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### **FOREWORD**

The Post Graduate Department of Business Management, Sardar Patel University, has consistently upheld a strong tradition of academic excellence, research innovation, and societal engagement. Established in 1989, the Department has emerged as a leading centre for management education and research in Gujarat, supported by the University's NAAC "A" Grade accreditation (CGPA 3.11) and a vibrant academic ecosystem.

Research has remained central to the Department's academic mission. The Department has been recognized under the UGC-SAP (DRS-III) scheme for the major research project "Managing Transformation of the Rural Economy", which generated significant insights into rural socio-economic change. Further strengthening its research profile, the Department has undertaken several Indian Council of Social Science Research (ICSSR)-funded projects, including studies on the implementation of the National Education Policy (NEP) 2020 in Gujarat's educational context, institutional awareness and readiness among universities, and the key challenges associated with policy execution. Another notable ICSSR-supported study examined internet users' information privacy concerns and their behavioural implications, contributing to the growing discourse on digital ethics and online behaviour in Western India.

These research initiatives reflect the Department's sustained commitment to policy-relevant, interdisciplinary, and socially responsive scholarship. The present volume of *Synergy – Journal of Management (Volume 26, Issues 1 & 2, 2024)* aligns with this vision by publishing research that addresses contemporary issues in sustainability, finance, governance, organizational behaviour, and economic development.

I congratulate the editorial team and contributors for their scholarly rigor and dedication. I am confident that this volume will serve as a valuable resource for researchers, practitioners, and policymakers, further strengthening *Synergy's* role in advancing management research with societal impact.

**Best Wishes...**

  
**Prof. (Dr.) Niranjan P. Patel**  
Vice-Chancellor

## EDITORIAL

### **Synergy – Journal of Management** **Volume 26 | Issues 1 & 2 | January–December 2024**

It is our pleasure to present **Volume 26, Issues 1 and 2 (2024)** of *Synergy – Journal of Management*. This volume brings together diverse scholarly contributions that reflect the evolving landscape of management research, combining theoretical depth, empirical rigor, and policy relevance across business and economic domains.

The papers in this issue address pressing contemporary challenges shaped by sustainability imperatives, financial transformation, socio-economic change, and organizational complexity. The volume features studies on sustainable marketing and waste reduction, post-IPO operating performance of Indian firms, macroeconomic growth determinants in Bangladesh, investor awareness of India's Social Stock Exchange, the intellectual evolution of organizational politics research, and the financial capability of SME owners in Bharuch district. Collectively, these contributions offer valuable insights for scholars, practitioners, and policymakers, while advancing knowledge across multiple levels of analysis.

Together, the articles reaffirm *Synergy's* commitment to publishing research that is theoretically grounded, empirically robust, and socially relevant. We hope this issue stimulates meaningful academic dialogue and inspires future research in management and allied disciplines. We sincerely thank the authors, reviewers, and readers for their continued support and engagement.

**Dr. Darshana R. Dave**  
Chief Editor

**Volume 26 – No 1 and 2 – January 2024-December 2024**

<b>Sr No</b>	<b>Title of the paper</b>	<b>Name of the author</b>	<b>Page number</b>
1.	Reframing Marketing Myopia: Integrating Waste Reduction and Sustainability into Strategic Marketing Innovation	Nisha Dubey and Dr. Darshana R. Dave	1-18
2.	Post-Initial Public Offer Performance of Indian firms	Devendra Kumar Shivshankar Gupta and Dr. Mitesh Jayswal	19-40
3.	Contribution of the Determinants of GDP to Annual Growth: Evidence of Bangladesh	Dr. Mohammad Abu Misir	41-64
4.	Investor Insights: Awareness and Perception of Social Stock Exchanges	Dr. Shabbirali S. Thavara	65-80
5.	Mapping the Intellectual Landscape of Organizational Politics: A Bibliometric Study on Employee and Organizational Outcomes	Kinjal M Bhatt and Dr. Vilas Kulkarni	81-94
6.	Bridging the Knowledge–Practice Gap in Financial Capability: Evidence from Small and Medium Enterprises	Iram Ada Khan and Dr. Ashish C Mehta	95-115

# Reframing Marketing Myopia: Integrating Waste Reduction and Sustainability into Strategic Marketing Innovation

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and

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## Abstract

Despite growing attention to sustainability, marketing practices continue to reinforce wasteful consumer behaviours and linear production models. This conceptual paper introduces the Sustainable Marketing–Waste Reduction (SMWR) framework, which repositions marketing as a strategic lever for minimizing waste across the entire product lifecycle. Drawing on systems thinking, circular economy principles, and behavioural science, the model identifies three domains of intervention: upstream (demand reframing and product positioning), midstream (ownership psychology and behavioural influence), and downstream (post-use engagement and circular closure). For each domain, the paper outlines actionable propositions supported by theoretical literature and emerging practice. The SMWR framework bridges critical gaps between sustainable innovation, consumer engagement, and waste prevention, offering marketers a pathway to align profitability with ecological responsibility. The paper contributes to the sustainability literature by advancing a lifecycle-based view of marketing and proposing novel metrics—such as sustainability-adjusted customer lifetime value—that integrate environmental performance into marketing effectiveness. Implications are discussed for corporate strategy, policy, and future empirical research.

**Keywords:** Sustainable marketing, Circular economy, Waste reduction, psychological ownership, Mindful consumption, Behavioural marketing, Marketing innovation, Customer lifetime value, Systems thinking, Product lifecycle strategy

## 1.0 Introduction

The accelerating urgency of the climate crisis, biodiversity loss, and planetary overshoot has redefined the boundaries of corporate responsibility. Within this shifting landscape,

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marketing—long regarded as a mechanism for stimulating demand—finds itself implicated in the twin crises of overconsumption and material waste. Despite rising interest in environmental, social, and governance (ESG) principles and an explosion of corporate sustainability messaging, the structure and logic of mainstream marketing remain largely oriented toward transactional growth, often at odds with ecological resilience (Bhattacharya & Jekielek, 2023; Sheth & Parvatiyar, 2021).

Marketing's historical contribution to unsustainable production-consumption loops is increasingly recognized. Strategies such as planned obsolescence, excessive packaging, trend-driven product cycles, and hyper-targeted advertising have reinforced linear economic models that culminate in premature product disposal and environmental degradation (Whit at. el 2019). At the same time, marketing holds transformative potential. As a touchpoint between firms and consumers, and as a narrative-shaping function, it can drive cultural and behavioural shifts critical for sustainable transitions.

This paper argues that waste reduction must become a central axis of sustainable marketing innovation. While sustainability scholarship has explored green innovation, circular economy models, and behavioural change, few frameworks systematically link marketing strategy to waste prevention across the product lifecycle. Thus, this study develops the Sustainable Marketing–Waste Reduction (SMWR) framework, a conceptual model that integrates upstream, midstream, and downstream marketing interventions aligned with circular economy principles and behavioural theory.

The purpose of this research is threefold: (1) to challenge the dominant growth-oriented paradigm of marketing by integrating waste consciousness into marketing's value logic, (2) to propose theoretically grounded strategic levers for minimizing waste through marketing functions, and (3) to advance a systems-based understanding of how marketing can evolve from being a driver of ecological harm to a lever for regenerative business practices.

## **1.1 Research Motivation**

Although marketing has traditionally focused on value creation through customer need fulfilment, it has largely externalized the ecological consequences of consumption. This has resulted in a paradox: marketing, a function intended to deliver value, often undermines long-term planetary viability. Recognizing this, scholars now advocate for a shift from market-driven to market-driving logics, in which marketing actively shapes sustainable preferences and behaviours (Sheth et al., 2011; Chandy et al., 2021).

However, despite conceptual progress, practical implementation remains fragmented. Much of sustainable marketing practice is performative—limited to surface-level rebranding or green messaging devoid of structural transformation (Nickerson et al., 2022). Waste, in particular, remains under-theorized in marketing literature, treated as an operational or logistical issue rather than a behavioural and strategic outcome of marketing design.

## **1.2 Research Gap**

Three interrelated gaps motivate this inquiry. First, there is a disconnect between sustainable product innovation and marketing execution. While engineering and operations literature has advanced circular product design, marketing strategy has lagged in translating these innovations into consumer engagement. Second, waste is not adequately problematized as a marketing artifact; its behavioural genesis—rooted in marketing-driven overconsumption—remains unaddressed. Third, few frameworks holistically integrate lifecycle thinking, consumer psychology, and sustainability into marketing logic and performance metrics.

## **1.3 Aim and Contribution**

This conceptual paper addresses these gaps by introducing the Sustainable Marketing–Waste Reduction (SMWR) framework. It contributes to the fields of sustainable production and consumption by:

- a) Reframing marketing’s purpose from need creation to need stewardship;
- b) Mapping strategic levers across the marketing value chain that enable waste-conscious interventions;
- c) Linking behavioural science, circular innovation, and value co-creation into a unified model.

In doing so, the paper not only challenges marketing orthodoxy but also offers a roadmap for embedding ecological responsibility into the DNA of marketing strategy.

## **Literature Review and Theoretical Framing**

### **2.1 Marketing and the Sustainability-Waste Paradox**

Marketing has historically been valorised as a catalyst for innovation and economic growth through its ability to identify consumer needs and create value. However, this same function has also fostered patterns of overconsumption, short product life cycles, and disposability that now underpin the global waste crisis (Sheth & Parvatiyar, 2021). Early critiques, such as

Levitt's notion of "marketing myopia," argued that marketers narrowly define their purpose around selling rather than societal or ecological value (Levitt, 1960). In the contemporary sustainability context, this myopia has become environmental: prioritizing volume over stewardship.

Marketing-induced demand, especially in consumer goods industries, has contributed to a proliferation of waste at both material and psychological levels. Psychological waste manifests in buyer's remorse, premature replacement, and identity-driven dispossession—outcomes reinforced by aspirational marketing and fast-cycle branding (Winterich, Nenkov, & Gonzales, 2019). Yet despite mounting concern, marketing's role in the waste continuum is under-theorized. Most sustainability interventions target operational or product design domains, leaving promotional and behavioural mechanisms relatively untouched (Cronin et al., 2011).

## **2.2 Green Innovation: Substantial vs. Strategic**

Green innovation encompasses both radical transformations in product and process design, as well as incremental improvements that mitigate environmental harm (Kazi Sohag, 2025). Substantial innovations—such as bioplastics, zero-waste production, and closed-loop design—offer deep systemic change, but often face high barriers to adoption. Strategic innovations, by contrast, adapt existing systems to reduce resource use or emissions (e.g., eco-efficient logistics or lightweight packaging).

Marketing plays a crucial role in the diffusion and normalization of these innovations. However, research indicates that many green innovations fail to gain traction due to weak consumer communication or misalignment between ecological benefits and perceived utility (Olsen et. al, 2014). Marketing strategies often fail to emphasize long-term value, rely on ambiguous "green" claims, or neglect the identity-based motivations that drive sustainable behaviour (White et. al, 2019).

## **2.3 Circular Economy and Marketing Integration**

The circular economy (CE) model challenges the linear "take–make–dispose" paradigm by promoting restorative and regenerative systems. It emphasizes reuse, repair, remanufacturing, and recycling as means to extend product lifecycles and decouple value creation from resource extraction (Rose & Bharadwaj, 2023). For marketers, this shift necessitates a rethinking of the 4Ps—product, price, place, and promotion—in favour of lifecycle-oriented value delivery.

Yet integration of CE principles into marketing remains nascent. Models such as product-as-a-service (PaaS), resale platforms, and modular design systems are often implemented at the operational level but lack robust marketing strategies that communicate their benefits to consumers (Sorescu, 2017). Moreover, consumer adoption of circular offerings often hinges on trust, transparency, and narrative coherence—all domains where marketing is pivotal.

Reconfiguring marketing to support CE requires new tools: for example, product passports that track lifecycle data, loyalty programs linked to return or repair behaviours, and digital campaigns that emphasize sufficiency over novelty. Without these, the circular promise remains largely technocratic and disconnected from market realities.

## **2.4 Behavioural Science and Sustainable Marketing**

Consumer behaviour is central to both the generation and mitigation of waste. However, traditional marketing has often exploited cognitive biases (e.g., loss aversion, status signalling) to drive excess consumption. Behavioural science offers alternative tools for steering consumption toward more sustainable trajectories.

One central concept is psychological ownership—the perception that something is “mine.” While marketers have historically leveraged this to build brand loyalty, it also fosters resistance to sharing, reuse, or resale (Winterich et al., 2019). Reframing ownership as access or stewardship can help shift consumer norms, particularly when paired with digital tools that enable flexible product use (e.g., subscriptions or peer-to-peer sharing).

Mindful consumption—defined by intentionality, ethical awareness, and self-regulation—presents a viable alternative to impulsive or identity-driven buying behaviours (Sheth et al., 2011). Marketing strategies can support this through educational messaging, minimalist branding, and transparency in lifecycle impacts. Nonetheless, scaling mindful behaviour remains difficult in contexts where status, convenience, and low prices dominate decision-making.

## **2.5 Digital Platforms and Circular Engagement**

The digital economy offers a paradox: it both accelerates unsustainable consumption and enables scalable sustainable interventions. E-commerce platforms, influencer marketing, and real-time personalization have intensified impulse buying and disposability. Yet the same technologies can support traceability, consumer nudges, and behavioural analytics that inform sustainability strategies (Kunz et al., 2024).

Digital infrastructures also facilitate new forms of engagement: carbon footprint dashboards, environmental labelling, and gamified loyalty schemes that reward eco-friendly behaviour. Blockchain and IoT technologies can provide end-to-end transparency in product lifecycles, which marketers can use to build trust and differentiate brands.

Importantly, digital marketing enables granular segmentation based on values, behaviour, and environmental concern, allowing firms to tailor messages that resonate with eco-conscious consumers. This micro-targeting capability is underutilized in sustainability contexts but holds significant potential for circular innovation.

## 2.6 Summary of Gaps

From the literature, four key gaps emerge:

**Disconnection between innovation and marketing execution:** Green innovations often lack strategic marketing that aligns with consumer values or overcomes behavioural inertia.

**Under-theorization of waste as a marketing outcome:** Marketing's role in demand generation and psychological disposability remains a blind spot.

**Insufficient integration of behavioural insights into marketing practice:** While psychological ownership and mindful consumption are conceptually explored, they are not operationalized at scale.

**Lack of performance metrics for sustainable marketing:** Few studies link ecological outcomes (e.g., waste reduction) with business metrics such as Customer Lifetime Value or brand equity under ESG frameworks (Kang et. al, 2016).

These gaps motivate the development of an integrative framework that connects sustainable marketing to waste reduction through systemic, behavioural, and strategic lenses.

## 3: Research Questions and Conceptual Propositions

### 3.1 Core Inquiry: Marketing as Waste Generator and Waste Mitigator

The paradox at the heart of this inquiry is that marketing—while traditionally viewed as a force for growth and innovation—also plays a direct role in accelerating material waste through its influence on demand stimulation, product turnover, and consumer psychology. Yet, the same tools of marketing can be redeployed to foster mindful consumption, promote circular economy

models, and reduce waste at multiple points in the product lifecycle. This duality prompts the central research question:

**RQ0: How can marketing innovation be reoriented to minimize consumer waste and enhance sustainability across the product lifecycle?**

This study positions marketing not simply as a communicator of ecological values but as a strategic gatekeeper to sustainability outcomes. To unpack this thesis, we develop a structured set of exploratory research questions organized into three thematic clusters: consumer behaviour, marketing strategy, and organizational innovation.

### **3.2 Theme I: Consumer Behaviour and Value Perception**

Consumer behaviour is both shaped by and responsive to marketing stimuli. Understanding the psychological antecedents of wasteful or sustainable behaviour is thus essential for designing effective interventions.

**RQ1:** How do marketing messages influence consumer perception of product disposability versus durability?

**RQ2:** To what extent does psychological ownership impact consumers' willingness to engage in circular practices (e.g., resale, reuse, repair)?

Building on insights from behavioural decision theory and identity-based consumption, we propose:

**Proposition 1:** Marketing campaigns that emphasize functional utility and environmental consequences will reduce consumers' psychological attachment and increase willingness to engage in sustainable post-use behaviours.

**Proposition 2:** Mindful consumption framing—highlighting sufficiency and long-term benefit—will lead to reduced impulse buying and decreased post-consumption regret.

These propositions align with studies showing that consumer attachment to possessions can inhibit circular behaviours unless reframed by identity- or value-congruent messaging (Winterich et al., 2019; Sheth et al., 2011).

### 3.3 Theme II: Marketing Strategy Across the Lifecycle

The marketing mix (product, price, place, promotion) has traditionally prioritized sales maximization. However, this study advocates a lifecycle-oriented reinterpretation of the 4Ps to reduce waste and promote sustainability.

**RQ3:** How can product-service systems (e.g., leasing, subscriptions) be marketed to shift consumer focus from ownership to usage?

**RQ4:** What role does ethical pricing (e.g., incentivized repair or buyback programs) play in reducing product disposal rates?

**RQ5:** How can digital marketing platforms enhance traceability and promote consumer accountability in waste behaviours?

We derive the following propositions:

**Proposition 3:** Sustainable product-service models that reduce the emphasis on ownership will gain greater adoption when marketing communicates flexible access and community benefits.

**Proposition 4:** Integrating repairability, recyclability, and return incentives into pricing strategy will increase product lifespan and reduce consumer discard behaviour.

**Proposition 5:** Digital platforms that provide environmental impact transparency and reward circular behaviours will increase consumer engagement with sustainability goals.

These propositions highlight marketing's capacity to reconfigure not just the consumption moment, but also the structural conditions under which sustainable behaviour occurs (Rose & Bharadwaj, 2023; Kunz et al., 2024).

### 3.4 Theme III: Organizational and Innovation Outcomes

Marketing's influence extends beyond external communications. Internally, it shapes organizational narratives, innovation priorities, and strategic KPIs. Firms with integrated sustainability-marketing structures may be better positioned to translate green intent into market impact.

**RQ6:** How does sustainable marketing orientation affect Customer Lifetime Value (CLV) and brand trust?

**RQ7:** What organizational conditions facilitate the integration of marketing and waste management goals?

Based on resource-based and systems theory perspectives, we propose:

**Proposition 6:** Firms that adopt a sustainable marketing orientation—integrating ecological KPIs into strategy—will experience higher long-term CLV and brand equity due to value alignment with eco-conscious consumers.

**Proposition 7:** Organizational structures that foster cross-functional collaboration between marketing, design, and waste management will exhibit higher rates of innovation in circular product development.

These propositions are supported by empirical evidence linking ESG alignment with superior brand performance and customer retention (Kang et al., 2016; Chandy et al., 2021).

### **3.5 Synthesis and Path Forward**

Together, the research questions and propositions provide a foundation for the conceptual framework developed in the next section. They reflect an integrated logic: that sustainable marketing must evolve beyond surface messaging to address the structural and behavioural determinants of waste. The subsequent model—the Sustainable Marketing–Waste Reduction (SMWR) framework—operationalizes these insights by mapping specific intervention points across the product lifecycle where marketing can meaningfully reduce ecological harm.

## **4: Conceptual Framework — Sustainable Marketing–Waste Reduction (SMWR) Model**

### **4.1 Reframing Marketing’s Strategic Role**

Traditional marketing frameworks treat the function as a terminal point in the value chain, focused on driving sales volume and customer acquisition. However, in an era of ecological overshoot and mounting material waste, such a paradigm is inadequate. The Sustainable Marketing–Waste Reduction (SMWR) framework reconceptualizes marketing as a system-wide design and coordination function, spanning the full product lifecycle—from need recognition to end-of-life disposal. It positions marketing not as a demand exploiter but as a need steward: shaping perceptions, behaviours, and systems in ways that minimize waste and maximize long-term value.

This model draws on systems thinking (Chandy et al., 2021), behavioural science (White et al., 2019), and the circular economy (Rose & Bharadwaj, 2023) to identify three domains of strategic intervention:

**Upstream Intervention:** Targeting the ideation, positioning, and design stages before purchase.

**Midstream Influence:** Modulating consumer behaviour during product use and ownership.

**Downstream Impact:** Facilitating sustainable product recovery, disposal, or regeneration post-use.

Each domain comprises strategic levers and corresponding propositions that collectively reorient marketing from a linear, volume-driven model to a circular, value-centric one.

#### **4.2 Upstream Intervention: Reshaping Demand**

Upstream marketing activities—such as segmentation, targeting, and product conceptualization—largely determine the volume and nature of future consumption. Traditional practices in these domains often promote aspirational or status-driven needs, exacerbating material throughput.

##### **Strategic Lever 1: Value Reframing**

Marketing can shift narratives from conspicuous consumption to purposeful, durable utility. This aligns product value with longevity, repairability, and multi-functionality—attributes that extend product life and reduce discard tendencies.

**Proposition 1:** Reframing product value around durability and multi-functionality at the need-recognition stage will reduce consumer interest in short-lifecycle goods.

##### **Strategic Lever 2: Modularity Signalling**

While product design determines repairability, marketers influence consumer awareness of those features. Communicating modularity and upgradability can increase product attachment and reduce functional obsolescence.

**Proposition 2:** Promoting product modularity and ease of repair in marketing messages will increase consumer retention and reduce product turnover.

These interventions require coordination between product development and marketing, fostering integration that is often absent in traditional organizations (Sorescu, 2017).

### **4.3 Midstream Influence: Modulating Usage and Ownership Psychology**

Once products enter the consumption phase, marketing shapes patterns of use, emotional attachment, and replacement cycles. Midstream interventions aim to disrupt wasteful norms and encourage optimal, mindful use.

#### **Strategic Lever 3: Disrupting Psychological Ownership**

Consumers' reluctance to part with items—despite lack of use—is often rooted in emotional attachment. Marketing can reduce this stickiness by framing ownership as access (e.g., rental or shared-use) or by elevating environmental identity over material possession.

**Proposition 3:** Messaging that reduces emotional attachment (e.g., “borrowed value”) will increase participation in product sharing and circular systems.

#### **Strategic Lever 4: Enabling Optimal Use**

Digital content—such as tutorials, user communities, or AI-driven maintenance reminders—can educate consumers on product care, extending lifespan and delaying replacement.

**Proposition 4:** Interactive, real-time marketing content that educates users on optimal product usage will decrease unnecessary product disposal.

These midstream strategies rely on behavioural design principles to shift consumption from symbolic to functional, reducing overuse and premature discard.

### **4.4 Downstream Impact: Enabling Circular Closure**

Downstream marketing influences post-use behaviour—whether consumers recycle, return, resell, or discard products. Waste is often a result not of ignorance but of friction: unclear recovery options, low incentives, or lack of perceived social value.

#### **Strategic Lever 5: Lifecycle Loyalty Programs**

Just as marketers build loyalty through purchase points, they can reward sustainable post-use actions. Incentives for returns, repairs, or second-hand purchases reinforce circular behaviours while increasing Customer Lifetime Value (CLV).

