibrated to the socially embedded nature of rural informal credit rather than imported wholesale from formal financial regulation. Karaivanov and Kessler (2018) and Posti et al. (2025) both note that the informal sector's persistence is fundamentally a product of formal sector inadequacy; the practical implication is that reducing lender

vulnerability in informal markets requires simultaneously improving formal sector accessibility, not simply regulating what happens outside it. The findings of present study indicate several targeted policy interventions required to reduce wilful default in rural informal credit markets. First, a light-touch digital documentation system which can be accessible via common service centres (CSCs) is required to allow informal lenders and borrowers to register loan agreements with timestamped records, shifting the evidentiary burden in panchayat proceedings. Secondly, empowerment of panchayat institutions is required with formal recognition under state gram panchayat legislation thus, enabling their credit mediation decisions to have downstream civil recovery standing. Third, conduct of financial literacy programmes to reoriented and educate rural lenders on the legal limitations of oral agreements and the risk profile of kin-network lending. Apart from this, four key factors that would substantively reduce wilful default should be ensured. From mandatory written documentation of informal loans above ₹50,000 with strengthened panchayat enforceability mechanisms while ensuring community-based credit monitoring through self-help groups (SHGs) and integration of informal lender protection into state rural credit policy frameworks.

8. Conclusion

This study focuses on informal loans in rural Haryana and uncovers the complex and evolving dynamics of trust, deception, and economic risk that underpin credit relationships in close-knit rural communities. Although informal credit, deeply entrenched in kinship networks and social norms, continues to persist, the present study illustrates borrowers (debtors) harassment towards lenders (creditors). This study also reflects the multifaceted interplay between cultural traditions, social obligations, economic needs, and systemic gaps. The study emphasises that informal credit in rural Haryana is not only about economics but also a deeply social and cultural institution. This study finds that brotherhood (*bhaichara*), once a guarantor of integrity and repayment, is adversely exploited by new-generation borrowers to evade repayment, severely straining their personal relationships. Apart from this, it was also found that borrowers do not have any particular reason for non-payment. They wilfully defaulted their payments. A sense of injustice and unfairness develops when the debt is not paid. This ultimately leads to stress, mental health issues, disharmony, and even conflicts within families and communities. The erosion of trust and the breakdown of social bonds have long-lasting effects not only on the well-

being of individuals but also on society as a whole. The moral implications of debt need to be addressed by recognising these underlying moral issues, as the cycle of suffering and betrayal substantially contributes to the moral devaluation of debt in society. Only by recognising and addressing these underlying moral issues can a just and equitable society be created. This study had several limitations. Primarily, the findings of this study are based in Haryana, which may limit their generalizability beyond Haryana or other similar regions. Apart from the sample size, casual conversations and nuances due to exact language potentially affect the depth of analysis. The findings of this study reflect a snapshot in time and may not account for evolving informal credit dynamics, especially in a rapidly changing economic and technological environment. Finally, although this study illustrates borrower behaviors and wilful default, it may underrepresent the roles of lenders or broader systemic economic factors, leaving some aspects of power dynamics and structural vulnerabilities insufficiently explored. Future research could address these limitations by including larger and more diverse samples and using a mixed-method approach while studying both borrower and lender perspectives over a longer time frame.

9. References

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Competitive Capabilities and Organisational Agility In Improving Organisational Performance

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A b s t r a c t

Performance is crucial in achieving organisational goals. This study examines the relationships among competitive capabilities, organisational agility, and organisational performance among healthcare institutions in Yogyakarta, Indonesia. An empirical approach is used to measure these two factors that enhance organisational performance. Understanding the framework of a changing healthcare system is essential for developing an agile organisation. This study explicitly targets mid- to senior-level managers in healthcare facilities in Yogyakarta. A sample of 137 respondents was selected through purposive sampling of managers directly involved in operational and strategic decision-making. Of the four proposed hypotheses, the first, that competitive capabilities significantly affect organisational performance, was not supported; the remaining three, linking competitive capabilities to organisational agility, organisational agility to performance, and agility as a mediator between capabilities and performance, were all supported. The study concludes that organisational agility, as a mediator, fully explains the relationship between competitive capabilities and organisational performance.

Keywords: *Competitive Capabilities; Organisational Agility; Organisational Performance; Healthcare Industry*

1. Introduction

In today's complex and unpredictable business environment, organisations face unprecedented pressures from technological disruptions, globalisation, and changing stakeholder expectations. The healthcare sector, in particular, is experiencing rapid structural and regulatory shifts that require agility, efficiency, and innovation. In Indonesia, recent policy reforms and the growing variability in patient demand have heightened uncertainty for hospitals and clinics, especially in areas like Yogyakarta.

These developments force healthcare institutions to reassess their competitive capabilities to stay competitive and continue providing high-quality patient care.

Scholars have long maintained that key competitive capabilities such as innovation, process efficiency, and resource optimisation are vital to preserving organisational performance (Lee, Wu, & Jong, 2022; Tracey, Vonderembse, & Lim, 2018). At the same time, organisational agility—the capacity to detect environmental changes, reallocate resources, and respond swiftly—has become essential for survival in volatile markets (Aghina et al., 2021; Tsourveloudis & Valavanis, 2018). Although existing studies connect both competitive capabilities and agility to performance, most of this research focuses on manufacturing or technology sectors in developed nations. The relevance and mechanisms of these relationships in healthcare, especially in emerging markets, are still insufficiently examined.

This omission goes beyond being a simple oversight and limits the development of theory. According to the Resource-Advantage Theory (Hunt & Morgan, 1996), firms gain sustained advantages not solely by possessing valuable resources but by actively deploying them to adapt to evolving market challenges. Healthcare organisations, with their service-heavy roles and societal importance, provide a unique setting to explore whether agility acts as a mediator between capabilities and performance. However, few studies have examined this mediation in such contexts, and those that have often rely on cross-sectional data without fully addressing the limitations of causality. This study aims to fill two main gaps: one is the **Contextual relevance**—expanding the investigation of the capabilities–agility–performance link to Indonesian healthcare organisations, where agility can directly impact patient outcomes and institutional sustainability, and the other is **the Theoretical contribution**—defining and empirically testing agility as a mediator, clarifying how capabilities influence performance.

In doing so, we contribute to both theory and practice: from a theoretical perspective, by applying the Resource-Advantage framework in a critical service sector; from a practical standpoint, by offering hospital managers evidence-based strategies for aligning resources with adaptive capacities to enhance performance. We test four hypotheses using survey data collected from mid- to senior-level hospital managers in Yogyakarta, Indonesia.

This study contributes to the fields of strategic management and health service performance. It first refines Resource-Advantage Theory by showing that in regulated, service-heavy healthcare organisations, competitive capabilities do not automatically lead to better performance; instead, they operate through organisational agility as a deployment mechanism. Additionally, it challenges the common belief that capabilities and performance are directly and positively related by revealing a fully mediated pathway in Indonesian hospitals, thereby highlighting necessary contextual boundary conditions. Finally, by providing empirical evidence from a single lower-middle-income country context, the study offers an initial, context-specific contribution to the broader understanding of organisational agility in Asia-Pacific health systems, where institutional complexity, resource limitations, and policy volatility make agility both difficult to develop and vital for maintaining performance; generalisation beyond Indonesia would require further comparative research.

2. Theoretical Review

The connection between competitive ability, organisational agility, and support for organisational performance can be understood via the lens of the Resource-Advantage Theory of Competition. The Resource-Advantage Theory of Competition is a theoretical framework that elucidates how organisations can attain a competitive edge by effectively leveraging their internal resources (Hunt & Morgan, 1996). The inception of this hypothesis dates to 1995, when Hunt and Morgan proposed it. According to this idea, corporations compete to acquire a comparative advantage in resources, which ultimately leads to a superior competitive position in specific market niches. The firm's competitive advantage is derived from the presence of diverse resources, resulting from the distinctive amalgamation of resources possessed by the organisation (Griffith & Yalcinkaya, 2010).

Essentially, the Resource-Advantage Theory of Competition elucidates how organisations might leverage their internal resources to enhance their performance and

attain a superior position compared to competitors. This theory posits that all enterprises or organisations engage in competition to acquire a comparative advantage in resources, which then leads to a competitive advantage in specific market niches.

Competitive Capabilities and Organisational Performance

Competition arises in situations of scarcity. In the present day, several corporations operate in a setting characterised by fierce competition and rapid transformation. Nevertheless, the distinctive attributes of the healthcare market set it apart from most other markets (Morrisey, 2018). Hence, healthcare institutions must take into account the unique attributes of the healthcare sector when assessing their competitive capabilities. This is because the key to devising a successful competitive strategy lies in effectively using these capabilities within a competitive landscape. To ascertain the appropriate competitive strategy for a firm, it is necessary to analyse the industry in which the business operates, its competitive landscape, and its capacity to leverage its capabilities.

Companies operate in a challenging environment characterised by escalating rivalry, a fragmented economy, rapid advances in information technology, expanding product variety, declining profit margins, and discerning consumers who make logical choices. In this setting, organisations can sustain and enhance their profitability and competitive edge only by identifying their competitive competencies. The essential prerequisites for strategic business units encompass management, market, and performance (İslamoğlu, 2018). Conversely, each business unit's approach centres on cultivating one or more competitive talents appropriate to evolving dynamics. Organisational performance can be attained through competitiveness. Moreover, the degree of a company's competitive capacities positively impacts its performance (Tracey et al., 2018).

H1: Competitive capabilities have a significant effect on organisational performance.

Competitive Capabilities and Organisational Agility

Continuous innovation is essential in the service sector to maintain a competitive advantage over other industries. Organisations operating in this domain should prioritise the strategic execution of variables that enhance their performance. Organisational adaptability is another crucial factor to consider while adjusting to a competitive climate. Agility refers to the capacity to identify and adapt to

changes in the organisational environment, whether they be opportunities, threats, or a combination of both. This involves prioritising the needs of customers and shareholders by readjusting resources, procedures, and strategies. Additionally, agility entails the ability to respond promptly to unexpected conditions.

Organisational agility, in this sense, is what enables firms to operate efficiently and effectively in a fast-paced, ever-evolving global market characterised by frequent change and fragmentation (Tsourveloudis & Valavanis, 2018). In today's highly competitive world, firms must possess speed and adaptability to survive, continually reconfiguring resources and decision routines to keep pace with competitive pressures and to sustain agility in their decision-making process.

H2: Competitive Capabilities have a significant effect on organisational agility.

Organisational Agility and Organisational Performance

A firm's performance is typically assessed against its strategic objectives and the policies established to achieve them, with policy execution serving as the operational mechanism through which strategy is translated into results. The evolving economic landscape resulting from globalisation in the healthcare sector necessitates adaptable organisational structures and a commitment to enhancing patients' quality of life. To stay abreast of these advancements, healthcare institutions must improve their institutional capacity by adjusting to changes.

As stated in the Quarterly (2006), top management will place more significance on agility in the future, as it will be a crucial factor in the company's success. The research states that enhanced agility will yield advantages for the organisation in its capacity to respond to unforeseen developments, resulting in higher revenues, improved efficiency, and a more substantial market presence. This will effectively enable the company to attain and sustain competitive capacities. Agility plays a crucial role in enhancing an organisation's competitive advantage and long-term viability, and it significantly impacts organisational performance during times of uncertainty.

Furthermore, agility can refer to the calibre of an organisation's capacity to act promptly. Thus, managers in healthcare facilities should strive to capitalise on various technology components that are consistently undergoing transformation and advancement. Staying abreast of and harnessing technical components is crucial for achieving

optimal outcomes. Competitive capabilities (Ateş, 2019) will be enhanced by the agility that technological aspects bring to institutions.

H3: Organisational Agility has a significant effect on Organisational Performance.

Competitive Capabilities, Organizational Agility, and Organizational Performance

In a volatile, fiercely competitive landscape, planning becomes exceedingly challenging. However, organisations can mitigate the effects of instability by anticipating and making preparations for upcoming changes (Von Oetinger, 2018). Modern companies, particularly healthcare organisations, face substantial environmental volatility due to evolving rivalry, technological advancements, and unpredictable patient needs. Healthcare businesses will face significant operational challenges amid considerable environmental fluctuations. Turbulence denotes the unpredictable and menacing difficulties that firms encounter within a competitive milieu. Therefore, healthcare institutions should prioritise managing intricacy and minimising potential hazards.

The strategic significance of organisational agility in business management has been examined, with a focus on its impact on enhancing organisational competitiveness and achieving performance excellence (Abdel-Qader, 2021). Organisational agility is crucial for effectively addressing issues and is a significant driver of competitive advantage in the future. Aghina et al. (2021) conducted a survey revealing that 90% of executives consider organisational agility to be crucial for achieving corporate success, and its significance is increasing over time. A study conducted by El Idrissi et al. (2023) discovered that Competitive Capabilities exert a substantial impact on Organisational agility. Idrissi employed three distinct forms of agility in his research: Customer Agility, Operational Agility, and Partnering Agility.

Gyemang and Emeagwali (2020) found that Competitive Capabilities have a substantial impact on Organisational Agility. Organisational agility is a fundamental component of Business Agility, comprising seven essential competencies crucial to achieving it. Hence, organisational agility serves as a mediator in the relationship between competitive skills and organisational performance, enabling firms to outperform rivals and effectively address obstacles.

Nevertheless, the majority of this research centres on agility and performance. However, this study focuses on the relationship between organisational agility, competitive capacities, and healthy organisational performance.

H4: Organisational agility mediates the relationship between Competitive Capabilities and Organisational Performance.

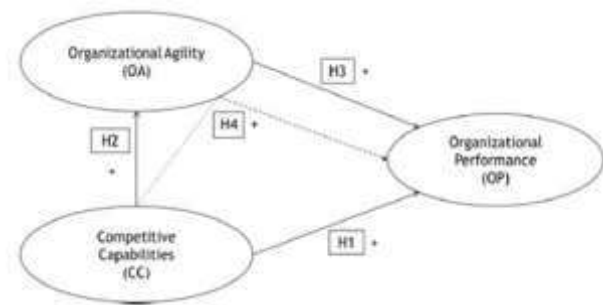


Figure 1. Conceptual Framework

(Compiled by the Authors)

3. Methodology

Research Design

This study employs a cross-sectional, survey-based quantitative design to explore the relationships among competitive capabilities, organisational agility, and organisational performance in healthcare institutions. Although mediation analysis is ideally suited for longitudinal data, this study applies statistical mediation to cross-sectional data, with careful consideration, recognising that causal conclusions are limited to associations rather than establishing temporal order.

Population and sample

The target group consisted of mid- and senior-level managers from healthcare institutions in Yogyakarta, Indonesia. These managers were chosen because they are directly involved in operational and strategic decision-making, which is crucial for evaluating perceptions of competitive capabilities and agility. Purposive sampling was used to select managers meeting this criterion, resulting in 137 valid responses. Demographic details are shown in Table 1.

Table 1. Respondent's basic information

Characteristics	n	Percent
Gender		
Female	73	46.7
Male	64	53.3
Age		
20 – < 30 Year	48	35
30 – < 40 Year	64	46.7
≥ 40 Year	25	18.2
Length of service		
< 1 Year	0	0
1 – < 2 Year	28	20.4
2 – < 3 Year	52	38
3 – < 4 Year	35	25.5
≥ 5 Year	22	16.1

*Source: Primary data

Measures

All constructs were assessed using established scales specifically adapted for the healthcare setting. Participants responded on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

Competitive Capabilities – measured with seven items adapted from Tracey et al. (2018), covering dimensions such as quality, delivery, flexibility, and cost efficiency. Sample item: *"Our organisation is able to adjust processes quickly to meet patient needs."* Reliability in the present study: CR = .82; all loadings > .50.

Organisational Agility – measured with eight items adapted from Tsourveloudis & Valavanis (2018), reflecting sensing, decision-making speed, and resource reconfiguration. Sample item: *"Our organisation rapidly responds to unexpected changes in the healthcare environment."* CR = .84; all loadings > .50.

Organisational Performance – measured with eight items adapted from Leitão et al. (2019), covering efficiency, patient satisfaction, and service delivery quality. Sample item: *"We consistently meet our performance targets with*

high patient satisfaction." CR = .88; all loadings > .50.

The Validity was supported through Confirmatory Factor Analysis (Hair et al., 2019), with factor loadings exceeding .50 (see Table 2). Reliability exceeded the .70 threshold for all constructs (see Table 3).

Procedural Remedies for Common Method Bias

To minimise standard-method variance, participation was voluntary and anonymous; predictor and criterion items were presented in separate survey sections; and varying scale anchors were used across measures. Post-hoc Harman's single-factor test showed no dominant factor, indicating CMV was not a significant concern.

Data Analysis

Data analysis was conducted using AMOS v26 and SPSS v26. Structural Equation Modelling (SEM) was employed to examine the proposed relationships and mediation effects, with the Sobel test used to assess significance. Model fit was evaluated using several indices: $\chi^2/df \leq 2.00$, RMSEA $\leq .08$, CFI $\geq .90$, TLI $\geq .90$, and GFI and AGFI were also reported. To address non-normality in data

Table 2. Validity test

Item	Estimate	Description	Item	Estimate	Description	Item	Estimate	Description
CC1	.714	Valid	OA1	.696	Valid	OP1	.608	Valid
CC2	.663	Valid	OA2	.853	Valid	OP2	.631	Valid
CC3	.655	Valid	OA3	.682	Valid	OP3	.678	Valid
CC4	.658	Valid	OA4	.563	Valid	OP4	.822	Valid
CC5	.518	Valid	OA5	.639	Valid	OP5	.679	Valid
CC6	.737	Valid	OA6	.549	Valid	OP6	.712	Valid
CC7	.500	Valid	OA7	.646	Valid	OP7	.799	Valid

**Source: Primary data*

All standardised loading estimates exceeded the 0.50 threshold recommended by Hair et al. (2010), confirming that the items included in the questionnaire were valid for use in this study.

Reliability was assessed using Construct Reliability (CR), with values above 0.70 considered acceptable. All constructs exceeded this threshold, confirming adequate internal consistency for the questionnaire used in this study.

Normality

The normality test in the AMOS output involves comparing the C.R. value with the critical value of 2.58 at a significance level of 0.1, as stated by Ghazali (2016).

Based on the results of the normality tests conducted in this study, the data do not follow a normal distribution. According to Ghazali (2014), one method for addressing non-normally distributed data is to employ the bootstrap technique. This strategy involves resampling the original sample as if it were a population.

Table 3. Reliability test

Variable	CR	Description
Competitive Capabilities	0.82	Reliable
Organisational Agility	0.84	Reliable
Organisational Performance	0.88	Reliable

**Source: Primary data*

Table 4. Normality test

Variable	min	max	skew	c.r.	kurtosis	c.r.
OP8	4.000	7.000	-.738	-3.524	.019	.047
OA8	3.000	7.000	-1.201	-5.739	2.356	5.630
OP7	3.000	7.000	-1.231	-5.881	1.515	3.620
OP6	3.000	7.000	-.903	-4.315	.676	1.615
OP5	3.000	7.000	-1.651	-7.889	3.300	7.884
OP4	3.000	7.000	-1.233	-5.891	2.780	6.642
OP3	3.000	7.000	-1.276	-6.097	2.126	5.079

Variable	min	max	skew	c.r.	kurtosis	c.r.
OP2	3.000	7.000	-.909	-4.345	.667	1.594
OP1	4.000	7.000	-.858	-4.102	.340	.811
OA7	3.000	7.000	-1.212	-5.793	1.519	3.630
OA6	3.000	7.000	-1.421	-6.792	2.072	4.950
OA5	2.000	7.000	-1.061	-5.069	1.287	3.076
OA4	3.000	7.000	-1.030	-4.923	.751	1.795
OA3	3.000	7.000	-.734	-3.510	.366	.874
OA2	3.000	7.000	-1.030	-4.923	1.379	3.295
OA1	2.000	7.000	-1.096	-5.236	1.409	3.367
CC7	3.000	7.000	-.911	-4.354	.449	1.074
CC6	2.000	7.000	-.938	-4.484	1.801	4.303
CC5	3.000	7.000	-1.079	-5.157	1.303	3.112
CC4	3.000	7.000	-.706	-3.373	.469	1.120
CC3	3.000	7.000	-.493	-2.357	.060	.144
CC2	3.000	7.000	-.983	-4.696	1.291	3.084
CC1	4.000	7.000	-.529	-2.529	-.058	-.137
Multivariate					126.108	21.763

*Source: Primary data

Table 5. Bollen–Stine Bootstrap Value

Result
The model fit better in 414 bootstrap samples.
It fits about equally well in 0 bootstrap samples.
It fit worse or failed to fit in 86 bootstrap samples.
Testing the null hypothesis that the model is correct, Bollen–Stine bootstrap $p = .174$

*Source: Primary data

The Bollen–Stine bootstrap test findings, shown in Table 5 above, indicate a p-value of 0.174, which exceeds the conventional 0.05 threshold. This result indicates that the bootstrapped model does not differ significantly from the hypothesised model, supporting the adequacy of the parameter estimates obtained despite the non-normality identified earlier, and allowing the analysis to proceed using the bootstrapped standard errors.

Goodness Of Fit

Structural Equation Modelling (SEM) primarily aims to determine the degree to which the proposed model aligns with the observed data by conducting a goodness-of-fit evaluation. The table presents the results of the goodness-of-fit analysis.

