

**A Study of Institutional Financial Support for Economic
Development of Micro, Small and Medium Enterprises:
Implications, Performance and Prospects.**

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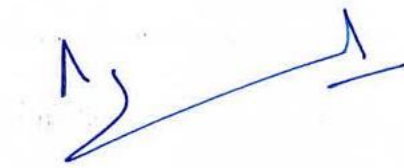


LOVELY PROFESSIONAL UNIVERSITY, PUNJAB

2026

DECLARATION

I, hereby declared that the presented work in the thesis entitled “**A Study of Institutional Financial Support for Economic Development of Micro, Small and Medium Enterprises: Implications, Performance and Prospects**” in fulfilment of degree of **Doctor of Philosophy (Ph. D.)** is outcome of research work carried out by me under the supervision of **Dr. Nitin Gupta**, working as Professor, in the Mittal School of Business of Lovely Professional University, Punjab, India. In keeping with general practice of reporting scientific observations, due acknowledgements have been made whenever work described here has been based on findings of other investigator. This work has not been submitted in part or full to any other University or Institute for the award of any degree.



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CERTIFICATE

This is to certify that the work reported in the Ph. D. thesis entitled “**A Study of Institutional Financial Support for Economic Development of Micro, Small and Medium Enterprises: Implications, Performance and Prospects**” submitted in fulfillment of the requirement for the award of degree of **Doctor of Philosophy (Ph.D.)** in the Mittal School of Business, is a research work carried out by Amar Singh Meena, 42000257, is bonafide record of his/her original work carried out under my supervision and that no part of thesis has been submitted for any other degree, diploma or equivalent course.



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ABSTRACT

The Micro, Small, and Medium Enterprises (MSME) sector is often hailed as the backbone of economic development, particularly in emerging economies like India. This study undertakes a comprehensive evaluation of institutional financial support to MSMEs across four northern states Punjab, Haryana, Himachal Pradesh, and Chandigarh focusing on its implications, performance transformations, and future prospects. The research is guided by four core objectives: (a) to study the demographic profile of MSME owners availing banking finance, (b) to evaluate their performance before and after access to institutional credit, (c) to identify major constraints faced by MSMEs and banks in the financial assistance process, and (d) to recommend actionable solutions for enhancing MSME financial access and institutional support. A multi-state survey-based design was employed to collect primary data from a diversified sample of MSME entrepreneurs, complemented by interactions with bank officers. The findings point to a diverse entrepreneurial ecosystem where social, demographic, and economic factors distinctly shape financial inclusion and business performance.

Demographically, MSME ownership remains significantly male-dominated, accounting for nearly 89.5% of the sample. Males primarily operate in manufacturing and construction sectors, while female entrepreneurs are more present in service-based enterprises. However, female participation markedly declines with the scaling of enterprises, with minimal presence in small and medium categories, indicating entrenched structural and cultural barriers to women's business growth. Caste representation is skewed, with over 73% of entrepreneurs belonging to General and OBC categories, while SC and ST participation remains low particularly in capital-intensive sectors despite progressive representation in states like Punjab.

Age and education emerge as influential factors in MSME formation and performance. The dominant age group of MSME owners is 40-60, signaling maturity and experience-driven entrepreneurship, while the 30-40 cohort indicates growing interest from younger graduates. Participation by individuals aged 20-30 is minimal, potentially due to limited capital access, preference for salaried employment, or lack of mentorship. Education plays a pivotal role in MSME finance access and success, with over 54% of owners holding graduate or postgraduate qualifications. Formal education enables better understanding of complex loan procedures,

compliance requirements, and digital financial tools thereby facilitating smoother navigation through institutional financing systems.

The performance evaluation of MSMEs before and after receiving institutional credit demonstrates tangible improvements across key operational metrics. Access to formal finance significantly enhanced working capital adequacy (mean score increased from 2.50 to 3.77), enabling timely procurement of raw materials, better inventory planning, and smoother cash flow management. Similarly, compliance with statutory regulations (e.g., GST filings, licensing, labor laws) improved after financing, with scores rising from 2.47 to 3.77. The formal loan process nudged previously informal or semi-formal businesses toward structured operations and regulatory adherence, unlocking additional opportunities such as government tenders and vendor registration.