**Proposition 5:** Lifecycle-based loyalty programs that reward sustainable actions (e.g., repairs, returns) will improve customer retention and reduce environmental impact.

### **Strategic Lever 6: Social Norming of Disposal**

Framing proper disposal or return behaviour as a socially expected norm—supported by testimonials, peer metrics, or moral identity cues—can increase compliance.

**Proposition 6:** Social norm-based messaging in end-of-use communications will increase consumer participation in recycling and reduce landfill waste.

Marketing communications at this stage should not treat disposal as the end, but as a continuation of value creation through regeneration or redistribution.

### **4.5 Performance Metrics: Aligning Sustainability and Profitability**

Traditional marketing success metrics—impressions, conversion rates, share of voice—do not capture ecological outcomes. The SMWR model advocates for integrated metrics that align sustainability with business performance.

Examples include:

**Sustainability-Adjusted CLV:** Incorporating circular participation into customer valuation.

**Share of Circular Transactions:** Measuring the proportion of leases, repairs, or returns vs. new sales.

**Waste-Avoidance Per Customer:** Quantifying material saved due to marketing-driven behaviours.

**Proposition 7:** Firms that track integrated ecological-marketing metrics will exhibit stronger alignment between sustainability outcomes and financial performance.

These metrics incentivize long-term strategic thinking over short-term volume gains.

### **4.6 Organizational Enablers**

Adopting the SMWR framework requires cultural and structural change. Marketers must work closely with design, operations, and sustainability teams, supported by leadership that embeds ESG goals into performance systems.

### **Strategic Lever 7: Cross-Functional Innovation**

Integrated teams enable coherent messaging, design, and system alignment across the lifecycle.

**Proposition 8:** Firms with cross-functional innovation teams that include marketing and waste management roles will generate more sustainable product innovations.

Strategic Lever 8: ESG-Aligned Leadership

Marketing leaders (e.g., CMOs) evaluated on ESG performance are more likely to prioritize sustainability over short-term sales.

**Proposition 9:** CMOs evaluated on ESG-linked KPIs will be more likely to prioritize sustainable marketing strategies over short-term sales targets.

## **5: Discussion and Implications**

### **5.1 Theoretical Contributions**

The Sustainable Marketing–Waste Reduction (SMWR) framework offers several theoretical contributions to the evolving literature on sustainable production and consumption. It expands the marketing discipline's conceptual boundary by embedding waste as a marketing-relevant variable, thereby bridging previously siloed domains: environmental management, behavioural science, and marketing strategy.

First, this model addresses the persistent marketing myopia around environmental impact. Unlike traditional sustainable marketing models that emphasize green messaging or product attributes, SMWR repositions marketing as a system-level designer of behavioural and lifecycle outcomes (Varadarajan, 2017). It integrates pre-purchase, in-use, and post-use phases into a holistic model that encourages marketers to anticipate and shape waste-related behaviour at multiple stages.

Second, the model enriches the emerging dialogue between circular economy (CE) theory and consumer engagement by identifying behavioural mechanisms—such as psychological ownership and social norming—that moderate the uptake of CE models (Winterich et al., 2019; Rose & Bharadwaj, 2023). While CE literature often emphasizes material flows, SMWR highlights the need for consumer narratives and identity congruence to operationalize CE at scale.

Third, SMWR contributes to systems thinking in marketing. Rather than isolating marketing interventions from broader environmental systems, it maps interdependencies and feedback loops between product design, consumer behaviour, and ecological outcomes. This reinforces the relevance of non-linear thinking in strategy formulation (Chandy et al., 2021).

## 5.2 Managerial Implications

The SMWR framework provides a practical roadmap for firms seeking to align profitability with ecological responsibility. Several managerial implications arise:

### a) Lifecycle Reorientation of the 4Ps

Firms must recalibrate the marketing mix to accommodate circularity:

**Product:** Shift from single-use or fast-consumption items to modular, repairable, and serviceable goods.

**Price:** Implement lifecycle pricing—such as subscriptions, repair incentives, or resale discounts—to extend product use and foster repeat engagement.

**Place:** Develop reverse logistics and digital access systems to facilitate take-backs, sharing, and repair ecosystems.

**Promotion:** Move from aspirational or novelty-driven messaging to narratives that centre on durability, functionality, and environmental contribution.

Such a reorientation requires collaboration between product development, operations, and marketing—departments that often operate in silos.

### b) Redesign of Customer Metrics

Traditional KPIs like sales volume and market share fail to capture sustainability impact. SMWR recommends new metrics such as:

**Customer Circularity Index (CCI):** Proportion of customer behaviours involving circular practices (repairs, returns, reuse).

**Sustainability-Adjusted CLV:** Weighted customer lifetime value based on ecological performance (e.g., product lifespan, avoided emissions).

**Green Advocacy Score:** Frequency and sentiment of consumer referrals based on sustainable practices.

These metrics allow marketing teams to link sustainability strategy to customer loyalty, revenue stability, and brand resilience (Kang et al., 2016).

### **c) Empowering Marketing Leadership**

Chief Marketing Officers (CMOs) are increasingly responsible for ESG narratives but often lack operational authority over design or logistics. Integrating ESG targets into CMO evaluations, coupled with sustainability training and cross-functional innovation labs, empowers marketing leaders to drive genuine systems change rather than symbolic compliance.

## **5.3 Policy and Ecosystem Implications**

Beyond the firm level, the SMWR model has implications for public policy, regulatory frameworks, and digital platform governance.

### **a) Policy Incentives for Sustainable Marketing**

Governments and regulators can support firms implementing SMWR-aligned strategies by:

Offering tax credits for investments in repair networks, product return schemes, or circular loyalty programs;

Requiring standardized environmental disclosures in marketing communications to reduce greenwashing risks;

Providing grants for cross-sector collaboration, particularly between SMEs, NGOs, and marketing educators.

Such interventions would enable a more level playing field, incentivizing deeper integration of waste-reduction goals into corporate marketing.

### **b) Platform Design and Data Governance**

Digital platforms like Amazon, Alibaba, and Shopify can shape consumer behaviour through design choices. Integrating filters for durability, carbon footprint disclosures, and post-use options (e.g., resale links) can nudge consumers toward less waste-intensive choices. Platforms can also use behavioural data to develop predictive models of product waste, offering early signals to marketers and supply chain managers.

Additionally, collaborations between platforms and regulatory agencies could ensure algorithmic transparency in sustainability labelling, reducing the risk of manipulation or misinformation (Nickerson et al., 2022).

## 5.4 Future Research Directions

As a conceptual paper, this study invites empirical testing and refinement. Key avenues for future research include:

**Experimental studies** examining how different marketing framings (e.g., utility vs. identity vs. environmental) influence consumer behaviour related to sharing, returning, or repairing goods;

**Longitudinal analyses** of firms adopting SMWR-aligned practices to evaluate their impact on brand equity, customer retention, and waste reduction;

**Cross-industry comparisons** to identify sector-specific constraints and enablers of sustainable marketing integration (e.g., fashion vs. electronics);

**Organizational ethnographies** exploring how marketing teams collaborate with product, design, and ESG departments to operationalize lifecycle messaging;

**Consumer segmentation studies** to understand demographic, psychographic, or cultural variations in response to circular marketing appeals.

Such research would enhance the practical utility of the SMWR model and support its adaptation across diverse economic and regulatory contexts.

## 5.5 Limitations

This paper is conceptual in nature and does not offer primary empirical data. While grounded in contemporary literature and supported by illustrative cases, the generalizability of its propositions remains to be empirically validated. Additionally, the model assumes a degree of organizational willingness to prioritize long-term ecological goals, which may not be realistic in all markets—particularly those driven by cost competition or weak regulatory oversight.

Furthermore, the framework is most applicable to consumer-facing industries; adaptations may be necessary for B2B contexts or services where product turnover is low.

## 6.0 Conclusion

This paper has proposed a comprehensive reframing of marketing's role in sustainability through the introduction of the Sustainable Marketing–Waste Reduction (SMWR) framework. It advances the central thesis that marketing must move beyond its traditional orientation

toward volume-driven demand stimulation and instead function as a system-level orchestrator of circular behaviour, ecological stewardship, and long-term value creation.

While marketing has historically contributed to the problem of material and psychological waste—through strategies such as planned obsolescence, status-based appeals, and impulse-driven promotions—it also holds the tools for transformative intervention. As this paper argues, marketing can and should become a vehicle for sustainability transitions by engaging in upstream (design and demand formation), midstream (behavioural modulation), and downstream (end-of-life and circular closure) interventions.

The SMWR framework contributes to academic discourse by integrating behavioural decision theory, systems thinking, and circular economy principles into marketing strategy. It challenges marketing orthodoxy and offers actionable propositions that align with key sustainability goals, particularly SDG 12 (Responsible Consumption and Production). It also presents managerial guidance on how to embed circular logic into the 4Ps, how to develop new metrics such as sustainability-adjusted CLV, and how to foster cross-functional innovation within firms.

In practical terms, the SMWR model serves as a blueprint for organizations, marketers, and policymakers seeking to align economic performance with ecological responsibility. It provides a foundation for redesigning marketing logic in a world that can no longer afford linear thinking, extractive models, or waste as a side effect of business-as-usual.

Ultimately, the future of marketing lies not in driving consumption for its own sake but in enabling regeneration, stewardship, and resilience. The question for scholars and practitioners is not whether marketing can contribute to sustainability—but how boldly it chooses to do so.

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# Post-Initial Public Offer Performance of Indian firms

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## Abstract

While previous studies have examined the share price performance after the initial public offer across several countries, operating-performance after the IPO has received less consideration, particularly in the Indian context. Furthermore, previous research has given little consideration to factors determining the post-issue operating-performance. The objective of this research is to examine the operating-performance after the IPO of Indian firms and identify the pre-IPO firm-specific determinants and IPO-features that may influence the firm's future operating performance. Performance variables include returns on total assets and cash flows, while six independent variables—IPO size, percentage of ownership offered, price-to-earnings ratio, leverage, firm age, and the size of the firm—are employed as key explanatory variables. The research examined the median change in post-IPO performance of Indian firms for as long as five years following the initial issue and concluded that these firms' post-IPO performance had declined significantly. Additionally, the study found that only the size of firms and the ownership offered in the IPO had an effect on the long-term performance, but the six independent variables had a greater impact on the operating performance in near future.

**Keywords:** Initial Public Offering, Post-IPO performance, Operating Performance, India

## Introduction:

Through the Initial Public Offer (IPO), companies can raise capital from the general public for various business needs. Investors invest in IPOs with a motive of earning capital gains over short- or long-term period by selling shares at a greater price than the offer price. However, while the positive stock returns are often realized from investments in IPOs,

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negative returns are also equally common. Several past studies have analysed the share price performance and return generated by IPO firms when they are listed on stock exchanges. For example, Ritter (1991) and Loughran and Ritter (1997) in USA, Espenlaub et al. (2000) and Chambers and Dimson (2009) in UK, Lee et al. (1996) in Australia, Ljungqvist (1997) in Germany, and Chahine (2008) in France reported significant negative stock returns in the subsequent years from the IPO investments. On the contrary several studies have found significant positive stock returns following the IPOs in South Korea (Kim et al., 1995), China (Chan et al., 2004; Gao et al., 2015), Canada (Kooli and Suret, 2004), Greece and (Thomadakis et al., 2012).

While previous studies have examined how companies perform after going public, the findings are conflicting and differ across regions. Prior research has generally concentrated on the performance of firms' share prices instead of their operational performance. Moreover, sparse research has attempted to answer a more imperative question, i.e., what determines the firms' performance after their IPO? The knowledge of positive or negative post-IPO performance allows investors to evaluate their investment decisions after they have been made. On the contrary, the knowledge of determinants of post-IPO performance enables shareholders to make informed investment choices in the first place, thereby enabling them to achieve higher convergence between expected and actual returns. Therefore, the current research fills this gap by investigating the pre-IPO determinants influencing the post-IPO operating performance of Indian firms.

Indian equity market has experienced a strong spurt of IPOs over past decade. As per the data from Capitaline, while only 42 firms launched their IPOs in the year 2014, this number significantly increased to 287 firms raising equity capital between March 2024 to November 2024. Not only has the number of IPOs increased, the amount accumulated by firms through these IPOs has also increased significantly. While the smallest and largest IPOs in the year 2014 raised INR 15 million and INR 3518.6 million, respectively, this number significantly increased to INR 40.2 million for smallest IPO and INR 278.56 billion for the largest IPO in the year 2024. The rapid growth of primary equity market in India and significant amount of money involved in IPOs are the factors necessitating a separate study on the firms' operating performance after their IPOs as well as the firm-features and IPO-specific factors that precede the observed performance in Indian context.

## **Review of the Literature:**

**Post-IPO performance of firms:** Several research-papers across the globe have analysed the firms' share price performance after the initial issue. The findings of these studies appear to vary across countries. For example, a negative post-IPO performance was reported in Denmark (Jakobsen & Sorensen, 2001), Finland (Keloharju, 1993), France (Leleux & Muzyka, 1997; Derrien & Womack, 2003), Germany (Ljungqvist, 1997), Spain (Álvarez & González, 2005), Switzerland (Kunz & Aggarwal, 1994), USA (McDonald & Fisher, 1972; Reilly, 1973; Ritter, 1991; Loughran, 1993; Loughran & Ritter, 1995; Brav, 2000; Ritter & Welch, 2002; Gompers & Lerner, 2003), and United Kingdom (Leleux & Muzyka, 1997; Espenlaub et al., 2000). On the contrary, a positive performance was reported for Sweden (Loughran et al., 1994), Taiwan (Yen and Liu, 1994), and USA (Simon, 1989; Cusatis et al., 1993). Bancel and Mittoo (2009) showed that non-listed firms experienced lower growth in terms of assets, market capitalization, and the recruitment of new employees, as compared to firms with listed shares on the stock exchanges. In China, Francis et al. (2022) found that private firms with smaller IPOs experience better post-issue performance while government owned firms with larger IPOs experience better long-term performance after the IPO. In Indonesia, Rahmatullah and Hakam (2025) reported an improved performance of ROE and valuation of firms after the IPO.

While the widespread focus of past studies has been concentrated on the share price performance, a few studies have also considered the operating performance following the IPOs. Past research has unanimously found a corrosion in the operating performance across several countries including USA (Jain & Kini, 1994), Italy (Pagano et al. 1998), UK (Khurshed et al. 2003), Singapore (Wang et al., 2003), and Japan (Cai & Wei, 1997; Kutsuna et al., 2002), China (Long et al., 2021).

Coakley et al. (2007) found that post-IPO operating performance of UK firms declined in following five years as compared to the pre-IPO year. However, their study indicated that the firms underperformed only during 1998-2000 period of the stock market bubble and a normal performance was reported for normal years. While Auret and Britten (2008) found a decline in the post-IPO return on assets of South African firms, their dividend payments were found to have increased. For Thai firms, Laokulrach (2019) reported a significant decline in the

operating performance in the post-IPO years and further revealed that the size of the pre-IPO firms significantly positively affects the returns on total assets and the asset turnover ratio.

While Pereira and Sousa (2017) documented a substantial deterioration in the firms' performance after the IPO in the Europe, the performance was worse for firms in the emerging European economies as compared to the developed markets. This research indicates that the performance after the IPO needs to be studied separately for different countries. Arik and Mutlu (2015) reported a significant decline in the post-issue operating performance of firms in Istanbul; however, the magnitude of decline was lesser than the previous studies.

### **Determinants of post-IPO performance**

The underperformance of firms in post-issue period is observed by prior studies across several countries. Ritter (1991) explained that poorly performing, especially younger, firms take advantage of overoptimistic primary market and underperform in the long run after launching an IPO. De-Bondt and Thaler (1985) and Ritter (1991) argued that the post-IPO long-term performance also deteriorates as the market corrects the initial over-optimism, especially for firms with lower market capitalization. To complement these suggestions, Ritter (1991) also suggested that the firms underperform only in the short term. In the same line, Aggarwal and Rivoli (1990) argued that declining post-IPO performance of US firms can be attributed to speculative bubbles in short term. Brav and Gompers (1997), Carter et al. (1998), and Brav (2000) found that the long-term decline in the performance of firms was concentrated only among the small size firms. Eckbo and Norli (2005) found that firms with less liquidity or higher debt in their capital structure are riskier firms and therefore the liquidity and leverage also significantly affect the performance of IPO firms.

To explain the positive post-IPO performance, Rajan (1992) suggested that launching an IPO strengthens the credibility of the firm in capital market and improves its financial flexibility, thereby reducing the cost of capital for the firm. Pagano et al. (1998) found that Italian firms reduce their debt levels in post IPO periods, thereby reducing the credit default risk for equity investors. Chemmanur and He (2011) found that IPOs of UK firms helped them to restrain their competitors and create an entry barrier in the industry for new entrants. These strategic advantages result in significant improvement of performance of firms. Durukan (2002) found a significant positive stock price return of IPO firms in Istanbul and reported that the firm size, firm age, leverage, and the size of IPO significantly affect the post-IPO returns while the

PE ratio has no significant impact. In Indian context, Kirubakaran and Joseph (2024) found a significant influence of the age of firm and size of IPO on the post-issue short-term stock price performance. Chan and Li (2022) found a significant impact of firm size on the short term post-IPO performance and firm-age on the long-term post-IPO performance of Chinese firms. Thus, the past studies indicate that the launching an IPO significantly affects the firms' performance, either positively or negatively. Laokulrach (2019) found that the size of the pre-IPO Thai firms significantly positively affects the returns on total assets and the asset turnover ratio.

## **Research Gap**

While several studies in the past have analysed the post-issue stock performance, sparse research has examined the firms' operating performance. Moreover, the research examining the operating performance is primarily concentrated among the developed markets, seldom focusing on the emerging African and Asian markets. Therefore, the first objective of this research is to analyse the post-issue operating performance of firms in the emerging Indian market to determine how firms operate in post-issue period. Secondly, past studied have only narrowly concentrated on the factors determining firms' performance after the IPO. While some explanation has been offered for share price changes in years following an IPO, the determinants operating performance have relatively remained an unexplored area, especially in the Indian context. Therefore, the second objective of the present research is to fills this gap by analysing the relationship of pre-IPO firm-specific features and the characteristics of IPOs with the Indian firms' performance in the years following the initial issue. The knowledge of such relationship is expected to help investors shape their return expectations across the near- and long-term investment horizons before investing in the IPO.

## **Research methodology**

### **Sample selection and data collection**

The data of IPO events is collected for the period 2014-15 to 2018-19 from the Capitaline database. The performance related data are collected for a period of five years from 2018-19 to 2023-24. The initial sample comprised of 547 firms, out of which, the firms launching FPO were removed as these firms are already listed on the exchange and their performance in post-FPO period does not represent their first time operating performance after listing on the exchange. Lastly, the 108 firms were also removed from initial sample because of data-

unavailability for the entire period. The final sample consisted of 439 firms. Table I shows a description of sample.

**Table I: Characteristics of the Sample**

<b>Descriptive Measure</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Grand Total</b>
Total Number of IPOs	22	47	79	150	141	439
Total Funds Raised (INR Billion)	4.50	128.76	238.72	678.90	319.76	1370.63
Average Funds Raised (INR Billion)	0.20	2.74	3.02	4.53	2.27	3.12
Minimum IPO Size (INR Billion)	0.02	0.02	0.01	0.02	0.01	–
Maximum of IPO Size (INR Billion)	1.81	30.09	60.57	111.76	44.73	–
Average Initial Returns (%)	8.06	6.88	8.08	11.91	4.26	–
Minimum Initial Returns (%)	-5.42	-25.00	-16.36	-20.72	-24.44	–
Maximum Initial Returns (%)	45.25	57.10	57.41	139.95	73.82	–
<b>Source:</b> Created by authors						

### **Variable definition**

**Dependent variables:** The Indian firms' operating performance is key dependent variable of this research. Jain and Kini (1994) employed two measures of operating performance: first, the operating profitability, measured by the operating profitability scaled by total assets (ROA). Operating profitability is measured as profits before interest expenses, tax payments, depreciation, and the amortization (PBIITDA). The alternative measure of operating performance is the operating cash flows divided by total assets (OCF), which serves as an additional robustness test.

A median of the change in the levels is used to quantify the shift in a firm's operating performance. It is computed as a median value of the change from the year  $t$  to the year  $-1$ , where  $t$  refers to the post-IPO year while the year  $-1$  denotes the year prior to IPO. Since investors are interested in the change in performance in preference to the actual performance

(Jain and Kini, 1994), the change in the performance is measured to study the improvement or deterioration in the operating performance as compared to the pre-IPO year (Degeorge & Zeckhauser, 1993). Additionally, since Jain and Kini (1994) further suggested that the measures of operating performance can be skewed and affect the mean values, the median values are utilized for in this research (Muscarella & Vetsuypens, 1989; Degeorge & Zeckhauser, 1993).

In addition, following the suggestions of Jain and Kini (1994), the study also measures the growth in other accounting measures including sales (SG) and assets turnover (ATO).

**Independent variables:** The present research measures the relationship between following five factors and the post-IPO operating performance of firms: firm size (Fama & French, 2004); firm age (Spiess & Affleck-Graves, 1995; Brau et al., 2012); leverage (Eckbo & Norli, 2005); and IPO size, percentage of ownership offered, and Price-to-earnings ratio of IPO (Durukan, 2002). The size of firms (FSize) is proxied by a log of the firms' assets in pre-IPO year. Firms' age (FAge) is the difference between foundation year of firms and their IPO year. Leverage (DER) is denoted by the long-term liability to owners' equity ratio of firms. IPO size (ISize) is the amount of funds the IPO intends to raise at the upper price limit, as declared in the Red Herring Prospectus of the firm. Percentage of ownership offered (OWNERSHIP) is measured by a ratio of the total shares offered in the IPO to the total post-issue equity shares. Finally, the ratio of Price-to-earnings (PER) of firms is measured as a ratio of pre-IPO EPS to the offer price.

### **Empirical Model Specification**

The effect of explanatory factors on the operating performance of firms after their IPO is examined using OLS regression approach. The performance upto 5 years following the issue-year is considered for the long-term analysis. Consequently, the following baseline regression model has been developed for the analysis: Performance = IPO Size + Ownership + PE + Leverage + Firm Age + Firm Size

The present research extends the 3-year horizon of operating returns considered by Jain and Kini (1994). The change in profitability over three different time periods is considered: i) from pre-IPO year to 1<sup>st</sup> year after the issue (-1 to 1), iii) over pre-IPO year to 3<sup>rd</sup> year following the issue (-1 to 3), and iv) from pre-IPO year to 5<sup>th</sup> year the following the issue (-1

to 5). While Jain and Kini (1994) considered operating performance only upto 3 years following the IPO, the present research extends this period to 5 years after the IPO. The coefficients of the estimated model are reported in Table IV.