Table 6. Goodness of Fit

Criterion	Cut-off	Result	Model Evaluation
Chi-Square	Expected small	297.243	Good Fit
CMIN/DF	...	1.309	Good Fit
RMSEA	≤ 0.08	0.04	Good Fit
GFI	≥ 0.9	0.80	Marginal Fit
AGFI	≥ 0.9	0.83	Marginal Fit
TLI	≥ 0.9	0.94	Good Fit
CFI	≥ 0.9	0.94	Good Fit

**Source: Primary data*

In this work, the researchers utilised the perspectives of Baumgartner & Homburg (1996) and Doll et al. (1994) to establish the benchmarks for GFI and AGFI. According to these sources, GFI and AGFI values exceeding 0.8 are considered indicative of a good match. Based on the overall goodness-of-fit test results, the SEM model is sufficiently feasible to meet the acceptance criteria. This conclusion aligns with the theory proposed by Hair et al. (2019), which suggests that if 4-5 goodness-of-fit criteria are met, the research can proceed.

Structural Model and Hypothesis Testing Evaluation

Direct Effect

An approach to assessing the outcomes of hypothesis testing involves analysing the structural regression weights. Based on a study by Ghazali (2016), a hypothesis is deemed acceptable if the probability value is below 0.05 and the C.R. value is above 2.00.

Among the three relationships examined, two relationships exhibit a CR value greater than 2.00 and a significance level below 0.05, indicating a significant positive effect. These relationships are between competitive capabilities and organisational agility, and between organisational agility

and organisational performance. Therefore, the developed hypothesis is accepted. However, one link stands out with a CR value below 2.00 and a p-value above 0.05. Specifically, it is the association between competitive capacities and organisational performance. This indicates that there is no significant influence between these two variables, thereby rejecting the developed hypothesis.

Mediation or Indirect Effect Test

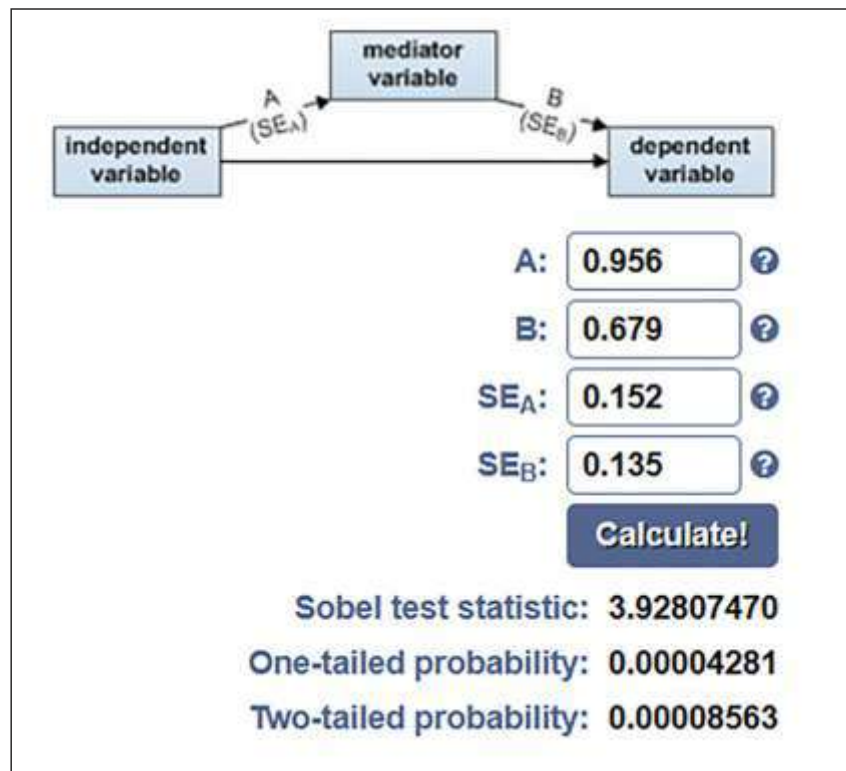
In this study, the researchers employed the Sobel test to examine mediation or indirect effects. The Sobel test is a statistical test used to assess whether a significant mediating variable is present in a relationship. This test examines the variable's potential to mediate the interaction between the other two variables.

The P-value from the Sobel test results, as shown in the table above, is less than or equal to 0.05. Therefore, it may be inferred that the hypothesis is either accepted or that complete mediation occurs in the relationship between competitive capabilities and organisational performance through organisational agility. Competitive skills can enhance corporate performance by fostering organisational agility.

Table 7. Hypothesis Direct Effect Testing

Hypothesis	C.R.	P	Description
H1	-1.546	0.122	Rejected
H2	6.296	***	Accepted
H3	5.017	***	Accepted

**Source: Primary data*



*Source: Primary data

Figure 2. Sobel Test

5. Discussion

Competitive capabilities and organisational performance

The first hypothesis intended to test competitive capabilities would significantly improve organisational performance. Contrary to this expectation and much of the previous research, the direct link from competitive capabilities to performance was not significant in the sampled hospitals. Managers believed their organisations had strong competitive capabilities, such as effective resource use, high-quality service, and process efficiency. However, these did not directly lead to better performance outcomes once organisational agility was considered. This pattern indicates that, in regulated and institutionalised healthcare settings, competitive capabilities are necessary but not enough for superior performance. Regulatory systems, reimbursement policies, and clinical governance can limit how much static capabilities alone can improve financial or service results, because hospitals often cannot turn process efficiencies or cost savings into higher revenue, throughput, or quality metrics. Instead, organisations need to continually adapt how and when they use capabilities in response to policy changes, stakeholder expectations, and shifts in patient

demand. This outcome contradicts the findings of Tracey et al. (2018), which assert that a company's performance level is favourably influenced by its competitive skills.

Competitive capabilities and organisational agility

The second hypothesis, which examined the link between competitive capabilities and organisational agility, received support. Hospitals with stronger competitive capabilities also demonstrated higher agility, including enhanced ability to detect environmental changes, make prompt decisions, and reallocate resources effectively. This aligns with the perspective that foundational capabilities such as flexible processes, skilled personnel, and reliable information systems underpin agile responses to changing conditions. In the Indonesian healthcare context, competitive capabilities equip managers with the tools and options needed to respond to policy reforms, shifting patient flows, and technological developments. However, the considerable indirect relationship from competitive capabilities to agility and the non-significant direct relationship from capabilities to performance suggest that capabilities influence performance mainly through their contribution to agility rather than directly. This is supported by studies conducted by Aghina et

al. (2021), El Idrissi et al. (2023), and Gyemang & Emeagwali (2020), which state that competitive capabilities positively affect organisational agility.

Organisational agility and organisational performance

The third hypothesis, that organisational agility would positively affect organisational performance, was supported. Hospitals that reported greater agility, such as being able to adapt routines rapidly, coordinate across departments, and reallocate resources in response to emerging needs, also reported higher levels of performance, including efficiency and patient satisfaction. This aligns with prior research that identifies agility as a key determinant of performance under conditions of uncertainty and turbulence.

In settings like Yogyakarta, where hospitals face shifting patient demands, evolving accreditation standards, and financial pressures, agility enables institutions to translate environmental opportunities and threats into concrete operational adjustments. Agile organisations can modify staffing patterns, revise care pathways, or reconfigure service lines more quickly than less agile counterparts, thereby maintaining performance despite external shocks. Quarterly (2006) provides evidence supporting these outcomes, and Ateş (2019) also confirms comparable findings, demonstrating that organisational agility has a notable impact on organisational performance.

Competitive Capabilities, Organisational Agility, and Organisational Performance

The study concludes that organisational agility acts as a statistical mediator, fully explaining the relationship between competitive capabilities and organisational performance in the sampled hospitals. Given the cross-sectional design, this pattern is best interpreted as statistical mediation rather than definitive evidence of causal mediation, though it offers a strong empirical basis for future longitudinal confirmation. The organisation's capacity to adapt to external changes is associated with its overall performance; by effectively leveraging these changes, organisations may enhance stakeholder satisfaction and trust, generating enthusiasm among stakeholders and supporting organisational performance. These findings align with the research conducted by Akkaya & Mert (2022), which concluded that organisational agility, acting as a mediator, has a notable impact on the connection between competitive capabilities and organisational performance.

This study explored how competitive capabilities and organisational agility together influence performance in

healthcare institutions in Yogyakarta, Indonesia. The results indicate that competitive capabilities do not significantly impact performance. However, organisational agility has a positive effect on performance and completely mediates the link between competitive capabilities and performance. These findings offer valuable insights for theoretical development, empirical research, and management practices in healthcare and other service sectors, especially within the Asia-Pacific region.

Why competitive capabilities require agility to affect performance

The full mediation pattern, where competitive capabilities influence performance solely through organisational agility, has significant theoretical implications. It shows that in regulated and service-heavy sectors like healthcare, capabilities mainly serve as potential that needs to be activated and directed via agile processes, rather than acting as direct drivers of outcomes. Three mechanisms help clarify this pattern. First, regulatory and reimbursement constraints influence how capabilities are transformed into performance. Hospitals often operate under fixed tariffs, budget limits, or standardised clinical pathways, which can limit performance gains from internal efficiencies or cost reductions. Agile organisations can redesign services, develop partnerships, or modify care models within these constraints, thereby turning capabilities into improvements in quality, access, or financial outcomes. Second, because of professional logics and clinical autonomy, possessing managerial skills alone does not ensure improved care or productivity. Clinicians have significant independence, and enhancing performance depends on aligning managerial procedures with professional norms. Agility supports this by fostering collaborative decision-making, quick feedback, and adaptable work practices that combine clinical judgment with organisational objectives.

Third, environmental turbulence and resource fluidity diminish the lasting importance of static capability profiles. In Indonesia's healthcare sector, ongoing policy reforms, changing disease burdens, and market competition constantly reshape what skills are considered relevant. Agile organisations can reallocate staff, technology, and infrastructure to focus on new priorities, thereby updating the relevance of their capabilities and maintaining their impact on performance. These mechanisms imply that competitive capabilities in these scenarios are more accurately viewed as components of an agility system rather than as direct drivers of performance. This refines existing theories that suggest a simple, context-independent link between capabilities and performance.

Implications for the Asia-Pacific Region

The findings have broader implications for health management research and practice throughout the Asia-Pacific region. Many health systems here encounter similar challenges: demographic shifts, epidemiological changes, efforts to achieve universal health coverage, and rising public-private competition. In these settings, hospitals may share similar clinical and operational skills but vary significantly in how quickly they adapt these capabilities to reforms and market changes. The identified mediation pattern suggests that developing competitive capabilities without enhancing agility may yield limited performance advantages for healthcare organisations in the Asia-Pacific region. Policymakers and regulators should therefore explore how funding, governance, and accountability structures can promote experimentation, learning, and swift reorganisation rather than maintain rigidity. For researchers, the Indonesian example underscores the importance of investigating how institutional context influences the relationship between capabilities, agility, and performance across diverse Asia-Pacific healthcare environments, from more liberalised hospital markets to strictly regulated public systems.

While this study focuses specifically on Indonesian hospitals, the underlying mechanism, that adaptive capacity helps organisations translate resource constraints and limited professional autonomy into sustained performance, may plausibly extend to healthcare systems beyond Asia-Pacific, including those in Europe, North America, and Africa that face comparable funding pressures, constraints on clinical decision-making autonomy, and policy uncertainty. This possibility, however, remains an extrapolation from the present findings rather than a conclusion directly supported by this study's data, and would benefit from cross-national comparative research.

Managerial implications

Hospital leaders should know that investing in competitive capabilities such as quality improvement programs, information systems, or specialised services must be paired with efforts to boost organisational agility. This can include creating flexible structures, decentralising decisions, forming cross-functional teams, and setting up systems to track environmental shifts. It's also important to understand that agility involves behavioural and cultural factors. Promoting open communication, encouraging a learning mindset, and enabling staff to suggest and test improvements can help capabilities adapt to new challenges. By considering how capabilities and agility work together, healthcare organisations can better maintain

performance improvements over time. More broadly, pairing investments in competitive capabilities with deliberate agility-building efforts offers hospital leaders, not only in Asia-Pacific but in other regions facing similar pressures, a practical framework for navigating disruptive events such as technological change or sudden shifts in health trends.

Limitations and future research

This study has several limitations that suggest avenues for future research. First, the cross-sectional design limits the ability to establish clear causal relationships regarding the sequence of capabilities, agility, and performance. Longitudinal studies with repeated measures or panel data would provide stronger evidence on how capabilities and agility change over time and influence performance. Second, the data were collected from a single region within one country and rely on self-reported perceptions from mid- and senior-level hospital managers. Future research could improve generalizability by including multiple regions and countries across the Asia Pacific and by triangulating managerial surveys with objective performance indicators such as clinical outcomes, financial metrics, or patient experience measures. Third, the model concentrates on three constructs and does not incorporate other potentially important variables such as leadership style, digital transformation, organisational culture, or inter-organisational collaboration. Future studies could expand the model to examine how these factors interact with capabilities and agility, or to test alternative mediators and moderators that might explain performance differences across various healthcare organisations.

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DATA AVAILABILITY STATEMENT

Data will be made available upon reasonable request.

AUTHOR DECLARATION

The corresponding author has the permission of all co-authors to submit.

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- Note:** *Highlighted (yellow) text indicates passages that were added or revised in response to the peer review comments. See the accompanying Response to Reviewer Comments document for a point-by-point explanation of each change.*

Multidimensional Success Index for Women-Led Enterprises in West Bengal

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Abstract

Despite the increasing participation of women entrepreneurs in emerging economies, there is limited research on quantifying their business success through comprehensive indices, especially in the manufacturing sectors of developing regions. This study addresses this gap by investigating the factors influencing business success among women entrepreneurs (West Bengal) in the Indian manufacturing sector and developing a novel Business Success Index (BSI) for empirical measurement. The study employed stratified sampling to collect data from 430 women entrepreneurs representing 12 manufacturing sectors. A structured questionnaire based on a 5-point Likert scale was utilised for this purpose. The Exploratory factor analysis identified six key dimensions of success—financial success, personal fulfillment, brand satisfaction, social contribution, employee satisfaction, and social recognition. These dimensions were validated through confirmatory factor analysis. Findings revealed significant sector-wise variations in performance, with renewable energy manufacturing scoring the highest and tobacco micro-industries the lowest. The manufacturing industries clustered into three groups: top-performers, medium-performers, and low-performers, each displaying distinct resource access patterns and strategic orientations. To validate cluster distinctions, a one-way ANOVA tested equality of mean BSI scores across groups. The study underscores that promoting women's entrepreneurship through action-oriented interventions—such as facilitating sustainability across all manufacturing sectors and supporting these efforts with targeted training programs—will strengthen the entrepreneurial landscape for women in India. This approach not only addresses performance disparities highlighted by the BSI but also contributes to national economic stability and inclusive growth.

Keywords: *women entrepreneurs, business success index, cluster analysis, MSME, manufacturing sector, West Bengal, entrepreneurial performance, factor analysis*

1 Introduction

In India, the trajectory of industrialisation since the mid-19th century has shaped a dynamic economic landscape, with micro, small, and medium enterprises (MSMEs) emerging as a cornerstone of growth. Over time, MSMEs have proven instrumental in driving economic development and fostering a sustainable entrepreneurial spirit across diverse population segments (Jha & Rangarajan, 2020). Nationally, the sector contributes approximately 30% to India's GDP, 40% to total exports, and generates over 110 million jobs (Aftab, 2024). Micro enterprises dominate, comprising more than 99% of the MSME base, and they create opportunities for individuals with limited education or skills while helping to narrow gender gaps in entrepreneurship.

The expansion of MSMEs has fostered a symbiotic relationship between entrepreneurship and economic progress. Traditional metrics of business success—such as profitability, sales turnover, and return on investment—remain relevant but often fail to capture long-term sustainability or holistic achievements, particularly for marginalised groups like women entrepreneurs (Brush et al., 2019). Contemporary perspectives emphasise the transformation of innovation, creativity, and ideas into enduring ventures, incorporating non-financial dimensions such as personal fulfillment and social impact (Welter, 2014). However, research on women entrepreneurs in emerging economies, especially in manufacturing sectors, remains limited, with few studies quantifying success through comprehensive, context-specific indices (Ahl & Marlow, 2012; Yadav & Unni, 2016). This gap is particularly evident in regions like West Bengal, where women-led manufacturing enterprises face unique challenges related to resource access, cultural barriers, and sector-specific dynamics.

To address this, the present study develops a novel Business Success Index (BSI) that integrates financial and non-financial indicators for a multidimensional assessment of entrepreneurial performance among women in resource-constrained settings. Drawing on primary data from 430 women entrepreneurs across 12 manufacturing sectors in West Bengal, India, the BSI enables empirical evaluation of success factors, uncovering significant variations by industry type and business size. The primary objectives are to: (1) develop and validate the BSI as a replicable tool for measuring holistic success in women's MSMEs; (2) assess which manufacturing sectors enable women entrepreneurs in developing nations like India to achieve higher,

moderate, or lower levels of success, highlighting outperformers and underperformers; and (3) categorise industries into performance clusters to inform targeted interventions for gender equity, sustainability, and inclusive economic growth. The study is theoretically grounded in the Resource-Based View (RBV), which argues that sustainable business success originates from the effective acquisition, development, and utilisation of valuable, rare, inimitable, and non-substitutable resources and capabilities (Barney, 1991). For women-owned MSMEs, these resources extend beyond financial capital to include entrepreneurial competencies, innovation, networks, and managerial capabilities that influence long-term business performance. The study also draws on Feminist Entrepreneurship Theory, which emphasises that women's entrepreneurial outcomes are shaped not only by individual capabilities but also by socio-cultural norms, institutional constraints, access to finance, and family support (Ahl & Marlow, 2012; Brush et al., 2009). Integrating these complementary perspectives enables the Business Success Index to capture both enterprise-level resource capabilities and the gender-specific contextual factors influencing entrepreneurial success. This theoretical framework fills a critical literature gap by providing a multidimensional and context-sensitive approach for evaluating women's entrepreneurial success and offers a model applicable to other Indian states and emerging economies.

2. Literature Review and Research Gap

This section reviews the existing literature on business, financial and non financial metrics of business success and gender perspective in entrepreneurship. The study examines previous empirical studies and identify existing gaps and provide the rationale for the present study.

Traditional Financial Metrics of Business Success

Empowerment is inherently multi-dimensional, encompassing resources (material, human, and social), agency (the capacity to define and pursue personal goals), and achievements (tangible outcomes). In the realm of women's entrepreneurship, it involves enabling women to make autonomous business decisions, adopt sustainable practices, and attain financial independence. Empowerment is inherently multidimensional, encompassing access to resources, agency, and measurable achievements. Within women entrepreneurship, business success has traditionally been evaluated using objective financial indicators such as profitability, sales growth, return on investment, and market share (Kotane & Kuzmina-Merlino, 2012; Nguyen et al.,

2022). These indicators remain valuable because they facilitate standardised comparisons across firms and industries and are widely accepted by investors and policymakers. However, several scholars argue that an exclusive reliance on financial indicators provides only a partial understanding of entrepreneurial success, particularly among women-owned MSMEs operating under resource constraints (Lau & Sholihin, 2005; Bellavitis et al., 2016). Women entrepreneurs frequently pursue multiple objectives—including family welfare, social contribution, and long-term business continuity—that may not be immediately reflected in financial performance. Consequently, firms with modest financial returns may still demonstrate substantial entrepreneurial success through resilience, innovation, and community impact. From the Resource-Based View (RBV), financial performance is an outcome of strategically deployed tangible and intangible resources rather than a resource itself, suggesting that financial measures alone cannot explain why some enterprises sustain competitive advantage while others do not.

Emerging Non-Financial Metrics

Growing criticism of purely financial measures has encouraged scholars to adopt multidimensional frameworks incorporating non-financial indicators (Dobrovic et al., 2018; Wach et al., 2018; Zarzycka & Krasodomska, 2021). These indicators recognise that entrepreneurial success extends beyond economic returns to include organisational resilience, stakeholder relationships, employee well-being, innovation capability, sustainability practices, and work-life integration. Nevertheless, the literature presents mixed evidence regarding their relative importance. While Prashar et al. (2018) identify work-life balance as a significant determinant of long-term entrepreneurial sustainability, Bellavitis et al. (2016) argue that its influence varies according to business maturity and institutional context. Similarly, customer satisfaction and employee engagement are consistently associated with improved firm performance (Sami & Roychowdhury, 2021), yet there is limited consensus regarding how these dimensions should be measured and integrated into a unified assessment framework. This methodological inconsistency has restricted meaningful comparisons across studies and sectors.

Gender-Specific Perspectives in Entrepreneurship

Women entrepreneurs operate within institutional, cultural,

and social environments that differ significantly from those experienced by male entrepreneurs. Feminist entrepreneurship theory argues that entrepreneurial success cannot be understood independently of these gendered contexts because access to finance, professional networks, family responsibilities, mobility, and societal expectations directly influence business outcomes (Ahl & Marlow, 2012). Studies conducted in developing countries consistently report that women entrepreneurs experience greater financing constraints, lower institutional support, and stronger work-family conflicts than their male counterparts (Yadav & Unni, 2016). Consequently, women frequently define success using broader criteria that include personal achievement, social recognition, family well-being, and community contribution alongside profitability. However, existing empirical research continues to rely predominantly on traditional financial indicators, creating a disconnect between theoretical understanding and practical measurement of women's entrepreneurial success.

2.1 Research Gap

The literature underscores that a balanced integration of financial and non-financial factors is essential for a comprehensive understanding of business success (Nguyen et al., 2022; Azmi et al., 2017). However the existing studies on women-owned MSMEs have predominantly examined entrepreneurial success through financial performance or have focused on barriers, empowerment, and access to resources. Although non-financial dimensions have received increasing attention, there remains a lack of a theoretically grounded and empirically validated multidimensional measure that integrates both financial and non-financial indicators of business success. Moreover, limited evidence exists for women-led manufacturing enterprises in India, particularly in West Bengal. To address these gaps, this study develops and validates a Business Success Index (BSI) grounded in the Resource-Based View (RBV) and Feminist Entrepreneurship Theory, providing a comprehensive framework for assessing and comparing business success across manufacturing sectors.