Loan access also improved repayment planning (from 2.49 to 3.71), with entrepreneurs adopting more responsible financial behaviors post-funding. This, in turn, enhanced their creditworthiness and deepened trust between borrowers and banks laying the foundation for future lending. Beyond financial metrics, a notable psychological shift was observed: business owners began exhibiting proactive behavior in digital adoption, record-keeping, and long-term planning. Finance, thus, emerged as a trigger for both operational discipline and strategic vision. However, regional disparities in the use and impact of financial assistance are evident. Urban enterprises in Ludhiana and Faridabad leveraged loans to expand infrastructure, hire skilled labor, and access new markets. In contrast, rural MSMEs in Himachal Pradesh and peripheral areas of Chandigarh primarily used funds for stabilization paying off debts, ensuring consistent stock levels, or retaining existing employees. This divergence underscores the need for customized post-loan support, including mentorship and sector-specific guidance, to ensure equitable benefits across regions.

Access to finance also had human resource implications. Pre-financing, many units especially in Haryana and Chandigarh struggled with cash flow-induced attrition and salary delays. Post-funding, businesses reported better workforce retention, timely salary disbursements, and occasional upskilling incentives, contributing to improved production quality and customer satisfaction. Despite these improvements, the study reveals persistent constraints in both MSME operations and banking systems. Procedural complexity remains a major hurdle especially in remote parts of Himachal and interior Punjab where digital literacy and access to professional assistance are limited. The cumbersome documentation process, lengthy application cycles, and collateral demands dissuade many potential borrowers, particularly first-generation or micro-

entrepreneurs. Collateral requirements continue to follow a traditional model focusing on immovable assets such as land and buildings whereas most micro and service-based MSMEs operate with movable or leased resources. This structural mismatch results in the exclusion of viable but informally structured enterprises. As a result, many resort to informal financing channels with higher interest rates and limited legal protections.

A significant information gap was also observed. While government schemes such as CGTMSE, TReDS, and SIDBI-backed initiatives exist, awareness and understanding among entrepreneurs remain low. Even among informed owners, application ambiguity and procedural opacity discourage utilization. Meanwhile, bank staff particularly in rural branches reported difficulties in keeping pace with evolving guidelines, eligibility criteria, and documentation processes, leading to a general reluctance in promoting these schemes to potential borrowers.

Bank officers also highlighted systemic bottlenecks that hinder efficient MSME credit appraisal. Standardized scoring models often penalize businesses in seasonal or innovation-driven industries, such as textiles or food processing. Even profitable enterprises with irregular cash flows or unconventional banking histories are flagged as high risk due to rigid risk filters. This “tick-box” approach leads to misclassification and results in deserving applicants being denied credit. Furthermore, the fear of audit flags and potential NPAs compels risk-averse behavior among officers, discouraging loan approval for borderline cases.

Staffing constraints further exacerbate service delivery gaps. Many public and cooperative banks particularly in semi-urban Himachal and Haryana lack dedicated MSME desks. Officers burdened with multiple responsibilities are unable to provide personalized attention, understand nuanced business models, or handhold new entrepreneurs through complex processes. The absence of institutional bandwidth limits the effectiveness of even well-intentioned financial inclusion goals. Additionally, bank clients and lenders appear to operate from misaligned philosophical frameworks. While MSMEs expect digital records, GST history, and consistent repayment behavior to suffice for loan eligibility, banks continue to prioritize physical collateral and tax history. Bridging this disconnect requires a dual approach: banks must adopt alternate.

KEYWORDS: MSMEs (Micro, Small, and Medium Enterprises, Institutional Finance, Entrepreneurial Performance, Financial Inclusion, Credit Constraints & Banking Support Systems

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| Abbreviations | | |
|---------------|---------------|--|
| S.NO | Abbreviations | Full form |
| 1 | MSME | Micro, Small, and Medium Enterprises |
| 2 | IFC | International Finance Corporation |
| 3 | OECD | Organisation for Economic Co-operation and Development |
| 4 | GVA | Gross Value Added |
| 5 | KVIC | Khadi and Village Industries Commission |
| 6 | NSIC | National Small Industries Corporation |
| 7 | PMEGP | Prime Minister's Employment Generation Programme |
| 8 | CGTMSE | Credit Guarantee Fund Trust for Micro and Small Enterprises |
| 9 | TReDS | Trade Receivables Discounting System |
| 10 | CSC | Common Service Centres |
| 11 | GST | Goods and Services Tax |
| 12 | UPI | Unified Payments Interface |
| 13 | ITR | Income Tax Return |
| 14 | CA | Chartered Accountant |
| 15 | AI | Artificial Intelligence |
| 16 | RPA | Robotic Process Automation |
| 17 | NBFC | Non-Banking Financial Company |
| 18 | RBI | Reserve Bank of India |
| 19 | SIDBI | Small Industries Development Bank of India |
| 20 | NPA | Non-Performing Asset |
| 21 | UDYAM | Udyam Registration Portal (Govt. of India initiative for MSME formalization) |