### Evidence on the Changes in Operating Performance

Table II reports the median difference in the performance of Indian firms in the periods following the IPO measured relative to the -1 year, i.e., the year before the year of IPO. Column 1 shows that the median changes in the operating returns scaled by the total assets are 0.52 (year 0), -0.35 (year +1), -1.40 (year +2), -2.37 (year +3), -3.09 (year +4), and -2.34 (year +5). While the median change in profitability was positive in the year of IPO, it has declined in post-IPO period for upto 5 years. While the median difference in the ROA over pre-IPO year to first post-IPO year is statistically significant, the median changes for more distant post-IPO years are also significant at 1 percent level. Column 2 shows that the median changes in the operating cash flows scaled by total assets are -0.30 (year 0), -5.80 (year +1), -0.68 (year +2), -0.40 (year +3), -1.16 (year +4), and 0.00 (year +5). The median change in OCF has consistently declined in post-IPO period for upto 5 years. However, only the median of changes from pre-IPO year to 2<sup>nd</sup> year post-issue are statistically significant. This finding overall suggests that the post-issue operating performance of Indian firms has declined statistically significantly, confirming to the prior studies by Jain and Kini (1994) for American firms.

**Table II: Operating Performance of Firms before and after Initial Public Offer**

	ROA (%)	OCF (%)	SG (%)	ATO (in times)
Median Performance in Year -1	12.37	5.5	11.99	1.81
From -1 to 0	0.52	-0.30 *	6.51 **	0.00 *
From -1 to 1	-0.35 *	-5.80 ***	3.66	-0.30 ***
From -1 to 2	-1.40 ***	-0.68	-3.34 ***	-0.53 ***
From -1 to 3	-2.37 ***	-0.40	-7.77 ***	-0.61 ***
From -1 to 4	-3.09 ***	-1.16.	-5.47 ***	-0.61 ***
From -1 to 5	-2.34 ***	0.00	0.25 *	-0.63 ***

**Notes:** \*\*\*, \*\*, and \* indicate significance at 0.1 percent, 1 percent, and 5 percent levels respectively. **Source:** Created by Authors

Although several reasons may exist to explain the deteriorating operating performance, it can primarily be credited to the incompetence of managers to produce pre-IPO level of sales and efficiently utilize the firms' assets after the IPO. To examine these possibilities, the present research analyses the change in sales growth and the asset turnover of firms in post-IPO period (Jain and Kini, 1994). Column 3 in Table II reports the median changes in the sales-growth of sampled firms in period after the issue, compared with the pre-issue year. The median changes in sales growth are 6.51 (year 0), 3.66 (year +1), -3.34 (year +2), -7.77 (year +3), -5.47 (year +4), and 0.25 (year +5). The median change from pre-IPO to the year of IPO is significant at 1 percent level. Except for the 1<sup>st</sup> year post-IPO, the changes in all other periods are significant at 1 percent level. While the median sales growth has improved in the year of initial issue as well as in the following year, it has significantly declined in from year 2 onwards. The findings show that the variations in the performance cannot be exclusively credited to the changes in growth of sales in years after the IPO.

Column 4 of Table II reports median changes in the asset turnover of firms in period after the IPO relative to the pre-issue year. The median changes in sales growth are 0.00 (year 0), -0.30 (year +1), -0.53 (year +2), -0.61 (year +3), -0.61 (year +4), and -0.63 (year +5). The median change in the year of IPO is significant at 5 percent, while changes in all other post-IPO years are significant at 1 percent. The declining asset turnover shows that the firms raise their assets while their net sales are declining, indicating suboptimal utilization of their asset in the period after the issue.

In conclusion, the results suggest that Indian firms report substandard operating performance following the initial issue compared to one-year pre-issue. To a certain extent, the declining sales growth and subpar asset utilization can be regarded as contributors to the declining operating performance. According to Jain and Kini (1964), the downward trend of operating performance is consistent with the agency theory of Jensen and Meckling (1976). The agency theory claims that the changes in firms' ownership after the issue causes the increased agency costs and motivates managers to overinvest in the assets while underutilizing the existing assets. Further, reduced ownership of the incumbent managers may also result in lack of motivation to maintain or increase the firms' performance. Alternatively, the pre-IPO performance of firms could have been window dressed by the managers and reported higher than the actual performance to attract more subscribers for their IPO.

The agency theory offers a convincing explanation for the declining post-issue performance through caused by managerial complacency, however several structural and behavioural factors in the Indian market also may contribute to this outcome. Market over-optimism is one such factor where investors as well as firms overvalue the growth prospects during bullish market phases and often lead the inflated valuations of IPOs. These firms face difficulties during market corrections, which result into deteriorating post-IPO performance. Second, the regulatory inefficiencies and compliance requirements in Indian market may divert the managerial focus from operational efficiency to meeting regulatory requirements, thereby reducing productivity in the post-IPO years. Third, managerial short-termism — arising from the need to deliver immediate post-issue performance — often leads to overinvestment, earnings management, or inefficient allocation of capital. This in turn negatively affects the long-term performance of Indian firms after the IPO. Together, these factors along with the underdeveloped institutional environment in India, provide an explanation for the observed post-issue underperformance.

### **Correlation of the Pre-IPO Firm Characteristics with Post-IPO Operating Performance**

Table III reports the correlation between the performance in the first, third, and fifth year after the IPO with the firm- and IPO-specific characteristics in the year preceding the IPO. The IPO-size is inversely related with the first-year performance of ROA (-0.03), and positively with the performance of OCF in all the time periods (0.15, 0.06, 0.03, respectively for first, third, and fifth year). The overall result indicates that firms with bigger IPOs exhibit better operating performance in distant future upto 5 years post-IPO unlike the firms launching smaller IPOs.

The post-IPO public holding is inversely correlated with the ROA (-0.28, -0.14, -0.14, respectively for first, third, and fifth year) and OCF (-0.24, -0.17, -0.12, respectively for first, third, and fifth year) in all the time periods, indicating that the more the ownership is offered in the IPO, the worse the firm performs in post-issue periods. This finding is also in line with the suggestions of the agency theory of Jensen (1986). The incumbent managers of the firm lose their interest in maintaining or improving the performance of the firm as their ownership in the firm decreases. Therefore, firms that offer larger ownership to the public exhibit deteriorating operating performance in all the post-issue periods.

**Table III: Correlation Analysis**

	<b>RO A (+1)</b>	<b>RO A (+3)</b>	<b>RO A (+5)</b>	<b>OC F (+1)</b>	<b>OC F (+3)</b>	<b>OCF (+5)</b>	<b>Isize</b>	<b>Owner- ship</b>	<b>PE</b>	<b>DE R</b>	<b>Fage</b>	<b>FSiz e</b>
<b>ROA (+1)</b>	1.00											
<b>ROA (+3)</b>	0.40	1.00										
<b>ROA (+5)</b>	0.35	0.34	1.00									
<b>OCF (+1)</b>	0.46	0.28	0.23	1.00								
<b>OCF (+3)</b>	0.31	0.26	0.23	0.19	1.00							
<b>OCF (+5)</b>	0.28	0.12	0.15	0.22	0.14	1.00						
<b>Isize</b>	-0.03	0.00	0.00	0.15	0.06	0.03	1.00					
<b>Owner- -ship</b>	-0.28	-0.14	-0.14	-0.24	-0.17	-0.12	-0.38	1.00				
<b>PE</b>	-0.09	-0.01	-0.01	-0.02	-0.01	-0.05	0.00	-0.01	1.00			
<b>DER</b>	-0.08	0.01	-0.03	-0.12	0.06	0.08	-0.01	0.05	0.00	1.00		
<b>Fage</b>	0.01	0.05	-0.03	0.12	0.01	0.03	0.32	-0.26	-0.03	-0.07	1.00	
<b>FSize</b>	-0.13	-0.05	-0.04	0.05	0.04	0.00	0.88	-0.33	0.00	-0.01	0.30	1.00
<b>Source:</b> Created by Authors												

Similarly, the PE ratio at which the IPO was issued also has the inverse relationship with both the ROA (-0.09, -0.01, -0.01, respectively for first, third, and fifth year) and OCF (-0.02, -0.01, -0.05, respectively for first, third, and fifth year) in all post-IPO periods. The high PE ratio indicates the overvaluation of IPO at issue price. The managers of overvalued firms

benefit from offering their shares in such IPOs by selling their low value shares at higher price. Consequently, the lack of further interest in firm's valuation results in deteriorating performance in the periods after the IPO.

The leverage ratio has inverse correlation with post-issue performance of ROA in 1<sup>st</sup> year (-0.08) and 5<sup>th</sup> year (-0.03) and the performance of OCF (-0.12) in the 1<sup>st</sup> year post-issue. DER has positive correlation with the performance of ROA in third year after the IPO (0.01) and the OCF in the 3<sup>rd</sup> (0.06) and 5<sup>th</sup> year (0.08). The leverage of the firm often acts as a two-edged sword. Higher leverage results into higher interest payments, thereby reducing the profitability and the firms' liquidity. However, the positive association of leverage with the performance of OCF in third and fifth years is a surprising result, indicating the positive effects of the debt on the performance.

The FAge also has positive relation with the performance of both the ROA and OCF in all the post-issue periods except the fifth-year performance of ROA, which is inversely related with the FAge (-0.03). Overall, the positive correlation is in line with the general consensus that older firms are more experienced, have better connections with suppliers and customers, and have greater market shares in comparison to the newer firms in the industry.

The FSize is inversely related with the performance of ROA in all the post-issue periods (-0.13, -0.05, -0.04, respectively for first, third, and fifth year), while it is also positively correlated with the OCF in 1<sup>st</sup> year (0.05) and 3<sup>rd</sup> year (0.04) and unrelated in the fifth year (0.00). The findings imply that smaller firms show better performance than larger firms. The inverse relationship can be attributed to the IPO's effect on the asset base of firms. The IPO significantly increases the asset base of the firm, while the firms' operating performance may improve gradually over the years. This may reflect as a deteriorating operating performance. This is also evident from the declining magnitude of inverse relationship of assets with the performance of ROA in post-IPO periods.

**Pre-IPO Factors Determining the Post-IPO Operating Performance:** Table IV reports the impact of six independent variables (ISize, OWNERSHIP, PER, DER, FAge, and FSize) on the firms' performance (ROA) after the issue. Column A, B, and C show the relationship of explanatory variables with post-IPO ROA in 1<sup>st</sup> year, 3<sup>rd</sup> year, and 5<sup>th</sup> year, respectively.

The size of the IPO (-0.0002), ownership offered in the IPO (-0.3087), PE ratio (-0.0020), and firm age (-0.0658) all show a significant negative impact on first year ROA. Although ISize and PER show a negative impact, the size of impact is only marginal, at best. The performance is negatively impacted by the DER as well (-0.0990), although this effect is statistically insignificant. The first-year performance is significantly positively influenced by the FSize (0.7830). Only OWNERSHIP provided in the offer has a considerable negative influence on the operating performance in the third year (-0.2583). None of the other factors show a significant influence on Indian firms' performance. The ownership has significant negative impact (-0.2742) while the FSize has significant positive effect (0.9684) on the fifth-year performance of firms. The effects of other factors are again statistically insignificant in the fifth year post-IPO. According to Table IV's general findings, firm- and IPO-specific factors have a short-term influence on the performance in the period after the initial issue, but their long-term impacts are relatively unpredictable using these factors. Ownership has a negative impact since it lowers managers' motivation as their ownership stake in the firm is reduced by the IPO. Further, a negative effect of firm age is a surprising result as the mature firms often have better performance as compared to newer firms, owing to their experience in the business.

Table V reports the results of regression of same six independent variables on the performance after the issue measured by OCF. Column A, B, and C show the influence of independent variables on performance of OCF in 1<sup>st</sup> year, 3<sup>rd</sup> year, and 5<sup>th</sup> year after the public offer, respectively.

**Table IV: Regression Analysis**

Dependent Variable = Operating Profits divided by Total Assets						
Return Horizon	(Column A)		(Column B)		(Column C)	
	1 Year post-IPO		3 Years post-IPO		5 Years post-IPO	
	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
<b>Intercept</b>	19.45	0.0000 ***	13.9581	0.0005 ***	15.3768	0.0003 ***
<b>ISize</b>	-0.01	0.00 ***	-0.01	0.06	-0.01	0.07
<b>OWNERSHIP</b>	-0.31	0.00 ***	-0.26	0.02 *	-0.27	0.02 *

<b>PE</b>	-0.01	0.04 *	-0.01	0.84	-0.01	0.79
<b>DER</b>	-0.11	0.11	0.05	0.68	-0.08	0.52
<b>Fage</b>	-0.07	0.06 *	0.01	0.98	-0.14	0.06
<b>FSize</b>	0.78	0.00 ***	0.66	0.11	0.97	0.03 *
<b>R Square</b>	0.14		0.03		0.04	
<b>Significance</b>	0.00 ***		0.04 *		0.01 ***	
<b>Notes:</b> ***, **, and * indicate significance at 0.1, 1, and 5 per cent respectively.						
<b>Source:</b> Created by Authors						

The results in Table-V show that the first-year performance of OCF is significantly negatively impacted by the ISize (-0.0002) and the DER (-0.3430). Although the ownership, PE ratio, and the age have a negative impact on performance (-0.1893, -0.0009, -0.0880, respectively), the effect is statistically insignificant. The FSSize has a positive influence on 1<sup>st</sup> year firms' performance as determined by OCF (2.9125), consistent with earlier findings in Table IV. Similar to earlier findings, the ownership offered in the IPO significantly impairs the third-year performance (-0.1850). The OCF of firms in 3<sup>rd</sup> year after the initial issue is still significantly positively impacted by the firm's size (1.0854). Lastly, the FSSize has a considerable favourable impact on OCF's performance five years after issue (1.2517). Although the performance is negatively impacted by the other parameters, the relationship is not statistically significant.

**Table V: Regression Analysis**

Dependent Variable = Operating Cash Flows divided by Total Assets						
Return Horizon	(Column A)		(Column B)		(Column C)	
	1 Year post-IPO		3 Years post-IPO		5 Years post-IPO	
	Coefficients	P-value	Coefficients	Coefficients	P-value	Coefficients
<b>Intercept</b>	-6.19	0.14	7.09	0.02 *	5.36	0.21
<b>ISize</b>	-0.01	0.04 *	-0.01	0.11	-0.01	0.11
<b>Ownership</b>	-0.19	0.11	-0.19	0.03 *	-0.15	0.18
<b>PE</b>	-0.01	0.62	-0.01	0.84	-0.01	0.27
<b>DER</b>	-0.34	0.01 **	0.11	0.24	0.22	0.08
<b>Fage</b>	-0.09	0.22	-0.09	0.11	-0.05	0.49

<b>FSize</b>	2.91	0.00 ***	1.09	0.00 ***	1.25	0.00 **
<b>R Square</b>	0.16		0.06		0.04	
<b>Significance F</b>	0.00 ***		0.00 ***		0.00 **	
<b>Notes:</b> ***, **, and * denote significance at 0.1, 1, and 5 per cent respectively.						
<b>Source:</b> Created by Author						

Similar to previous results, the overall finding indicates that the near-term performance of firms can be estimated by the ISize, the DER, and the FSize. In contrast, the performance over long term period is relatively independent of these variables and cannot be estimated.

### **Conclusion**

The study examined the performance in the years following the initial offer of 439 Indian firms launching their IPOs from 2014 to 2018. Using the operating performance measures suggested by Jain and Kini (1994), the post-issue performance was studied for first year, third year, and fifth year after the completion of the IPO. In line with Jain and Kini (1994), the study found a significant decline in the post-issue operating performance of the Indian firms in all the time periods. Additionally, an analysis of the relationship of several firm- and IPO-specific factors with the operating performance following the issue was carried out for three time periods. According to the study, the size of Indian firms significantly positively affects their performance in 1<sup>st</sup> year after the issue, whereas the size of IPO, ownership offered, PE ratio, and firm age have significant negative effects. Nonetheless, in longer timeframes, such as the third and fifth years, ownership and firm size continue to be important determinants of performance, while the impact of other factors becomes negligible.

However, the significant factors change when a different variable is used for measuring the operating performance. When OCF is used as a performance variable, only the size of IPO and leverage have the significant negative effect, while the effect of other factors stands insignificant. However, the firm size remains significant factor positively affecting the OCF in the 1<sup>st</sup> year after the public issue. In 3<sup>rd</sup> year, only ownership and firm size are significant factors, while in the fifth year, only the firm size remains as a significant factor determining the operating performance.

## **Implications**

For Indian IPO investors, the current study has major implications. Investors can use the firm's pre-IPO characteristics to gauge its long-term operating performance after the IPO as well as its possible short-term IPO returns. The study's primary findings show that Indian firms' operating performance usually declines for up to five years after they go public, indicating that IPO investing should generally be avoided until the firms' operating performance starts to improve. Further, the study suggests that investing in the IPOs of older firms, where larger equity is raised from the public by offering higher ownership of the firm, at the higher valuation as indicated by high PE ratio, should be avoided as these characteristics indicate a potential of deteriorating performance in at least the 1<sup>st</sup> year after the public issue. However, the IPOs of larger firms are desirable for investors as these firms exhibit enhanced performance in the post-issue years. The results further suggest that for a long-term investor, only the ownership offered in the issue and the pre-issue firm size are significant factors to consider while making investment decisions. While the higher ownership offered in IPO is a sign of deteriorating long term performance upto 5 years after the issue, the larger firm size is a desirable characteristic.

Additionally, the findings also have important implications for policymakers and firms themselves. For policymakers, the evidence of the post-issue underperformance suggests the need for stronger regulatory oversight and disclosure requirements to reduce the opportunistic behaviour of firms in listing their IPOs and improve transparency in IPO valuations as well as the post-issue corporate governance. In order ensure that IPO proceeds are utilized for designated purposes and invested in profitable opportunities instead of in short-term profitable opportunities, regulatory requirements could be strengthened through reform. For firms, the findings indicate the importance of maintaining post-issue operational efficiency, avoiding overinvestments, and aligning the managerial incentives with long-term performance instead of the short-term market reactions. In order to maintain accountability after the ownership dilution caused by the IPO, firms should also strengthen their corporate governance. This can help control the declining performance after the IPO-issue and support a sustainable IPO ecosystem in India.

### **Scope for Further Research**

The future research can compare the changes in operating performance across several countries. A comparison of the changes in performance in developed and emerging market firms is also desirable. Further, additional variables can be considered as factors influencing the post-issue performance across several countries. Specifically, qualitative factors such as the board characteristics are of particular interest.

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# **Contribution of the Determinants of GDP to Annual Growth: Evidence of Bangladesh**

**Dr. Mohammad Abu Misir<sup>1</sup>**

## **Abstract**

Bangladesh is a developing country and rapid growth in gross domestic product (GDP) typically denotes a higher level of development, which leads to improvements in many dimensions of economic forces. Present study attempts to depict the contribution and performance of indicators of the economy of Bangladesh on her GDP and the overall condition of the same. The study deals with several economic indicators and measures the relationship with the GDP so that the paper can identify the condition of the economy as well as measure the relationship with the identified influencing indicators. This paper also investigates the significant impact as independent variables on GDP annual growth over the last 21. Therefore, multiple regression and time series analysis, etc. have been applied to analyze data during the period from 2000 to 2021. This paper provides an idea of the present and upcoming future conditions of economic growth and elaborates on the findings, which ultimately provide an idea of the growth of current economy and describe the reason for the growth in the economy in Bangladesh. There are also some analyses to clarify the situation, such as the key driving factors of economic growth and crisis over the years based on the related factors in the economy. Finally, the results and recommendations are arranged according to the findings and illustrate the possible actions that may stabilize the economy as well as the most substantial and influential economic indicators having a significant impact on GDP in Bangladesh.

**Key-words:** GDP, Economic Indicators, Multiple Regression Analysis, Time Series Analysis, Economic Crisis

## **Introduction**

Being a fastest growing country in South Asian region, Bangladesh is one of them. Her gross domestic product (GDP) is recoded as constantly growing till 2019. In 2020, Indian economy contracted by 8% while Bangladesh economy grew by 3.4%. Recently (in 2022) Bangladesh asked

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IMF to grant a sum of \$ 4.5 billion credit. Previously, she had received at least \$ 1.7 billion in loans from abroad by 42at least \$ 3 billion from donors as budget support to fight the adverse impact of the pandemic. Bangladesh is trying to grow at an increasing trend towards being a developed country. Most of the sectors in this country show this trend.

Economic emancipation has been observed during past few years. One-third of the people of Bangladesh surviving below the poverty line. Over the last decade, GDP has been around 6% to 7.2%. But on the basis of current economic condition, government debt burdens are increasing over time. Inflation, government debt, and unemployment were all disappointing, although migrant workers and remittances increased. GDP Annual Growth is a measure of the global economy that assesses a nation's economic development. It attempts to estimate a country's prosperity through its economic development, which contributes to analyze its situation as a whole. The most-widely used indicator of economic activity is GDP, which is a useful tool for monitoring a country's economic health. This paper states, defines and identifies the economic and financial forces which affect Annual growth of GDP of Bangladesh. This study is crucial because economic crisis of Bangladesh needs to be explained and it evaluates the performance of determinants that affect GDP growth significantly. The major focus of the paper is to identify the most influential determinants of GDP that have a greater impact than the fluctuation and growth of GDP and track the variation of the chosen data points over a specified time period on regular interval basis.

Further the research work is furnished with analytical model to observed the variables whether they can show any significant impact on the interest rates. The focusing aspects of this paper will help the readers observing the contributions of Annual Growth of GDP which is influenced by the different economic and financial determinants of the emerging and developing economy of Bangladesh.

## **Literature Review**

The principal object of this research paper is to emphasize on observing the underline aspects accountable indicators of financial and economic growth which derived from the evidence of emerging economy in Bangladesh. This research has been conducted by numerous literatures of a substantial number of research studies on the issue and over views of institutions concerned over a

couple of past decades and thus presented a comprehensive approach whether than an atomistic view of the literature.

In Bangladesh, the progress of economic growth depends on economic reforms and requires accelerate rate in higher of investment and quality of macroeconomic management. The level of poverty in Bangladesh declined from 48.9 percent in 2000 to 24.3 percent in 2016, while the number of employees surviving in extreme poverty fell from 73.5 percent in 2010 to 14.8 percent in 2016 (Haque, 2018).

Due to a combination of progressive social policies and economic reforms, Bangladesh has been able to draw significant amounts of foreign investment, develop new markets, and generate a growing economy despite of the global economic slowdown (Shah, 2012). Financial development, successful coordination, and modernization initiatives of Bangladesh have given it the opportunity of capturing foreign market as well as cash flows. The net unknown direct venture increased by 42.9 percent in the energy, food, and material industries (Eaton, 1993). Bangladesh needs to develop jobs and employment prospects through a competitive business climate, enhanced human capital and skilled labor force, efficient infrastructure, and a policy environment that encourages private investment to fulfill its objective of being upper middle-income country by 2031 shifting to green growth would ensure the long-term viability of development outcomes for future generations (Haque, 2018).