3. Theoretical Background

The present study is based on theories viz., Resource Based View and Feminist Entrepreneurship Theory and both the theories have been discussed.

Resource-Based View (RBV)

The Resource-Based View (RBV), proposed by Barney (1991), explains the conditions under which firms achieve

sustainable competitive advantage. The theory argues that long-term competitive advantage arises from an organisation's ability to acquire, develop, and effectively utilise resources that are valuable, rare, inimitable, and non-substitutable (VRIN). Unlike traditional industrial organisation theory, which attributes firm performance primarily to external market conditions, RBV emphasises the importance of internal resources and capabilities in producing value, meeting customer needs, and achieving superior business performance.

In the context of Micro, Small, and Medium Enterprises (MSMEs), tangible resources such as financial capital, production facilities, and technology interact with intangible resources, including entrepreneurial knowledge, managerial competence, innovation capability, social networks, and organisational learning. Women-owned manufacturing enterprises often experience constraints in accessing financial resources; consequently, intangible resources become increasingly important in influencing business performance and long-term sustainability.

Previous studies have applied RBV to examine innovation capability, networking, entrepreneurial orientation, and human capital in MSMEs, demonstrating that these strategic resources significantly influence firm growth, competitiveness, and sustainability (Barney, 1991). Therefore, assessing business success solely through financial performance fails to capture the strategic capabilities and intangible resources that generate sustainable competitive advantage.

Feminist Entrepreneurship Theory

Feminist entrepreneurship theory argues that entrepreneurial success is shaped not only by individual entrepreneurial capabilities but also by gendered institutional, cultural, and structural contexts (Ahl & Marlow, 2012). Unlike traditional entrepreneurship theories, which assume that entrepreneurial opportunities are equally accessible to all individuals, feminist perspectives recognise that women entrepreneurs face multiple barriers, including limited access to finance, property ownership, business networks, mobility, and decision-making opportunities, as well as greater family and caregiving responsibilities.

Consequently, women's entrepreneurial success cannot be evaluated solely in terms of financial outcomes. Many women entrepreneurs define success through broader dimensions such as work-life balance, personal autonomy,

business networking, social recognition, flexibility, community development, and social contribution, alongside profitability. These dimensions are particularly relevant in developing countries such as India, where entrepreneurship often serves both economic and social objectives.

Integrating Resource-Based View and Feminist Entrepreneurship Theory

The Resource-Based View explains how internal resources and organisational capabilities contribute to sustainable competitive advantage; however, it does not explicitly consider the gender-specific institutional and social constraints that influence both the acquisition and effective utilisation of these resources. In contrast, feminist entrepreneurship theory explains how women's entrepreneurial opportunities, motivations, and perceptions of success are shaped by gendered social structures, although it provides limited guidance for evaluating firm-level strategic resources and capabilities.

Integrating these two theoretical perspectives offers a more comprehensive framework for understanding business success among women-owned MSMEs. While RBV explains how organisational resources create competitive advantage, feminist entrepreneurship theory contextualises how gender-related factors influence entrepreneurial experiences, resource accessibility, and the broader meaning of business success.

Theoretical Foundation of the Business Success Index

Based on the integration of these theoretical perspectives, the Business Success Index (BSI) incorporates both objective financial performance indicators and non-financial dimensions that reflect entrepreneurial capability, innovation, autonomy, stakeholder relationships, and long-term sustainability. This integrated framework provides a theoretically grounded measure of business success by capturing both firm-level strategic resources and the gender-specific contextual factors influencing women entrepreneurs.

Financial Success

Financial success reflects business performance through indicators such as profitability, revenue growth, and financial sustainability. From the Resource-Based View, superior financial performance demonstrates a firm's ability to efficiently utilise valuable strategic resources and capabilities to create competitive advantage. Feminist

entrepreneurship theory also recognises financial independence as an essential component of women's economic empowerment therefore, financial success constitutes the economic foundation of the Business Success Index.

Personal Fulfillment

Personal fulfillment reflects women's satisfaction with their entrepreneurial journey, including autonomy, self-confidence, work-life integration, and the achievement of personal aspirations. This dimension is primarily grounded in feminist entrepreneurship theory, which argues that women often perceive entrepreneurial success in terms of self-realisation, independence, and an improved quality of life rather than solely through business growth or financial returns. Although RBV primarily focuses on organisational resources, it also recognises entrepreneurial motivation, leadership capability, and managerial competence as valuable intangible resources that contribute to sustained business performance.

Brand Satisfaction

Brand satisfaction reflects an entrepreneur's perception of the firm's market reputation, customer trust, and product acceptance. Within the Resource-Based View, brand reputation represents a valuable intangible asset that is difficult for competitors to imitate and can therefore generate sustainable competitive advantage. From the perspective of feminist entrepreneurship theory, developing a credible and trustworthy business identity enhances the legitimacy of women entrepreneurs, enabling them to overcome gender-related biases and strengthen their position in competitive markets.

Social Contribution

Social contribution reflects the extent to which a business creates value for employees, customers, communities, and society through ethical business practices, employment generation, environmental responsibility, and sustainable development initiatives. Feminist entrepreneurship theory suggests that women entrepreneurs frequently pursue both economic and social objectives, emphasising community development and social well-being alongside business profitability. Similarly, the Resource-Based View supports this perspective by proposing that socially responsible practices strengthen organisational reputation, stakeholder relationships, and relational capital, thereby enhancing long-term competitiveness and sustainability.

Employee Satisfaction

Employee satisfaction reflects the quality of workplace relationships, employee well-being, motivation, and organisational commitment. According to the Resource-Based View, employees represent valuable strategic assets whose knowledge, skills, commitment, and experience contribute significantly to sustainable competitive advantage. Feminist entrepreneurship theory further suggests that women entrepreneurs often adopt participative, collaborative, and relationship-oriented leadership styles that promote supportive and inclusive work environments. Consequently, employee satisfaction serves as an important indicator of organisational effectiveness and business success.

Social Recognition

Social recognition represents the entrepreneur's reputation, credibility, and acceptance among customers, professional networks, industry stakeholders, and the wider community. Feminist entrepreneurship theory emphasises that women entrepreneurs frequently encounter challenges in gaining recognition due to gender stereotypes, societal expectations, and institutional biases. Therefore, achieving social recognition signifies the successful navigation of these barriers and reflects broader entrepreneurial accomplishment. From the Resource-Based View, reputation and social capital are considered valuable intangible resources that facilitate access to markets, strategic partnerships, financial opportunities, and business networks, thereby contributing to sustained business growth and competitive advantage.

4. Methodology

This section outlines the methodology used to validate business-related factors and develop the Business Success Index (BSI) for women entrepreneurs in West Bengal's manufacturing sector. A quantitative, cross-sectional research design was employed to empirically test hypotheses and assess the conceptual model's fit, drawing on data from structured questionnaires.

Research Design and Instrumentation

The study adopted a deductive approach, building on insights from the literature review to operationalise financial and non-financial success factors. The questionnaire was developed based on an extensive literature review, incorporating 26 items adapted from established scales (Dobrovic et al., 2018; Wach et al., 2018).

Items were rated on a 5-point Likert scale (1= strongly disagree to 5 = strongly agree) to measure dimensions such as financial performance, personal fulfillment, and social contribution. A pilot test with 30 participants was conducted to refine wording and ensure clarity, resulting in minor adjustments for cultural relevance in the West Bengal context. Ethical considerations were prioritised, including obtaining informed consent and ensuring respondent anonymity.

Population, Sampling, and Data Collection

The target population comprised women entrepreneurs in West Bengal's MSME manufacturing sector. A stratified random sampling method was used to ensure representation across 12 manufacturing sectors- FMCG, textile, rubber & plastic, leather, mechanical, electrical, glass & ceramic, handicraft, chemical, tobacco, paper, and renewable energy. Additionally, enterprise sizes (micro, small, and medium) were stratified by district and industry type. Sampling frames were drawn from official MSME databases and local business associations.

Data were collected from January 2023 to September 2023 via in-person and online questionnaires distributed to 1,210 potential respondents. Of these, 430 provided complete responses, 127 submitted partial responses, and 653 declined participation, yielding a response rate of 35.54%. Partial responses were excluded to maintain data integrity and reliability. The final sample of 430 was deemed sufficient for factor analysis and clustering, based on guidelines recommending a minimum of 300 observations (Hair et al., 2019).

Data Analysis Techniques

A combination of advanced statistical techniques was applied using Statistical Package for the Social Sciences (SPSS) version 27 and AMOS version 26 software. Exploratory Factor Analysis (EFA) with principal component analysis and varimax rotation was conducted to identify underlying success dimensions from the 26 items, retaining factors with eigenvalues >1 and loadings >0.5. Confirmatory Factor Analysis (CFA) validated the factor structure, assessing model fit through indices such as CFI (>0.95), RMSEA (<0.08), and SRMR (<0.08) (Hu & Bentler, 1999).

The Analytic Hierarchy Process (AHP) (Saaty, 1980) was used to assign relative weights (R_i) to the identified factors based on pairwise comparisons of their importance, derived

from expert judgments or groups based on BSI similarities, determining the optimal number of clusters via the elbow method. Assumptions- normality via Shapiro-Wilk tests and homoscedasticity via Levene's test were verified, and multicollinearity was checked using Variance Inflation Factors (VIF <5).

Development of the Business Success Index (BSI)

The BSI is a comprehensive, normalised index (scaled 0-100) designed to quantify business success by aggregating weighted scores across six empirically derived factors- financial success, personal fulfillment, brand satisfaction, social contribution, employee satisfaction, and social recognition (extracted from the 26 items via EFA).

The BSI for an industry is developed as:

$$BSI = \sum_{i=1}^k \left(\frac{\bar{x}_i - m}{M - m} \right) R_i \times 100(\%),$$

where

$\bar{x}_i$: mean score for the i^{th} factor

m : minimum possible score for i^{th} factor

M : maximum possible score for i^{th} factor

r_i : importance of i^{th} factor

R_i : relative importance of i^{th} factor with $R_i = \left(\frac{r_i}{\sum_{i=1}^k r_i} \right)$

k : number of factors (here $k = 6$)

The lowest (highest) value is attained if all factors get the minimum (maximum) possible score.

The business success index (BSI) evaluates industry performance using a structured approach. The BSI is developed by aggregating these weighted scores (scale of 0 to 100) and normalising them to a six-factor model, viz., financial success, personal fulfillment, brand value, social contribution, social recognition, and employee satisfaction, which have been extracted from 26 items. This method ensures a clear, standardised measure of business success, with higher values indicating better performance.

5. Data Analysis: Results and Discussion

This section presents the results from the statistical analyses used to evaluate business performance among women entrepreneurs in West Bengal's manufacturing sector, followed by interpretive discussions. The analyses build on

the methodology outlined in Section 3, employing techniques such as Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and k-means clustering to develop and validate the Business

Success Index (BSI). Findings are discussed in relation to the literature and their implications for entrepreneurship in developing economies.

Identifying Key Business Success Factors: Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) was conducted on the 26 questionnaire items to identify underlying dimensions of subjective business success. Using principal component analysis with varimax rotation, the analysis extracted six major factors: financial success (five items), personal fulfillment (five items), brand satisfaction (four items),

social contribution (four items), employee satisfaction (four items), and social recognition (three items).

To assess data suitability, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were performed. The KMO value was 0.836, exceeding the recommended threshold of 0.60, indicating adequate sampling for factor analysis. Bartlett's test yielded a chi-square value of 566.933 (df = 136, $p < 0.05$), confirming that the correlation matrix was significantly different from an identity matrix and suitable for factoring. These results support the factorability of the data.

Table 2 presents the total variance explained by each factor before and after rotation. The six factors accounted for 64.72% of the total variance, with eigenvalues greater than 1. Post-rotation, the variance distribution was more evenly spread, enhancing interpretability.

Table 1. Kaiser-Meyer-Olkin measure of sampling adequacy and results of Bartlett's test

Kaiser-Meyer-Olkin		.836
Bartlett's test of sphericity	Approx. Chi-Square	566.93
	Df	136
	p-value	<0.05

Source: Based on Author's calculation

Table 2. Total variance explained

Items	Initial eigenvalues			Rotation sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative%
1	9.679	38.718	38.718	3.810	15.239	15.239
2	1.817	7.268	45.986	3.204	12.815	28.054
3	1.364	5.457	51.442	3.068	12.273	40.327
4	1.209	4.837	56.280	2.439	9.758	50.085
5	1.093	4.371	60.651	1.852	7.408	57.493
6	1.018	4.071	64.722	1.807	7.229	64.722
7	.854	3.416	68.138			
8	.842	3.368	71.506			
9	.768	3.071	74.578			

Items	Initial eigenvalues			Rotation sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative%
10	.638	2.553	77.131			
11	.624	2.496	79.627			
12	.591	2.365	81.992			
13	.549	2.196	84.188			
14	.507	2.027	86.215			
15	.468	1.871	88.087			
16	.458	1.833	89.919			
17	.433	1.732	91.651			
18	.411	1.644	93.295			
19	.370	1.480	94.775			
20	.326	1.305	96.080			
21	.297	1.189	97.269			
22	.277	1.109	98.378			
23	.211	.842	99.220			
24	.187	.350	99.57			
25	.015	.23	99.80			
26	.008	.020	100.00			

Source: Based on Author's calculation

The rotated component matrix (Table 3) delineates the factor structure, with item loadings above 0.50 considered significant. The first factor, comprising five items related to financial aspects (e.g., profitability, revenue growth), was labeled "financial success." The second factor, with five items focused on personal aspects (e.g., work-life balance, autonomy), was termed "personal fulfillment." The third factor (four items) emphasised brand perception and was named "brand satisfaction." The fourth factor (four items) involved societal impacts and was labeled "social contribution." The fifth factor (four items) pertained to workforce well-being and was designated "employee satisfaction." Finally, the sixth factor (three items) captured external accolades and was termed "social recognition."

Mean Scores of Subjective Business Success Factors

Table 4 displays the mean scores for the six factors, providing insights into their perceived importance among respondents. Financial success had the highest mean score (15.37), underscoring its primacy in evaluations of entrepreneurial performance. This was followed by personal fulfillment (14.05) and brand satisfaction (13.33), highlighting the value placed on intrinsic rewards and market positioning. Social contribution (11.24) and employee satisfaction (11.17) showed moderate emphasis, while social recognition had the lowest mean (10.13), suggesting it is valued but secondary to core operational factors.

Table 4 below exhibits the mean scores for the various dimensions of subjective business success, providing insight into the perceived importance of each factor among the respondents. The results as follows:

These findings reveal a balanced yet prioritised view of success, where financial metrics dominate—a pattern consistent with prior studies in emerging economies (Kotane & Kuzmina-Merlino, 2012)—but non-financial factors like personal fulfilment add nuance, particularly for women facing gender-specific challenges (Agarwal & Agrawal, 2023). The extraction of six factors addresses the literature gap by providing a holistic framework for the BSI, with implications for targeted interventions in West Bengal's manufacturing sector.

Lower scores in social dimensions may reflect resource constraints, warranting policy focus on social capital building.

Assessing the Validity of Key Business Success Factors: Confirmatory Factor Analysis (CFA)

To validate the factor structure identified in the EFA, Confirmatory Factor Analysis (CFA) was conducted using AMOS version 26 software. The analysis tested the proposed measurement model based on the full dataset of 430 observations, incorporating among the six latent constructs: financial success, personal fulfillment, brand satisfaction, social contribution, employee satisfaction, and social recognition. The model was evaluated in both training and validation phases to ensure robustness.

Figure 1 illustrates the CFA measurement model, depicting the relationships between observed variables (questionnaire items) and their underlying latent factors. The diagram highlights the interconnectedness of these dimensions, with standardised path coefficients representing factor loadings (all >0.70, indicating strong item-construct associations). Covariances between factors (e.g., between financial success and personal fulfillment) underscore the multidimensional nature of business success, consistent with theoretical frameworks in entrepreneurship literature (Welter, 2020).

Table 4. Subjective success mean score

	Financial success	Personal fulfillment	Brand satisfaction	Social contribution	Employee satisfaction	Social recognition
Mean	15.37	14.05	13.33	11.24	11.17	10.13
Min	5	5	4	4	4	4
Max	25	25	20	20	20	20

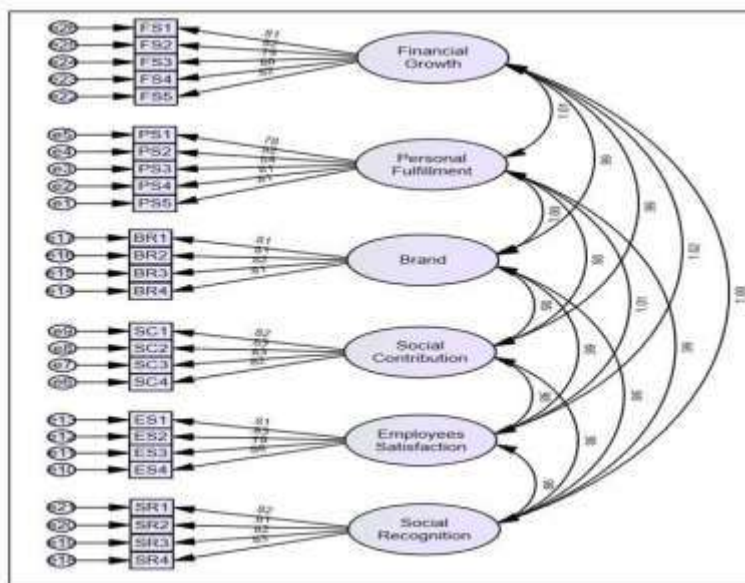


Fig.1. Measurement model of business success factors

Table 5 summarises the model fit indices, all of which met recommended thresholds (Hu & Bentler, 1998; Hair et al., 2019). The chi-square statistic (CMIN) was 403.316 with 284 degrees of freedom (df), yielding a CMIN/df ratio of 1.420 (acceptable <3). The p -value was <0.05, indicating a significant difference between observed and expected covariance matrices, though this is common in large samples. Other indices confirmed excellent fit: RMSEA = 0.037 (<0.05 indicates close fit), SRMR = 0.08 (<0.08), GFI = 0.905 (>0.90), AGFI = 0.883 (>0.85), RMR = 0.071 (<0.08), CFI = 0.984 (>0.95), IFI = 0.984 (>0.95), TLI = 0.981 (>0.95), and NFI = 0.947 (>0.90). Parsimony measures included AIC = 537.316 (lower values preferred), PRATIO = 0.874, PNFI = 0.828, and PCFI = 0.860, supporting model efficiency.

The strong model fit validates the six-factor structure, confirming the reliability and construct validity of the BSI (Cronbach's alpha (0.89) and composite reliability (0.91) confirmed the reliability of the measurement model). This extends prior research by providing an empirically

grounded tool for measuring success in gender-specific contexts, where non-financial factors like social recognition may be underrepresented due to cultural barriers in West Bengal. These results pave the way for subsequent analyses, such as weighting factors via AHP and examining sector variations, with implications for tailored entrepreneurial support programs.

Developing the Business Success Index (BSI) to Evaluate and Compare Overall Business Performance

Building on the validated six-factor structure from EFA and CFA, this study developed the Business Success Index (BSI) as a composite metric to assess and compare the performance of 430 women entrepreneurs across 12 manufacturing sectors in West Bengal. The BSI integrates the relative importance of the factors—financial success (FS), personal fulfillment (PF), brand value (BV), social contribution (SC), employee satisfaction (ES), and social recognition (SR)—weighted via the Analytic Hierarchy Process (AHP) (Saaty, 2005). This approach provides a

Table 5. Fit measures

Fit Index	Fit Measures
Chi-Square (CMIN)	403.316
Degrees of Freedom (DF)	284
p -value	<0.05
CMIN/DF	1.420
RMSEA	0.037
SRMR	0.08
GFI	0.905
AGFI	0.883
RMR	0.071
CFI	0.984
TLI	0.981
NFI	0.947
IFI	0.984
AIC	537.316
PRATIO	0.874
PNFI	0.828
PCFI	0.860

normalised score (0-100) for holistic evaluation, addressing the literature gap in quantifiable, multidimensional success measures for women in developing economies (Nguyen et al., 2022).

Relative Importance Determination Using AHP

In the weighting phase, an AHP pairwise comparison matrix was constructed and distributed to six experts (three subject-matter specialists and three university professors) using the Delphi method for consensus-building. Saaty's (2005) 1-9 scale was applied to assess relative importance, where 1 indicates equal importance and 9 extreme importance. The factors, previously validated through EFA and CFA, were compared pairwise to derive priorities.

Table 6 presents the pairwise comparison matrix (A),

Table 6. Pair-wise comparison matrix, A

Indicators	FS	PF	BV	SC	ES	SR
Financial success (FS)	1	2	3	3	3	2
Personal fulfillment (PF)	0.5	1	1	1	1	1
Brand value (BV)	0.333	1	1	2	1	0.5
Social contribution (SC)	0.333	1	0.5	1	1	0.5
Employee satisfaction (ES)	0.333	1	1	1	1	1
Social recognition (SR)	0.5	1	2	2	1	1

Table 7. Normalised comparison matrix, *Anorm*

Indicators	FS	PF	BV	SC	ES	SR
Financial success (FS)	0.333	0.286	0.353	0.300	0.375	0.333
Personal fulfillment (PF)	0.167	0.143	0.118	0.100	0.125	0.167
Brand value (BV)	0.111	0.143	0.118	0.200	0.125	0.083
Social contribution (SC)	0.111	0.143	0.059	0.100	0.125	0.083
Employee satisfaction (ES)	0.111	0.143	0.118	0.100	0.125	0.167
Social recognition (SR)	0.167	0.143	0.235	0.200	0.125	0.167

Table 8. Final priorities with importance

Indicators	Final Priorities	Importance (%)	Rank
Financial success (FS)	0.330	33.00	1
Personal fulfillment (PF)	0.136	13.64	3
Brand value (BV)	0.130	12.99	4
Social contribution (SC)	0.104	10.35	6
Employee satisfaction (ES)	0.127	12.72	5
Social recognition (SR)	0.173	17.27	2

capturing expert judgments on the relative importance of each factor.