| | | |
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| 22 | LLP | Limited Liability Partnership |
| 23 | DPDP | Digital Personal Data Protection Act |
| 24 | NSIC | National Small Industries Corporation (Repeated) |
| 25 | SAMBHAV | Skill Awareness for MSME and Handholding Activities through VR (Government Initiative) |
| 26 | ULI | Unified Lending Interface (Pilot project by RBI) |

CHAPTER 1

Micro Small & Medium Enterprises (MSME) Ecosystem

Overview

This chapter presents a comprehensive overview of the Micro, Small, and Medium Enterprises (MSME) sector, beginning with a foundational understanding of what MSMEs are and why they constitute a pivotal segment in the economic architecture of both developed and developing nations. The chapter first outlines the basic definitions, classifications, and structural features of MSMEs, highlighting their role as engines of employment generation, innovation, and inclusive growth. By offering insights into their economic contributions, operational scale, and sectoral diversity, the chapter sets the stage for a deeper exploration of their global and national relevance. Following the introductory section, the chapter delves into the global perspective of MSMEs. It compares the role and functioning of MSMEs across various economies particularly within OECD countries, Asian economies, and emerging markets by emphasizing patterns of policy support, innovation ecosystems, credit access frameworks, and digital transformation trends. This global overview helps establish a comparative understanding of how different economies leverage the MSME sector for sustainable development, resilience, and entrepreneurial growth.

Subsequently, the chapter shifts its focus to the Indian context. It traces the evolution of MSMEs in India, elaborating on their classification under the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, and the recent changes in investment and turnover criteria. The discussion highlights key statistics on the number of enterprises, employment generation, and contribution to India's GDP, exports, and regional development.

The latter part of the chapter is dedicated to an in-depth discussion on the *need, wants, and significance* of MSMEs in India. It also outlines the pressing *issues and challenges* faced by the sector, including limited access to finance, raw material shortages, regulatory hurdles, and technological backwardness. This section critically examines the policy-practice gap and the areas where MSMEs continue to remain underserved despite policy initiatives. The analysis sets the foundation for subsequent chapters that deal with specific regional studies, performance metrics, financing constraints, and policy effectiveness. Through this structured approach, the chapter offers a multidimensional perspective that integrates theory, data, and policy for a holistic understanding of MSMEs.

SECTION I

MSMEs & Global Perspective

1.2. Introduction

The Micro Small and Medium Enterprises sector occupies a place of strategic importance in the Indian economy. It is widely acknowledged for its role in promoting balanced economic development, generating employment, encouraging innovation and entrepreneurship, and contributing to the growth of local economies across diverse regions (Bhoganadam et al., 2017). The sector has grown in scale and scope over the years and continues to serve as a critical engine of growth and a strong foundation for inclusive development. Its significance lies in its ability to operate in varied geographical settings, adapt to the changing economic environment, and offer economic participation opportunities to a large section of the population, including marginalized groups and those with limited access to capital and resources. (Biswas, 2015)

At the core of the MSME sector is the ability to harness local skills, resources, and talents. It often reflects the industrial spirit of a region and plays a pivotal role in shaping regional development patterns. The sector promotes grassroots industrialization and helps reduce rural-urban migration by creating livelihood opportunities near the place of residence (Bilal et al., 2016). MSMEs are involved in both manufacturing and service activities and cover a wide range of sectors, making them diverse in nature. Their agility in adapting to market demands and their lean structure allow them to respond quickly to changes in business environments (Mehta, 2021). Over time, the government has acknowledged the need to support this segment through various policy measures and institutional arrangements. The objective has been to nurture their growth, encourage their formalization, and ensure that they are provided with adequate financial and infrastructural backing (Athaide & Pradhan, 2020). However, the performance of the sector has been subject to a variety of challenges, particularly in the domains of finance, technology, regulatory compliance, and market access (Mittal & Raman, 2021). Despite these issues, the sector has shown remarkable resilience and continues to play a transformative role in shaping India's economic landscape.