Power and gas shortages, road network deterioration, bridges and ports, political turmoil and natural disasters are all serious obstacles to national production and growth. Due to the expansion of the budget deficit, the debt burden of the government is rapidly increasing. A slow growth in population helps an increase in per capita income. People working below the poverty line reached 10.4 percent in 2018 against 73.5 percent in 2010. The activities of readymade garment sector starting its trade since 1970s reached \$ 30 billion though the economy is volatile. The services sector including micro/rural finance, women entrepreneurship, and computer uses makes up 53% of the country's GDP (Tanvirul, 2020). For a limited while, the pandemic has reversed the country's regular pattern of neediness decline throughout the course of recent years. A significant increase in poverty was brought on by widespread misfortunes in job and work profit (Chowdhury,

1994). Bangladesh keeps the capability to hunt a lot of over seas investments, develop markets at abroad, and create a booming socio-economy despite the world's stagnation because to a composition of dynamic socio-economic policy reforms. She is supposed to sustain in the market glob and invite international investors as a result of its economic proliferation, emancipation, liberalization, benevolent coordination, and program modernization. The energy, food, and textile industries all saw a rise in net foreign direct investment of 42.9 percent (Khalily, 2016). In 2026, Bangladesh, hence, desires to remove from poorest countries listed by UN (United Nations). Based on the \$ 1.90 per day international poverty threshold, poverty declined from 43.5 percent in 1991 to 14.3 percent in 2016 (Tanvirul, 2020). He also argues that government of Bangladesh should give more effort to boost production, trained, skilled labor for export, increase employment, and simplify migratory policies. The foremost policymakers, researchers, and economists have emphasized the need for greater connection. Economy of Bangladesh has grown rapidly in recent time with 5.3 % average growth of GDP between 2015 and 2018. The average per capita real growth of GDP is 3.5 percent although Bangladesh experienced a 1.7 percent growth in population. This seems to be greater than 1.8 percent experienced by the average low-income nation.

At this point, it's critical to develop and execute the policies that Bangladesh would not be enable only to maintain the recent rates of growth, but also to accelerate socio-economic development and attain middle-income generating nation. A faster economic growth promotes a healthy and effective financial system of the country. However, the efficiency with which financial institutions and markets minimize transaction costs and information asymmetries varies widely among nations, with significant implications for economic growth and development (Abdelhadi, 2013). This study depicts the link between the lending in private sector and GDP per capita growth, other economic indicators, such as  $M_2$  to GDP which are found both statistically and economically significant. In his paper Tanvirul (2020) shows that the contribution of private sector to GDP of Bangladesh reached 44 percent in 2012 against 22 percent in 1990.

This article depicts that the globalization of economy influences Bangladesh to formulate some recommendations for adopting policies. Banerjee (2010) investigates the export-led growth (ELG) hypothesis for five South Asian nations, including Bangladesh, employing co-integration and multivariate Granger Causality tests which present relationships among GDP, imports, and exports

of Bangladesh. Islam (2020) in his research used econometric analysis to look into the factors affecting export performance of Bangladesh. The results of this research show that export performance is linked to a greater export diversification of commodities. During his study from 2008 to 2012, Alam (2018) also discovers that export expansion has a positive effect of the factors of productivity, which significantly boost economic growth in Bangladesh. Colaco, (1985) argues that inflation has a negligible effect on economic expansion. Accordingly, foreign cash inflows are frequently termed as engine of financial progress and a potential remedy for the economic woes of developing nations.

The paper evaluates the portion of GDP as capital, FDI, and forces of labor in a modal, establishing the ability of Pakistan to advance economically that depends on its success in recruiting FDI. Bangladesh has experienced the highest position in the world in terms of disbursement of microfinance. To draw the impacts of direct foreign investment (DFI) on economic expansion, GDP can be considered as influenced variable and DFI as the influencing variable. Ubok-Udom, (1978) demonstrates that foreign direct investment (FDI) is statistically significant and accounts for 83% of GDP fluctuations. GDP and FDI are strongly linked, according to the high correlation, particularly in various manufacturing industries like apparel, banking, telecommunications, fertilizer, and others. Un-doubly, unemployment positively relates to poverty. Therefore, incorporation of sectors ensuring more employment is essential if sustainable development is to aid in the reduction of poverty.

Gender indiscriminate in labor force can contribute in growth streams of economy. Gender equality in labor force is said to be the subject of the most extensive research that many academics have carried out. In his research, Alam (2018) shows that GDP rates rise simultaneously with women's labor force participation rates. The creation of new employment sectors is essential if sustainable development is to aid in the reduction of poverty. According to the aforesaid discussion, it obvious that the researchers had shown the theoretical frameworks and the results of the empirical studies which give insightful data about an economy and serve as a solid foundation for analyses supporting investment choices and other decisions that are influenced by the health and direction of the economy rather than identifying the crucial factors of GDP Annual Growth and measure the trend analysis over the period of time. This paper devotes to describe the

determinants of economic indicators in GDP Annual Growth and evaluate the relationship as well as estimate the contribution of fluctuating factors or variables. Also, the study devotes to strive at measuring the influence of the financial factors on Annual Growth of GDP of Bangladesh with the analysis of time series data and regression.

These are the focal points which make the paper different from other published works. A few studies have been conducted on this issue and numerous results have been observed with rigorous findings. The actual situation of Bangladesh regarding current issue and findings of the previous studies makes confuse to the policy makers to take a clear decision to what extent the macroeconomic variables affect the GDP growth rate of Bangladesh. Keeping these views in mind, this study, no doubt, claim itself as a bona fide research work helping the policy makers of Bangladesh.

**Study Objectives:** This study attempts to strive at identifying financial factors influencing the Annual Growth of GDP of Bangladesh and provides a scenario of the recent situation of fluctuating GDP Annual Growth as well as discusses the various aspects of the economic crisis as described in statement of problem (see Figure-1 in the appendix). The objectives of the paper can be structured as:

**Principal Objectives:** This is to evaluate the contribution of the determinants of GDP annual growth in Bangladesh.

**Specific Objectives:**

Along with the principal object of this paper, there are some specific objectives to meet other partial requirements;

- To estimate the changes in economic and financial indicators in GDP annual growth.
- To find out the magnitude to which the factors can affect GDP annual growth.
- To get an overall view of the connection between different economic forces and GDP annual growth.
- To identify the most influential factors having significant impacts on the changes.

## **Research Hypothesis**

**Null hypothesis (H<sub>0</sub>):** GDP Annual Growth has no relation with economic determinants.

**Alternative Hypothesis (H<sub>1</sub>):** GDP Annual Growth is related with economic determinants.

## **Research Methodology**

### **Research Strategy :**

Broader aim of this study is to illuminate aspects of selected economic determinants which have influence on the changes of GDP annual growth. In the context of the background of the study, the variables are now being pointed out. There is plenty of space to carry out this investigation because the subject is comparably underexplored. In perspective of this, the relevant data over the last 22 years is statistically evaluated.

### **Sources and Collection of Data**

To complete the study, the paper utilizes secondary sources which are related to the information originally from different files and folders and different publications and journal documents. Required information and data have been collected from a variety of sources and structured to support the theoretical framework of the study and numerical evidences have been collected from sources of research works mentioned in the reference part. Numerical secondary data of past 22 years (from 2001 to 2022) regarding several components of GDP's determinants has been taken from World Development Indicators (WDIs), Macro-Trend (shown in Table-10 in appendix).

### **Research Design and Model Specification**

The paper describes the aspects of the existing economic crisis based on the current condition. The research has been designed in several steps.

- To justify the statistical analysis by the outcomes of regression assumptions of the data through the STATA application.
- Time series analysis which measures the trend of the factors influencing the variables from period to period as well as economic variable changes over time.

- Running the multiple regression analysis based on the collected data for the analysis purpose.

The conventional linear long-run correlations between the determinants and GDP annual growth can be expressed as:

$$\text{GDP}_t = \alpha + \beta_1 \text{DTG}_t + \beta_2 \text{FDI}_t + \beta_3 \text{INF}_t + \beta_4 \text{REM}_t + \beta_5 \text{POP}_t + \beta_6 \text{GN} + \beta_7 \text{UN}_t + \beta_8 \text{EX}_t + \varepsilon_t$$

## Analysis of Data and Findings

### Test of Heteroscedasticity

Heteroscedasticity has been tested in STATA using two approaches:

**i]** The probable chi-square value in Breusch-Pagan test for Heteroscedasticity precedes 0.05 (See Table-1 in the appendix). Hence, the null hypothesis can be accepted at 5% significance level implying absence of heteroscedasticity in the residuals, as

$P < 0.05$  **Heteroscedasticity**

$P > 0.05$  No **Heteroscedasticity**

So, it can be said that there is no heteroscedasticity in the residuals.**ii]** To check heteroscedasticity, White test for heteroscedasticity has been conducted. Similar to the findings of the Breusch-Pagan test, the value of probability is greater than  $\text{Chi}^2$  (0.3995) as shown in Table-2 in appendix. The null hypothesis can be accepted at 5% significance level. It implicates that there is homoscedasticity in the residual, as-

$P < 0.05$  Homoscedasticity.

$P > 0.05$  No Homoscedasticity.

If probability is greater than 0.05 then it can be said that there is homoscedasticity.

Because of the constant variance and low residuals error, it can be said that there is presence of homoscedasticity in data which gives positive better fit in the model as well as the model gives a better impact and effect on analysis.

### **Analytical Aspect of Series Data**

Time series analysis seems to be sine-qua-non to emphasize and fit a mathematical model to make decisions about proceeding to forecast the future data. Thereafter time series analysis reveals how variables up and down portraying them rather than other data-sets. It reveals that data fluctuate over the time period and portrays outcomes of their analysis. This study analyzes consistency of the intervals of and uses time factor to forecast and predict future events.

### **Unit Root Test**

Additionally, recent research has reported many unit root tests that check the stationary level of the variables analyzed. Both null and alternative hypotheses are developed to examine the stationarity of all variables. As a result, the following is the unit root hypothesis:

Null Hypothesis (**H<sub>0</sub>**): The data is not stationary.

Alternative Hypothesis (**H<sub>1</sub>**): There exists no unit root which means data is stationary.

As there exists unit root, the series will not be stationary. So, the data-set will not be stationary if the p-value of  $z(t)$  is not found significant and exhibited in Table-7 in the appendix. This test is not to accept the null hypothesis. Mackinnon approximate p-value for  $Z(t) = .008$  (ply see Table-7 in the appendix). If  $z \leq 0.05$ , the null hypothesis ( $H_0$ ) would not be accepted stating that the series has no unit root. As p-value (.008) is less than .05, null hypothesis can be rejected. So, it can be said that there are no unit roots, so the data series is 'Stationary' which gives better output in analysis.

### **ARIMA Regression**

ARIMA has been applied to analyze data-set in order to comprehending them for predicting the trends of future movement. The forecasting technique known as ARIMA, postulates that past values include essential information and can be utilized to predict anticipated future movements. With a view to smoothening data-set, lagged moving averages has been used for analyzing series data.

Null Hypothesis (**H<sub>0</sub>**): There is no evidence regarding non-stationary of data.

Alternative Hypothesis (**H<sub>1</sub>**): There exists strong evidence that data is stationary

The value of log-likelihood shown in Table-8 in appendix (ignoring negative sign) is 19.17484. This value is sufficiently high. Log-likelihood values of different ARIMA models are compared and the highest one would be selected.

### **Johansen Co-Integration Test**

As a popular statistical test, Co-integration needs to be conducted to analyze time series to see the long-range correlation between the variables. It is the most formalized test of Co-integration to provide evaluation procedure to observe the presence of long-range relation among the sets of observation. The output of Co-integration test simulates that there exists long-run existence balance of underlying economic time series that converging in course of time of variables. The model has been tested and the output of the study is established empirically which exhibits the meaningful long-range relationships dependent and independent variables. If trace statistics value is higher than 5% of critical value then we should not accept the null hypothesis. Thus, Null hypothesis ( $H_0$ ): Co-integration does not exist in equation.

Alternative hypothesis ( $H_1$ ): Co-integration does exist in the model.

Present study has conducted the Johansen Co-integration test to analyze the long-term relation between variables. At First, here the study became stationary at 1<sup>st</sup> level difference. From the output, the study has been found in “Rank zero” the trace statistic seems to be 366.046 and the 5% critical value is 192.89 shown in Table-9 in the appendix. That means the trace statistic is larger than 5% critical value in Rank Zero, so null hypothesis cannot be accepted. Also, in rank 1 the trace statistics value 253.63 is higher than critical value 156 (at 5% significant level). Table-9 also depicts that the trace statistic value is larger than the 5% critical value in Rank 1. In this regard, null hypothesis can be rejected. Consecutively in rank 2, 3 4 have also greater trace statistics values 5% critical value. In rank 5, the trace value is 46.3596 and the 5% critical value is 47.29. As a result, the in rank 5 the model can accept the null hypothesis because the trace statistics is lower than 5% critical value. So, it can be said that, in the study has maximum of 4 co integrated equations in the model. The study depicts that (112.1003) max statistic is larger than the 5% critical value (57.12) in Rank Zero, so in that case, null hypothesis cannot be accepted. Also, in rank 1 the value of the max statistic is 62.42 and the 5% critical value is 51.42. Yet again the max statistic value is larger than the 5% critical value in Rank 1. Thus, the

study can reject the null hypothesis again. Serially in rank 2, 3, 4 have also greater max statistics values are greater than 5% critical values which are  $57.8 > 45.28$ ,  $46.75 > 39.37$ ,  $40.62 > 33.46$  respectively (see Table-9 in appendix). In the study, the researchers found that there is a maximum rank of 4 co-integration relations between the variables because both the trace and max statistics value is greater than the 5% critical value in ranks 0 to 4. So, the researcher need not go to others ranks as the output found that at ranks from 0 to 4 there are co-integrated equations that indicate the maximum long-term relationships. Lastly, through the analysis, the study of the model can be said that the variables of this model are more integrated and it has the long-range relations between the variables.

### **Regression Analysis**

Econometric regression model has been used to run the multiple regression. Outputs found in regression model using MS Excel and STATA exhibit the results. The regression model can be expressed as under:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \dots + \beta_n X_n + \varepsilon$$

Where,

Y refers to dependent variable (GDP annual growth),  $\alpha$  refers intercept,

$\beta_i$  ( $i = 1 + 2 + \dots + n$ ) refers correlation coefficients of independent variables  $X_i$  and  $\varepsilon$  refers error term .

**Correlation Matrix :** The correlation coefficient from Pearson's Correlation Matrix is a more feasible technique to check for collinearity. The correlation among all the independent variables needs to be equal to or smaller than 0.80. If the output is greater than 0.80 ( $> 0.80$ ) that means the simple correlation matrix has high correlation. Here, the simple correlation matrix exhibits that there is no variable with high correlation against another.

### **Test of Autocorrelation**

**Durbin Watson test :** One of the statistical methods used to detect autocorrelation (serial correlation) in the residuals of a linear regression model is popular Durbin-Watson (DW) test. It assesses basic assumptions of independent errors, which is often violated in time series data. The decision rules are quite sophisticated since it allows for the rejection of null hypothesis. The regression shows negative correlation.

If  $DW < dl$ , it means the error terms are positively serially correlated and null hypothesis can be rejected.

If  $dl < DW < du$ , it refers to the test is inconclusive.

If  $DW > du$ , the study exhibits that the error terms are not positively correlated and fail to reject the null hypothesis.

Durbin Watson (d) statistics from the STATA command is 2.489 (shown in Table-4 in appendix). Here,  $2.489 > 2.367$  ( $du$ ), the error terms are negatively serially correlated and the study is supposed to accept the null hypothesis. From a 5% “DW Z table” with  $n = 22$  and  $k = 9$ , the upper and lower critical DW values are found to be  $dl = 0.368$  and  $du = 2.367$ , respectively. Since  $DW > du$  ( $2.489 > 2.367$ ), the study fails is supposed to accept the null hypothesis and draw the conclusion that the study has no serial autocorrelation in the data among the error terms.

### **Descriptive Analysis**

Descriptive analyses of the data have been performed prior to undertaking the exploratory data analysis. Descriptive statistics have also been used to inference the characteristics of set observations, such as a variety of mean, standard deviation etc. It happens that the analysis of data, presentation of findings and summary of the study related to a data set derived from a sample. Table-5 (in appendix) presents a set of statistical measures.

The observation of the data set is 22. The findings revealed that the average GDP annual growth is 5.9% in last 21 years. The mean inflation growth is 6.26%, whereas Unemployment is 4.25% of the GDP over the years. We also observed that GNI rate is 8.18% on an average from 2000-2021 in Bangladesh. The Debt to GDP, Population growth, and Foreign Direct Investment average mean values are consecutively 35.85%, 1.26 %, and 0.868% of GDP in the last 21 years.

Average mean values of Export and Remittance are 14.931% and 7.08% respectively. The maximum GDP annual growth was 7.88% whereas minimum is 3.45%. The Export has maximum of 20.2% value total GDP and Remittance has 10.6% of total GDP. The Foreign Direct investment has ranged from 1.7% and 7% of total GDP. And Gross National Income has ranged from 15.13% to 3.64% in 21 years. The maximum Inflation value is 11.4% and minimum is 2% of total GDP. The inflation rate lied between 2% to 11.4% over the years. The minimum Unemployment is 3.3% of GDP and maximum is 5.4 %. It argues that data has been analyzed presented in systematic manner and accurately which allows for a simplified interpretation of the observation.

### **Analysis of Multiple Regression**

After detecting and violating all the assumptions, the sets of data is ready to give better fit to conduct the multiple regression and it has been done to the given set of data.

#### **Hypothesis testing**

Null hypothesis (**H<sub>0</sub>**): There is exists insignificant impact and contribution of financial and economic determinants on GDP Annual Growth.

Alternative hypothesis (**H<sub>1</sub>**): There exists significant impact and contribution of financial and economic determinants on GDP annual growth.

The study uses the command of regression analysis to find the result. As per regression command, the values argue that the model seems to be best-fit. R<sup>2</sup> of regression value exhibits that variables are correlated to the extent of 71.91% indicating that about 71.91 percent total variation of GDP Annual growth can be influenced by independent variables. Furthermore, the value of adjusted R<sup>2</sup> is 54.62 percent and less than R<sup>2</sup>. Through the percentage of Adjusted R<sup>2</sup>, it can be observed that the dependent variable is supposed to be influenced by independent variables.

T-tests have been conducted to give the overview of the study that how the independent variable(s) can influence dependent variable by testing the hypothesis that hold significant slope coefficient. The t-values for inflation, Unemployment, and Debt to GDP are .90, -1.20, and -3.27, respectively (shown in Table-6 in appendix). And Population Growth, Gross National

Income, Foreign Direct Investment have t-values are 2.11, 1.14, 0.72 consecutively. The rest of the variables, Export, and Remittance have significant T values which are 0.80 and 2.88. From the Z table value, the critical value of 1 two-tailed t-values is  $\pm 2.831$ . The researcher gets the T-stat intercept from the output which is 2.88 and the Degree of Freedom is 21. As a result, here  $t\text{-stat} > t\text{-critical}$  ( $2.88 > 2.831$ ) at 1% significance level. Thus, null hypothesis can reject the and the study conclude that the slope is different from zero as well as slope coefficient is statistically significant. The intercept of t-value is higher than 2.831 (From Z Table), the critical value of 1% significance level. Hence, it can be concluded that inflation, Export, Remittance, GNI, FDI, and Population Growth exhibits a significant relationship with at the growth GDP of Bangladesh 1% level of significance. And unemployment rate, Debt to GDP hold negative coefficients as well as Negative T-values so it can be indicated that these variables give less impact on the progression of GDP Annual growth. According to P- Value in the regression analysis process, it is one of the most common methods of hypothesis testing that has to be done with regression coefficient whether to test statistical output is significant or not. As a rule of thumb, when the p-value becomes the smallest level of significance the study can reject the null hypothesis.

Shortly, when P values  $> 0.05$ , the null hypothesis can be accepted.

When P values  $< 0.05$ , the null hypothesis cannot be accepted.

Here P value of this model is .01 happened to be less than 0.05. Therefore, the findings of the study can claim that the model reveals a better fit to give a significant result. F-test evaluates independent variables how well they can be explained the variation of the dependent variable.

According to F-test following decisions can be included as:

If F (test-statistic) is higher than  $F_c$  (critical value), null hypothesis can be rejected. Here, the obtained value of F test statistics is 4.16 (as per Table-6 in appendix). According to F table, critical value of  $F_c$  is 2.77 and less than 4.16, so null hypothesis cannot be accepted at 5% significance and the rejection of null hypothesis indicates that the regression model carries the effective independent variables which give significant contributions by explaining the dependent variable i.e., GDP in economic growth in Bangladesh.

Following above discussion and analysis, it can be concluded that the independent variables have a significant statistical influence on the dependent variable. The study cannot accept the null hypothesis thus there is a significant impact of financial and economic determinants to evaluate the contribution and performance of economic forces in GDP annual growth.

### **Coefficient and Correlation Output**

Correlation analysis has been conducted to observe the inter relationship between independent variables and dependent variables. The correlation matrix exhibits a positive and significant correlation of GDP with the independent variables. Moreover, the independent variables are also interrelated with each other which are exhibited in the appendix.