For example, FS is rated as moderately more important than PF (value=2) and much more important than BV (value=3), reflecting expert consensus on financial metrics as foundational.

The matrix was normalised to derive proportional weights, as shown in Table 7.

The normalised values were averaged to compute the priority vector, summarised in Table 8, which includes final priorities, importance percentages, and ranks. Consistency was verified with a consistency ratio (CR) <0.10, ensuring reliable judgments (Saaty, 2005).

Discussion of BSI Development and Weighting

The AHP results emphasise financial success as the dominant factor (33%), aligning with traditional metrics, while social recognition (17.27%) ranks second, highlighting its motivational role for women entrepreneurs in culturally constrained settings like West Bengal. Lower weights for social contribution (10.35%) suggest potential underemphasis on societal impacts, possibly due to resource limitations in MSMEs. These weights enable BSI calculation, facilitating sector comparisons and revealing performance disparities. This index advances the field by offering a replicable tool for policy interventions, such as targeted training to boost lower-ranked factors like employee satisfaction.

Analysis of Business Success Index (BSI) Across Different Manufacturing Industries

Using the weighted factors from AHP, BSI scores were calculated for each of the 12 manufacturing sectors, stratified by enterprise size (micro, small, and medium). This analysis reveals performance variations, enabling comparisons and identification of high- and low-performing sectors. Findings are discussed in relation to entrepreneurial challenges for women in emerging economies, such as resource access and market dynamics.

Business Success Index Values by Industry and Size

Table 9 presents the BSI scores (0-100) for women entrepreneurs across sectors and sizes, reflecting aggregated performance on the six success factors. Categories are presented in terms of the six key success factors.

The results reveal consistently strong performance in the renewable energy (RE) sector across all business sizes, largely driven by innovation-led opportunities and supportive government incentives. This sector has been expanding at a faster pace in India than in any other major economy.

Paper (PR) excels in micro enterprises (58.085), while textiles (TX) lead in small (69.210), and electrical (EL) in medium (87.350). Conversely, tobacco (TB) shows the lowest scores (e.g., 15.723 in micro), possibly reflecting regulatory challenges and limited growth potential. These variations underscore how industry type and size interact to influence success, with medium enterprises generally outperforming smaller ones, potentially due to better resource access.

Ranking of Industries Based on Business Success Index

To facilitate comparisons, industries were ranked by BSI scores across sizes, as shown in Table 10. This ordering highlights relative performance and identifies benchmarks for improvement.

Table 9. BSI values of different entrepreneurs for different sizes of industries

Type	Micro	Small	Medium
FMCG (FMCG)	48.628	63.755	52.735
Textile (TX)	51.008	69.210	68.633
Rubber & Plastic (R&P)	32.555	59.635	74.977
Leather (LT)	44.127	62.980	85.196
Mechanical (MH)	50.652	47.790	82.295
Electrical (EL)	48.744	60.183	87.350
Glass & Ceramic (G&C)	54.735	59.322	63.193
Handicraft (HD)	53.241	62.482	61.179
Chemical (CH)	36.330	52.618	85.265
Tobacco (TB)	15.723	20.713	20.906
Paper (PR)	58.085	61.210	77.626
Renewable Energy (RE)	74.554	87.664	93.572

Table 10. Ranking of industries based on BSI

Rank	Type	Size	BSI	Rank	Type	Size	BSI	Rank	Type	Size	BSI
1	Renewable Energy	MD	93.6	13	Glass & Ceramic	MD	63.1	25	Chemical	SM	52.6
2	Renewable Energy	SM	87.7	14	Leather	SM	62.9	26	Textile	MC	51.0
3	Electronic	MD	87.3	15	Handicraft	SM	62.5	27	Mechanical	MC	50.6
4	Chemical	MD	85.3	16	Paper	SM	61.2	28	Electronic	MC	48.7
5	Leather	MD	85.2	17	Handicraft	MD	61.2	29	FMCG	MC	48.6
6	Mechanical	MD	82.3	18	Electronic	SM	60.2	30	Mechanical	SM	47.8
7	Paper	MD	77.6	19	Rubber & Plastic	SM	59.6	31	Leather	MC	44.1
8	Rubber & Plastic	MD	74.9	20	Glass & Ceramic	SM	59.1	32	Chemical	MC	36.3
9	Renewable Energy	MC	74.5	21	Paper	MC	58.1	33	Rubber & Plastic	MC	32.5
10	Textile	SM	69.2	22	Glass & Ceramic	MC	54.2	34	Tobacco	MD	20.9
11	Textile	MD	68.6	23	Handicraft	MC	53.2	35	Tobacco	SM	20.7
12	FMCG	SM	63.8	24	FMCG	MD	52.7	36	Tobacco	MC	15.7

MC: micro, SM: small, MD: medium-sized enterprise

Renewable energy dominates the top ranks, followed by electrical and chemical in medium sizes, while tobacco consistently ranks lowest. This ranking provides stakeholders with a benchmark for performance, revealing opportunities in high-growth sectors like RE and EL, which may benefit from innovation and export potential.

Categorizing Women Entrepreneurs by Business Success IndexI: Grouping into Clusters

To further analyse performance patterns, industries were categorised into three clusters based on BSI thresholds: top-performers (31% of sample, BSI >68), medium-performers (55%, BSI 37-68), and low-performers (14%, BSI <37). K-means clustering grouped similar profiles, revealing distinct resource access patterns and strategic orientations (top clusters often in innovative sectors like RE with better funding, while low clusters like tobacco face market and regulatory barriers).

These results confirm significant sector-wise variations (RE=93.6 vs. TB=15.7), extending literature on entrepreneurial disparities in developing regions. For women in West Bengal, high BSI in RE suggests

empowerment through sustainable ventures, while low scores in tobacco highlight gender-specific vulnerabilities. Clustering informs targeted interventions, such as skill-building for low-performers, to enhance inclusive growth. **Categorizing Women Entrepreneurs by Business Success Index**

Following the BSI calculations and rankings, k-means cluster analysis was applied to group the 36 industry-size combinations based on similarity in BSI scores. This non-hierarchical technique (using Euclidean distance and the elbow method for optimal clusters) identified three distinct groups, enabling a deeper understanding of performance patterns and informing targeted strategies for women-led MSMEs.

Grouping Industries into Clusters: Top, Medium, and Low Performers

Table 11 summarises the clusters, defined by BSI quartiles: top performers (Cluster 1: BSI >68, 31% of sample), medium performers (Cluster 2: BSI 37-68, 55%), and low performers (Cluster 3: BSI <37, 14%). Average BSI scores and representative industries/sizes are listed.

Table 11. Grouping industries according to their business success level

	Cluster 1 (Top performers)	Cluster 2 (Medium performers)		Cluster 3 (Low performers)
BSI range (%) based on quartiles	Above68	37 – 68		Below 36
Average	80.58	55.78		25.25
BSI (%)				
Type and size	Renewable energy-MD	FMCG-S	Handicraft-MC	Chemical-MC
	Renewable energy-S	Glass & Ceramic-M	FMCG-MD	Rubber & Plastic-MC
	Electronic-MD	Leather-S	Chemical-S	Tobacco-MD
	Chemical-MD	Handicraft-S	Textile-MC	Tobacco-S
	Leather-MD	Paper-S	Mechanical-MC	Tobacco-MC
	Mechanical-MD	Handicraft-MD	Electronic-MC	
	Paper- MD	Electronic-S	FMCG-MC	
	Rubber & Plastic-MD	Rubber& Plastic-S	Mechanical-S	
	Renewable energy-MC	Glass & Ceramic-S	Leather-MC	
	Textile-S	Paper-MC		
	Textile-MD	Glass & Ceramic-MC		

MC: micro sized enterprises, SM: small and MD: medium

As illustrated in Table 11, the industries were grouped into three distinct clusters: top performers (Cluster 1: BSI >68, 31% of sample), medium performers (Cluster 2: BSI 37-68, 55%), and low performers (Cluster 3: BSI <37, 14%). Cluster 1, representing the top performers, includes industries with a BSI range above 68%, with an average BSI of 80.58%. This cluster predominantly consists of medium-sized industries in renewable energy, electronics, chemicals, leather, mechanical and paper sectors, as well as small-sized renewable energy firms. Cluster 2, the medium performers, encompasses industries with a BSI range between 37% and 68%, and an average BSI of 55.78%. This cluster is characterised by small to medium-sized industries across a variety of sectors, including fast-moving consumer goods (FMCG), glass and ceramics, leather, handicrafts, and rubber and plastic. Cluster 3, comprising the low performers, includes industries with a BSI below 36%, and an average BSI of 25.25%. This group is dominated by micro-sized industries in handicrafts, chemicals, FMCG,

textiles and mechanical sectors. The grouping clearly demonstrates the variation in business success across different types and sizes of industries, highlighting the sectors that excel and those that require targeted interventions to improve their performance.

Examining Differences in BSI Values Among Clusters: One-Way ANOVA

To validate cluster distinctions, a one-way ANOVA tested equality of mean BSI scores across groups. The analysis examines whether the variability in BSI values between clusters significantly exceeds the variability within clusters. The mean square of 5512.622 between clusters indicates a significant difference in BSI values between the clusters. The F-statistic of 109.083, with a *p*-value of <0.05, is well below the significance level of 0.05. This affirms that the differences in BSI values among the clusters are statistically significant,

demonstrating that the mean BSI values of the clusters are different. Consequently, the ANOVA results validate the clustering approach, confirming that the identified clusters exhibit distinct differences in business success levels. Post-hoc tests (Tukey's HSD) could further specify pairwise contrasts, but the results confirm the clusters' validity.

Table 12. ANOVA table for testing equality of BSI across clusters

Source of variation	df	Mean square	F-value	p-value
Between clusters	2	5512.622	109.083	<0.05
Within clusters (Errors)	33	50.536		

Integrative Discussion of Clustering and ANOVA Results

The clustering and ANOVA findings reveal clear performance hierarchies, with top clusters benefiting from strategic orientations toward innovation (renewable energy) and low clusters hindered by structural constraints, aligning with literature on gender disparities in MSMEs (Ghani et al., 2016; Agarwal & Agarwal, 2023). For women entrepreneurs in West Bengal, this underscores the need for size-specific interventions—funding for micro low-performers or training in high-growth sectors. Overall, the BSI and its applications address the research gap by providing a validated, replicable tool for quantifying success, offering empirical evidence for policymakers to foster inclusive entrepreneurship and sustainable development in emerging economies.

6. Conclusion

This study offers a comprehensive, multidimensional assessment of business success in India's MSME manufacturing sector, focusing on women entrepreneurs in West Bengal. By developing and validating the Business Success Index (BSI)—integrating financial and non-financial factors such as financial success, personal fulfillment, brand satisfaction, social contribution, employee satisfaction, and social recognition—the research addresses a key gap in the literature, where traditional metrics often overlook holistic and gender-specific dimensions. Through advanced techniques like EFA, CFA, AHP, ANOVA, and k-means clustering, the analysis empirically identified critical success determinants and revealed significant variations across 12 manufacturing sectors and enterprise sizes.

The results have profound implications for theory, practice, and policy in entrepreneurship and gender studies. Theoretically, the BSI framework extends multidimensional success models by incorporating weighted non-financial factors, offering a replicable tool for assessing business success performance for other states. Practically, it informs women entrepreneurs by pinpointing high-potential sectors (renewable energy) for growth and low-performers (e.g., micro tobacco) for intervention, potentially reducing failure rates through targeted strategies like skill development or market access.

For policymakers in West Bengal and India, the clustering insights advocate for tailored MSME support—such as subsidies for micro low-performers or incentives for sustainable innovation—to address gender disparities and promote inclusive economic growth. Societally, enhancing women's entrepreneurial success could contribute to broader goals like poverty reduction, job creation, and sustainable development, aligning with UN Sustainable Development Goals e.g., SDG 5: Gender Equality; SDG 8: Decent Work and Economic Growth).

This study contributes to the limited literature by developing and validating a multidimensional Business Success Index (BSI) for women-led manufacturing MSMEs in India. Its significance lies in bridging the gap between financial and subjective success metrics, providing a standardised benchmark for cross-sector comparisons that can inform global entrepreneurship research in developing regions. By highlighting high performers (renewable energy) and low performers (e.g., tobacco), it contributes to evidence-based decision-making, potentially influencing national policies like the MSME Development Act or Atmanirbhar Bharat initiatives. Ultimately, the study's emphasis on holistic success empowers women-led enterprises, fostering resilience and equity in manufacturing ecosystems.

Limitation of the Study

While the study provides robust insights, several limitations should be noted. First, the focus on women entrepreneurs in West Bengal's manufacturing sector (n=430) may limit generalizability to other regions, genders, or industries, potentially overlooking contextual variations like urban-rural divides or non-manufacturing MSMEs. Second, the cross-sectional design captures a snapshot in time, restricting inferences about causality or long-term trends. Third, reliance on self-reported questionnaire data introduces potential biases (e.g., social desirability or recall

errors), and the response rate (35.54%) could reflect non-response bias despite checks. Finally, expert weighting in AHP, while rigorous, depended on a small panel (six experts), which might not fully represent diverse stakeholder views.

Future Research Directions

This analysis lays a strong foundation for advancing entrepreneurship research in developing contexts. Future studies could extend the BSI framework longitudinally to track performance changes over time, incorporating dynamic factors like digital adoption or economic shocks (e.g., post-pandemic recovery). Comparative analyses across Indian states or international emerging markets would enhance generalizability, exploring how cultural or regulatory differences influence success. Additionally, integrating qualitative methods (interviews) could deepen understanding of gender-specific barriers, while examining the role of sustainability practices, innovation drivers, or motivational interventions in boosting low-performers offers promising avenues. Finally, testing the BSI in non-manufacturing sectors or with larger, diverse samples could refine its applicability, contributing to more inclusive

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Examining the Economic and Psychological Dimensions of the Startup India Initiative

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Abstract

The Government of India, under the leadership of Prime Minister Narendra Modi, introduced the Startup India Initiative on January 16, 2016, a major initiative aimed at promoting entrepreneurship, innovation, employment creation, and economic growth. The study supports Sustainable Development Goal 8 (SDG8), Decent Work and Economic Growth, by focusing on entrepreneurship, employment creation, and sustainable economic growth. The present study provides an integrated evaluation of the economic, behavioural and psychological aspect of the Startup India Initiative. It systematically analyses its dimensions from different sectors of the economy, based on the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework. The study explores economic indicators such as unemployment, investment funding, and gross domestic product (GDP) trends between 2016 and 2022 to better understand the initiative's economic context. The study examines the perceptions of entrepreneurship from a behavioural and psychological perspective through content and sentiment analysis using NVivo. The results offer a holistic understanding of the Startup India Initiative's contribution to developing India's entrepreneurial ecosystem and its linkages with the economy. The analysis highlights the importance of psychological factors, government support and investment, and entrepreneurial skills in shaping the startup ecosystem. The study contributes to the literature by combining economic and psychological aspects, which previous studies have largely examined independently. The results have implications for policymakers, entrepreneurs, investors, and entrepreneurship-support institutions because they emphasise the importance of a conducive ecosystem comprising financial support, institutional facilitation, innovation, and entrepreneurial capacity building.

Keywords: *Economic Development; Entrepreneurship; Gross Domestic Product; Innovation; Psychological Dimensions; Startup India Initiative; Sustainable Development Goal 8; Unemployment*

JEL Classification Codes: *L26, M13, O31, O38, J23*

1. Introduction

Entrepreneurship and innovation have been at the core of the Government of India's agenda for sustainable economic growth. The Prime Minister, Narendra Modi, launched the Startup India Initiative on 16 January 2016 to promote entrepreneurship and innovation and build a robust startup ecosystem in India. The program has since gained considerable interest as a policy tool to encourage the development of new businesses and establish an entrepreneurial climate. It is also more broadly relevant to its developmental impact in relation to SDG 9 (Industry, Innovation and Infrastructure).

The Startup India Initiative has helped develop startups in various sectors ranging from primary and manufacturing to tertiary sectors. Startup growth, employment creation, gross domestic product (GDP), and resource funding are economic aspects that can be analysed. Analysing these metrics can provide insights into the economic landscape in which the Indian startup ecosystem has grown since its inception. Further, 16 January has been declared National Startup Day in 2022, highlighting the increasing institutional and policy recognition of entrepreneurship in India's economic development. But the impact of Startup India is not limited to the economic aspects. Psychological and behavioural traits of entrepreneurs, such as their attitudes, motivations, opportunity recognition, risk perception, resilience and response to a changing business environment, also affect the development and sustainability of startups. Awareness of these aspects can provide better insight into an entrepreneurial ecosystem and the experience of being part of a government-supported startup ecosystem.

Previous studies on Startup India have mainly focused on particular aspects like promotion of entrepreneurship, governmental assistance, funding and resources, job creation, and sectoral growth. Some studies have also taken a psychological and behavioural perspective on entrepreneurship. In general, however, these economic and psychological aspects have been studied separately. Thus, an integrated assessment is imperative, combining evidence on the economic aspects of Startup India with evidence on the psychological and behavioural aspects of entrepreneurship.

In view of this, the present study makes an integrated evaluation of the Startup India Initiative. It discusses the economic aspects in the primary, manufacturing, and tertiary sectors, specifically startup growth, employment creation, GDP, and resource funding. It further outlines the key psychological and behavioural aspects of entrepreneurs and explores entrepreneurs' perceptions using NVivo-based content and sentiment analysis. The study does not focus

only on economic measures to assess Startup India; it also takes into account the behavioural context in which the startup ecosystem is formed.

For this purpose, a systematic literature review is conducted according to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, along with content and sentiment analysis using NVivo software. The trends of unemployment, investment funding and gross domestic product are also analysed during 2016-2022 to provide contextual evidence on the economic context in which the initiative was implemented. The study thus presents a multi-dimensional perspective on the Startup India Initiative and offers insights for enhancing India's entrepreneurial ecosystem and its role in sustainable economic growth.

2. Literature Review

2.1. Startup India Initiative and Economic Growth

The Startup India Initiative encourages entrepreneurship by offering financial support, mentoring, and facilitation at various stages of business development, with the overall goal of promoting innovation, creating jobs, and driving economic growth. Karthika and Yuvaraja (2022) emphasised that the incentives, financial aid, value addition, and support services under the scheme have opened new avenues for entrepreneurs and strengthened India's entrepreneurial ecosystem. According to Sharma et al. (2023), the Startup India initiative provides incentives, funding, and support services to drive innovation, entrepreneurship, and growth within India's startup ecosystem. This supports Indian start-ups by improving funding opportunities, fostering innovation, and inspiring entrepreneurship (Kumar et al., 2022). This is necessary to accelerate economic growth and create job opportunities. Startup India is an important initiative to inspire youth to pursue their own ventures, promoting entrepreneurship and job creation among tribal youth in the TSP region of South Rajasthan. (Gupta et al., 2022)

The factors are classified into two forms (Mishra et al., 2021)

The first form is enablers; these refer to the factors that accelerate or facilitate the growth of the Startup India initiative. According to Raj (2023), enablers such as science parks, accelerators, venture capitalists, angel investors, the intellectual property regime, and business support organisations go a long way in accelerating the Startup India program by encouraging entrepreneurship and innovation.

Government support, tech-savvy people, the growth of digital technologies, fund availability, a wide consumer market, and networking opportunities related to entrepreneurship in India also facilitate the success of the Startup India movement.

Similarly, schemes like the Startup India Seed Fund Scheme (SISFS) and the Fund of Funds for firms (FFS) presented by the Government provide the much-needed financial impetus, enabling these firms to test ideas, create jobs, and build entrepreneurship in the country (Jain, 2022). Singh et al. (2024) identified five major enablers that will help in the success of startups such as digital transformation, e-commerce, artificial intelligence, machine Learning, and Internet of Things. These enablers accelerate the growth of the Startup India initiative by providing entrepreneurial opportunities in India.

In addition, other enablers, such as market potential, government rules, entrepreneurship, and capital availability, help the Startup India Initiative succeed. These aspects help startups succeed in India's developing entrepreneurial scene (Kumar et al., 2022). Additionally, market features such as size and growth potential, management team competencies, and various industry efforts are critical accelerators of startup success in India's venture capital landscape (Sharma, 2024).

The second form is inhibitors: factors that hinder or slow the progress of the Startup India initiative. According to Soman et al. (2023), the main factors that impede the Startup India plan include lack of money, regulatory constraints, infrastructure challenges, shortage of talent, competition, protection of intellectual property, and cultural barriers (David et al., 2021). In India, the Startup India movement suffers from vague legislative measures, disorganised markets, and infrastructure problems that slow startup growth. Hindrances to the Startup India project in India also include a rigid licensing system, a lack of banking support, and the absence of tax holiday laws (Venkata Narayana, 2016).

For instance, Singh et al. (2024) reported that in India, impediments to the Startup India movement include technological progress, cash flow problems, insufficient infrastructure, problems arising from registration procedures, and scarcity of venture capital and international rules. Similarly, Chahal and Chahal (2023) reported that the major impeding factors in the development of startups in India are financial issues, lack of proper planning, personnel-related problems, regulatory hurdles, and risk management.