The journey of the MSME sector in India has been shaped by various policy interventions and institutional support mechanisms. These measures have aimed at enhancing the productivity and competitiveness of enterprises, improving access to credit, enabling skill development, and facilitating linkages with domestic and global markets (Amrinder, 2016). The policy ecosystem

for MSMEs has evolved in response to the changing economic and social priorities of the country. The sector has also been seen as a vehicle for achieving broader developmental goals such as employment generation, poverty reduction, and promotion of equitable growth (Gupta et al., 2022). One of the core attributes of MSMEs is their deep integration into the social and economic fabric of the country (Bhoganadam et al., 2017). They support economic decentralization and democratization of opportunities by empowering individuals with limited means to establish business ventures. This democratization contributes to the inclusiveness of the economy and creates a broad base for economic participation (Singh, 2022). The sector often fosters self-employment and community development and offers an opportunity for upward social mobility (Singh et al., 2018). MSMEs help bridge economic disparities by enabling income generation in semi-urban and rural areas (Biswas, 2015).

In recent years, the sector has been exposed to both domestic and global economic transitions. Changes in technology, consumer preferences, supply chains, and international trade dynamics have influenced the way MSMEs operate. To stay relevant and competitive, there has been a growing emphasis on digital transformation, innovation, skill enhancement, and formalization (Bhoganadam et al., 2017). However, the pace of such transitions varies across the sector, as many units still face structural constraints. These constraints often stem from limited access to capital, inadequate market information, and regulatory compliance burdens. The ability of MSMEs to modernize and scale up depends on their access to financial and institutional support systems.

The role of financial institutions, development banks, and government agencies becomes crucial in addressing the financing gap and enabling enterprises to move from informal to formal structures. Financial inclusion remains a core concern for the sector, as traditional financing channels often fail to cater to the needs of micro and small units (Amrinder, 2016). While the banking system has taken steps to expand credit outreach, procedural hurdles, risk perceptions, and documentation requirements continue to create barriers (Harpriya et al., 2022). Non-banking financial institutions and microfinance agencies have tried to fill the gap, but their reach and scale are still limited in some regions (Maheshkar & Soni, 2021). The challenge lies in creating a robust and inclusive financial architecture that understands the unique features of the sector. Institutional financial support needs to go beyond just credit provision. It should encompass capacity building, risk mitigation, access to technology, and support for market development (Bhoganadam et al., 2017). For MSMEs to thrive, they require a support system that is holistic, responsive, and tailored

to their scale and stage of growth. Policy frameworks should ensure that there is an ecosystem of trust and cooperation between financial institutions and enterprises. A participative approach that includes public institutions, private players, and civil society can help in bridging gaps and ensuring sustained support (Singh & Singh, 2014).

In India, the MSME sector does not operate in isolation. It is closely connected with larger industries, supply chains, export networks, and service ecosystems. Its contribution is felt across sectors ranging from agriculture and textiles to information technology and pharmaceuticals. MSMEs not only act as suppliers and service providers to large industries but also as independent producers of value (Bilal et al., 2016). They form a dense network of backward and forward linkages, making them integral to the functioning of the economy. Their ability to drive innovation and experiment with new models has contributed to industrial dynamism and product diversity.

Another key dimension of the MSME sector is its employment potential (Mittal & Raman, 2021). In a country with a large and growing workforce, MSMEs offer opportunities for employment creation across a variety of skill levels (Dominic et al., 2024). They are especially critical in absorbing youth, women, and first-time entrepreneurs into the productive workforce (Singh et al., 2018). They offer work arrangements that are more flexible and locally relevant. However, their employment quality and sustainability depend on the health of the enterprises and the regulatory framework within which they operate. Thus, ensuring the financial health of MSMEs indirectly supports social stability and human development. The regional spread of MSMEs in India is uneven. While some states have a vibrant and mature MSME base with linkages to global markets, others have nascent and informal structures that are yet to be formalized or scaled (Rao et al., 2017). Regional policies, availability of infrastructure, institutional presence, and ease of doing business have an influence on the growth trajectory of MSMEs in each state. Understanding this regional variation is essential for designing interventions that are contextually relevant. States with proactive industrial policies and strong support mechanisms tend to nurture clusters that are competitive and resilient (Sanu & Anjum, 2023).