## **VII. Results and Implications**

The statistical analyses are the basis of the research. The independent variables are statically found suitable and significant to interpret the results. The paper describes the aspects of the existing economic crisis based on the current condition. The statistical analysis and the regression assumption of the data through the STATA application are authentic and significant. Time series analysis measures the trend of the influencing factors from period to period as well as economic variable changes over time. Multiple regression analysis based on the secondary data for the analysis purpose has appropriately been chosen and has been tested to draw the statistical relationship between the variables. Inflation Rate has a significant positive relationship between GDP annual growth and inflation rate over the years. Unemployment rate is negatively related with GDP. The study depicts that the coefficient of Export, population growth, FDI, Remittance, inflation, GNI growth is significant. The coefficient values of Unemployment and population growth is significant. Because when the population growth increases, unemployment must be increased because of investment opportunities but the outcome does not signify at 5% probability level. The coefficient of GDP and inflation relates the expected sign and besides foreign direct investment gives expected result which means increases in FDI will enhance the unemployment rate. The foreign direct investment is significant at 5% probability level. Besides, level of significance for FDI supports the long run influence in the unemployment rate of Bangladesh. The study also found that coefficient value

of Debt to GDP is statistically significant and negative correlation with the GDP. The correlation matrix shows that GDP has a positive and significant correlation with gross national income at 5% significance level. If the GNI (Gross National Income) is increase arise at 5% significance level as well as the GDP rate will be higher. And if the GNI will decrease the Government Debt to GDP as well as increase at a significance level. From the output table of, it is found that coefficient value of population growth, inflation, Unemployment is statistically significant with Gross National Income. The regressions of the study have showed that there is direct correlation between FDI (Foreign Direct Investment) and GDP 5% significance level. FDI (Foreign Direct Investment) also has a positive and significant correlation with GNI, Population growth and inflation at 5% significance level. Also, the FDI has a significant negative relationship with the Debt to credit GDP at significance level. As FDI increase the expansionary investment opportunity and profit/sales, higher FDI increase the Gross National Income. But if the FDI becomes lower, it will generate the proportion of higher Government Debt. It has been assumed that foreign direct investment (FDI) is an important factor of economic growth. It is the most the dynamic element as investment is of gross domestic product (GDP) and FDI is one of the independent variables which affect the annual growth of GDP meaningfully in the emerging economic Bangladesh .The researcher showed the analysis through the output of studies Bangladesh has the consistency increase Foreign Direct Investment attract the GDP growth rate. The research study has shown the substantial correlations of FDI with Inflation, Debt to GDP. By the validation of the relationship between the variables is the main aim of the research study. Exports and remittance are vital components of contribution of the annual growth in GDP in the economy of Bangladesh. After all the discussion and from the output have identified the most influential as well as significance indicators are Foreign Direct Investment, exports and Remittance in emerging economy in Bangladesh. There are similar correlations and positive relationship between emerging remittance and Foreign Direct Investment, exports, Remittance and inflation. The robust and highly significant Remittance bring currency into the country, which is increasing the exporting nation's GDP. At the same time, exports show a significant positive impact in the absolute term with the lag period in the long-run there is significant relationship between exports and Remittance in Bangladesh. There is significant relationship in Debt to GDP, Remittance, FDI, Export, Gross national Income and foreign direct investment with GDP.

## **Conclusion**

The paper has conducted the analysis in order to identify the factors influencing Gross Domestic Product (GDP) of Bangladesh. Gross national income, foreign direct investment, export, and remittance are statistically significant elements in the contribution of GDP development in Bangladesh even though other indicators like unemployment and debt to GDP are rather insignificant. Through the findings of the study reveal that all the independent variables have a long-term relationship with the GDP. Also, the most influential variables are remittance, Foreign Direct Investment, and export, while the most insignificant variables are debt to GDP and unemployment. Bangladesh's economy has been expanding sustainably since a few years ago, as measured by GDP growth. The World Bank predicts that Bangladesh would leave the list of poor countries (henceforth LDCs) by 2026 if its current rate of economic growth would be maintained. However, Bangladesh should indeed continue to increase exports by establishing a number of international free trade agreements. Lastly, based on the findings of the research, debt burden has major negative influence on Bangladesh's economic growth. This report suggests that Bangladesh should explore at debt reduction options, boost infrastructural development, and advance human development.

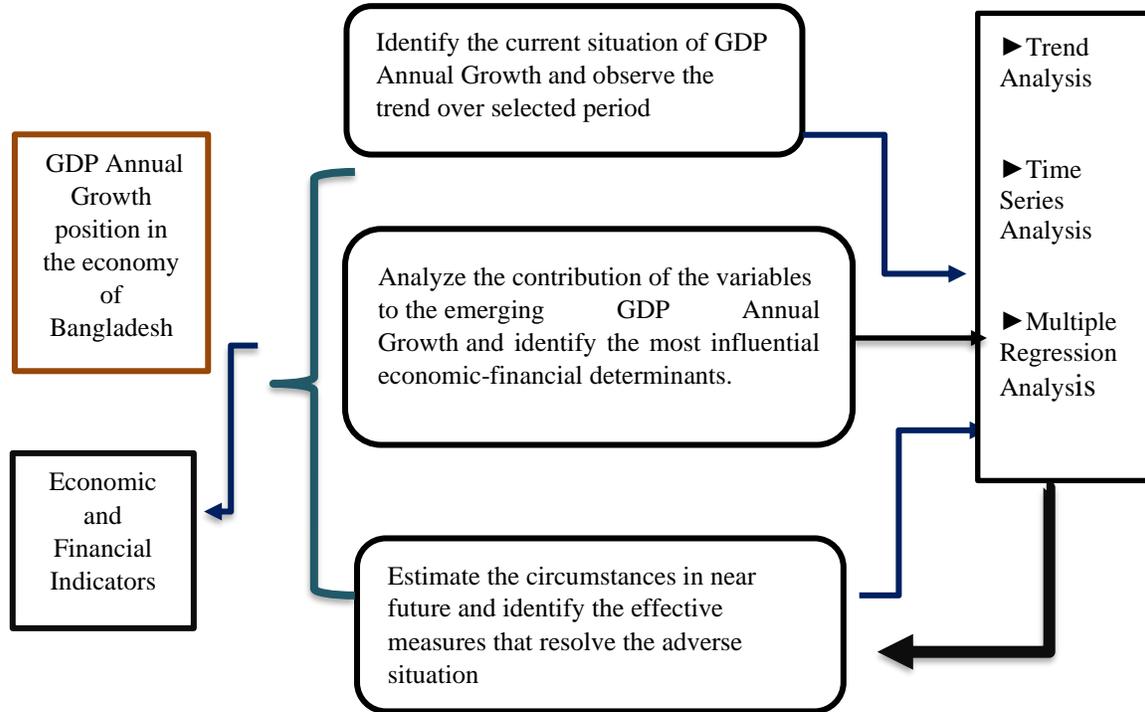
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## Appendix

**Figure-1: Shows the theoretical and Conceptual Framework of Related Issues of the Study**



**Table-1: Showing the Breusch-Pagan test for Heteroscedasticity**

```
. estat hettest  
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity  
Ho: Constant variance  
Variables: fitted values of GDPAnnualgrowth  
  
chi2(1) = 0.11  
Prob > chi2 = 0.7447
```

**Table-2: Showing White test for Heteroscedasticity**

```

. estat imtest, white

White's test for Ho: homoskedasticity
  against Ha: unrestricted heteroskedasticity

      chi2(21)      =      22.00
      Prob > chi2   =      0.3995

Cameron & Trivedi's decomposition of IM-test

```

Source	chi2	df	p
Heteroskedasticity	22.00	21	0.3995
Skewness	8.15	8	0.4189
Kurtosis	0.46	1	0.4983
Total	30.61	30	0.4348

**Table-3: Showing Pearson Correlation matrix**

```

. corr GDPAnnualgrowth InflationRate UnemploymentRate DebtToGDP PopulationGrowth GrossNationalIncome
(obs=22)

```

	GDPAnnualg~h	Inflat~e	Unempl~e	DebtTo~P	Popula~h	GrossN~e	Foreign~t	Export	Remitt~e
GDPAnnualg~h	1.0000								
InflationR~e	0.3254	1.0000							
Unemployme~e	-0.0516	0.0789	1.0000						
DebtToGDP	-0.5390	-0.2587	-0.4575	1.0000					
Population~h	0.0234	0.3530	0.0537	0.3191	1.0000				
GrossNatio~e	0.5525	0.3364	0.1640	-0.5080	-0.0606	1.0000			
ForeignDir~t	0.4351	0.5701	0.1473	-0.4926	0.1584	0.4183	1.0000		
Export	0.2982	0.5595	-0.2067	-0.2510	0.3326	0.1498	0.7183	1.0000	
Remittance	0.1397	0.6507	0.2092	-0.4182	0.3640	0.2390	0.7107	0.8100	1.0000

**Table-4: Showing Durbin Watson Test**

```

. tset year
      time variable:  year, 1 to 22
      delta: 1 year

. dwstat

Durbin-Watson d-statistic( 9, 22) = 2.489098

```

**Table-5: Exhibiting the Descriptive Analysis of data**

Variable	Obs	Mean	Std. Dev.	Min	Max
GDPAnnualg~h	22	5.998636	1.117128	3.45	7.88
InflationR~e	22	6.268182	2.147066	2	11.4
Unemployme~e	22	4.25	.5298248	3.3	5.4
DebtToGDP	22	35.85955	8.523196	22	50
Population~h	22	1.267727	.2734947	1	1.9
GrossNatio~e	22	8.182727	3.123559	3.64	15.13
ForeignDir~t	22	.8681818	.4422737	.1	1.7
Export	22	14.93182	3.162938	10.4	20.2
Remittance	22	7.089545	2.081351	3.7	10.6
year	22	11.5	6.493587	1	22

**Table-6: Showing results of Regression Model of data set**

Source	SS	df	MS	Number of obs = 22		
Model	18.8454543	8	2.35568179	F( 8, 13) =	4.16	
Residual	7.36200714	13	.566308242	Prob > F =	0.0114	
Total	26.2074614	21	1.24797435	R-squared =	0.7191	
				Adj R-squared =	0.5462	
				Root MSE =	.75253	

GDPAnnualgrowth	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
InflationRate	.0973041	.1084282	0.90	0.386	-.1369408	.3315489
UnemploymentRate	-.6204519	.5173824	-1.20	0.252	-1.738189	.4972849
DebtToGDP	-.1118212	.0341989	-3.27	0.006	-.1857036	-.0379389
PopulationGrowth	1.81418	.8583605	2.11	0.054	-.0401946	3.668556
GrossNationalIncome	.076795	.0676144	1.14	0.277	-.069277	.222867
ForeignDirectInvestment	.4836654	.6683294	0.72	0.482	-.9601725	1.927503
Export	.1113694	.1395087	0.80	0.439	-.1900209	.4127597
Remittance	.4732478	.1907661	2.48	0.028	-.8853729	.0611228
_cons	10.37947	3.599501	2.88	0.013	2.603223	18.15572

**Table-7: Showing the Statistical Analysis of data**

```

.dfuller dgdg, trend regress lags(1)

Augmented Dickey-Fuller test for unit root           Number of obs   =           19

              _____ Interpolated Dickey-Fuller _____
              Test          1% Critical   5% Critical   10% Critical
              Statistic     Value         Value         Value
-----
Z(t)          -4.029         -4.380        -3.600        -3.240
-----
MacKinnon approximate p-value for Z(t) = 0.0080
    
```

**Table-8: Showing ARIMA Regression of data**

```

ARIMA regression

Sample: 1 - 22                               Number of obs   =           22
Log likelihood = -19.17484                    Wald chi2(8)    =           34.57
                                              Prob > chi2     =           0.0000
    
```

GDPAnnualgrowth	OPG				
	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
<b>GDPAnnualgrowth</b>					
InflationRate	.0973041	.1468038	0.66	0.507	-.1904261 .3850343
UnemploymentRate	-.6204519	.5332541	-1.16	0.245	-1.665611 .4247069
DebtToGDP	-.1118212	.0368182	-3.04	0.002	-.1839837 -.0396588
PopulationGrowth	1.814181	1.062204	1.71	0.088	-.2677017 3.896063
GrossNationalIncome	.076795	.100348	0.77	0.444	-.1198835 .2734735
ForeignDirectInvestment	.4836654	.8122207	0.60	0.552	-1.108258 2.075589
Export	.1113694	.1650716	0.67	0.500	-.212165 .4349037
Remittance	.4732478	.2189072	2.16	0.031	-.9022981 .0441975
_cons	10.37947	3.582866	2.90	0.004	3.357183 17.40176
/sigma	.5784779	.1437873	4.02	0.000	.29666 .8602959

Note: The test of the variance against zero is one sided, and the two-sided confidence interval is truncated at zero.

**Table-9: Exhibiting Johansen Co-Integration Test**

Johansen tests for cointegration						
Trend: constant			Number of obs =		20	
Sample: 3 - 22			Lags =		1	
maximum				trace	5%	
rank	parms	LL	eigenvalue	statistic	critical value	
0	9	-236.02145	.	366.0641	192.89	
1	26	-179.97128	0.99632	253.9637	156.00	
2	41	-148.75653	0.95591	191.5342	124.24	
3	54	-119.85829	0.94441	133.7378	94.15	
4	65	-96.480388	0.90346	86.9820	68.52	
5	74	-76.167862	0.86883	46.3569*	47.21	
6	81	-63.759609	0.71085	21.5404	29.68	
7	86	-57.15982	0.48314	8.3408	15.41	
8	89	-53.104689	0.33337	0.2306	3.76	
9	90	-52.989412	0.01146			

maximum				max	5%	
rank	parms	LL	eigenvalue	statistic	critical value	
0	9	-236.02145	.	112.1003	57.12	
1	26	-179.97128	0.99632	62.4295	51.42	
2	41	-148.75653	0.95591	57.7965	45.28	
3	54	-119.85829	0.94441	46.7558	39.37	
4	65	-96.480388	0.90346	40.6251	33.46	
5	74	-76.167862	0.86883	24.8165	27.07	
6	81	-63.759609	0.71085	13.1996	20.97	
7	86	-57.15982	0.48314	8.1103	14.07	
8	89	-53.104689	0.33337	0.2306	3.76	
9	90	-52.989412	0.01146			

**Table-10: Table Showing Annual Data of the Determinants of GDP in Bangladesh During 2000-2021**

Year	Dependent Variable	Independent Variables							
	GDP Annual Growth	Infl. (%)	Unemployment (%)	Debt to GDP (%)	Population Growth (%)	GNI (%)	FDI (%)	Exp (%)	Remitt. (%)
2001	5.29	2.2	3.3	46.4	1.13	4.7	0.5	12.3	3.7
2002	5.08	2.0	3.6	46.31	1.12	4.35	0.1	13.4	3.9
2003	3.83	3.3	3.9	50	1.15	4.18	0.1	12.4	5.2
2004	4.74	5.7	4.3	49	1.23	4.55	0.4	11.4	5.3
2005	5.24	7.6	4.3	48.2	1.36	10.87	0.7	11.1	5.5
2006	6.54	7.0	4.2	46.9	1.5	7.84	1.2	14.4	6.2
2007	6.67	6.8	3.6	40.2	1.63	3.64	0.6	16.4	6.7
2008	7.06	9.1	4.1	38.6	1.75	7.02	0.8	17	7.5
2009	6.01	8.9	4.6	37.1	1.84	8.2	1.4	17.7	9.8
2010	5.05	5.4	5.0	35.9	1.9	10.61	0.9	16.9	10.3
2011	5.57	8.1	3.4	32.3	1.1	9.59	1.1	16	9.5

2012	6.46	11.4	3.8	32.4	1.2	11.25	1	19.9	9.4
2013	6.52	6.2	4.1	31.8	1.2	8.99	1.2	20.2	10.6
2014	6.01	7.5	4.4	30.4	1.2	7.22	1.7	19.5	9.6
2015	6.06	7.0	4.4	29.6	1.1	6.73	1.5	19	8.7
2016	6.55	6.2	4.4	27.7	1.1	9.91	1.5	17.3	7.8
2017	7.11	5.5	4.3	27.7	1.1	12.3	1.1	13.9	6.1
2018	6.59	5.7	4.4	27	1.1	10.95	0.7	12.8	5.17
2019	7.32	5.5	4.4	28.1	1.1	15.13	0.9	12.7	5.5
2020	7.88	5.6	4.4	29.6	1	10.86	0.6	13.1	6.2
2021	3.45	5.7	5.4	31.7	1	4.61	0.4	10.4	6.6
2022	6.94	5.5	5.2	22	1.08	6.52	0.7	10.7	6.7

## Investor Insights: Awareness and Perception of Social Stock Exchanges

Dr. Shabbirali S. Thavara<sup>1</sup>

### Abstract

“Social Stock Exchange” is a division of the current stock exchange that facilitates the public financing of social entrepreneurs using the stock exchange system. This study explores the perception and awareness of investors towards “Social Stock Exchange” in North Gujarat region. A structured questionnaire was administered to 412 respondents by employing convenience sampling method. Data were analyzed through SPSS. Result indicates that most of respondents were aware of Indian SSE initiative and perceptions of majority respondents were very positive. As per investors SSE adds transparency, beneficial to social enterprises, and contributes to socio-economic and sustainable development. The result of Chi-square indicates substantial connection among educational qualification of investors and awareness. ANOVA show significant differences in perception across age groups and post-Hoc confirms that middle-aged respondents (31–40 years group) have a much stronger positive perception. The result of correlation shows perception and awareness are favorably connected ( $r = 0.482$ ,  $p < 0.05$ ), suggesting that perception is enhanced by more awareness. Limitation includes geographical focus, sampling, time and survey instrument constraints. The study recommends investor Education initiatives, policy framework and digital accessibility. The study concludes that perception and awareness are interconnected and highlights the significance of education as well as dissemination of knowledge for effectiveness of SSE.

**Keywords:** Social Stock Exchange, Investors, Awareness, Perception, North Gujarat.

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## **1. Introduction.**

The “Social Stock Exchange” (SSEs) is a division of the current Stock Exchange that facilitates the public financing of social entrepreneurs using the stock exchange system. It attempts to offer a different means of raising funds. SSE acts as a middleman among social enterprises and investors. “Social Stock Exchange” (SSE) allows investors to buy shares in social enterprises that have been approved by a recognized stock exchange. A revenue-generating company whose core objective is to achieve a societal goal is considered a social enterprise. The social enterprises must participate in an eligible activity, such as eliminating poverty, supporting healthcare, hunger and inequality, advancing education, assisting with source of revenue and employability, empowering women and communities in the context of gender equality; and assisting social enterprise incubators. The pandemic gave rise to the idea of SSE, which emphasized the importance of social capital for businesses and voluntary entities that promote social welfare.

In order to restore the livelihoods of those impacted by the epidemic, “Social Stock Exchange” (SSE) will require social capital in order to mitigate the economic harm caused by the Covid-19 pandemic. By opening up significant social capital pools and facilitating the collaboration of commercial and social capital, the “Social Stock Exchange” seeks to solve this urgent issue.

As per the report of British council, 32% of social firms in India stated that banks and other financial institutions generally didn't comprehend what they did, and 20% said that the community wasn't aware of the aims, purposes, and activities of these organizations. Additionally, the study discovered that roughly 33% of Indian social entrepreneurs believed that their small networks prevented them from obtaining. SSEs would increase awareness of social enterprises' economic contributions among all stakeholders, including investors, issuers, and consumers. In addition, they would create policies to standardize social finance transactions, raise public knowledge of the difficulties and requirements facing this industry, and foster the growth of social capital. These stock exchanges would help social enterprises by filling the funding gap and fostering the development of robust networks of investors and subject matter experts to support and mentor these businesses. As a result, they establish the required social investment ecosystem for businesses and investors, whose goal is to maximize positive social impact and incorporate ESG (Environmental, Social and Governance) factors hooked on the growth in addition to profit-oriented processes are trading platforms that help non-profits and

social enterprises raise money by drawing that kind of ethical investors who wants to invest in companies with corporate goal and social goal. Currently the core funding sources of India's social development industry are corporate social responsibility (CSR), philanthropy, government financing, and retail charity. Through consistent procedures for funding, use, impact generation, measurement, disclosures, and reporting, an SSE would aim to provide consistency across many platforms. Social enterprises are those who work to improve society, according to “Social Stock Exchange”. Originally founded as philanthropic associations, NPOs strive to improve society and the local community. An organization that operates in the social sector for financial gain is referred to as a for-profit social enterprise. SSE under the governing purview of SEBI (Securities and Exchange Board of India) is being hailed as an innovative idea, falling which will help providers in the non-profit and private sector by providing them with more capital.

## **2. Literature Review**

The Social Stock Exchange (SSE) is a fresh financial platform that aligns investments with social impact objectives and enables social enterprises to raise capital. Since the SSE's introduction by SEBI in India, it has been recognized as a tool for mobilizing resources for social development, enhancing transparency, and accelerating the Sustainable Development Goals (SDGs). This chapter provides a review of the relevant literature, focusing on conceptual frameworks, investor perception and awareness, international practices, regulatory considerations, and effect measurement. The review also identifies research gaps that support the current analysis.

### **2.1 Conceptual Frameworks of SSEs in India**

The main objective of Social Stock Exchanges is to bridge the financing gap for social enterprises by providing access to capital markets. Conceptual studies of (Adhya & Sahoo, 2024) and (Argade & Purohit, 2021) point out that SSE offers governance and reporting standards in addition to finance that improves accountability and transparency among listed social entrepreneurs. (Sadhvani, Rajput, Arcot, & Rathore, 2023) analyze the structure of Indian SSEs, such as financial instruments, listing requirements and compliance methods. Finding shows that SSE design requires regulatory clarity and potential impact on social enterprises. (Patel, 2023) further explains that SSEs can mobilize social capital while promoting investor trust, emphasizes the dual objective of social impact as well as financial returns. Globally, SSE models have been adopted in the United Kingdom, Brazil, and South Africa, with each experiencing its own set of legislative and operational issues. These studies

highlight the significance of a strong legal framework, investor education, and governance measures for SSE development in India. Study concludes that SSEs improves transparency and social impact. (Zaveri, 2022) explores the structure as well as concept of India's proposed "Social Stock Exchange". The study's findings indicate that the SSE has a wide-ranging and inclusive approach considering the needs of Indian investors, contributors and social organizations. However, Zaveri identified areas for improvement in governance, management, and sustainability.

## **2.2 Investor Awareness and Perceptions in Previous Studies**

The success of SSEs is extensively depending on awareness and perception of investors. According to (Modiyan & Faroza, 2022), investors are aware of probable financial and social advantages of SSEs, but there is still a lack of knowledge in India. (Gupta & Singh, 2024) reveals that awareness and perception of investors is influenced by demographic factors like age, education, occupation and investment experience. Furthermore, (Patel, 2023) suggests that strong investor perceptions of transparency, accountability, and long-term social effect increase involvement in SSEs. (Kumar & Rao, 2021) surveyed Indian investors and noted that although awareness levels regarding SSE are quite low, the intent to participate is strong. According to empirical research, investors are motivated not only by financial returns but also by social impact goals (Abraham, 2024)(Agarwal & Sharma, 2024). This dual motivation emphasizes the need for targeted awareness campaigns as well as structured investor education programs.

## **2.3 Global Context and Impact Measurement**

Globally SSEs have not performed uniformly. South Africa and Brazil struggled with limited investor's participation in addition to high administrative expenses, while UK was successfully able to provide financing to social enterprises (Patel, 2023). Analytical research of (Omodei & Arenas, 2016) point out the importance of social networks and community effects on how social finance is dispersed. Qualitative research of (Makwana & Marvadi, 2023) underlined the SSE's probable contribution toward accomplishing India's Sustainable Development Goals (SDGs) by 2030, highlighting its significance to social policy frameworks. Analytical study of (Vig, 2023) and secondary research of (Kadaba, Aithal, & Sharma, 2024) highlights that the outcomes of the SSE in India are measured on the basis of transparency, accountability as well as alignment with sustainable development goals. These indicators also serve as solutions for policy development surrounding the

growth of social finance, while they also establish metrics for evaluating the effectiveness of the social economy system.