2.2 Psychological and behavioural aspects of Startup India initiators Various psychological and behavioural aspects affect a startup's success. Zaheer (2015) found that

founders' education, experience, motivation, and commitment are significant factors that lead to startup success. Extrinsic factors include relationships and the environment, the founder's personality, the invention, creativity, and business growth. Kirton argues that three things form the essence of a creative individual's style: originality, performance, and group compatibility. These three factors determine whether an individual is an adapter or an innovator (Kirton & Riyanti, 2003).

However, few studies in Indonesia describe how personality traits affect economic performance. Even so, each component might affect how business development is carried out. When it comes to moving things forward and making decisions that determine whether a digital firm succeeds or fails, the founder is crucial. This is because the founder serves as the startup's originator, owner, and manager, based on psychological studies on the defining qualities of successful founders. Eight indicators were discovered by Song et al. (2008), such as (a) supply chain integration; (b) market breadth; (c) business age; (d) size of founding team; (e) financial resources; (f) founders' experience in marketing; (g) founders' knowledge in their sector; and (h) the presence of patent protection.

Personality aspects such as need for achievement, self-efficacy, innovation, proactivity, confidence, resilience to stress and need for independence are also factors that have been found to have a strong correlation with the success of the business (Rauch and Frese, 2007; Tagraf & Akin, 2009; Leutner et al., 2014). According to Chen, Greene, and Crick (1998), Entrepreneurial Self-Efficacy is a positive attitude about a person's capability to play the role and fulfil the duties of starting a business. The six significant dimensions used to determine the worth of Entrepreneurial Self-Efficacy include: (a) belief of being able to create new products and markets (b) belief of being able to overcome any unexpected difficulty (c), belief of being able to develop pre-existing resources (d), conviction of ensuring the core objective (e), belief in being able to create an innovative environment (f), and belief in being able to establish relationships with investors.

Affect (which includes feelings, mood and emotions) is an important topic in startups (Cardon et al., 2012). The positive effects of startups include cognitive performance, perceptual accuracy, work motivation and self-regulation (Baron et al., 2012). Negative effects include information that moves toward the goal but is insufficient and slower than expected. As Foo (2011) revealed, negative affect such as anger may also positively influence opportunity evaluation. Because anger is linked to evaluative tendencies

of high confidence and control, it can reduce perceptions of risk and enhance positive evaluations of opportunities (Foo, 2011).

Positive affect denotes the mood or feelings that reflect positivity. It is therefore expected to be essential to the development and improvement of start-ups, both economically and otherwise. In turn, high levels of dispositional positive affect are associated with benefits ranging from good decision-making to social relationship quality and career success. However, these benefits have limits, as excessively high positive affect can reduce attention to negative information and increase impulsivity, impairing decision-making under extreme stress (Baron et al., 2012). A meta-analysis found that positive affect is significantly related to superior entrepreneurial performance, supporting the presumption that a positive emotional state enhances work performance and overall business success (Fodor & Pinte, 2017). Portfolio financing, when used strategically, can create a snowball effect in enhancing the financial stability and growth of such startups, as it ensures capital and debt are managed in a balanced and dynamic way to build investor confidence and ease capital acquisition. (Hyun & Lee, 2022). The overall positive impact on economic growth, sustainability, and social development through startups also underlines the importance of cultivating a positive effect in entrepreneurial ecosystems. (Ressin, 2022).

1. Development of broad social networks: As Lopes et al. (2023) support, establishing large social networks is crucial because they connect people with diverse knowledge and create an avenue for easy recognition of major contributions. In addition, Zhang and Yu (2018) provide extensive learning frameworks that outline how best to evaluate various social networks, both online and physical. It also deals with the effects of social networks on communication and community building, as provided by K. Sharlamanov & A. Jovanoski (2013), and their implications for social capital and alternative development strategies by Hess (2017).

2. Ability to respond effectively to highly dynamic environments: Successfully adapting to highly dynamic conditions is deeply rooted in a startup's dynamic talent, strategic agility, and resilience. Dynamic capabilities that enable rapid readjustment of resources and skills become especially relevant for startups operating in rapidly changing service industries. Environmental changes are more frequent and more significant (Dewi et al., 2024).

When ordinary skills interact with strategic flexibility and dynamics, a startup becomes more responsive to change; continuous operating routines interact with flexible strategies. The results indicate that the ability to combine dynamic and strategic flexibility helps startups react more successfully to environmental changes and continue operating in uncertain, dynamic markets (Schriber & Löwstedt, 2020)

3. Opportunity Identification: Basically, opportunity identification is a multi-level process that enables different theoretical lenses and cognitive processes to identify and research new businesses. Researchers argue that opportunity identification is not an event but a process that develops gradually over time. In addition, contextual issues like social networks and cognitive biases, Moreover, the 'strategic use of resources form the process. Entrepreneurs use their social capital and cognitive skills to identify patterns among unrelated market signals. These enable the identification of market gaps (Baron, 2004). The recognition may be systematic or accidental. It depends on the individual's approach; it may result from formal research methods or accidental discovery (Hills et al., 2006). In general, the opportunity discovery process is dynamic and shaped by a complex interaction of cognitive, social, and environmental variables.

4. Access to finance: It is an indispensable but difficult activity for new ventures, particularly those that have moved beyond the initial seed stage. Literature indicates that while sources of finance in the seed stage are often informal-from friends and family-subsequent rounds, especially in digital businesses, require a strategic and more formalised approach. Entrepreneurs must manage their networks effectively, establish legitimacy, and mobilise potential investors to secure post-startup capital (Hor et al., 2021). Personal characteristics such as race and industry experience can also significantly mediate the types of financial resources available to entrepreneurs. Resource acquisition in the earliest stages of business creation is a complex and nuanced process (Frid, 2015).

5. High tolerance for extreme levels of stress: It is regarded as an important factor because of the impact of one's psychological abilities regarding extreme condition management and response to psychological challenges. Research on distress tolerance, defined as a person's ability to withstand aversive emotional states, finds that high tolerance benefits individuals in many ways (Gorey et al., 2018).

Negative emotions in startups can significantly affect entrepreneurial performance, mental health, and business results. Research finds that entrepreneurship, while potentially fulfilling, often causes emotional distress, leading to negative emotions that can hinder decision-making and increase stress. Moreover, it contributes to burnout (Williamson et al., 2022). The emotional clashes experienced by entrepreneurs are particularly impactful in small organisations, where the whole company can suffer from the owner's negative experiences (Lechat & Torres, 2016). In addition, the COVID-19 pandemic has exacerbated these effects by causing a significant decrease in new business creation and capital, demonstrating startups' vulnerability to external shocks and the emotional toll such crises can impose (Camino-Mogro et al., 2022). Interestingly, a meta-analysis indicates that although positive affect relates positively to entrepreneurial performance, the association between negative affect and performance is usually weak, with negative affect showing a stronger negative relationship (Fodor & Pintea, 2017). These findings highlight the importance of managing emotional well-being in entrepreneurship to mitigate the negative effects on business success and personal health. First, Risk perception denotes people's subjective judgment of the potential risks associated with certain activities or technologies. It often differs from objectively assessed risks because of factors such as emotional responses, trust in information sources, and cognitive biases like optimistic bias. According to the psychometric model of risk, two factors are the most salient dimensions that shape risk perception: fear of risk and the degree of unknown. Fearful risks tend to be catastrophic, uncontrollable, and new, while unknown risks are less understood and harder to detect (Kortenkamp & Moore, 2011). Second, organisations' poor financial performance may result from factors such as ineffective leadership, unsatisfactory financial management practices, and inappropriate performance evaluation methods. Third, evidence shows that poor leadership alone can strongly influence the financial performance of institutions, as revealed by a study in the Pakistani financial sector by Hamza and Hassan (2019). For example, in online markets, switching the rules of attraction of feedback from mutual to unilateral reduces strategic games and leads to greater cooperation and improved outcomes in the market (Bolton et al., 2023). Fourth, opportunity exploitation itself seems related to an entrepreneur's skills, especially in resource-poor environments. In Ghana, SMEs were more inclined toward opportunity exploration than exploitation,

creating a potential imbalance that negatively affects the long-term growth of such firms (Giacomo et al., 2023).

Moreover, efficiency principles, which stress exploiting available tools and networks, have been crucial for effectively exploiting opportunities, especially in developing economies where resources are scarce (Pacho, 2022). Efficiency principles are thus especially relevant in developing economies, where resources are scarce, and entrepreneurs need to make the best of what they have to take advantage of opportunities that may arise. Organisational flexibility thus influences firm performance through reinforcement from founders' affective commitment to the firm. Fifth, heuristics is a type of thinking in which decisions are based on experience, using simple rules. This form of thinking is prevalent and essential in startups, where uncertainty and limited resources are common. Entrepreneurs use heuristics in the fast-paced, usually complex environments of new businesses. The literature also suggests that such heuristics help organise the business, project the founder's identity into the business, and exchange information with the market (Gilbert-Saad et al., 2023). Heuristics are also used not only by entrepreneurs but also by entrepreneurship coaches who often set up practical experiences to lead startups (Lopez-Castro et al., 2023). Moreover, using business models as a cognitive lens enables entrepreneurs to translate abstract ideas into actionable heuristics, especially in the lean startup methodology context (Ghezzi, 2020). These heuristics may also vary greatly in their benefits and sophistication, depending on an entrepreneur's experience, education, and challenges, and



Source: Developed by the author based on reviewed literature

Figure 1. Psychological affect

thus be more or less effective. In general, heuristic thinking is a method through which a startup can make quick decisions, adapt to changing conditions, and seize opportunities on shoestring resources. (Makings & Barnard, 2019). The components of heuristic thinking vary widely and include the planning fallacy, the illusion of control, belief in the law of small numbers, and reasoning by analogy.

2.3 Psychological challenges of Individual startup owners

According to Simon Stockley, a common misconception about entrepreneurs is that they take risks when the reality is very different. Entrepreneurs are experts at mapping systemic risks and mitigating them where possible. By understanding and measuring risk areas such as human, market, competitive, operational, and other risks, they can control as many variables as possible, giving them the best chance of success. Some researchers have suggested that cognitive bias exists and is one factor that differentiates the entrepreneur from the non-entrepreneur or manager (Baron, 2004; Busenitz & Barney, 1997). Cognitive biases are mental processes that enable individuals to make decisions quickly (Busenitz & Barney, 1997). Cognitive biases play a positive role because entrepreneurs can make decisions without significantly straining their time and cognitive capabilities, and they can apply them to new learning and multifaceted situations even when cognitive loads are high. Counterfactual thoughts refer to thinking about what could have been different in terms of what the individual could have done differently or could have been different in the context of an event or action. The role of entrepreneurs in counterfactual thinking has been proposed to affect the entrepreneurial process positively in general (Arora et al. 2013; Gaglio and Katz 2001)

2.4 Research Gap

The Startup India Initiative in the Indian context has been explored across various aspects of the startup ecosystem, such as promoting entrepreneurship, providing support to startups, financing avenues, job creation, and sectoral development. These studies provide useful insights into the economic and institutional context of start-up activity. The literature, however, largely focuses on these dimensions individually with less integration of economic outcomes and psychological/behavioural dimensions of entrepreneurship in the context of the Startup India initiative.

Entrepreneurial literature has identified several factors that affect entrepreneurial activity and business development: opportunity recognition, risk perception, entrepreneurial

resilience, social networks, access to financial resources, and affect and heuristic decision-making. However, with regard to Startup India, these dimensions have received comparatively less attention. Therefore, there is a lack of integrated scholarly examination about the social and psychological aspects of the startup ecosystem and their impact on the economic aspects of this initiative.

Another area of weakness is the lack of integration in the application of methodological approaches. Most existing research has been based on quantitative economic measures or qualitative analysis of entrepreneurial behaviour and perceptions. Hence, there is little evidence that systematically synthesises these complementary forms of evidence to build a more comprehensive understanding of Startup India. This is significant, as the success of a government-backed start-up ecosystem depends not only on measurable economic impacts but also on behavioural conditions that influence start-up activity. Thus, the present study aims to fill this gap by providing an integrated approach to the economic and psychological aspects of the Startup India initiative. This study provides a systematic review of evidence on start-up growth, employment creation, gross domestic product, and resource funding for key sectors, as well as psychological and behavioural aspects related to entrepreneurship. Further, content and sentiment analysis, using NVivo software, is conducted to analyse entrepreneurial perceptions of the initiative. The study integrates these dimensions and thus offers a multi-dimensional approach to Startup India, showing that economic measures are not the only way to understand the initiative.

3. Research Methodology

The study adopts an integrative research design combining a systematic literature review, qualitative content and sentiment analysis, and descriptive trend analysis of selected economic indicators. PRISMA (Preferred Reporting Items for Systematic reviews and Meta-analyses) represented the identified procedure and a framework of the rigorous and transparent process of the review. NVivo 12 software was also used to analyse content and sentiment to assess the effect of the Startup India Initiative on the Indian Economy. Content analysis comprises term frequency analysis (TFA), which ensures a bottom-up approach and maximum adherence to the literature review based on the most important topics covered. Sentiment analysis examines entrepreneurs' views on the impact of Startup India on the Indian Economy.

3.1. PRISMA – Based Data Collection

Database selection: The study focuses on peer-reviewed articles and documents retrieved from Google Scholar,

Scopus and Grey literature such as government reports and policy documents are also included for comprehensive analysis.

Search Strategy:

To gather relevant literature for this systematic review, searches were conducted across Google scholar and Scopus.

Steps involved in PRISMA

Identification (Database search strategy): The study begins with a comprehensive database search, identifying 856 studies. This step will therefore ensure that all potentially relevant articles are collected before filtering.

Screening: After removing duplicates, 606 articles remain. Out of these, 214 articles are excluded due to irrelevance and lack of reported factors associated with morbidities. This process ensures that only studies relevant to the research question proceed further.

Eligibility Criteria: After applying inclusion criteria, 392 articles remain for further evaluation. 254 articles are excluded because their full texts are unavailable. 138 articles are included for deeper analysis.

Inclusion and Exclusion Criteria: Among the 138 studies, 58 full-text articles are excluded for specific reasons. Additionally, 16 studies are excluded due to insufficient data.

4. Research Findings

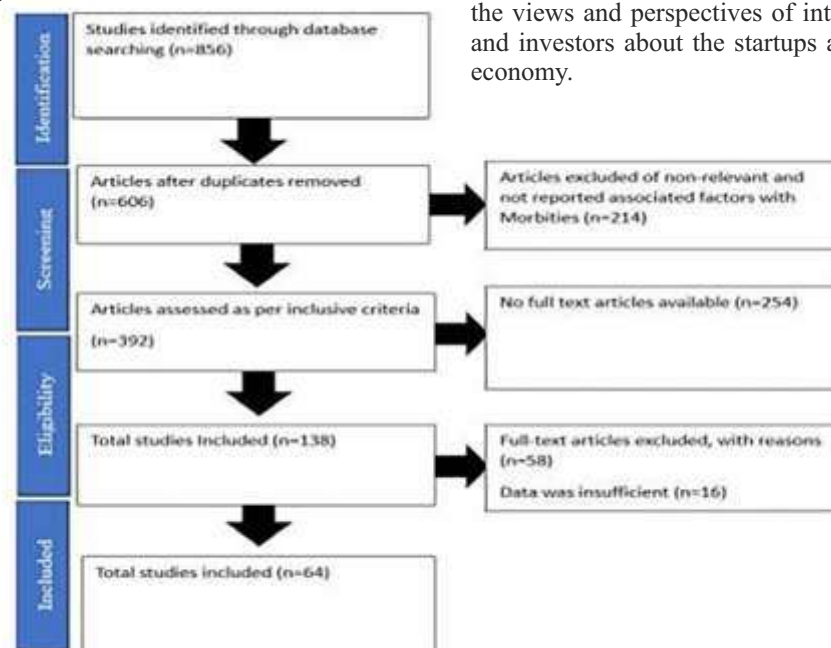


Figure 2. PRISMA flowchart

Source: Developed by the author

Ultimately, 64 studies meet all criteria and are included in the final analysis.

3.2. NVivo 12 Software analysis

Data Gathering: A search of interviews was implemented; it included various keywords like Startup India.

Content Analysis: Interviews, opinions, drawn out of social media, and articles published on eNewspaper, magazines were evaluated depending on enthusiastic analysis, a framework that has become much accepted in exploring and grouping the content in collected interviews. Interviews published in eNewspaper, magazines were defined using the term frequency analysis (TFA) that embraces NVivo 12 software tool. When TFA is used it will be ensured that it is a bottom-up process and will ensure that the analysis of the word of mouth is given maximum adherence. This has been illustrated using the assistance of the word cloud. Word cloud recognises the words and removes misused words. Word cloud examines original interview materials on the basis of the most important subjects encompassed in the interviews.

Sentiment Analysis: sentiment analysis is a method which helps in knowing the sentiment of interviewee. The sentiment analysis presents the respondent response about startups as positive, negative or neutral opinions. It helps to collect, monitor and analyse the content from the interviews, opinions, drawn from social media, and articles published in eNewspaper, magazines. This allows to define the views and perspectives of interviewee like economist and investors about the startups and its impact on Indian economy.

Content Analysis: Data extracted from different e-newspapers through Ncapture were analysed using NVivo 12. The analysed e-newspaper articles revealed perceptions of the contribution of startup ventures to Indian economic growth.

Word Cloud: It is a word frequency query which is used to generate clouds of words and help you identify commonly used words in the given text. The word cloud clearly features the term “Startup India Scheme” among the most significant words used in the conversation about entrepreneurship in India. Words like “government” and “investment” and “ecosystem” suggest that the policy environment, access to finance and the wider entrepreneurial environment are important aspects of the discussion around the initiative. The trends suggest that Startup India is not only seen as a government initiative but also as an institutional framework linked to entrepreneurial development and investment facilitation.

Sentiment Analysis: The sentiment analysis was carried out on extracted data. The sentiment analysis of extracted data is depicted through the bar charts and hierarchy tree. Figures 4 and 5 represent sentiment analysis from extracted data. This represents the key and main areas of discussions, and this is quite evident from the picture below.



Figure 3. Word cloud from Interviews

Source: Developed by the author.

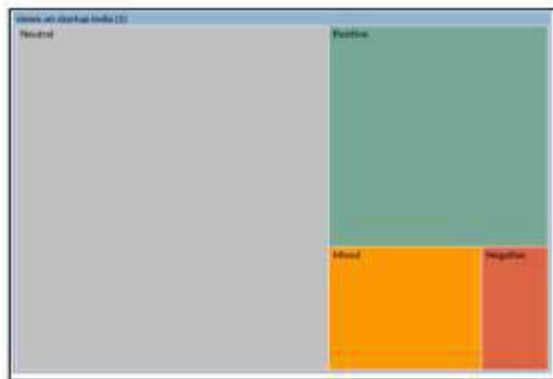
Table 1. Startup India Initiative in different sectors on economic indicators

SECTORS	ECONOMICGROWTH OF STARTUPS	EMPLOYMENT GENERATION	GROSS DOMESTIC PRODUCT	RESOURCE FUNDING
Primary Sector	As of April 2023, the onset of Startup India initiative has enabled the creation of 374 agricultural startups between 2013 and 2023, spread across 490 districts.	It provides jobs for around 38000 people.	The agricultural sector contributes 17-18% of the country's overall GDP.	In the 2023 budget, "Agricultural Acceleration Fund" was introduced to encourage agricultural startups established by young entrepreneurs in rural areas and the agricultural credit target was also increased by Rs 20 lakh crore, with emphasis in livestock, dairy products and fishing.
Manufacturing Sector	It concentrates on 27 sectors under the Make in India 2.0. The Department for Promotion of Industry and Internal Trade (DPIIT) takes charge of action plans of 13 manufacturing sectors whereas department of Commerce takes action plans of 12 of the services sectors.	Total employment in this sector has increased from 57 million in 2017-18 to 62.4 million in 2019-20.	Manufacturing has become one of the fastest growing sectors in India. Industry 4.0 and make in India 2.0 can play a key role in increasing the share of manufacturing sector in the country's GDP to 25% by 2022 from 17% currently.	No allocation made by DPIIT to States/ UTs under Make in India. But to satisfy funding requirements of the startups, the Government of India has established a Fund of Funds for Startups (FFS) with corpus amount of Rs. 10,000 crores.
Tertiary Sector	There are 13,771 edtech startups in India.	The Indian Edtech Consortium (IEC) incorporated under the Internet and Mobile Association of India (IAMAI). India reports more than 75,000 job opportunities to Indian working force.	The services sector witnessed a rapid recovery in FY22, with an annual growth of 8.4%, compared to a contraction of 7.8% in the previous financial year, highlighted in the Economic Survey 2022-23.	Unacademy is now worth an estimated \$510 million based on a recent infusion in February that saw it raise USD 110m by Ed-tech startup, Facebook and US-based General Atlantic.

Source: Developed by the author based on reviewed literature

The word cloud clearly features the term “Startup India Scheme” among the most significant words used in the conversation about entrepreneurship in India. Words like “government” and “investment” and “ecosystem” suggest that the policy environment, access to finance and the wider entrepreneurial environment are important aspects of the discussion around the initiative. The trends suggest that Startup India is not only seen as a government initiative but also as an institutional framework linked to entrepreneurial development and investment facilitation.

Sentiment analysis: The sentiment analysis was carried out on extracted data. The sentiment analysis of extracted data is depicted through the bar charts and hierarchy tree. Figures 4 and 5 represent sentiment analysis from extracted data.