Institutional support for MSMEs also includes efforts at formalization and compliance facilitation. With policy moves such as digital registration and the introduction of national-level identification systems, there has been an effort to bring enterprises into the formal fold. While formalization helps improve transparency, access to finance, and legal protection, it also brings challenges related to compliance and operational adjustment (Singh et al., 2018). Many small enterprises operate on

thin margins and may find it difficult to meet regulatory requirements. A balanced approach that promotes gradual formalization while offering handholding support is needed. The dynamic nature of the MSME sector requires continuous monitoring, adaptive policy frameworks, and innovative institutional responses (Athaide & Pradhan, 2020). There is no one-size-fits-all approach to MSME development. The heterogeneity within the sector calls for differentiated strategies that take into account size, sector, region, and stage of growth. Whether it is a small artisan unit in a rural village or a tech-based startup in an urban cluster, each enterprise faces unique challenges and opportunities (Harpriya et al., 2022). Policies must be flexible enough to accommodate this diversity while ensuring that common goals such as financial access, productivity enhancement, and employment creation are achieved.

The narrative around MSMEs must shift from viewing them merely as small units that need protection to recognizing them as growth drivers that require enabling conditions. Their development is not just a matter of social equity but also of economic strategy. A vibrant MSME sector can contribute to supply chain resilience, innovation capability, and domestic value addition. It can also help reduce import dependence and strengthen the foundation for sustainable development (Prakash et al., 2021). The sector's ability to internalize environmental and social considerations while maintaining economic viability makes it relevant for long-term development goals. The MSME sector in India is a complex and dynamic system that reflects the entrepreneurial spirit of the country. It serves as a bridge between informal economic activity and formal enterprise structures. Its potential to contribute to employment, income generation, innovation, and regional development is immense (Mukherjee, 2018). However, to fully realize this potential, institutional financial support must be effective, inclusive, and responsive to the realities of the sector (Singh et al., 2018). The path forward lies in building strong partnerships, simplifying processes, and fostering an environment where MSMEs are empowered to grow, compete, and contribute meaningfully to the nation's economic progress (Pradhan & Agarwal, 2020).

1.3. MSMEs and Economic Development Contribution

The contribution of Micro, Small and Medium Enterprises to economic development is widely acknowledged across developing and developed economies alike. In the context of India, MSMEs are not merely peripheral support units to large-scale industries but are central drivers of economic activity in their own right. Their presence cuts across rural and urban spaces, providing a framework through which economic decentralization and localized growth become possible

(Gupta et al., 2022). The essence of their contribution lies in their ability to catalyze inclusive growth, stimulate domestic demand, support entrepreneurship, and promote industrial diversity. Unlike large firms that often require substantial capital and infrastructure, MSMEs are more agile and grounded in local realities (Prakash et al., 2021). They bridge the gap between informal activities and the formal economy, making them instrumental in economic restructuring and poverty alleviation. MSMEs play a foundational role in generating employment opportunities, especially in a labor-abundant country. They absorb workers across diverse skill levels and educational backgrounds. Their operations are often skill-intensive rather than capital-intensive, which makes them more suitable for countries with large semi-skilled populations. The low entry barriers and localized supply chains enable MSMEs to absorb seasonal and surplus labor. Consequently, they serve as a buffer against the vulnerabilities of large-scale employment shocks (Maheshkar & Soni, 2021). In rural areas, MSMEs help reduce dependency on agriculture by promoting off-farm employment, thereby leading to a more balanced and resilient rural economy. Economic development is not just about the increase in national income or industrial output. It is also about creating opportunities for sustainable livelihoods, improving human welfare, and facilitating regional equity. MSMEs play a catalytic role in all these aspects. They support forward and backward linkages in the economy by acting as suppliers, subcontractors, and service providers to larger firms (Singh & Singh, 2014). Their ability to operate flexibly helps them respond quickly to market changes and customize products and services based on regional demands. They stimulate entrepreneurship by offering people the opportunity to establish their own ventures. This, in turn, leads to income generation, asset creation, and community development.