## **2.4 Research Gap**

The significance of “Social Stock Exchange” and its benefits to society in achieving sustainable development goals have been amply acknowledged. For this it is necessary to understand the perception and awareness of investors towards SSE. “Social Stock Exchange “may reduce financing gaps for social entrepreneurs, provide transparency, and link investments with social purposes. While investor awareness and perception are important aspects to SSE activities, there is a lack of regional research, especially in North Gujarat. The literature suggests a considerable research gap: the majority of studies are conceptual or national in scope, with relatively few empirical studies on regional investor perception, such as in North Gujarat. This gap supports the current study, which examines investors' awareness and perception of SSEs in a regional context.

## **3. Research Methodology**

### **3.1 Research Design of Study**

The current study utilizes a descriptive along with exploratory research design to examine the level of awareness and perception of investors towards “Social Stock Exchange” in North Gujarat. The descriptive technique facilitates in the conveying of quantitative information and trends, while the exploratory design component aims to better understand SSE awareness behaviors and attitudes.

### **3.2 Objectives of Study**

- To examine the level of awareness of investors towards “Social Stock Exchange”.
- To assess the perception of investors towards “Social Stock Exchange”.
- To analyze the association among educational qualification and awareness of investors towards “Social Stock Exchange”
- To evaluate the difference in perception of investors regarding “Social Stock Exchange” across different age groups
- To study correlation among investors awareness and their perception towards “Social Stock Exchange”

### 3.3 Hypothesis of Study

**H01:** There is no substantial association among educational qualification and awareness of investors regarding “Social Stock Exchange”

**H02:** There is no substantial difference in perception of investors regarding “Social Stock Exchange” across different age groups.

**H03:** There is no significant correlation among investor’s awareness and their perception towards “Social Stock Exchange”

### 3.4 Sampling Design

This study emphasis on sample of total 412 investors from different districts of North Gujarat including Sabarkantha, Banaskantha, Patan and Mehsana, the convenience sampling method was utilized to collect responses from active investors through a structured questionnaire.

### 3.5 Sources of Data

**Primary Data** was collected through a self-administered structured questionnaire distributed both physically and electronically. The questionnaire included closed-ended questions and Likert-scale questions.

**Secondary Data** was collected from published journals, research articles, official SEBI publications, and online databases related to the Social Stock Exchange and impact investing.

### 3.6 Data Analysis Tool

Data analysis was conducted through SPSS by applying various statistical tool like Descriptive Statistics, One-Way ANOVA and Post-Hoc Tests, Chi-Square as well as Correlation analysis.

## 4. Analysis of Data and Interpretation

### 4.1 Demographic profile of Respondents

The study surveyed 412 investors from different districts of North Gujarat to assess awareness and perception of investors towards “Social Stock Exchange”. The Demographic profile includes gender, education, age, occupation, and investment experience which are as under,

**Table No- 4.1 Demographic profile**

<b>Variable</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
Gender	Male	257	64%
	Female	145	36%
	<b>Total</b>	412	100%
Education	HSC/Diploma	8	2%
	Graduate	137	34%
	Post Graduate	177	44%
	Professional	80	20%
	<b>Total</b>	412	100%
Age	Below 20 years	8	2%
	21 years to 30 years	60	15%
	31 years to 40 years	137	34%
	41 years to 50 years	121	30%
	Beyond 50 years	76	19%
	<b>Total</b>	412	100%
Occupation	Employed (Salaried)	141	35%
	Business	177	44%
	Profession	80	20%
	Other	4	1%
	<b>Total</b>	412	100%
Investment Experience	Up to One Year	44	11%
	One Year to Five Years	185	46%
	Five Years to Ten Years	101	25%
	Beyond 10 Years	72	18%
	<b>Total</b>	412	100%

(Data Source- Primary)

**Interpretation:-**From the table 4.1 it is clear that among the respondents 64% are male and 36% are female which indicates higher participation of male investors. The educational background of respondent shows Post Graduate comprises 44% of sample followed by graduate at 34%. The Age profile of respondent indicates that the largest proportion 34% respondents were between 31 to 40 years followed by 41 to 50 years at 30%. In terms of occupation business formed the largest group with Most of 44% followed by salaried employees at 35%. Investment experience of 46% respondents had 1 Year to 5 Years.

**4.2 Awareness about “Social Stock Exchange” initiative.**

**Table no-4.2**

<b>Awareness Statement</b>	<b>Yes</b>	<b>No</b>
Are you aware about the existing stock exchange of India	408 (99%)	4 (1%)
Do you Familiar with Concept of SSE	241 (59%)	171 (41%)
Do you think “Social Stock Exchange” have any similarity with existing Stock Exchange?	231 (56%)	181 (44%)
Are you aware about the Indian “Social Stock Exchange” initiative?	247 (60%)	165 (40%)

(Source:-Primary data)

**Interpretation:-**Table no 4.2 indicates awareness regarding the existing stock exchange of India. Almost 60% respondents are aware or familiar with “Social Stock Exchange” initiative but considerable 41% respondents still lack familiarity with “Social Stock Exchange” initiative which indicates scope for further investor education or awareness.

**4.3 Perception of Respondents towards SSE**

**Table no-4.3**

<b>Perception Statement</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
SSE will benefit the Social Sector	102 (25%)	164 (40%)	94 (23%)	34 (8%)	18 (4%)
SSE will enforce transparency in social enterprises	123 (30%)	175 (42%)	70 (17%)	29 (7%)	15 (4%)
SSE will be beneficial for investors	176 (43%)	156 (37%)	52 (13%)	20 (5%)	8 (2%)
SSE will help government handle socio-economic problems & achieve SDGs	198 (48%)	161 (39%)	33 (8%)	13 (3%)	7 (2%)
Overall Perception towards SSE is Positive	167 (41%)	174 (42%)	45 (11%)	18 (4%)	8 (2%)

(Source:-Primary data)

**Interpretation:-**Table no 4.3 shows positive perception of majority respondents regarding SSE and almost 80% respondents either strongly agree or agree that “Social Stock Exchange” be beneficial to social enterprises, improve transparency and subsidize to socio-economic development.

**4.4 Hypothesis Testing using inferential statistics -Chi-Square (Education vs. Awareness)**

**H<sub>01</sub>:** There is no substantial association among educational qualification and awareness of investors regarding “Social Stock Exchange”

**Table 4.4 Chi-Square Tests**

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square <sup>a</sup>	<b>14.682</b>	6	<b>0.023*</b>
Likelihood Ratio	14.341	6	0.026
Linear-by-Linear Assoc.	4.895	1	0.027
N of Valid Cases	412		
*Significant at 5% level (p < 0.05) (Source: -Primary data)			

**Interpretation:-**

As the test of chi-square indicates value of p is 0.023 which is not more than 0.05 significance value (Here  $P=0.023 < 0.05$ ) so it can be concluded that null hypothesis is rejected which indicates substantial connection among educational qualification of investors and awareness of investors towards “Social Stock Exchange”. This means awareness of SSE initiative significantly depends on education level. Postgraduates and professionals tend to be more aware compared to HSC/Diploma holders.

**4.5 Hypothesis Testing using inferential statistics -One way ANOVA (Age vs. Perception)**

**H<sub>02</sub>:** There is no substantial difference in perception of investors regarding “Social Stock Exchange” across different age groups.

**4.5-A Descriptives**

Age Group	N	Mean	Std. Deviation
Less than 20	12	3.45	0.58
21–30 years	70	3.72	0.62
31–40 years	124	4.01	0.55
41–50 years	110	3.88	0.59
Above 50 years	96	3.65	0.64
<b>Total</b>	412	3.82	0.60

(Data Source- Primary)

**4.5-B ANOVA Table**

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.241	4	1.560	4.51	<b>0.002*</b>
Within Groups	140.156	407	0.344		
Total	146.397	411			

\*Significant at 5% level. (Data Source- Primary)

**Interpretation:-** As table 4.5-B shows the significant value  $p = 0.002$  which is not more than 0.05 (  $p = 0.002 < 0.05$  ) so null hypothesis is rejected which indicates variance in perception of investors towards “Social Stock Exchange “across different age groups. For further analysis post-Hoc test was conducted

**4.5-C Multiple Comparisons – Tukey HSD**

(I) Age Group	(J) Age Group	Mean Difference (I–J)	Sig.
Less than 20	21–30	-0.27	0.612
Less than 20	31–40	-0.56	<b>0.041*</b>
Less than 20	41–50	-0.43	0.118
Less than 20	Above 50	-0.20	0.689
21–30	31–40	-0.29	0.047*
21–30	41–50	-0.16	0.386
21–30	Above 50	0.07	0.751
31–40	41–50	0.13	0.482
31–40	Above 50	0.36	<b>0.032*</b>
41–50	Above 50	0.23	0.203

\*Significant differences at 5% level.(Data Source- Primary)

**Interpretation:-**The post-Hoc Tukey test reveals that the 31–40 years group differs significantly from less than 20 years, 21–30 years, and above 50 years groups. Respondents in the 31–40 years group have the highest mean perception score (4.01), showing they are the most positive toward SSE. This confirms that middle-aged respondents (31–40) have a much stronger positive perception of SSE compared to younger and older groups.

**4.6 Hypothesis Testing using inferential statistics - Correlation (Awareness vs. Perception)**

**H<sub>03</sub>:** There is no significant correlation among investor’s awareness and their perception towards “Social Stock Exchange”

**4.6 Correlations**

Variables	Awareness	Perception
<b>Awareness</b>		
Pearson Correlation	1	.482*
Sig. (2-tailed)	-	.000
N	412	412
<b>Perception</b>		
Pearson Correlation	.482*	1
Sig. (2-tailed)	.000	-
N	412	412

\*\* Correlation is significant at the 0.05 level (2-tailed). (Data Source- Primary)

**Interpretation:-**

Correlation analysis reveals = 0.000 < 0.05 so it can be concluded that null hypothesis is rejected which indicates significant correlation among investor’s awareness and their perception towards “Social Stock Exchange”. The Pearson correlation coefficient (r = 0.482) shows a moderate and positive relationship among awareness and perception of SSE. This indicates that as awareness about SSE increases, the perception towards it also becomes more favorable.

**5. Major Findings**

**Demographics:** Among the total respondents 64% are male indicating higher participation of male investors. The educational

background of respondent shows 44% respondents are Post Graduate. The Age profile of respondent indicates 34% respondents are between 31 to 40 years and in terms of occupation, business formed the major group with most of 44%. Investment experience of 46% respondents had 1 Year to 5 Years.

**Awareness:** About 99% respondents are aware of existing stock exchange of India and almost 60% respondents are aware or familiar with “Social Stock Exchange”.

**Perception:** Most of respondent’s perceptions are very positive. Around 72% of respondents agreed or strongly agreed that SSEs will enforce transparency while 80% respondents believe “Social Stock Exchange” will be beneficial for investors. 87% respondents think “Social Stock Exchange” helps the government in handling of socioeconomic problems.

**Chi-Square Analysis:** chi-square indicates substantial connection among educational qualification of investors and awareness ( $P = 0.023 < 0.05$ ).

**ANOVA and Post-Hoc:** Anova shows significant differences in perception across age groups ( $P = 0.002 < 0.05$ ). Result of post-Hoc confirms that middle-aged respondents (31–40 years group) have a much stronger positive perception of SSE compared to younger and older groups.

**Correlation Analysis:** perception and awareness are favorably connected ( $r = 0.482, p < 0.05$ ), suggesting that perception is enhanced by more awareness.

## 6. Limitation of Study

This study offers the valuable insight regarding awareness and perception of investors towards “Social Stock Exchange” in North Gujarat, certain limitations should be noted:

**Geographical Limitation:** In this study responses were collected and restricted to only the north Gujarat region, which may affect the generalizability of findings.

**Sample:** Although the sample sizes of 412 were included in this study, it might be not accurately reflecting the all-demographic segment of investor across the India.

**Survey Instrument:** Primary data was collected by self-administered structured questionnaire, which may be prejudiced due to respondent’s biasness, as respondents could respond in socially desirable ways.

**Time Constraint:** The study examines awareness and perception of investors at specific time frame which may not reflect changes in investor knowledge or opinions over time.

### **7. Scope of further study**

The study provides an essential basis for evaluating investors' perceptions of and awareness of “Social Stock Exchange”. Similar type of study can be undertaken by researcher by broadening the sample size and in other geographical area of India. Further studies can be undertaken by researcher by examine the connection between real investment results and SSE participation, how “Social Stock Exchange” affect investors in rural and semi-urban areas and can examine longitudinal research to evaluate how consciousness and perception evolve over time.

### **8. Implications of the Study**

**Policy Implications:** Regulators such as SEBI may choose to focus their attention on increasing awareness and possibly introducing education programs to stimulate participation in SSE.

**Investor Implications:** Educated investors and business practitioners indicate greater interest in SSE, suggesting possibilities for targeted involvement of investors.

**Social Implications:** SSE may contribute to improving transparency and accountability and promoting sustainable development goals in the longer-term agenda in India.

### **9. Recommendations.**

On the basis of the findings the following recommendations are made:

**Investor Education initiatives:** SEBI and the stock exchanges should conduct awareness campaigns on SSE through workshops, webinars and district investor meetings.

**Policy framework:** The government should provide tax benefits and incentives for SSE investments.

**Digital accessibility:** An SSE platform which is user-friendly with mobile apps and multi-language features may increase access from semi-urban and rural areas.

**Collaboration with NGOs and universities:** The educated young and socially motivated people can be approached to create awareness.

## 10. Conclusion

The findings conclude that the “Social Stock Exchange” works as a new, interridge model for finance that connects capital markets and social outcomes. In general, the primary sample of investors in North Gujarat appear to have a strong knowledge of stock exchanges and a gradually developing knowledge of the SSE initiative and their overall sense of a “Social Stock Exchange” is almost entirely positive. Ultimately, the current study leads to conclude that the sample of investors are strongly convinced that an SSE can create transparency and encourage swifter action towards social/economic growth and sustainable objectives. The statistics suggest that demographics make a difference in terms of awareness and perceptions, awareness and perceptions also have strong correlation factor, thus there is need of awareness raising efforts and government support. SSE is both a financial innovation and a step paradigm of sorts for inclusive, sustainable development in India. The study concludes that perception and awareness are interconnected and highlights the significance of education as well as dissemination of knowledge for effectiveness of SSE.

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# Mapping the Intellectual Landscape of Organizational Politics: A Bibliometric Study on Employee and Organizational Outcomes

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and

**Dr. Vilas Kulkarni<sup>2</sup>**

## Abstract

Organizational politics (OP) has emerged as a crucial determinant of workplace behaviour, influencing employee well-being, performance, and organizational effectiveness. Despite decades of empirical investigation, the intellectual structure of OP research remains fragmented. The present study conducts a bibliometric review of 1,443 scholarly works published between 1936 and 2024, drawn from the Mendeley Reference Manager database. Using the PRISMA protocol for systematic selection and analytical tools including Bibliometric and VOS viewer, the study examines publication growth, citation patterns, authorship networks, thematic clusters, and country-level contributions.

Findings highlight a sustained growth of OP research over the past nine decades, with an acceleration after 2000. Prominent contributors such as Gerald R. Ferris, Wayne A. Hochwarter, and Robert W. Kolodinsky dominate the co-authorship networks. Thematic mapping reveals five clusters—political skill, emotional intelligence, job satisfaction, turnover, and emerging domains such as creativity, employee silence, and digital communication politics. Citation analysis identifies seminal works that shaped the field, while country-level data shows the United States leading contributions, with increasing attention from Asia.

This paper provides the most comprehensive historical synthesis of OP research, bridging earlier fragmented works with contemporary themes. It offers a roadmap for scholars and practitioners, highlighting future directions in digital-era politics, cross-cultural studies, and leadership research.

**Keywords:** Organizational Politics, Bibliometric Analysis, Political Skill, Employee Outcomes, Research Trends

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## **1. Introduction**

Organizational politics, often described as self-serving actions aimed at acquiring resources and influence within organizations (Kacmar & Baron, 1999), has drawn scholarly attention since the mid-20th century. Traditionally perceived as detrimental, OP was associated with stress, dissatisfaction, and turnover intentions (Hochwarter, Witt, & Kacmar, 2000). However, subsequent work emphasized the constructive role of political skill in achieving organizational effectiveness (Ferris et al., 2005).

Recent scholarship suggests that OP is multifaceted. Landells & Albrecht (2016) identified five dimensions: establishing relationships, enhancing reputation, managing resources, influencing decisions, and using communication channels. This broader conceptualization acknowledges that politics can have positive, neutral, or negative outcomes, depending on context and managerial skill. Despite its significance, OP research remains scattered across different constructs—perceptions of politics (POP), emotional intelligence, justice, leadership, silence, creativity. Prior bibliometric reviews have been limited to short timeframes (e.g., Jasintha, 2023, covered 2010–2021). The present study addresses this gap by conducting a nine-decade bibliometric analysis (1936–2024) to map the intellectual evolution of OP research.

## **2. Bibliometric Methodology**

### **2.1 Data Source and Collection**

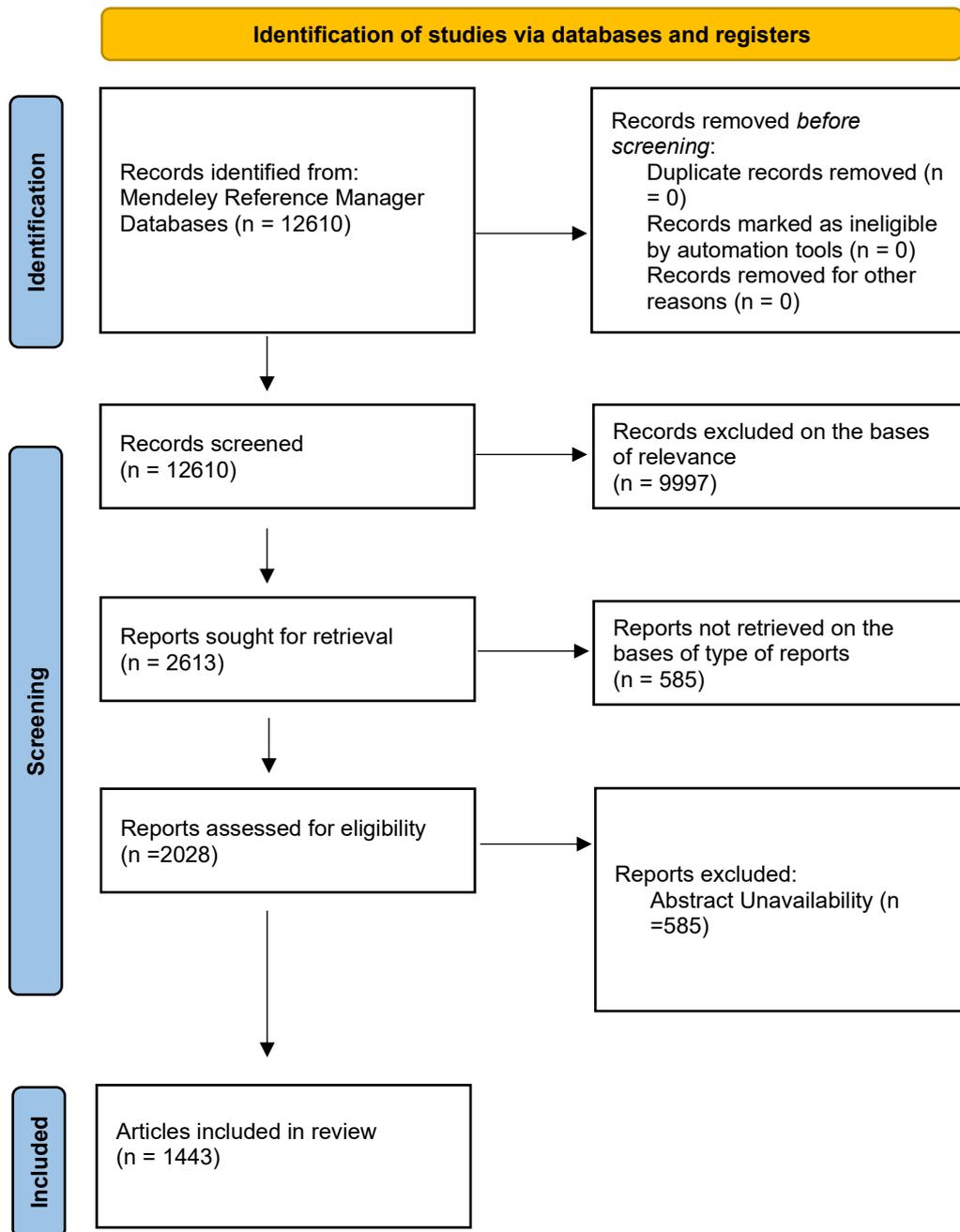
The database for conducting bibliometric analysis was taken from Mendeley Reference Manager. For the study “Organizational Politics,” “Impact of Organizational Politics,” and “Outcomes of Organizational Politics,” strings were searched and a total of 12,610 records were initially identified, covering the period from 1936 to 2024. To ensure relevance and quality, the dataset was refined by restricting the sources to journals and conference papers, followed by a relevance-based screening process. This systematic filtering resulted in a final dataset of 1,443 publications, which formed the basis for subsequent analysis.

### **2.2 Screening Process**

The PRISMA approach (Moher et al., 2009) was followed to ensure rigor and transparency in inclusion/exclusion. The PRISMA Chart format was used for this purpose. (Page MJ, et al., 2021).

Searches identified 12,610 records from Mendeley. After de-duplication (0 duplicates) and title/abstract screening, 9,997 records were excluded for irrelevance and 2,613 reports were sought for retrieval. Of these, 585 were not retrieved/considered due to report type including e-books/project reports; leaving 2,028 full texts for eligibility assessment. Following full-text review, 1,443 studies were meeting the criteria for including papers and were included in the qualitative synthesis (the inclusion rate at the end was 11.4% of initial records; 71.2% of full texts assessed).

**Figure 1 – PRISMA Flow Diagram**



Source: Primary Data Analysis (Page MJ, et al., 2021)

### 2.3 Measurement Tools

For the analysis, Bibliometric (R package) was employed to generate descriptive statistics, and examine publication trends. VOS viewer was further used to construct and visualize co-authorship networks, co-citation patterns, and keyword co-occurrence relationships.