Source: Developed by the author

Figure 4. Hierarchy tree of sentiment analysis from interviews

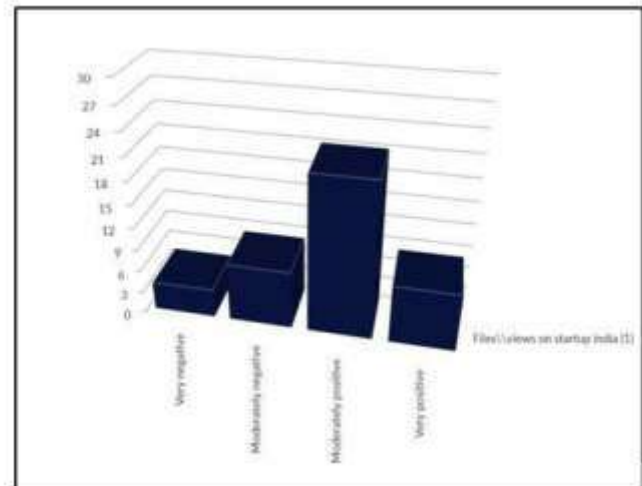


Figure 5. Bar chart of sentiment analysis from interviews

Source: Developed by the author.

Figure 4 represents the hierarchy tree of interviews which indicates that there are a more neutral and positive perceptions of the role of startups in economic growth. This suggest balanced or unbiased views and indicate favorable opinions or optimism respectively.

In figure 5, the sentiment analysis from extracted data through bar chart reflects that the overall startup ecosystem is moderately positive, on average. This finding suggests that the analysed content reflects a moderately positive perception of the role of the Startup India Initiative in the entrepreneurial ecosystem.

Table 2. Major timelines and trends of the Startup India Initiative

Year	Unemployment (%)	InvestmentFunding Raised (%)	GDP (in billion US dollar)
2016-17	5.4	63	2,294.12
2017-18	6.0	54	2,651.47
2018-19	5.8	74	2,702.93
2019-20	4.8	75	2,835.61
2020-21	4.2	54	2671.6
2021-22	4.1	84	3,150.31
2022-23	3.2	53	3,386.4

Source: Developed by the author based on Statista (2026)

Trend of Startup India initiative

The launch of Startup India Initiative happened at the period of unemployment, investment funding and GDP changes in the economic indicators. The unemployment rate increased from 5.4% in 2016–17 to 6.0% in 2017–18, after which it declined steadily to 3.2% in 2022–23. The trend of investment funding fluctuated in the same period, rising from 63% in 2016–17 to 84% in 2021–22, and then falling to 53% in 2022–23. Likewise, India's GDP has surged overall from USD 2,294.12 billion in 2016–17 to USD 3,386.40 billion in 2022–23. These trends suggest that during the initial years following the launch of the Startup India Initiative, there was increase in the economic indicators which therefore provides contextual evidence of changes in entrepreneurial and economic activity.

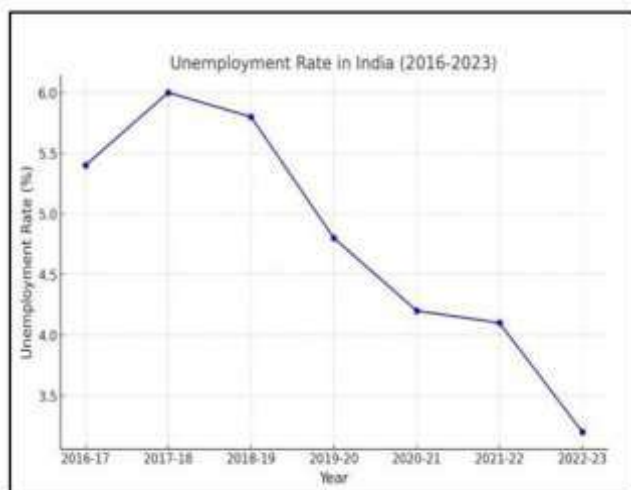
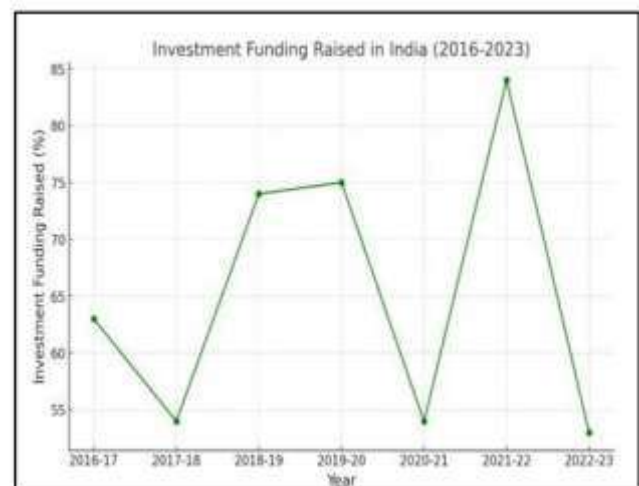


Figure 6. Trend in unemployment during the Startup India Initiative

Source: Developed by the author based on the data source.

Figure 6 shows that at the commencement of the startup India initiative the unemployment percentage was 5.4. Thereafter, the unemployment rate gradually declined to 3.2%.



Source: Developed by the author based on the data source.

Figure 7. Trend in investment funding (%)

Figure 7 shows the investment funding raised during the Startup India Initiative which is volatile. The first highest funding was raised in 2016–17 at 63% with the onset of startup India initiative and the second highest investment raised on 2021–22 that is 84%.

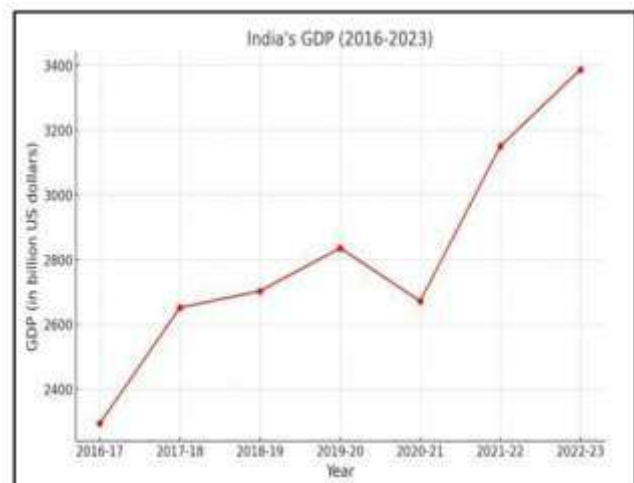


Figure 8. Trend in GDP during the Startup India Initiative (in billion US dollars)

Source: Developed by the author based on the data source.

Figure 8 shows an overall upward trend in GDP following the launch of the Startup India Initiative.

5. Discussion

The results give a holistic perspective on the psychological and economic aspects of Startup India Initiative. The

analysis of the sector shows that the initiative has been associated to the growth of startups, employment and investment financing and other indicators of economic development in the primary, manufacturing and tertiary sectors. The findings are similar to that of Karthika and Yuvaraja (2022) and Sharma et al. (2023) who pointed out the significance of government incentives, financial assistance and support services in entrepreneurship and innovation. Likewise, Jain (2022) highlighted the role of Startup India Seed Fund Scheme and Fund of Funds as a means to enhancing financial assistance for startups. The results also highlight the importance of psychological and behavioural aspects of the startup ecosystem beyond economic ones. Opportunity recognition, risk perception, social networking, resilience, financial resources, tolerance for stress and heuristic decision-making were identified as being important. The results corroborate Rauch and Frese (2007) who pointed to the importance of entrepreneurial personality traits; and Chen et al. (1998), who highlighted entrepreneurial self-efficacy as a key psychological feature of entrepreneurship. The results related to the entrepreneurial emotions are also in line with the conclusions made by Cardon et al. (2012) and Fodor and Pintea (2017), who emphasised the part played by emotions in the entrepreneurial decision-making process and performance. The NVivo content analysis also shows that words like "Startup India Scheme" were used in the analysed content, along with the words "government," "investment," and "ecosystem". This indicates that the government support, financial resources and institutional environment are key aspects of the Indian startups debate. The positive sentiment that emerged from the analysis is in line with Ressin (2022), who noted that startups are a source of economic growth. The findings must, however, be considered in the context of the inhibitors identified in the literature such as funding constraints, regulatory barriers, infrastructure limitations and talent shortages (Soman et al., 2023; Chahal & Chahal, 2023). Therefore, while there are positive perceptions of entrepreneurship, there are also substantial structural and psychological barriers. According to the trend analysis, investment funding is volatile, unemployment is decreasing and GDP is increasing during the period studied. These trends suggest that there is a time association between the period of implementation of Startup India and the changes in economic indicators. The results have policy and practical implications. Policymakers need to increase availability of finance, make regulations more streamlined, and increase the provision of incubation, mentoring and networking support. There is also a need for behaviour development such as resilience, opportunity recognition, risk taking and decision making in entrepreneurship programmes. In overall terms, the study is an extension of previous studies as it integrates both

economic and psychological aspects to give a holistic understanding of the entrepreneurial ecosystem of Startup India.

6. Conclusion

This study uses the systematic review and NVivo-based content and sentiment analysis to examine the economic and psychological dimensions of the Startup India Initiative. The results show positive trends in startup activity, employment and economic indicators, and generally positive entrepreneurial sentiment. Meanwhile, there are financial, regulatory, infrastructural and psychological hurdles. The principal contribution of the study is its integration of economic and psychological/behavioural

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Shareholder Activism and ESG Governance in India: An Industry Risk Perspective

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A b s t r a c t

This study analysed shareholder activism across sectors of the Indian corporate sector using an NSE sectoral framework (based on ESG materiality) closely linked to Agency Theory. The study shows how governance and sustainability risks in various industries affect shareholder activism. The research used a qualitative thematic analysis of various Nifty 500 companies from 2015–2025 and found that shareholder activism varies by industry based on industry risk exposure and vulnerability to governance risk. The study also found that shareholder activism is becoming a more prominent way to implement industry-sensitive governance practices within the broader ESG corporate governance framework. The findings of the present study provide insight for institutional investors, activist shareholders, and corporate boards to develop and strengthen their overall frameworks for governance accountability and activist engagement across industries.

Keywords: Shareholder Activism, ESG Governance, Industry Risk, Corporate Governance, Thematic Content Analysis, Nifty 500

1. Introduction

The nature of shareholder activism has changed significantly over the years. Historically, research on shareholder activism focused narrowly on financial reasons for investors to engage in activism through mechanisms aimed at increasing their firm's value (e.g., executive compensation, etc.) (Gillan & Starks, 2003; Brav et al., 2008; Kiran & Anvekar, 2025). However, in recent years, shareholder activism has expanded from primarily financial oversight to encompass a broader range of environmental, social, and governance (ESG) issues related to long-term sustainability and responsible corporate behaviour (Goranova & Ryan, 2014; Barko et al., 2022).

This research evaluates the importance of shareholder activism as a form of external governance that increases accountability for managers and improves corporate governance systems. Shareholder activism represents one possible mechanism that can mitigate the principal-agent problem (agency conflict) and increase transparency in corporate governance by providing increased monitoring over management firms in today's corporate systems in countries such as India, where the ownership of the firm is diluted among numerous shareholders while at the same time management has concentrated power (Jensen & Meckling, 1976; Khanna & Palepu, 2010).

Shareholder activism has become more prevalent in shaping ESG and governance. Institutional investors and activist shareholders continue to engage with the companies they invest in on topics such as transparency, ethical behaviour, board accountability, and sustainability reporting. The financial significance of ESG issues has increased dramatically due to their direct impact on regulatory risk (Ghosh, S., 2025), reputation risk, and long-term growth (Khan et al., 2016; Eccles & Klimenko, 2019; Dyck et al., 2019). Through these activities, activists can not only monitor but also shape governance of both financial and non-financial corporate behaviours.

This paper aims to understand how shareholder activism operates within Indian Nifty 500 firms across three business categories (high-, medium-, and low-risk). It specifically seeks to identify how activist language and governance issues differ by business type and how ESG-related issues are discussed in relation to shareholder activism. This study will use qualitative thematic content analysis of stewardship reports, shareholder communications, ESG disclosures, and governance-related narratives to provide insight into how shareholder activism varies by industry.

The research being conducted addresses the following research questions:

1. How does shareholder activism act as a mechanism for industry-sensitive governance in the context of the NIFTY 500 companies in India?
2. What are the differences between ESG exposure in different levels of industry risk and Shareholder activism?

The value of this research is that it adds to the literature on shareholder activism by examining qualitative aspects of governance & ESG. It also introduces an industry-at-risk element from an India-focused viewpoint by examining how activism varies across industries. Finally, it provides relevant information to regulators, corporate boards, and institutional investors by showing that activism is not the same for everyone and that approaches to governance. ESG will differ from one company to another. ESG will differ from one company to another. ESG will differ from one company to another. ESG will differ from one company to another. ESG will differ from one company to another. ESG will therefore differ from one company to another.

2. Literature Review

Shareholder activism has developed as an increasingly important means of corporate governance that enhances the level of accountability for managers, the transparency of governance practices, and the quality of strategic decision-making in corporations. Historically, shareholder activism has focused primarily on improving firm performance through intervention strategies such as changing executive compensation, restructuring business organisation, merging with other companies, or increasing operational efficiency (Jensen & Meckling, 1976; Gillan & Starks, 2003). Early studies have focused almost exclusively on the financial results that arise from activist interventions and reported evidence that shareholder activism may have a positive impact on governance efficiency and shareholder wealth (Brav et al., 2008; Denes et al., 2017).

The theoretical basis for shareholder activism is principally Agency Theory (Jensen & Meckling, 1976). Under Agency Theory, Agency Conflicts, Information Asymmetries, and governance inefficiencies arise when there is a separation between ownership and control of corporations. In practice, this means that the interests of a company's managers may not align with the interests of its shareholders, creating incentives for managers to pursue their own interests rather than shareholders'. Therefore, shareholder activism acts as

an external governance mechanism that allows investors to monitor managers' activities, increase managers' accountability, and create greater governance transparency (Gillan & Starks, 2003). As such, existing literature suggests that activist intervention is more prevalent in firms with weak governance systems, poor-quality disclosures, and higher governance vulnerability (Brav et al., 2015).

Shareholder activism has shifted over time from a purely financial focus to an emphasis on Environmental, Social, and Governance issues. More shareholders, particularly large institutional investors and activist shareholders, have engaged with companies on sustainability, climate change/accountability, ethical governance standards, diversity, and overall transparency (Goranova & Ryan, 2014; Barko et al., 2022). Shareholder activism is now perceived as more of a governance-based process than one focused solely on improving short-term financial results. This perception of shareholder activism has arisen as a result of the emergence of a consensus that ESG risks qualify as financially material since they can impact a company's reputation, exposure to regulatory scrutiny, trust from stakeholders, and the long-term viability of an entity (Khan et al., 2016; Eccles & Klimenko, 2019). Companies with weak or purely ceremonial ESG disclosures often face more activist scrutiny because concerns remain about whether their governance practices are credible and accountable (Boiral, 2016).

Additionally, researchers have found that ESG risk and governance vulnerabilities differ by industry. In the energy, mining, and chemical industries, for instance, the high levels of environmental and regulatory risk lead to activism focused on sustainability oversight, climate accountability, and environmental governance (Clark et al., 2015; Khan et al., 2016). Similarly, in medium-risk industries such as financial services and pharmaceuticals, activism is more often focused on board oversight, governance transparency, disclosure quality, and accountability mechanisms.

Meanwhile, low-risk industries like information technology and consumer services increasingly face shareholder activism based on ethical governance, operational transparency, data privacy, or strategic accountability (Lins et al., 2017; Christensen, 2021). Despite the growth in literature on ESG governance and shareholder activism, most studies rely on quantitative methodologies, such as event studies and market performance analysis (Brav et al., 2015; Denes et al., 2017). Qualitative studies examining how shareholder activism narratives differ across industries with varying levels of governance and ESG risk are limited, especially in markets like India. This lack of qualitative research is particularly concerning given the concentrated ownership structures, promoter-led company governance, evolving ESG-disclosure practices, and varying regulatory enforcement mechanisms that characterise the Indian corporate landscape (Khanna & Palepu, 2010; Cuervo-Cazurra, 2016).

3. Research Methodology

3.1 Research Design

This research uses a qualitative methodology employing thematic content analysis to explore the various ways shareholder activism narratives occur within industries described as having differing levels of risk. Qualitative methods are best suited to this study because it aims to interpret (rather than quantify) themes associated with governance-based engagement, environmental, social, and governance accountability, and activist narratives, and it does not seek to establish causal statistical relationships (Krippendorff, 2013). Agency Theory is used to evaluate how shareholder activism operates as an industry-sensitive governance mechanism within the Indian corporate sector.

3.2 Sample Selection and Industry Classification (Table 1)

The sample for this research study includes companies included in the Nifty 500 Index during the period 2015 -

Table 1. Industry Risk Classification Framework

Industry Category	Industries	Key Risk Characteristics	Dominant Governance Concerns
High Risk	Energy, Mining, Chemicals	Environmental exposure, regulatory scrutiny, operational hazards	Sustainability governance, environmental accountability
Medium Risk	Financial Services, Pharmaceuticals, Capital Goods	Governance complexity, disclosure sensitivity	Board oversight, transparency, accountability
Low Risk	Information Technology, Retail, Consumer Services	Lower environmental exposure, reputational sensitivity	Ethical governance, operational transparency

Source: Author's Compilation

Industries classified within the high-risk category consist of sectors like extractive industries, mining, energy and chemicals; they are considered high-risk categories due to their relatively high environmental exposure (risk) and their significant obligations to comply with regulatory frameworks. Financial services, pharmaceuticals, and capital goods are classified as mid-risk because of significant concerns about governance transparency and accountability through disclosure. Industries classified in the low-risk category consist of information technology, retail, and consumer service sectors; they have relatively low levels of exposure to environmental risks; however, the low-risk industry sectors are experiencing increasing concerns about the ethical governance of their businesses, the protection of consumer data privacy, and operating with transparency to consumers.

3.3 Data Sources

This research utilised qualitative secondary data gathered from already publically available corporate and investor documents. Data sources included ESG disclosures, sustainability reports, annual reports, shareholder communications, governance reports, proxy statements, and/or corporate comments related to shareholder concerns. Only documents that had explicit commentary related to governance accountability, ESG, sustainability, disclosure quality, ethical governance and/or engagement were examined in this study.

3.4 Unit of Analysis

The unit of analysis is the governance-related shareholder

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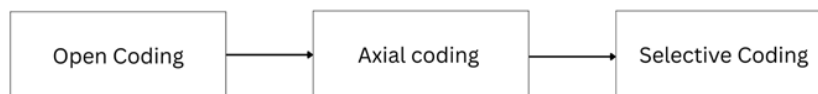
The unit of analysis is the governance-related shareholder activism narratives found in the corporate disclosures and investor engagement documents analysed. The governance-related narratives include shareholder proposals, stewardship disclosures, proxy voting correspondence, sustainability-related engagement documents and discussions pertaining to the company's governance accountability. The study examines how governance-related shareholder activism narratives vary by industries with higher versus lower levels of governance and/or ESG risk.

3.5 Data Analysis

The analysis followed a three-stage process drawn from the methodology prescribed by Krippendorff (2013) and Miles et al. (2019) for thematic content analysis. These stages were open (initial) coding, axial (secondary) coding, and selective (tertiary) coding. (Figure 1)

During open coding, governance and ESG-related statements from the data sources were coded as initial or open codes. In the axial coding stage, related open codes were grouped into broader themes such as environmental responsibility, transparency of governance, board oversight, ethical governance, quality of disclosures, and strategic responsibility. Finally, the analytical framework used at this stage was selective coding, whereby the researcher compared the identified themes across data sources from the three industries (high risk, low risk, and low risk) to understand both the industries' respective activism issues and governance concerns (Table 2).

Thematic Analysis Flowchart



Source - Author's compilation

Figure 1. Thematic Analysis Flowchart

Table 2. Coding Structure

Open Codes	Axial Themes	Final Governance Themes
Emission disclosure	Environmental accountability	ESG risk governance
Carbon transparency	Sustainability oversight	Environmental governance
Board independence	Governance monitoring	Governance credibility
Disclosure quality	Transparency and accountability	Governance effectiveness
Ethical leadership	Strategic governance	Corporate legitimacy
Data privacy	Operational transparency	Ethical governance

Source: Author's Compilation

3.6 Reliability and Validity

The study used several methods to enhance methodological rigour and increase the credibility and consistency of the findings. Data triangulation (the use of multiple data sources) was used for the analysis (ESG reports, shareholder communications, stewardship disclosures, and governance reports). A repeated review and comparison of codes was conducted to ensure consistency in the coding of thematic categories across all documents. To support analytical transparency, a complete record of coding processes, thematic classifications and interpretative observations were created during the analytical process. These additional measures supported the reliability and interpretive validity of the present study.

4. Results and Analysis

The thematic content analysis shows that within Indian corporations (Table 3), Shareholder Activism is an industry-specific form of governance influenced by the degree(s) of ESG exposure, governance vulnerability, operational complexity, and stakeholder expectations. As a result, although shareholder activism exists in all industries, the priorities of shareholder activists vary depending on the level of risk associated with each industry (Goranova and Ryan, 2014; Gillan & Starks, 2007). Shareholder activism in high-risk industries is primarily driven by environmental accountability and sustainability issues, whereas medium-risk industries focus more on board governance and transparency issues. Comparatively, shareholder activism in low-risk industries is driven by ethical governance, operational transparency and strategic legitimacy. All three

examples are consistent with previous findings showing that the context of institutional governance and firm-specific risk strongly affects whether shareholders become active (Goranova & Ryan, 2014; Gillan & Starks, 2007).