The decentralized nature of MSMEs allows them to function effectively even in areas where large industries are not viable. This geographical spread facilitates balanced regional development, particularly in economically weaker districts. MSMEs set up in these regions often use local raw materials and human resources, creating localized value chains and enabling communities to be economically self-reliant (Prakash et al., 2021). This not only strengthens regional economies but also reduces the migration pressure on urban centers. Economic development becomes more sustainable when communities are able to participate in and benefit from local enterprise activity. One of the crucial ways MSMEs contribute to development is through innovation. Despite their limited scale, MSMEs are known for experimenting with new ideas, materials, and market

strategies. Their innovation is often need-based and adaptive, aimed at solving real-time problems faced by customers or businesses. Innovation in MSMEs is not necessarily high-tech but is often high-impact (Saha et al., 2023). It contributes to improved productivity, cost-efficiency, and competitiveness. By investing in skill development and technology upgradation, MSMEs can play a leading role in building a knowledge-based economy (Genty et al., 2015). However, to fully tap into their innovation potential, institutional support for research and development, knowledge transfer, and technical assistance becomes essential.

Another important aspect of MSME contribution is their role in strengthening supply chains and value systems. MSMEs produce a wide range of intermediate and final goods and services, thereby becoming an integral part of both domestic and global supply chains. They play a supporting yet strategic role by supplying components, tools, services, and maintenance to larger players. Their adaptability and cost competitiveness make them attractive partners in manufacturing ecosystems. As supply chains become more complex and digitalized, MSMEs have an opportunity to reposition themselves as vital links by adopting process improvements and digital capabilities.

Financial inclusion and capital mobilization are other domains where MSMEs play a pivotal role. As they scale their operations, they generate demand for credit, insurance, savings, and investment products. This stimulates the development of financial institutions and products tailored to the needs of small enterprises. With appropriate financial access, MSMEs contribute to capital formation and productive utilization of resources (Pradhan & Agarwal, 2020). Their financial behavior also encourages the formalization of transactions and revenue reporting, thereby widening the tax base and contributing to fiscal consolidation. Their interaction with financial institutions also opens pathways for building credit history and improving financial discipline.

MSMEs contribute significantly to export earnings and external sector growth. Many units in textiles, handicrafts, leather, agro-processing, and engineering sectors supply to international markets. They help diversify the export basket, reduce overdependence on a few sectors, and enhance the competitiveness of the economy. Since MSMEs often operate at lower cost structures and are customer-focused, they are well-positioned to meet niche international demands. Export-oriented MSMEs also benefit from exposure to international quality standards and innovation practices. Their global presence enhances brand India and provides a strategic advantage in trade negotiations and international collaborations.

From a developmental perspective, the social value created by MSMEs is substantial. They often employ people from disadvantaged communities, women, and first-generation entrepreneurs. They promote inclusive capitalism where wealth generation and social progress go hand in hand. The social networks built around MSMEs contribute to community resilience and reduce dependence on government support (Genty et al., 2015). Their presence enhances social mobility and builds a culture of self-reliance. MSMEs also support social enterprises, green ventures, and ethical business models which align with sustainable development goals.

Environmental sustainability is another area where MSMEs can contribute meaningfully. Though some units may face challenges in adopting cleaner technologies, there is growing awareness about responsible production and sustainable practices. Green financing, resource efficiency, and circular economy models are increasingly being adopted in small-scale operations. With the right incentives, MSMEs can lead in low-carbon and energy-efficient production systems. Their small size allows for quicker transition and experimentation in sustainability models. Hence, they can become role models (Pradhan & Nayak, 2025) in the shift toward environmentally responsible industrialization.

In addition to their functional contributions, MSMEs also shape the entrepreneurial culture of the country. By encouraging risk-taking and innovation, they cultivate a mindset of ownership and initiative. Business incubators, startup ecosystems, and vocational training programs are increasingly aligned to support the growth of MSME (Harpriya et al., 2022)s. Their role in promoting financial literacy, digital literacy, and work ethics is often overlooked but equally important. They become institutions of learning, adaptability, and empowerment. Over time, this contributes to a more informed and participative citizenry (Singh et al., 2024).