### 3. Results

#### 3.1 Publication Trends

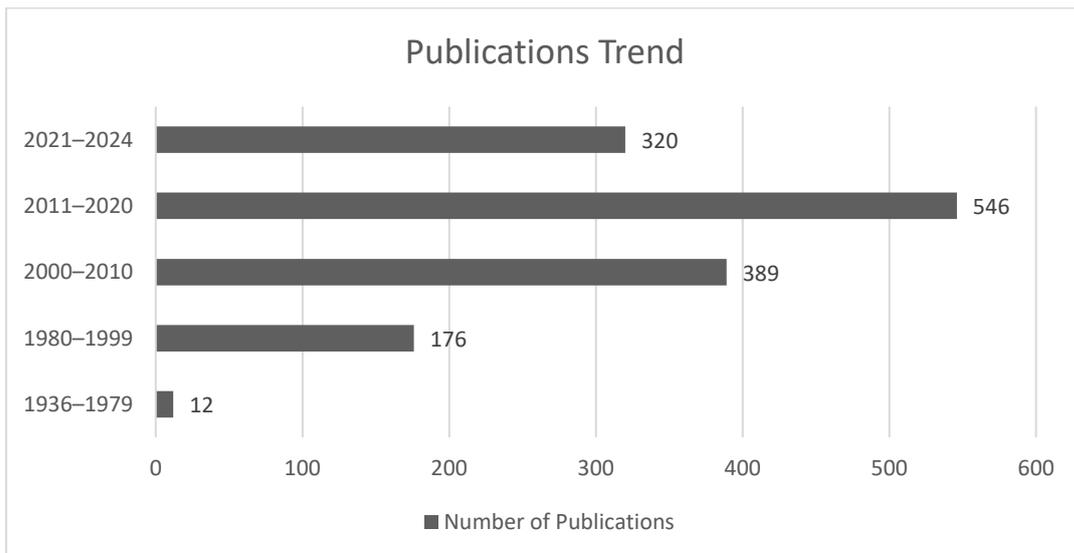
Research on OP has grown steadily, with a notable surge after 2000, reflecting globalization, workplace complexity, and digital transformation.

**Table 1. Publication Growth in Organizational Politics (1936–2024)**

Period	Number of Publications
1936–1979	12
1980–1999	176
2000–2010	389
2011–2020	546
2021–2024	320

*Source: Primary data Analysis*

**Figure 2 – Annual Publication Trend**



*Source: Primary Data Analysis*

### 3.2 Citation Analysis

Citation analysis highlights foundational contributions. Larger nodes in citation networks represent highly cited work .

**Table 2. Top 5 Most Cited Works in Organizational Politics**

No	Title	Author(s)	Year	Citations
1	Perceptions of Organizational Politics	Gerald R. Ferris, Gerald Harrell-Cook, Pamela L. Dulebohn, Wayne D. Frink	1992	1,576
2	Situational Antecedents and Outcomes of Organizational Politics Perceptions	June M. L. Poon	2003	540
3	Perceptions of Organizational Politics: A Meta-Analysis of outcomes	Brian K. Miller, Michael C. Rutherford, Mark T. Kolodinsky	2008	659
4	Perceptions of Organizational Politics Research: Past, Present, and Future	Wayne A. Hochwarter et al	2020	200
5	Perceived Organizational Politics and Counterproductive Work Behaviour: The Mediating Role of Emotions and Moderating Role of Emotional Intelligence	Galit Meisler et al	2020	77

Source: Primary Data Analysis

**Table 3. Top Journals Publishing on Organizational Politics**

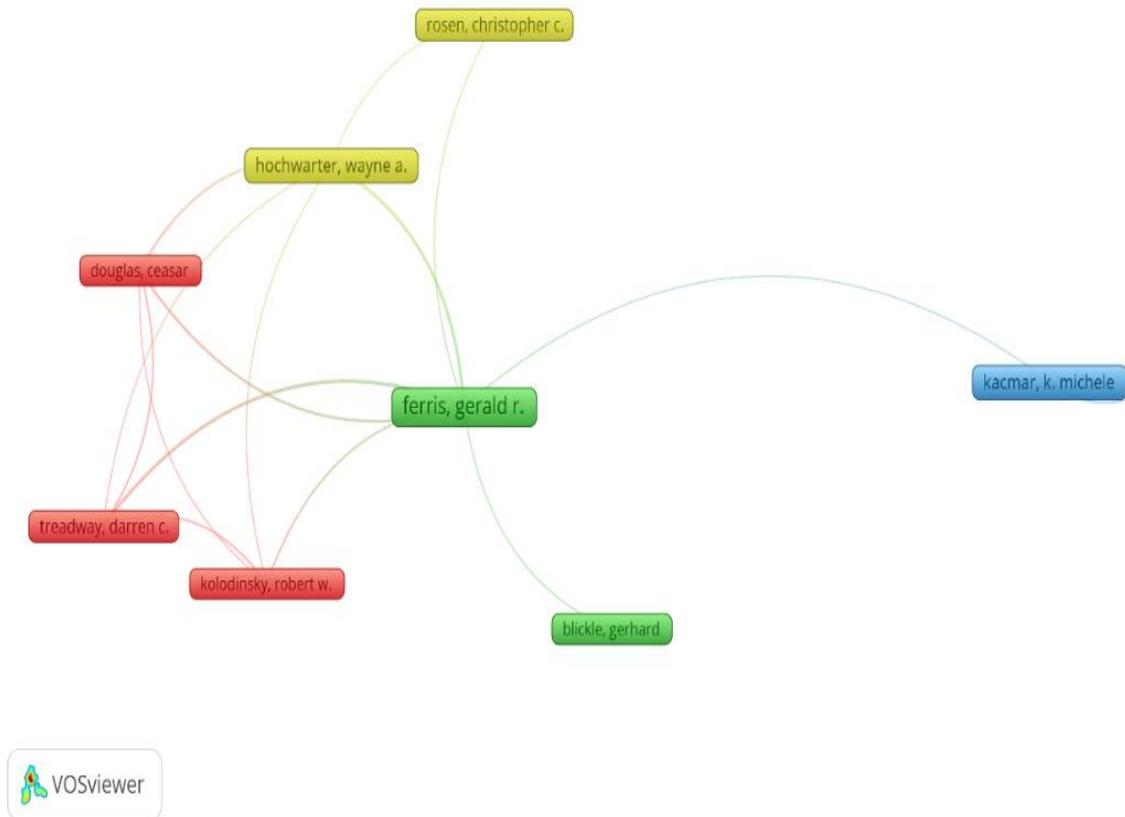
Journal	Publisher	Impact Factor
Journal of Management	Southern Management Assoc. / SAGE	9.0
Organizational Dynamics	Elsevier	2.5
Annual Review of Organizational Psychology & OB	Annual Reviews	25.1
Organization Studies	SAGE	7.1
Journal of Public Administration Research & Theory	Oxford University Press	6.3

Source: Primary Data Analysis

### 3.3 Co-authorship Networks

Analysis of 1,218 authors revealed 25 highly collaborative authors meeting the  $\geq 3$  papers threshold. Gerald R. Ferris emerged as the most central figure, bridging multiple clusters, alongside Wayne A. Hochwarter and Robert W. Kolodinsky.

**Figure 3 – Co-authorship Network**



Source: Data from VOS Viewer

### 3.4 Conceptual Theme

To identify the dominant conceptual themes in the organizational politics literature, we conducted a term co-occurrence analysis of article abstracts using Vos Viewer. The bibliographic data were exported from Mendeley, and abstracts were subjected to a ‘full counting’ option in Vos Viewer. A total of 7,620 unique terms were identified. A minimum number that is 55 threshold occurrence was applied, which resulted in 29 terms meeting the inclusion criteria.

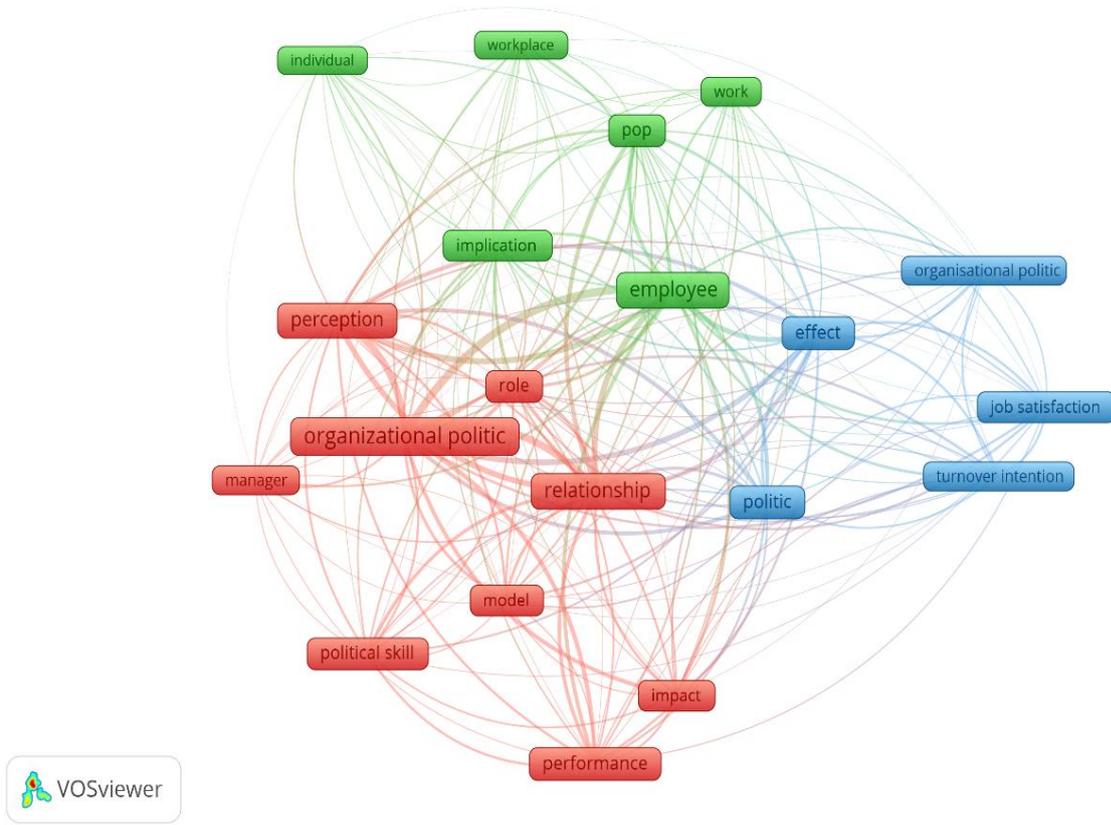
**Table 4: Most relevant terms**

<b>Sr</b>	<b>Term</b>	<b>Occurrences</b>	<b>Relevance score</b>	<b>Exclusion</b>
1	Article	61	1.5241	Exclude
2	Data	234	0.243	Exclude
3	Effect	333	0.6746	-
4	Employee	512	1.0249	-
5	Hypothesis	73	0.1815	Exclude
6	Impact	159	0.3724	-
7	Implication	163	0.1817	-
8	Individual	68	0.5143	-
9	Job Satisfaction	121	2.3932	-
10	Manager	85	0.5423	-
11	Model	165	0.3598	-
12	Organisational Politics	100	4.7053	-
13	Organization	302	0.4905	Exclude
14	Organizational Politics	699	2.3959	-
15	Originality Value	56	0.1926	Exclude
16	Paper	117	0.3999	Exclude
17	Perception	393	1.2247	-
18	Performance	255	0.4737	-
19	Politic	301	0.6652	-
20	Political Skill	197	1.705	-
21	Pop	211	0.9281	-
22	Relationship	501	0.9921	-
23	Research	300	0.6336	Exclude
24	Role	212	0.1993	-
25	Sample	96	0.2622	Exclude
26	Study	776	1.4898	Exclude
27	Turnover Intention	103	3.269	-
28	Work	103	0.4288	-
29	Workplace	65	0.5326	-

Source: Data Analysis from Vos Viewer

Terms representing generic or methodological language (e.g., article, data, hypothesis, originality value, paper, research, sample, study) were excluded from the analysis because they do not convey substantive conceptual meaning. The decision to exclude organization was also considered, as it represents a broad and low-specificity construct; ultimately, we excluded it to sharpen the thematic map. This refinement left a set of 20 terms with clear theoretical or empirical relevance to the field

**Figure 5 Conceptual Theme**



Source: Data from Vos Viewer

**3.5 Keyword Co-occurrence and Thematic Clusters**

Analysis of 472 keywords at 3 thresholds and filtered to 23 items those produced six thematic clusters.

**Table 5: Thematic Clusters in OP Research**

Cluster	Keywords	Theme
1	Job satisfaction, turnover	Employee attitudes
2	Political skill, leadership	Positive outcomes
3	Emotional intelligence, fairness	Moderators
4	Silence, creativity	Emerging themes
5	Work engagement, performance	Productivity links
6	Gender, justice	Equity & diversity

Source: Data from Primary Analysis

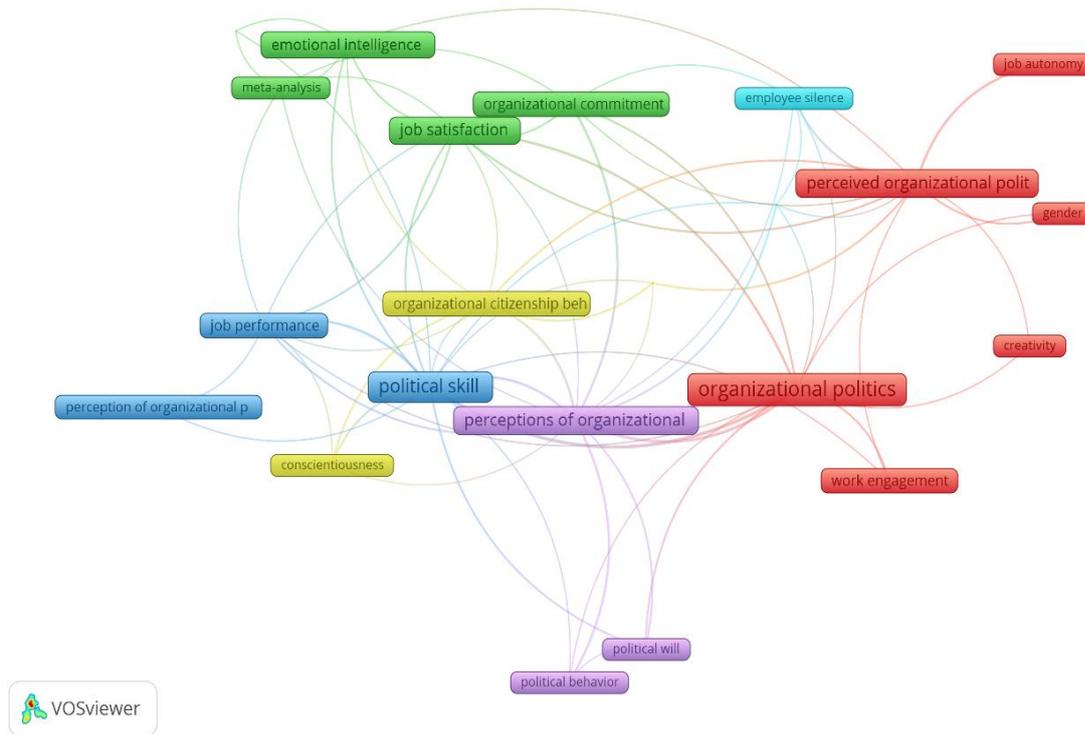
**Table 6: Keywords and Co-occurrence Details**

<b>Id</b>	<b>Keyword</b>	<b>Occurrences</b>	<b>Total link strength</b>
47	Career success	5	3
63	Conscientiousness	3	6
72	Counterproductive work behaviour	4	6
77	Creativity	3	2
100	Emotional intelligence	10	8
107	Employee silence	3	6
141	Gender	3	3
195	Job autonomy	3	3
202	Job performance	8	13
203	Job satisfaction	12	16
236	Meta-analysis	3	6
272	Organizational citizenship behaviour	6	13
275	Organizational commitment	6	11
288	Organizational politics	39	24
296	Perceived organizational politics	17	18
297	Perceived organizational support	4	6
304	Perception of organizational politics	4	2
308	Perceptions of organizational politics	18	27
326	Political behaviour	3	6
339	Political skill	26	26
344	Political will	3	7
345	Politics	3	0
461	Work engagement	6	4

*Source: Data from Vos Viewer Analysis*

The co-occurrence results highlighted two dominant clusters. First, organisational politics constructs including words perceptions of organisational politics, political skill, perceived organisational politics showed the strongest link strengths, confirming their central role in the literature. Second, job attitudes and outcomes including the listed words – citizenship behaviour, job performance, organisational commitment, job satisfaction; form a highly connected cluster. Individual traits such as emotional intelligence, conscientiousness, and creativity appear less central but bridge politics and performance themes. Overall, the network emphasises the prominence of politics and job attitudes in shaping organisational behaviour.

**Figures 6 – Keyword Co-occurrence Networks**



Source: Data from Vos Viewer

**4. Discussion**

This bibliometric review advances the understanding of organizational politics (OP) by integrating nearly nine decades of research (1936–2024). Prior reviews were narrow in scope (e.g., Jasintha, 2023), whereas this study maps the field’s intellectual evolution, identifying both enduring themes and emerging frontiers.

Findings confirm that perceptions of organizational politics (Ferris et. al, 1992; Miller et. al, 2008) and political skill (Ferris et al., 2005) are central constructs, linking strongly with outcomes such as job satisfaction, commitment, and performance (Abbas et. al, 2014). This supports long-standing evidence that politics is a powerful determinant of employee attitudes (Hochwarter et. al, 2000).

The analysis also highlights emergent constructs such as employee silence and creativity, which reflect a broadening of OP research into communication dynamics and innovation (Landells & Albrecht, 2016).

Emotional intelligence has gained prominence as a moderator shaping how employees interpret and respond to politics (Jordan et. al, 2010). Furthermore, the rise of contributions from Asia

signals growing interest in cross-cultural OP (Kapoor & Solomon, 2011), moving beyond the dominance of U.S.-based research.

Collectively, these findings emphasize the duality of politics: while it can generate stress, turnover, and counterproductive behaviours, it also offers opportunities for influence, effectiveness, and leadership when political skill is leveraged constructively (Ferris et. al, 1989; Vigoda-Gadot & Drory, 2016).

## **5. Future Scope**

Future research should address several gaps identified in this review. First, there is a need for cross-cultural comparative studies to understand how political behaviours and perceptions vary across institutional and cultural contexts (Kapoor & Solomon, 2011). Second, digital communication politics—how politics unfolds in hybrid and AI-mediated workplaces—requires systematic investigation as technology reshapes power structures. Third, longitudinal studies are essential to capture the dynamic nature of politics across organizational change, crisis management, and leadership transitions. Finally, integrating constructs such as emotional intelligence, justice, and leadership styles with political climates can offer more holistic models explaining employee outcomes in the digital era.

## **6. Conclusion**

This bibliometric study contributes the most comprehensive synthesis of OP research to date, covering 1,443 publications across nine decades. By mapping publication growth, identifying influential authors and works, and clarifying thematic clusters, the study bridges fragmented scholarship into a coherent intellectual structure. The results demonstrate the enduring centrality of politics and job attitudes, while also revealing newer areas such as silence, creativity, and emotional intelligence. For practice, the findings underscore the need for organizations to manage politics proactively and to cultivate political skill as a critical leadership competency. For scholarship, this work offers both a historical foundation and a roadmap for future inquiry into cross-cultural dynamics, digital-era politics, and leadership in complex organizational environments.

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## **Bridging the Knowledge–Practice Gap in Financial Capability: Evidence from Small and Medium Enterprises**

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**and**

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### **Abstract**

The current research study is regarding the financial capability of small and medium business owners in Bharuch district. This town is a crucial industrial zone in Gujarat and it is widely known for the presence of sectors like chemicals, textiles, and engineering. In spite of the strong industrial growth in Bharuch, the small and medium scale businesses in this region often encounter problems pertaining to financial management like, unavailability of formal credit, poor budgeting methods and lack of awareness about different schemes by the government. The present study fills a crucial gap in the literature by providing the analysis of financial knowledge, financial skill, financial behaviour, and financial attitude of proprietors of SMEs within this geographical and economic context.

By using a quantitative research design, a survey was conducted using a structured questionnaire to collect responses from a sample of owners of small and medium businesses from various sectors in Bharuch. The research aims to measure key components of financial capability, like money management, choosing financial products, financial planning and staying abreast if financial information. The findings of the research offer suggestions for the formulation of policy and practice by identifying gaps in the financial capability of business owners. The findings of the study may be beneficial for the policy makers and financial institutions, which will help them in designing targeted interventions, awareness programmes and financial products that will improve the financial strength of SMEs thereby leading to long term growth of the MSME sector in Bharuch.

**Key words:** MSMEs, Financial Capability, Managing Money, Access to Credit, Business Performance, Growth

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## **1. Introduction**

The MSME industry is a significant contributor to the economic development, job creation and entrepreneurial innovation for developing economies like India. The SME sector in India is vibrant and dynamic as it has an extensive contribution in the national income of India, exports and provides large scale employment. These small enterprises are spread across urban and rural areas, which leads to inclusive economic and social development. The Indian MSME industry provides large scale employment only next to the agricultural sector. The small and medium enterprises are incubators of new product development and entrepreneurship. These firms possess the flexibility to adapt themselves to the changing business environment quickly as compared to the large-scale businesses.

Though the MSME sector is of utmost importance to the emerging economies like India, they still face several challenges. The problems which small businesses face are lack access to formal credit, facing technological gaps, intensive competition, and complex regulatory environments. These challenges hinder their growth potential and sustainable development.

### **1.1 The role of financial capability**

In this complex business landscape where, small businesses face several challenges, the financial capability of SME owners serves as an important factor for success of a business enterprise. The Centre for Financial Inclusion (2013) defines financial capability as "the combination of attitude, knowledge, skills, and self-efficacy needed to make and exercise money management decisions that best fit the circumstances of one's life, within an enabling environment that includes, but is not limited to, access to appropriate financial services." The term 'Financial Capability' extends beyond a person's financial knowledge; it is about having the ability to act and also the opportunity to act. The term financial capability is a broader concept as it encompasses financial literacy. It is not just having a bank account; it includes one's financial knowledge, behavior, attitude and self-efficacy.

For SME owners, financial capability is very critical as it prepares them with the financial knowledge and skills which are required for managing their business, plan for investments, growth and also manage funds effectively. SME owners who are more financially capable tend to make well-informed choices regarding their financial management, which is crucial for the financial stability of their business. This includes:

Managing cashflow in a business is important as it ensures smooth functioning of the operations and it also helps to prevent liquidity crunch within the business.

The business owners who are financially capable are able to make better strategic investment decisions like buying a new equipment or install a new technology or plan a business expansion.

When small business owners who are acquainted with financial products and services and an easy access to credit it aids the business to procure funding at affordable costs.

Financially capable SME owners tend to detect financial risks. This enables them to proactively formulate contingency plans to counter unforeseen expenses or a business slowdown.

Lastly the profitability, growth and resilience of a business is directly linked to the financial acumen of its owner. Studying the financial capability of small business owners, can provide an understanding of their challenges and identify ways to support this vital sector.