4.1 ESG Shareholder Activism in High-Risk Industries (Table 4)

Shareholder engagement in high-risk industries demonstrates the greatest level of shareholder activism focused on ESG (environment-social-governance) issues as a result of a thematic analysis of the following: environmental accountability; carbon disclosure; oversight of sustainability; safety in the workplace; and compliance with regulations. With these trends, it is evident that esg activism in risky industries primarily targets firms based on their level of compliance with relevant esg disclosure and sustainability reporting standards. In these types of environments, firms that have poor quality esg disclosures and/or weak sustainability reporting practices will continue to be carefully targeted by their shareholders, especially in environmentally sensitive industries where firms are more likely to face regulatory penalties—and thus be more likely to have a diminished reputation or brand. Shareholder activism acts as a corrective governance mechanism to increase environmental transparency and decrease governance gaps related to sustainability. Additionally, prior research suggests that esg activism is more prevalent in industries that are considered to have higher environmental risk due to the visibility of externalities and the degree to which regulations apply to them (Flammer, 2015; Krüger, 2015).

Table 3. Activism Themes Across Industry Risk Categories

Dimension	High Risk Industries	Medium Risk Industries	Low Risk Industries
Industries	Energy, Mining, Chemicals	Financial Services, Pharmaceuticals, Capital Goods	IT, Retail, Consumer Services
Dominant Activism Focus	Environmental accountability	Governance transparency	Ethical governance
Major ESG Concerns	Climate risk, emissions, sustainability oversight	Board effectiveness, audit quality, disclosure practices	Data privacy, AI ethics, operational transparency
Nature of Activism	Compliance-oriented	Monitoring-oriented	Legitimacy-oriented
Key Governance Themes	Sustainability governance, workplace safety	Accountability mechanisms, board oversight	Ethical leadership, strategic transparency
Activist Expectations	Strong ESG disclosures and regulatory compliance	Improved governance discipline and transparency	Responsible and ethical corporate conduct

Source: Author's Compilation

Table 4. Dominant Activism Themes in High-Risk Industries

Governance Area	Recurring Activist Concerns	Observed Activism Pattern
Environmental Governance	Carbon emissions, climate risk	Demand for stronger ESG disclosure
Sustainability Oversight	Weak sustainability reporting	Pressure for governance transparency
Workplace Safety	Operational hazards	Accountability-oriented activism
Regulatory Compliance	Environmental violations	Compliance-focused shareholder engagement

Source: Author's Compilation

4.2 Shareholder Activity in Industries at Medium Risk Level (Table 5)

Medium-risk industries tend to be geared towards governance activity related to improvements in transparency (of processes), board effectiveness, quality of disclosures, and mechanisms of accountability. The same recurring themes suggest a focus on board independence, audit oversight, governance responsiveness, shareholder rights, and transparency in financial reporting. The findings indicate that the shareholder activity in the industries analysed operates as a form of governance-monitoring mechanism whereby shareholders seek to reduce their information asymmetry and obtain better accountability from management. In contrast to high-risk industries, the activity in the medium-risk industries studied has less of a focus on environmental concerns but rather on the design/operation of the internal governance systems. This corresponds distinctly with agency theory, which views shareholder activism as a response to the agency conflicts associated with the separation of ownership and control, and, therefore, as a form of shareholder activism as a means to resolve such conflicts (Jensen & Meckling, 1976). Activist shareholders are acting as external monitors and enforce discipline through improved disclosure and stronger oversight of the boards of directors. Previous

empirical research supports the findings that shareholder activism results in better governance structures due to improved transparency and a reduction in managerial opportunism (Gillan & Starks, 2007).

4.3 Shareholder Activism in Low-Risk Industries (Table 6)

Information technology, retail, and consumer services are all considered to be low-risk industries where activism intensity appears to exhibit lower levels; however, organisations active in these sectors continue to focus their efforts towards ethical governance, operational transparency, data governance, AI (artificial

intelligence) ethics, and strategic legitimacy. Findings reveal that activism in low-risk sectors is representative of evolving governance challenges due to digital transformation and technology-enabled business models. Therefore, activism within digitally intensive sectors has begun to reflect the expectations of organisations with respect to data privacy, algorithmic transparency, and the ethical conduct of their businesses. Additionally, legitimacy-related concerns remain a priority as organisations must continue to modify their business models to meet changing technology and social norms (Suchman, 1995).

Table 5. Dominant Activism Themes in Medium Risk Industries

Governance Area	Recurring Activist Concerns	Observed Activism Pattern
Board Effectiveness	Lack of board independence	Governance-monitoring activism
Disclosure Practices	Limited transparency	Demand for improved reporting
Audit Oversight	Weak accountability mechanisms	Monitoring-oriented engagement
Shareholder Rights	Governance responsiveness	Pressure for stronger accountability

Source: Author's Compilation

Table 6. Dominant Activism Themes in Low-Risk Industries

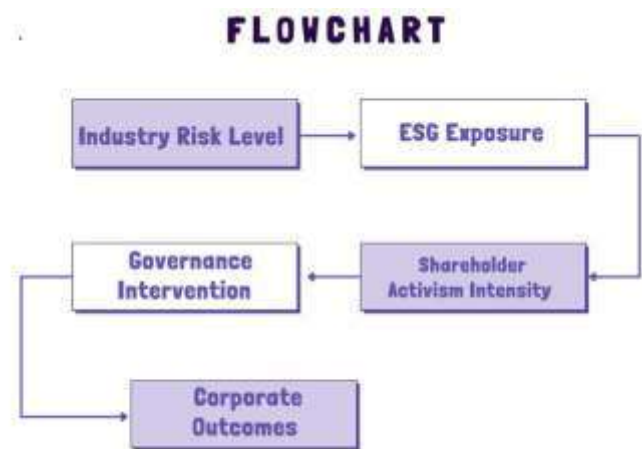
Governance Area	Recurring Activist Concerns	Observed Activism Pattern
Ethical Governance	Ethical leadership concerns	Reputation-oriented activism
Data Privacy	Consumer data governance	Transparency-focused engagement
AI Governance	Responsible technology usage	Strategic governance activism
Operational Transparency	Stakeholder communication	Legitimacy-oriented engagement

Source: Author's Compilation

4.4 Thematic Synthesis of Coding Results and Cross-Industry Interpretation

The thematic review of stewardship filings, equity holder correspondence, sustainability statements, and governance materials identified a uniform set of ESG applicable governance concerns driving equity holder activism across India, which includes issues related to environmental responsibility, sustainability oversight, effectiveness of boards, that companies operate in an ethical way, operational legitimacy, strategic accountability, and data governance. Although there are these common themes to ESG-related equity holder activism, they are not displayed uniformly across the various disparity of industry's risk tolerance. As a whole, this structural difference indicates that activist pressures are not broad-based in orientation but are shaped by the contextual exposure for each industry. There exist some patterns that companies follow based on the risk associated with the industry. In the case of companies in high-risk sectors, the primary drivers for equity holder play are environmental governance concerns and compliance pressure for enforcement. Equity holder performance in the middle-risk categories focuses primarily on governance review, especially in relation to board effectiveness or quality of disclosure and provide a mechanism to reduce agency problems (Jensen & Meckling, 1976). Lastly, the patterns identified in low-risk industry categories relate primarily to ethical governance issues such as data protection and responsible technology use. This demonstrates that shareholder activism functions as a mechanism for context-dependent governance for each industry based on the industry's level of risk tolerance and level of institutional vulnerability.

The Figure 2 depicts the manner in which ESG exposure is impacted by the level of risk in an industry, and how this interaction impacts the type of shareholder activism that is engaged in and ultimately the governance interventions made resulting in the corporate outcome. The model also incorporates agency theory to provide an understanding of



Source: Author's Creation

Figure 2. Industry-Sensitive Shareholder Activism

how differences exist in the intensity and focus of activist activity among different sectors.

4.5 Cross-Industry Interpretation and Theoretical Integration

The evidence across all industries indicates a path of development from high-risk industry environmental enforcement driven shareholder activism to politically oriented governance monitoring for shareholders in medium-risk industries to shareholder activism that's not tied to a specific profit motive in low-risk industries focused on legitimacy and creating opportunities through a shared concern for ethics and morals. As such, these findings provide substantial evidence to dispute the widely-held view that all forms of shareholder activism represent a unitary way to enhance shareholder value. Shareholder activism in India is more accurately characterised as a governance system that varies according to the risk profile of the underlying industry and provides a range of governance performance measures including compliance enforcement and agency-cost reduction. This finding is consistent with prior research that finds that ESG-related shareholder

activism varies significantly by country and is highly dependent on both the visibility of the ESG environment and the quality of the governance system within that country (Flammer, 2015; Krüger, 2015).

5. Discussion

The analysis shows that the nature of activism is contingent upon the industry due to differences in environmental, social and governance (ESG) exposure, variability in governance risk, and stakeholder expectations. Thus, it reinforces the framework put forth in this paper; that activism should be seen as a multi-theoretical concept, driven by agency issues, rather than as a singular corporate governance response (Goranova & Ryan, 2014; Gillan & Starks, 2007). One of the most interesting findings from the analysis is the systematic differences in activism intensity and focus among industries grouped by risk category. In industries at greater risk, there is activism driven by an environmental purpose; in medium-risk industries, there is activism directed toward governance monitoring and in low-risk industries there is activism driven by legitimacy and ethical governance. This pattern supports the existing ESG literature, which suggests that the greater the visibility of environmental or governance externalities, the more likely investors are to engage in ESG (Flammer, 2015; Krüger, 2015).

Activism in high-risk industries tends to be directed toward achieving environmental accountability, as well as sustainable governance. This is indicative of increased investor awareness of the climate risks associated with investing in the regulated companies that are part of highly environmentally-impacting industries. These findings are consistent with legitimacy theory, whereby firms engaged in high-impact industries are required to demonstrate their legitimacy continuously by adhering to social norms and societal expectations (Suchman, 1995). Additionally, in this context, shareholder activism acts as an external enforcement mechanism to require companies to improve ESG disclosure and address the gap in their environmental governance.

On the other hand, there is evidence that activism in medium-risk industries is shifting toward governance monitoring and reducing agency costs. For example, shareholder activists are scrutinising the independence of boards, as well as the adequacy of audit oversight, which demonstrates a strong focus on reducing the information asymmetry between the management and shareholders. This is consistent with agency theory, which suggests that

shareholder activism is a tool of correction to mitigate managerial opportunism and to improve the overall efficiency of governance practices (Jensen & Meckling, 1976). Empirical research supports the premise that shareholder activism has a positive effect on board effectiveness and enhancing the disclosure practices of companies that operate in environments with moderate levels of complexity (Gillan & Starks, 2007).

6. Conclusion

This study examined shareholder activism as an industry-contingent governance mechanism within the Indian corporate context, with a specific focus on how ESG exposure and governance structures shape activist priorities across high-, medium-, and low-risk industries. By using agency theory, the study explains the heterogeneity of activism behaviour across sectors (Goranova & Ryan, 2014; Gillan & Starks, 2007). The findings demonstrate that shareholder activism is not a uniform corrective force but a dynamically evolving governance response. In high-risk industries, activism is primarily directed toward environmental accountability and ESG disclosure enhancement. In medium-risk industries, the focus shifts toward traditional governance concerns such as board independence, audit quality, and transparency, reflecting agency-cost reduction objectives (Jensen & Meckling, 1976). In low-risk industries, activism increasingly reflects emerging concerns around digital ethics, data governance, and reputational legitimacy. This progression highlights that activism is shaped not only by firm-level governance deficiencies but also by broader industry-level ESG risk exposure and institutional expectations (Krüger, 2015; Flammer, 2015).

This study contributes to both the literature on corporate governance and the literature on ESG by identifying shareholder activism as a multi-theoretical approach that draws from agency theory. Additionally, this study builds on prior research by showing that activism in developing countries such as India has a unique structural component to it that is deeply intertwined with the ESG characteristics of the specific industry in which it operates, rather than simply being driven by performance or being homogeneous (Gillan & Starks, 2007; Flammer, 2015).

From a practical standpoint, the findings of this study provide valuable implications for regulators, institutional investors, and corporate boards. Regulators should develop industry-specific disclosure frameworks for ESG reporting, so as to align the disclosure framework with the risk profile

of the industry. Institutional investors can tailor their engagement with companies based on their ESG exposure to help them build effective strategies for activism. Finally, corporate boards should acknowledge that there are now differentiated expectations from different sectors in the area of governance, especially due to the growing importance of digital ethics and sustainability in the overall governance framework. This study also has limitations. The analysis is mostly theoretical and descriptive in nature; therefore, future empirical studies across other developing economies could use the theoretical framework and develop empirical data to further support it. Future research should also consider the impact of foreign institutional investors and the role of regulatory interventions in determining the level of activism and the effectiveness of activism. To summarise, the findings of the current research illustrate how India is experiencing a growing trend toward advanced governance methods characterised by increased sensitivity to ESG matters by activists/activist organisations. The complexity of activism is contextual and is reflected in the shifting combination of corporate financial accountability, corporate sustainability expectations and corporate ethics (Goranova & Ryan 2014; Krüger 2015; Suchman 1995).

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Getting Lost in the Labyrinth-Choice Overload Effects on Retail Mutual Fund Investors: A Conceptual Paper

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Extant literature suggests several approaches to choosing the most desirable mutual funds for investment. However, investors are often either too inexperienced or too incompetent to choose the best mutual fund, or the number of funds meeting any given criterion is too high to decide. This paper provides a comprehensive synthesis of research on decision-making in mutual funds when investors face an abundance of options. It also identifies variables that may mitigate the adverse effects of choice overload in mutual fund selection, supported by relevant theories. Several research propositions address how choice overload influences individual investors' fund selections. The paper concludes with suggestions for future research that could help mutual fund distributors minimise the impact of choice overload when presenting funds to clients.

Keywords : *Choice overload, Mutual funds, Investor Decision making, Consideration set.*

1. Introduction

"When people have too many choices, they make bad choices"- Thom Browne.

Every day, the average adult makes more than 30,000 decisions about what to eat, what to wear, what to say, and how to say it (Reill, 2023). Most of these decisions are made constantly and automatically, based on knowledge individuals have subconsciously retained about what is deemed good or bad. According to Harvard Business School professor Gerald Zaltman, 95% of human cognition occurs in the subconscious mind because if individuals had to consciously consider each of the more than 30,000 choice tasks, their brains would shut down (Reill, 2023). Undoubtedly, some decisions matter more than others, such as how we care for our loved ones, manage our finances, and conduct ourselves professionally. Relying too much on the subconscious for decision-making, simply because that is how we have always operated, can lead to missed opportunities for improved performance.

Choice overload refers to the phenomenon in which individuals experience difficulty, frustration, or dissatisfaction when faced with many options. Instead of feeling empowered by the abundance of choices, they may become overwhelmed, leading to negative outcomes such as decision fatigue, choice deferral, increased regret, and lower satisfaction with the decision-making process. Choice overload occurs when the number of options exceeds a particular threshold or when individuals are confronted with an excessive number of alternatives, hindering their ability to make a decision (Beierle, Aizawa, Collins & Beel, 2020). Consumers struggle to manage decision-making complexity because the abundance of options causes cognitive overload (Kim et al., 2023).

Personal investment is one domain where an overabundance of choices is common. In capital markets, investors can choose from multiple instruments, including stocks, mutual funds, debentures, and futures and options. Mutual funds are well-liked because they give investors access to professionally managed, diverse securities portfolios, which are hard to build with limited investments. Asset management firms worldwide offer a vast array of mutual fund schemes, giving investors many choices. The global investment - fund landscape has expanded substantially, with 1,43,858 regulated funds available world wide at the end of 2024 (Investment Company Institute, 2025). However, when there are too many possibilities, investors often experience choice overload, which can cause

uncertainty and even decision paralysis (Beierle et al., 2020; Iacurci, 2024). Limited cognitive capacity to process the growing volume of available information makes this worse (Cahill et al., 2024). Changing how options are presented, such as using default selections or suggesting Systematic Investment Plans (SIPs), might help investors navigate the behavioural issues that arise in financial markets because of investment product complexity (Cai, 2020). However, these tactics often fall short of what investors want. Two studies on choice overload in mutual funds used mutual funds as the experimental product (Townsend & Kahn, 2014; Keim & Mitchell, 2018) and have not identified the consequences/moderators of choice overload in this context.

This paper proposes a conceptual framework to alleviate the negative effects of choice overload, without relying on empirical data. The framework consists of three key elements: (1) assortment size as the independent variable, (2) decision difficulty, anticipatory regret, deferring a choice, and decision process satisfaction as dependent variables, and (3) consideration set, investor expertise, maximising tendency, proxy decision-making, time pressure, and brand dominance/familiarity as moderating variables.

By integrating theories such as the Paradox of Choice, Elaboration Likelihood Model, Regulatory Focus Theory, Agency Theory, Hick's Law, Signal Detection Theory, Cognitive Load Theory, and Bounded Rationality Theory, the study constructs a multidimensional framework that explains the interplay between assortment size, decision outcomes, and moderating variables.

Furthermore, we present a series of testable propositions for future researchers to investigate choice overload in mutual fund investing, specifically focusing on how the identified moderating variables mitigate its negative effects. This framework also extends the application of choice overload theory beyond its traditional focus on consumer goods to more complex domains, such as financial decision-making, where the stakes and complexity further amplify the challenges of choice overload.

Choice overload

The term "choice overload," first used by Alvin Toffler in *Future Shock* (1970) and made popular by Sheena Iyengar's jam study (Iyengar & Lepper, 2000), refers to the mental strain that consumers experience when they are presented with an excessive number of options, which can result in

over-choice consequences (Schaffrath et al., 2018). This challenge is present in selecting products ranging from commonplace items like pens and chocolates to expensive choices like vacation packages and retirement savings plans (Misuraca et al., 2021; Sethi-Iyengar et al., 2004). Previous research shows that choice overload affects both high-involvement and low-value decisions.

Choice overload effects are also observed in financial investments and retirement planning contexts. Research indicates that fewer investment options increase the likelihood that employees save for retirement, highlighting choice overload's impact on financial decision-making (Whitman et al., 2019). Researchers have examined choice overload in the context of mutual fund investments, which are a preferred option for retirement planning (Sialm et al., 2015). Nevertheless, researchers have primarily used them as illustrative examples or experimental stimuli (Townsend & Kahn, 2014; Keim & Mitchell, 2018). This article examines choice overload in selecting mutual funds, proposes strategies to mitigate its negative effects, and calls for further research on the topic.

Mutual funds have gained popularity among investors because of their professionally managed, diversified portfolios and minimal entry hurdles (Mahadani & Mohapatra, 2023; Jiang et al., 2020). The mutual fund sector has expanded substantially, growing from 530 funds in 1975 to 118,978 funds managing approximately \$46.7 trillion in assets by 2018 (Elton & Gruber, 2020; Kostovetsky & Warner, 2020). Despite their popularity, research indicates that investors often select suboptimal mutual funds, that underperform, largely because complex fee structures and disclosures hinder fund comparison (DeHaan et al., 2021). This complexity persists despite regulatory efforts to streamline investment processes. Asset management firms' frequent introduction or repositioning of schemes confuses investors and expands the array of available options (Mahadani & Mohapatra, 2023; Beierle et al., 2020). Investors must assess goals, risks, fees, and external market dynamics, in addition to a fund's prior performance and risk level, to make decisions that align with their financial objectives and risk tolerance (Basu, 2023).

Investors can evaluate the risk-adjusted performance of mutual funds using key financial performance statistics such as the Treynor ratio, Jensen's alpha, and the Sharpe ratio, among others, but interpreting them requires financial knowledge (Ali et al., 2023). By diversifying portfolios

across asset classes and companies, mutual funds reduce risk for novice investors (Awasthi, 2024). Experienced investors demonstrated relatively better predictive performance over longer than shorter investment horizons compared with inexperienced investors (Jansson, 2019). Easily understood visual indicators available online or through financial advisors, such as Morningstar ratings, make it easier for non-experts to evaluate funds by offering insights into a fund's past performance compared with its peers (Ben-David et al., 2022; Chen, 2022).

Investors can find mutual funds based on their preferences and criteria, including net asset value (NAV), assets under management (AUM), returns, risk profiles, and exit load, with the help of investment advising firms and technical tools like search engines and product recommendation systems (Bodapati, 2008). However, rather than making decisions easier, inconsistent recommendation criteria across platforms frequently confuse investors. Conflicting advice can arise when different advisors assign varying importance to AUM, NAV, expense ratios, or performance indicators, confusing investors.

To deliver individualised, comprehensible recommendations based on fund and investor characteristics, researchers have developed sophisticated models, such as a deep learning-based mutual fund recommendation system based on knowledge graphs (Hsu et al., 2022). Despite their potential, these tools are not yet available to consumers. Even with these tools available, investors often struggle to decide because of the vast array of options and conflicting recommendations from many sources (Ali et al., 2023; Cookson et al., 2021).

Indicators of choice overload

Choice overload, particularly with investment alternatives like mutual funds, leads to several indicators that reflect the cognitive strain of too many options. These indicators include decision difficulty, anticipated regret, deferring a choice, and decision process satisfaction (Jacob et al., 2024).

Decision difficulty

When given several alternatives, the human brain must process a lot of information, which can overwhelm individuals' cognitive abilities. More alternatives mean more time to weigh the advantages and downsides of each option. Customers often struggle to choose a single option from many available alternatives (Song, Lee & Moon,

2019). Research has found that anxious individuals feel more apprehension about choosing from a vast array of alternatives and hold more pessimistic expectations about the final decision (Hu et al., 2023). Focusing on selecting a single item from a variety increases the difficulty of choosing from larger assortments and raises the preference for smaller assortments (Chernev et al., 2015).

Thousands of mutual funds are available in the market, each with a distinct investment philosophy, risk tolerance, and performance history. They vary widely in risk profiles, asset allocations, expense ratios, management fees, investment objectives, and historical performance. Given the vast array of options in financial markets, investors often struggle to assess and compare funds, which can hinder their ability to decide. Choosing mutual funds can be daunting for many investors, as they are vulnerable to misleading past performance figures (Newall & Parker, 2019). Thus, when the number of available options is extensive, it is challenging for investors to choose an appropriate fund.

Anticipated regret

Anticipated regret can arise from choice overload when individuals worry about selecting the wrong option from an extensive array of alternatives. This may induce sadness or disappointment even before a decision is reached. Although regret typically occurs after a decision, people can anticipate it during the decision-making process (Gabillon, 2020). While variety may be beneficial, too much can be dangerous if customers trade one desirable quality for another (Jacob et al., 2024), because adding more options increases regret and enhances variety (Yan et al., 2015). Park & Jang (2013) found that individuals experienced higher regret with more than 22 options and lower regret with fewer than 22 options. Comparing selected options with forgone options can lead to regret (Jacob et al., 2024).

Investors often evaluate mutual funds by comparing criteria such as historical performance, management fees, financial ratios, and investment strategies. Consumers may struggle to evaluate individual funds thoroughly because of the vast array of options in the mutual fund industry. Consequently, they may worry that the chosen fund will underperform others, leading to regret even before finalising a decision. Although research has not specifically examined the relationship between anticipatory regret and assortment size in investments, Czech (2016) and Kida et al. (2010) have observed choice overload in this domain. Additionally, Jacob et al. (2024) noted that anticipated regret indicates choice overload in multiple contexts. Therefore, an investor

is prone to experience anticipated regret when faced with excessive possibilities.

Deferring a choice

Decision avoidance is characterised by a tendency to postpone or delay making difficult decisions. Evaluating multiple alternatives requires mental effort that may lead to decision fatigue. Because examining various possibilities can cause cognitive fatigue, people may delay decisions to preserve mental energy. In surveys and experiments investigating individual decision-making, respondents often must choose an option from a list presented by the researcher. Imposing this constraint may force individuals to choose an alternative, even if they would have preferred to postpone a decision in another scenario (Costa-Gomes et al., 2022). Consumers may experience lower satisfaction and regret, postpone or reject opportunities, and often abstain from purchasing because of the abundance of available alternatives (Chernev et al., 2015). As previously stated, evaluating mutual funds requires considering many factors, such as past performance, expense ratios, management fees, investment strategies, and risk profiles. The abundance of information accessible to investors may induce cognitive fatigue, leading to indecision and a tendency to postpone decisions. As investor uncertainty increases, the rising value of this deferral option indicates that they are more likely to delay investments in new areas (Krychowski & Quélin, 2010).

Decision process satisfaction

Individuals who experience choice overload may feel remorse about the alternatives they did not select. They may worry they overlooked better options, reducing satisfaction with the decision-making process and disappointment with the chosen option. Investors may struggle to evaluate and compare each fund when presented with an extensive selection of mutual fund options. As a result, they may become less satisfied with the decision-making process, uncertain of which factors should take precedence, and feel inundated by the range of available alternatives. Complex decision-making processes can frustrate decision-makers, who may also feel less satisfied with the outcomes they reach. Sethi-Iyengar, Huberman, and Jiang (2004) posit that when confronted with an abundance of options, investors who chose retirement funds were often burdened by a sense of ambiguity and the obligation to arrive at the most optimal choice.

The proliferation of mutual funds in the financial markets adds complexity to choosing a fund; investors may later

regret a hasty decision, while others may postpone choosing, resulting in a less satisfying process. Therefore, we posit:

P1: The presence of numerous mutual funds in the option sets increases decision difficulty, anticipatory regret, and decision deferral and diminishes decision process satisfaction during the choice process.

Factors moderating choice overload effects

Scholarly attention on choice overload has shifted from documenting its occurrence and repercussions to identifying the factors that moderate it. Moderators are variables that have the potential to reconcile the magnitude and nature of the direct effect of assortment size (Sethuraman et al., 2022). These moderators intend to clarify the circumstances under which choice overload effects manifest, intensify, diminish, or reverse (Thai & Yuksel, 2017). The subsequent sections of the article will examine the variables that moderate the choice overload phenomenon while selecting mutual funds, such as formation of consideration sets, expertise/ knowledge of investors, maximising/satisficing tendencies, proxy decision making, decision making under time pressure and presence of dominating / familiar brands in the option sets.

Consideration set

To facilitate their decision-making process, consumers typically refrain from simultaneously evaluating all available brands within a given product category. Instead, they limit the brands they consider purchasing to a subset called the consideration set (Nyffenegger et al., 2015). The limited set of products under consideration for purchase constitutes the consideration set (Aouad, Farias & Levi, 2021). Creating a consideration set involves intentionally omitting unfavourable alternatives while including relevant ones. An articulated consideration set helps individuals reduce options to a manageable level. To minimise the negative effects of multiple choices, one could focus on fewer options and reduce the cognitive strain of evaluating numerous possibilities. Scheibehenne et al. (2009) claim that consideration sets may assist decision-making by reducing choice overload.

The moderating role of the consideration set in reducing the negative effects of choice overload is supported by the Paradox of Choice theory, (Schwartz, B., 2004) which suggests that when faced with too many options, people may struggle to make any decision at all. Even after making a choice, individuals may feel less satisfied, doubting whether

they made the best decision or may regret the foregone alternatives. By introducing a consideration set, the number of options is reduced to a few, making selection easier.

Consideration sets help investors narrow their choices to a manageable number of mutual funds that match their investing objectives, risk tolerance, and personal preferences. Finding profitable investments involves a methodical examination in which a significant amount of data is sifted through to provide a more manageable collection of parameters for consideration before reaching a decision (Agrawal, Catalini & Goldfarb, 2015). Providing investors with a narrower, more precisely specified set of choices might help minimise uncertainty and indecisiveness, thereby strengthening their confidence in making financial decisions. Therefore, we posit:

P2: Formation of a consideration set reduces the choice overload effects when choosing from multiple mutual funds.

Expertise/knowledge

Acquiring expertise in a specific domain helps individuals understand information more effectively. By identifying pertinent factors, eliminating irrelevant information, and focusing on the most critical decision criteria, experts are better equipped to manage choice overload. Accordingly, expertise may provide individuals with the cognitive resources needed to manage large choice sets more effectively. However, prior findings concerning the role of knowledge in choice overload are not entirely consistent. Some researchers found that fewer choices favour those with higher knowledge and expertise because it supports a more focused decision-making process. People with low subjective understanding are willing to purchase when assortment size is large; however, this pattern reverses for people with high subjective knowledge (Jacob et al., 2024). At the same time, others, like Chernev et al. (2015), argue that for customers unfamiliar with a product category, larger assortments are more likely to lead to decision deferral and lower preferences for the selected option than smaller assortments.

The moderating role of investor expertise in reducing the negative effects of choice overload is supported by the Elaboration Likelihood Model, (Petty & Cacioppo, 1986) which explains how individuals process information through two routes: the central route and the peripheral route. The central route involves deep, analytical processing based on information quality and is typically used by experts, while the peripheral route involves superficial processing based on cues like source attractiveness, the

number of options, or heuristics rather than information quality, and is more common among novices.

Experienced mutual fund investors often develop a strong understanding of financial markets, investment principles, and fund performance. Because of their expertise in handling data, they can often quickly identify pertinent information, such as prior performance, expense ratios, risk profiles, and fund expectations. As a result, they can effectively sift through an overwhelming number of mutual fund choices, filter out unwanted information, and focus on the essential factors for decision-making. Financial literacy may help investors make more informed decisions when selecting mutual funds by enabling them to process vast quantities of data more efficiently (Jiang et al., 2020). However, Cai (2020) indicates that financial education yields only modest enhancements in decision-making, since errors and biases are deeply rooted in individuals' cognitive processes. When evaluating alternatives, experts show higher confidence and defer less often. The factors mentioned above would also impact the choice of a mutual fund from the numerous alternatives. Thus, we posit:

P3: Experts are less impacted by choice overload than novices when selecting mutual funds from large assortments.

Maximisers and satisficers

Individuals with maximising tendencies strive to attain the most advantageous result possible when confronted with decision-making scenarios. In contrast, those with satisficing tendencies are contented with an acceptable option that fulfils the essential criteria (Mitchell & Clark, 2020). Compared with satisficers, maximisers gather more information and review it more thoroughly when deciding. Therefore, compared to satisficers, maximisers engage in more extensive (timewise) decision processes, evaluate a more significant number of criteria, and consider more alternatives (Karimi et al., 2015). Because they often believe they cannot select the optimal option, satisficers may not always be satisfied with the acceptable alternative they choose (Saltsman et al., 2021). While maximisers may be more prone to choice overload because they want to explore all options exhaustively, they filter out irrelevant options and focus on those that align most closely with their preferences and criteria. This ability helps them narrow their choices and manage the cognitive load posed by choice overabundance. Maximisers are unaffected by the correlation between their initial investment prediction and the final investment result. Nevertheless, they do experience an effect when comparing

their initial prediction to the result of the investment they did not select. In contrast, satisficers seek something satisfactory that matches a predetermined standard of acceptability (Huang & Zeelenberg, 2012).

Regulatory Focus Theory (Higgins, 1997) supports the moderating role of the investor's maximising tendency in reducing the negative effects of choice overload, as it posits that individuals are motivated by either promotion-focused goals (maximising gains) or prevention-focused goals (avoiding losses). Maximisers aim for the best possible outcome, making them more susceptible to choice overload. They view a larger assortment as an opportunity to make the "best" choice and maximise positive outcomes, and are therefore promotion-focused.

To improve decision-making efficiency, satisficers focus on identifying mutual funds that meet their minimum standards of acceptability. They show less propensity to conduct thorough information searches or comparisons and are satisfied with alternatives that meet their primary investment goals. This inclination helps satisficers avoid choice saturation.

Hence, we posit the following proposition:

P4: Individuals with maximising tendencies experience more choice overload effects when choosing mutual funds from extensive selections than those with satisficing tendencies.

Proxy decision-making

Having another individual decide on one's behalf has substantial advantages (Andersson et al., 2013). Proxy decision-making is generally a complex process in which the decision-makers bear the accompanying responsibility (Shepherd, 2022). Making such decisions typically entails trusting others or acting in a trustworthy manner for others (Kvaløy & Luzuriaga, 2014).

Individual investors who lack decision-making capacity often rely on proxy decision-makers to make decisions on their behalf, despite support from several online financial advisory services. Proxy decision-making helps individuals manage the investment risks associated with mutual funds. Proxies, often domain specialists, select funds in line with an investor's risk aversion, financial objectives, and investment preferences.

Agency Theory (Jensen & Meckling, 1976), supports the moderating role of proxy decision-making in reducing the ill effects of choice overload by focusing on the relationship

between a principal (the individual delegating a task) and an agent (the individual performing the task on behalf of the principal). When individuals delegate decision-making to a proxy (e.g., a financial advisor, the proxy decision-making relationship aligns with Agency Theory. The principal (the investor) relies on the agent (proxy) to make a choice on their behalf.

Individual investors often seek assistance from proxy decision-makers to make more informed decisions and reduce the feeling of being overwhelmed by numerous options. Furthermore, individuals with a limited understanding of mutual funds frequently consult professionals for advice and base their fund selections on the fund's distinct attributes (Kaur, 2018). Nevertheless, Cai (2020) emphasises a fundamental principle of personal finance: a decision that benefits the investor may result in reduced earnings for financial intermediaries or advisers. Consequently, the proxy decision-maker may prioritise their own interests over those of their clients. Nonetheless, if the proxy is an acquaintance of the consumer, this bias can be offset.

Polman (2012) states proxy decision-makers show higher levels of satisfaction when presented with a wide variety of options. Hence, we posit the following proposition:

P5: Proxy decision-makers encounter reduced choice overload effects when choosing mutual funds from a wide range of options compared to individuals making decisions for themselves.

Time pressure

In situations with time limitations, individuals must quickly apply their information-assessment skills to analyse the available choices. Because the time to assess the funds is short, individuals are less likely to conduct a detailed examination. In time-limited situations, consumers often tend to delay reaching conclusions to preserve cognitive resources (Kawaguchi et al., 2021). Participants presented with an extensive selection of options but were time-constrained encountered more challenges and expressed greater discontentment than those not time-constrained (Sethuraman et al., 2022). Misuraca et al. (2019) claimed that decision-makers only experience choice overload when pressed for time.

Hick's Law (Hick, 1952) and Temporal Decision-Making Theory (Frederick et al., 1961) support the moderating role of time pressure in reducing the negative effects of choice overload. Hick's Law, or the Hick-Hyman Law, is a

psychological principle that explains the relationship between the number of choices available and the time it takes to decide. It states that as the number of choices increases, the time required to decide increases logarithmically. This law is particularly relevant to understanding the dynamics of decision-making within the context of choice overload frameworks. While temporal decision-making theory examines how time constraints affect decision quality and satisfaction. A large assortment becomes harder to evaluate under time constraints, increasing decision difficulty and the likelihood of choice deferral. Individuals can engage in more deliberate evaluations without time pressure, reducing regret and enhancing decision satisfaction.

In mutual funds, the impact of time constraints on decision-making is very significant. This is so because when the stock market performs very well on one day, it always results in a considerable increase in the net asset value (NAV) of the mutual fund on the next day. A mutual fund's net asset value (NAV) is calculated daily and updated after the closing of US stock markets between 4 pm and 6 pm EST. The trading cutoff deadline for processing buy and sell orders for a mutual fund at the same day's price is 2 pm EST (Blokhin, 2024). NAV updation and trading cutoff times vary by country, but mutual funds can only be purchased and sold at a known price for a few hours before the NAV changes. Thus, decisions on the purchase of mutual funds are frequently made under time constraints.

Therefore, we posit:

P6: Customers who intend to purchase mutual funds under time constraints encounter choice overload effects when choosing mutual funds from extensive selections compared to customers without time constraints.

Brand dominance/familiarity

Brand names generate utility and facilitate the identification of suitable products by functioning as information signals that reduce uncertainty in quality evaluation. Therefore, brand names can significantly impact consumers' decision-making (Klein & Sharma, 2022). Customers with access to a wide variety of branded products are more assured and satisfied with their choices and encounter fewer challenges and regrets (Misuraca et al., 2021). An individual's increased familiarity with the brand can positively influence brand attitude. Consumers familiar with a specific brand often know about the products and services it provides. Such individuals are capable of forming decisions based on their

prior experiences and brand impressions, which do not require extensive information processing. People are, therefore, less likely to feel overwhelmed by choice overload when selecting well-known brands.

The moderating role of brand familiarity in reducing the ill effects of choice overload is backed up by the Signal Detection Theory, (Swets, et al., 1961) which addresses how familiarity and prior knowledge influence decision-making under uncertainty. Familiar brands act as signals, simplifying decisions and reducing the effects of choice overload.

Brand familiarity instills a sense of trust and confidence in individuals' perceptions of mutual funds. This level of trust mitigates the perceived risk associated with choosing a mutual fund brand, thereby enhancing individuals' confidence and ease in their investment decisions amidst an abundance of alternatives. When evaluating mutual funds, investors' propensity to allocate their investments toward a specific brand is substantially influenced by increased investor confidence (Husin, Aziz, & Bhatti, 2022). Hence, we posit:

P7: When selecting mutual funds from extensive selections, the presence of well-known mutual fund brands in the option set could decrease the impact of choice overload compared to option sets that do not contain familiar options.

The indicators of the choice overload phenomenon and the proposed moderators are illustrated in Figure 1. Although substantial evidence suggests that large assortments can result in choice overload, the precise circumstances when it occurs and whether large assortments are detrimental to choice remain uncertain (Chernev et al., 2015). People are unable to give every decision they face in an instance the attention that is required of them. Everyday life requires individuals to circumvent and disregard several choice situations. Research has examined the adverse effects of choice overload; however, further investigation is necessary to identify effective decision-making strategies to alleviate this issue. Practical insights for consumers, policymakers, and businesses could be gained from research into information filtering, decision heuristics, and choice architectures that aid individuals in navigating choice inundation.

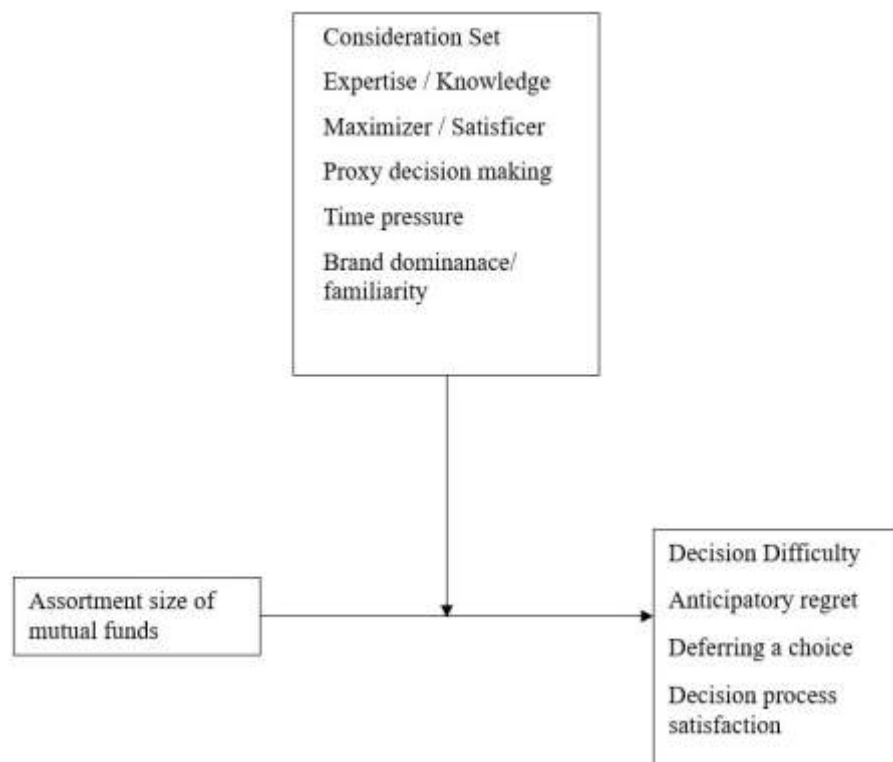


Figure 1: Conceptual Framework

2. Theoretical background

Our conceptual framework draws inspiration from three key theories: Choice Overload Theory (Iyengar & Lepper, 2000) Cognitive Load Theory (Sweller, 1988) and Bounded Rationality Theory (Simon, 1955). The phenomenon of choice overload, as proposed by Iyengar and Lepper (2000), highlights how an abundance of options can overwhelm individuals, leading to adverse outcomes such as decision difficulty, anticipatory regret, choice deferral, and decreased decision process satisfaction. Instead of empowering decision-makers, too many choices create stress and dissatisfaction, undermining the potential benefits of variety.

Building on this foundation, our study examines the effects of increased assortment size on these negative outcomes while incorporating insights from related theories. Cognitive Load Theory (Sweller, 1994) explains how the mental effort required to process large assortments taxes the brain's limited working memory. This increased cognitive load intensifies decision difficulty, regret, and deferral, while reducing satisfaction with the decision-making process. Similarly, Bounded Rationality Theory (Simon, 1955) suggests that individuals, constrained by cognitive limitations and time, often settle for "satisficing" solutions rather than "optimal" ones. When faced with an overwhelming number of options, their inability to process all available information exacerbates the ill effects of choice overload.

By integrating these theoretical perspectives, our study provides a comprehensive understanding of how assortment size impacts decision-making and explores how these foundational theories explain the mechanisms underlying choice overload.

3. Conclusion

This paper introduces a framework to better understand and address the problem of choice overload, especially in the context of mutual fund investments, where too many options can overwhelm investors. It explains how factors like expertise, familiarity with brands, and having a smaller set of choices etc can make decision-making easier and more satisfying. By drawing on established theories from psychology, marketing, and decision science, the study shows how reducing the complexity of choices or offering the right kind of support can help investors feel more

confident and less stressed. Although this is a conceptual study without data, it opens up opportunities for future research to test these ideas and explore how to improve decision-making for investors. It also offers practical insights for financial institutions, suggesting they can help investors by simplifying choices or providing tools that guide them in making better decisions. This framework connects academic research with real-world problems, aiming to make decision-making smoother and more effective.

4. Future research areas

Further investigation into choice overload in mutual funds could examine a range of topics to enhance our comprehension and formulate effective solutions. Investigating the psychological factors that contribute to choice overload in mutual funds may yield valuable insights into how individuals process and understand information, make decisions, and confront cognitive challenges when faced with an overwhelming number of options. Further investigation of loss aversion, decision fatigue, and heuristic biases is necessary to comprehend their influence on choice overload. The effectiveness of various simplification strategies, such as default options, fund classification, and behavioral nudges, in alleviating choice overload in mutual funds warrants investigation. Examining the effects of different information presentation formats on investor decision-making may provide valuable insights for developing communication strategies that reduce choice overload. Cai (2020) asserts that employing choice architecture to steer individuals toward preferred outcomes is effective. To effectively harness the subtle impact of nudging on investor behavior in financial markets, it is essential for any organisation, including the government, to focus on discerning the best interests of investors through comprehensive research (Cai, 2020). This is the precise foundation upon which our article is developed.

Subsequent research may explore the application of visual aids and interactive interfaces to enhance investors' comprehension and engagement with various accessible investment funds. Time series studies that track investor behavior over extended periods may provide valuable insights into the effects of choice overload in mutual funds. Examining these areas of study may assist researchers in developing strategies to mitigate choice overload in mutual funds, thereby enabling investors to make informed and confident selections.

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