## **1.2 Overview of SME sector in Bharuch:**

The city of Bharuch is an important manufacturing base in Gujarat state with a thriving infrastructure connectivity. As per the reports of MSME Development Institute - Ahmedabad (2018), with 20 to 30 percent increase in the small-scale industries and 10 percent in large scale industries, Bharuch is a powerful industrial zone with presences of diverse sectors like chemicals & petrochemicals, textiles, pharmaceuticals and ports and ship building. The SME sector in this region is also robust and diverse with the presence of over 16500 units of small businesses, Ankleshwar and Dahej are the key industrial centres in this district. The following are the key industries contributing to the diverse SME sector in Bharuch:

**Chemicals and Petrochemicals:** With a large number of businesses producing dyes, fertilizers, and other chemical products this is a dominant sector in Bharuch with Dahej and Jhagadia being hubs for chemical production and export.

**Textiles:** Many small businesses in Bharuch are involved in wide range of textile related activities like yarn production, fabric and garment manufacturing making it a hub for local and export-oriented units.

**Engineering:** This is also a dynamic sector with several small and medium units producing parts, machinery and other engineering components and goods.

**Pharmaceuticals:** The pharmaceutical industry has significant presence in this region with numerous units indulged in the manufacturing and distribution of bulk drugs and other pharmaceutical products.

Furthermore, the economic profile of Bharuch is also moulded by other sectors like dairy products, peanut processing, cotton cultivation, food processing etc. Besides manufacturing, the region is also experiencing rise of service industries like quality control, regulatory consulting, transportation, retailing, hospitality, education, healthcare etc. Bharuch has a strategic location as it is bordered by districts like Vadodara and Anand on the north, Narmada District on the East, Surat on the southern part and its proximity to ports like Dahej. This has facilitated its industrial growth, making it one of the most industrialized regions not only in Gujarat but also in India.

## **2. Literature Review**

### **2.1 The role of MSMEs in the economic development**

Worldwide, the SME segment is considered important for growth of the nation, employment generation and decreasing regional disparities thereby resulting in social and economic development. For emerging economies like India, this sector forms an important element of the industrial ecosystem, which acts as a safeguard against economic shocks and promoter of inclusive growth (Singh 2022; Negi, 2024). These small businesses are complementary to large scale firms as ancillary units; they supply to the domestic markets and contribute to exports and also foster innovations. These enterprises are the basis of the nation's economic resilience as their flexible nature allows them to adapt quickly to changing market demands. Despite this, there are several research studies that highlight the variety of challenges that deter the growth and long-term financial stability of the small businesses.

These challenges include regulatory hurdles, lack of proper market access, and, most particularly, internal financial management weaknesses (Biswas et al., 2021; Parikh & Sodha, 2025).

### **2.2 Defining and measuring financial capability**

The concept of financial literacy and financial capability are most of the times considered same. Financial Literacy is a combination of awareness, knowledge, skill, attitude and

behaviour necessary to make financial decisions and ultimately achieve individual financial well-being. This definition has been provided by OECD International Network on Financial Education (INFE 2020). As per this definition financial literacy is more about knowing. On the other hand, financial capability is the capacity to act in one's best financial interest, given the socio-economic environmental conditions (World Bank 2018). Financial capability is a broader, multi-dimensional term that encompasses financial literacy. Financial capability is about doing; it is about action. It includes the financial knowledge, financial skills, financial attitudes, and financial behavior of individuals pertaining to management of financial resources and also the understanding, selecting and making use of financial services that fit their needs (World Bank 2018). This explanation integrates four components: the financial knowledge, financial skills, financial attitude, and financial behavior of people. Several dimensions have been provided to define this concept in different research studies.

In a research study done in Britain namely the UK Financial Capability Survey (FCA 2017) the concept has been defined as “a person's ability to manage money well, both day to day and through significant life events, and to handle periods of financial difficulty”. This study suggests that individuals face difficulties in controlling their debt as they are unable to budget their expenses accurately. The research highlights the main problems like the lack of confidence in making complex financial decisions, insufficient savings for emergencies, and absence of financial planning for the future. These challenges are many times intensified in particular demographic groups, like younger adults, those with lower incomes, and self-employed individuals.

Many research studies also emphasize the role of digital revolution highlighting the increase in the number of difficulties of those people who have lower levels of digital and financial literacy. These research studies provide a crucial background for research on financial capability, highlighting the importance of understanding and knowledge of financial products and services available and also the behavioural and attitudinal factors that impact the financial well-being of consumers (Atkinson et. al 2007).

Existing research studies in this subject have also suggested a direct and positive association between the owners' financial capability and the financial performance of the firm (Turyakira et al., 2019; Makkonen et al., 2014). Business owners who possess lower levels of financial capability may involve in poor financial practices, which may increase their

vulnerability to market dynamics, and a lower capability to plan for long term growth. (Sulaiman, 2024); Parnell & Brady (2019).

A study conducted on the financial capability of street hawkers in Bhubaneswar by Ramana and Muduli (2018) concludes that the demographic factors like the respondents' age, education, business experience affected their financial capability. The study measured financial capability based on four dimensions namely; managing money, choosing financial products and services, planning for the future and staying updated with financial information. Findings revealed that those street vendors who were located in areas with higher concentration of banks have more financially capable. This suggests higher financial inclusion also leads to higher financial capability.

### **2.3 Existing research studies on small and medium enterprises**

There have been several research studies which explored the financial challenges of SMEs in various contexts. Study conducted by Rathod et al. (2025) indicate that numerous small business owners in urban areas of Gujarat depend upon personal savings and informal financial sources for business expansion, indicating gaps in formal financial support. Another research emphasized that while business owners understand the importance of credit, many of them are not aware about the eligibility criteria for various government schemes (Dey, 2019). However, there is a scarcity of quantitative research studies particularly focusing on a comprehensive measurement of financial capability of owners of SMEs in industrialized areas like Bharuch. This critical gap in the literature stresses the requirement of a specific study that provides a thorough understanding of financial knowledge, behavior, & attitude within this unique demographic.

## **3. Research Methodology**

### **3.1. Problem Statement**

For policy makers around the globe, today the primary concern is financial capability. Consumers must possess financial skills and knowledge for making informed choices in their financial domain. This perspective has been strengthened by the recent economic crisis like COVID 19 pandemic and other previous financial crises. SME owners also need specific financial capabilities that are different from those required by households or micro enterprises to manage their financial resources and expand their firm. Enhancing the financial capability of owners of small enterprises can vitalize the growth of such enterprises. Growth of the SME sector in turn leads to sustainable economic development

(World Bank 2018). The absence or the lack of financial capability is one of the primary hurdles that deter the development and sustainability of SMEs. While there are ample studies conducted on difficulties or constraints faced by MSMEs, there exists a gap in quantitative research studies that measure financial capability of owners of small and medium firms in the context of an industrial hub like Bharuch. This lack of specific data deters the development of specific interventions and policies, emphasizing the crucial need to understand the extent and nature of financial capability among SMEs in this area.

### **3.2. Objectives**

To evaluate the financial capability of SME owners in Bharuch district

To examine the relationship between financial capability of SME owners and their firm's performance

To analyse the differences in financial capability among SME owners based on demographic factors.

### **3.3 Research Design**

A descriptive research design was used for this study. A quantitative approach was used to thoroughly measure the financial capability of SME owners in Bharuch. This was done through a structured questionnaire, which allowed for statistical analysis of the data.

### **3.4 Population and Sampling**

The target population of the study included all small and medium enterprise owners operating within the Bharuch district of Gujarat, India. Due to the wide distribution and volume of this population, 286 SME owners were surveyed using a convenience sampling method.

### **3.5 Data Collection**

The primary data for this research study were collected using a self-administered, structured questionnaire, which was developed in both English and Gujarati to ensure maximum comprehension and accuracy of responses. Data were gathered through in-person interviews and digital surveys to maximize reach and convenience for the sample.

## 4. Results:

### 4.1 Descriptive Statistics:

Table 1 shows that most of the respondents are male (93%), belonging to the 41-50 years age group (46.5%). Also, majority of the respondents are graduates (49%) and have more than 15 years of business experience (35.7%). 37.4 % of the businesses are owned by individuals i.e. sole proprietorship and 52% are Manufacturing businesses and the remaining belong to the service sector.

**Table 1: Demographic Profile of Respondents**

Sr. No.	Demographic factor	Category	Frequency	Percentage
1	Gender	Male	266	93
		Female	20	7
2	Age	18-25 years	14	4.9
		26-30 years	32	11.2
		31-40 years	61	21.3
		41-50 years	133	46.5
		51-60 years	44	15.4
		> 60 years	2	0.7
3	Education	Below HSC	16	5.6
		HSC	45	15.7
		Graduate	140	49
		Post Graduate	81	28.3
		Any other	4	1.4
4	No. of yrs of Business	< 5 years	39	13.6
		5-10 years	76	26.6
		11-15 years	69	24.1
		> 15 years	102	35.7
5	Form of Business	Proprietorship	107	37.4
		Partnership	79	27.6
		LLP	27	9.4
		OPC	9	3.1
		Private Limited	64	22.4
6	Type of Firm	Manufacturing	149	52.1
		Service	137	47.9

**Table 2: Mean & Standard Deviation for the dimension ‘Managing Money’**

<b>Managing Money</b>	<b>Items</b>	<b>Mean</b>	<b>SD</b>
	I fully understand the financial- management aspect of my business	3.92	0.891
	I fully understand the marketing aspect of my business	4.1	0.751
	I fully understand the business strategy aspect of my business	4.12	0.793
	I fully understand accounting concepts including notions such as assets, liabilities, and profits	4.01	0.812
	I prepare a written budget to pay for rent, electricity, equipment maintenance, transport, advertising, and other costs of the business	3.73	0.977
	The annual financial statements of business are checked and certified by an external auditor	3.98	0.969
	I keep cash reserves beyond what is required for daily operation in my business	3.84	0.914
	I compare my firm to similar ones	3.81	0.974
	I analyze my sales progress on a monthly/quarterly basis	4.01	0.821
	I continuously evaluate what are the new trends in market	4	0.877

The data in Table 2 suggests that the SME owners have a higher level of conceptual understanding of their business and financial management, as the mean scores for statements about business strategy and accounting concepts are higher. Though, there appears to be a potential gap between knowledge and practice, as the mean score for a practical task like preparing a written budget is very low. The standard deviation is consistently high across all statements which indicates a significant range of practices and understanding among the respondents

**Table 3: Mean & Standard Deviation for the dimension ‘Planning Ahead’**

<b>Planning Ahead</b>	<b>Items</b>	<b>Mean</b>	<b>SD</b>
	I had a business plan when I started this business	3.77	1.035
	Before planning for an expansion or a new project I create a business plan	3.85	0.976
	Before planning for an expansion or a new project I conduct marketing or competitive analysis	3.86	0.932
	When faced with financial losses or troubles I ask for financial advice	3.89	0.937
	I pay my bills on time.	4.38	0.776
	I review and evaluate my expenses	4.18	0.812
	I regularly set money aside for possible unexpected expenses	3.99	0.875
	I make financial provision for retirement.	3.69	0.968
	I prefer to have a good standard of living today than planning for retirement.	3.53	1.151
	My savings are enough to guarantee a more comfortable living standard in my old age	3.75	0.969

The data in Table 3 reveals that the respondents show strong short term financial planning but are unable to provide for. The standard deviation values are high which indicate a distinction in financial planning practices among the respondents, with some

business owners planning meticulously and a few others show preference for short-term satisfaction. This stresses on importance of designing interventions in financial education, that focus on the significance of long-term financial prudence.

**Table 4: Mean & Standard Deviation for the dimension ‘Choosing Products’**

<b>Choosing Products</b>	<b>Items</b>	<b>Mean</b>	<b>SD</b>
	I consider several products/loans/policies/accounts from different providers before making my decision.	3.85	0.898
	I read the terms and conditions in detail before agreeing / signing.	4.15	0.865
	I understand the various financial products that I need without having to consult a financial adviser/planner.	3.42	1.13
	I believe financial planners and accept what they recommend.	3.21	1.1
	I compare products in terms of features and price rather than make a choice based on the brand image	3.85	0.87

The data in Table 4 suggests that SME owners act cautiously while choosing financial products. They show diligence while reading terms and conditions of contract and also compare the available financial options. However, they have a lower confidence in their understanding of financial products and have lower trust in financial planners. This suggests that the respondents do not depend on advice given by professionals despite being meticulous.

**Table 5: Mean & Standard Deviation for the dimension ‘Staying Informed’**

<b>Staying informed</b>	<b>Items</b>	<b>Mean</b>	<b>SD</b>
	I regularly monitor financial indicators such as changes in the housing market, stock market and interest rates.	3.57	0.907
	I actively seek financial information through professional advice.	3.54	0.99
	I frequently keep up to date with financial products.	3.75	0.91
	I am always interested to learn and make comparisons of financial services offered.	3.77	0.956
	I would like to know more about financial issues and learn how to interpret the information	3.86	0.869

Table 5 above indicates that the respondents are active and keen on learning about financial concepts and information. The mean values for all items are above 3 this shows that respondents have strong agreement towards learning and staying informed about financial products and services.

The respondents also agree to improve their understanding of financial information and being aware about financial products available in the market.

**Table 6: Mean & Standard Deviation for Firm Performance**

<b>Firm Performance</b>	<b>Items</b>	<b>Mean</b>	<b>SD</b>
	Our customer retention has improved during the last 3 years relative to competitors	3.94	.818
	Our sales growth has improved during the last 3 years relative to competitors	3.95	.757
	We have entered new markets quickly than our competitors	3.82	.921
	We have introduced new products to the market faster than our competitors	3.75	.862
	Our market share has exceeded than that of our competitors.	3.75	.857

The data in the above table indicates that the firm is perceived as having strong performance across all five metrics. The mean scores for all items are consistently high, ranging from 3.75 to 3.95, suggesting an agreement among owners about their firm performing well relative to its competitors.

**4.2 Inferential Statistics:**

**4.2.1 Background Differences in Financial Capability**

Gender & Financial Capability: In order to determine the differences in the financial capability scores between male and female SME owners, Mann-Whitney U test was conducted.

**Null Hypothesis H0:** “There is no significant difference in the financial capability of male and female SME owners”

**Alternate Hypothesis H1:** “There is a significant difference in the financial capability of male and female SME owners”

**Table 7: Comparison of Financial Capability Between Male and Female Respondents**

Ranks				
	Gender	N	Mean Rank	Sum of Ranks
FC_Mean	Male	266	141.19	37556.5
	Female	20	174.23	3484.5
	Total	286		

Test Statistics <sup>a</sup>	
	FC_Mean
Mann-Whitney U	2045.5
Wilcoxon W	37556.5
Z	-2.267
Asymp. Sig. (2-tailed)	0.023

The results of the test in Table 7 reveal a statistically significant difference between the financial capability among male and female SME owners. The significant p-value is less than the conventional significance level of .05, therefore the null hypothesis is rejected. An examination of the mean ranks reveals the nature of this difference. The mean rank for female SME owners (174.23) is higher than that of male SME owners (141.19), indicating that female SME owners, are more financially capable in this sample. A notable limitation of this finding is the significant disparity in the sample sizes (Male: N=266; Female: N=20), which may impact the generalizability of the results.

**Age & Financial Capability:** To examine differences in the financial capability of SME owners of different age groups, Kruskal-Wallis H test was conducted

**Null Hypothesis H0:** “There is no significant difference in the financial capability of SME owners of different age groups”

**Alternate Hypothesis H2:** “There is a significant difference in the financial capability of SME owners of different age groups”

**Table 8: Comparison of Financial Capability Across Different Age Categories**

<b>Ranks</b>			
	Age	N	Mean Rank
FC_Mean	18-25	14	103.43
	26-30	32	169.5
	31-40	61	126.89
	41-50	133	145.41
	51-60	44	153.84
	> 60	2	160.5
	Total	286	

<b>Test Statistics<sup>a,b</sup></b>	
	FC_Mean
Chi-Square	16.894
df	5
Asymp. Sig.	0.005

Table 8 suggests a statistically significant difference in the financial capability of SME owners of different age groups. The null hypothesis is rejected as the p value is below the conventional significant level of 0.05 and the chi square value is 16.894. Thus, it can be concluded that the financial capability of SME owners is different across all age groups

The mean ranks also show a similar pattern where, the age group 26-30 has the highest mean rank (169.5), followed by the age group of more than 60 years (160.5). On the other hand, the mean rank is lowest for the 18-25 age group (103.43). This indicates that business owners in the age bracket of 26-30 years tend to have the highest financial capability, while the youngest group has the lowest. The older age groups, particularly 41-60 years, indicate a stable increase in mean rank, suggesting that financial capability may improve with age and experience.

**Educational background and Financial Capability:** In order to examine the significant differences in the financial capability among owners with different educational backgrounds a Kruskal-Wallis H test was performed.

**Null Hypothesis H0:** “There is no significant difference in the financial capability of SME owners with different educational backgrounds”

**Alternate Hypothesis H3:** “There is a significant difference in the financial capability of SME owners with different educational backgrounds”

**Table 9: Comparison of Financial Capability by Education Level**

Ranks			
	Education	N	Mean Rank
FC_Mean	Below HSC	16	160.5
	HSC	45	142.8
	Graduate	140	143.36
	Post Graduate	81	145.07
	Any other	4	56.5
	Total	286	

Test Statistics <sup>a,b</sup>	
	FC_Mean
Chi-Square	8.894
df	4
Asymp. Sig.	0.064

The results of the test indicate that there is no statistically significant difference in financial capability across the different educational groups. The p-value is greater than the conventional significance level of .05. Therefore, we fail to reject the null hypothesis.

While the test shows no statistically significant difference, an observation of the mean ranks provides some insight. The group with "Any other" education has the lowest mean rank (56.5), which is considerably lower than all other groups. The mean rank is highest (160.5) for the group "Below HSC". But the sample size for this group being small and the overall non-

significant p-value suggests these observed differences should be interpreted with care. The results indicate that among this sample, the level of formal education is not a primary factor in determining the financial capability of the business owner.

Relationship between financial capability of SME owner and firm performance: For the purpose of examining the relationship between owner’s financial capability and firm’s performance, spearman’s rho correlation was conducted.

Null Hypothesis H0: “There is no significant relationship between the owners’ financial capability and firm performance”

Alternate Hypothesis H4: “There is a significant relationship between the owners’ financial capability and firm performance”

**Table 10: Correlation between Owners’ Financial Capability & Firm Performance**

Correlations				
			FC_ Mea n	Firm PerfMean
Spearman's rho	FC_ M ean	Correla tion Coeffic ient	1.00 0	.407**
		Sig. (2- tailed)	.	.000
		N	286	286
FirmP erf_ M ean	FirmP erf_ M ean	Correla tion Coeffic ient	.407* *	1.000
		Sig. (2- tailed)	.000	.
		N	286	286

The results above show a positive relation between owner’s financial capability and firm performance (r=0.407, p<0.001). This indicates that financially capable business owners tend to demonstrate better firm performance, which supports the hypothesis that there is a significant relationship between owners’ financial capability and firm’s performance. The correlation coefficient is 0.407 which indicates a positive and moderate between the two variables.

## 5. Findings and Discussion

The findings of the study provide an elaborate profile of financial capability among SME owners in Bharuch:

Majority of the respondents in the study are male, graduate-level owners of established businesses, with a large number of them falling into the age group of 41-50 years and also, they possess more than 15 years of business experience.

Though the respondents exhibit a good understanding of their business and financial management, there exists a crucial know-do gap. The results of the study indicate that respondents are confident about their knowledge but they are not consistent in applying the practical, hands-on skills for example, creating a written budget. There is a definite contradiction that prevails between short-term and long-term financial habits of these SME owners. They are meticulous with immediate responsibilities like paying bills on time, but show a significant carelessness particularly in their retirement planning.

Respondents are very careful while selecting financial products however they assiduously read the terms and conditions and make comparisons while choosing products. However, they express a lack of trust in financial planners and professionals and also possess low levels of confidence in their own ability to understand products.

The respondents have a strong desire for constant learning and staying abreast with financial information or issues, but this readiness does not consistently translate into a quest for professional advice.

### **Inferential Results:**

**Gender:** There exists a statistically significant difference in the financial capability among male and female business owners, with female SME owners being having higher levels of financial capability than their male counterparts.

**Age:** There is a significant difference in the financial capability of SME owners across different age groups. The owners belonging to the age bracket 18-25) years i.e. the youngest group shows low levels of financial capability, while the age group of 26-30 years and those over 60 years exhibit higher levels of financial capability.

**Education:** There is no significant difference in financial capability of SME owners based on their formal educational background.

## Discussion

**Targeted Financial Literacy Programs:** the interventions designed by the policy makers must go beyond the basic conceptual knowledge and must aim at practical, hands-on skills, such as managing day to day cash flows, budgeting and long-term business planning.

**Promote Professional Financial Advice:** as there is a lack of trust on financial planners by the respondents this could be addressed via interventions that establish credible, accessible, and affordable advisory services. This may comprise of advisory programmes that are government-backed or are industry-certified. The interventions must be suiting the needs of SME owners.

**Emphasize Long-Term Planning:** the programmes on improving the financial capability of the SME owners must emphasize the importance of financial security. These initiatives should include practical tools and information about affordable retirement products with easy accessibility.

**Address Specific Gaps:** the programmes for training the business owners must be tailor made according to the needs of the various age groups. The business owners who are young (18-25) may require foundational financial education, while those who belong to the higher age groups might benefit from training programs that cover advanced planning and digital financial tools.

**Empowering Female Entrepreneurs:** The higher levels of financial capability among female owners must be capitalised. Government agencies and policy makers may provide incentives to female business owners and share their success stories through various entrepreneurship development programmes. Also, such owners of business could act as counsellors to mentor and support other female entrepreneurs there by promoting a better approach to financial empowerment.

## Conclusion

The current study provides an outline of the financial capability of small business owners in Bharuch. It also gives an overview of their strengths and weaknesses. The research shows that there is a need to adopt a holistic approach to define financial capability which not only includes the financial knowledge and skills but also the behavioural and attitudinal factors. SME owners might consider themselves as financially astute, however it may not translate into effective long-term planning or an inclination towards seeking professional advice. The results of the research study show that age and gender have a significant influence on business owners'

financial capability. Yet formal education does not have a significant impact, which points out that an owner with practical experience along with an attitude of proactive learning will show higher levels of financial capability than an owner with higher educational qualifications. The result of the present research study stresses upon the need of specific and targeted initiatives to empower of SME owners; this will then result into enhanced financial resilience and a sustainable growth for the SME sector.

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## THE UNIVERSITY CREST



The tree in the Crest is the Historic Mango tree where the founders of this seat of learning started their activity and the rising sun behind the tree represents the light of learning that is being spread by this Rural Centre of Education. The Sanskrit dictum in the form of a crest presents the ideal viz. "Character and conduct are the fruits of learning" - "शीलवृत्तफलं श्रुतम्" - that is set before it by the great personality after whom this place and this University are named.