The contribution of MSMEs to economic development cannot be seen in isolation. It must be linked to the larger ecosystem in which they operate. Their success depends on access to markets, technology, finance, skills, and policy stability. A coordinated approach involving government institutions, private sector stakeholders, academia, and civil society is essential to sustain their momentum (Maheshkar & Soni, 2021). A long-term vision that integrates MSMEs into the national development agenda ensures that their contribution is fully realized. Investments in infrastructure, policy coherence, administrative efficiency, and institutional capacity must complement the efforts of entrepreneurs. The economic value generated by MSMEs is more than the sum of their outputs. They inject dynamism into the economy, foster diversity and resilience, and promote values that

are foundational to human development (Prakash et al., 2021). They embody the spirit of enterprise and contribute to a more equitable and vibrant economy. Their growth is not just an economic imperative but also a developmental priority. As the Indian economy aspires to become more self-reliant and globally competitive, the role of MSMEs will only expand (Gupta et al., 2022). Strategic planning, efficient support systems, and inclusive policymaking will help unlock the full developmental potential of this vital sector.

1.4. MSMEs in Global Context

Micro, Small, and Medium Enterprises (MSMEs) hold a critical position in the global economic landscape, serving as the backbone of both developed and developing economies. Across the world, MSMEs account for over 90% of all businesses and generate more than 50% of employment, highlighting their role as key drivers of job creation, innovation, and inclusive growth. In emerging economies, they often contribute significantly to GDP and are instrumental in alleviating poverty, empowering local communities, and fostering regional development. For instance, in countries like India, Brazil, and Indonesia, MSMEs play a vital role in sustaining livelihoods and boosting domestic production (Mukherjee, 2018). Globally, MSMEs also act as engines of innovation, especially in sectors like technology, services, and creative industries, where agility and adaptability give them a competitive edge over larger firms. With the acceleration of globalization and digital transformation, MSMEs have increasingly tapped into international markets through e-commerce platforms, cross-border trade, and global value chains. However, they face numerous challenges that hinder their growth potential such as limited access to finance, high regulatory burdens, lack of technological infrastructure, and insufficient market linkages (Singh et al., 2024). The COVID-19 pandemic further exposed these vulnerabilities, as MSMEs were disproportionately affected due to supply chain disruptions and declining consumer demand. In response, international institutions like the World Bank, WTO, and UN have emphasized MSME development as a strategic priority, promoting reforms to improve financing, capacity-building, and formalization. Moreover, with the global shift toward sustainability and digitalization, MSMEs are now central to achieving the Sustainable Development Goals (SDGs), particularly SDG 8 (decent work and economic growth) and SDG 9 (industry, innovation, and infrastructure). Going forward, creating enabling environments through supportive policy frameworks, innovation hubs, digital inclusion, and inclusive financial systems will be essential to

harness the full potential of MSMEs in building resilient, equitable, and sustainable global economies.

1.4.1. Definition and Classification of MSMEs: A Global Perspective

Micro, Small, and Medium Enterprises (MSMEs) form the backbone of economies worldwide, but their definition and classification vary significantly across countries and institutions due to differing economic structures, policy objectives, and levels of development. The diversity in definitions reflects attempts to contextualize enterprise size relative to national GDP, labor markets, and industrial capacity (Pradhan & Nayak, 2025). Despite differences, most countries use a combination of three criteria to classify MSMEs: number of employees, annual turnover, and total assets or investment in plant and machinery. These classifications are vital because they determine eligibility for financial assistance, tax relief, policy support, and regulatory compliance exemptions.

At the international level, organizations such as the World Bank, United Nations Industrial Development Organization (UNIDO), and the Organisation for Economic Co-operation and Development (OECD) have developed indicative guidelines to promote consistency in MSME classification. According to the World Bank's Enterprise Surveys, the typical definitions are as follows: micro enterprises have fewer than 10 employees, small enterprises have between 10 and 49, and medium enterprises range from 50 to 299 employees. UNIDO similarly defines MSMEs based on employment size but notes that in low-income economies, a "medium enterprise" might be one with as few as 50 employees. The OECD adopts a standard where small and medium-sized enterprises (SMEs) are defined as businesses with fewer than 250 employees, further categorized into small (10-49) and medium (50-249). However, it also acknowledges that size alone does not capture complexity and recommends integrating financial metrics.

Across developed economies, employee size is often the dominant factor. For example, in the European Union (EU), micro enterprises employ fewer than 10 persons and have annual turnover or balance sheet total not exceeding €2 million. Small enterprises employ fewer than 50 persons and have turnover or balance sheets up to €10 million, while medium enterprises employ fewer than 250 persons with turnover up to €50 million or balance sheet total up to €43 million. The United States Small Business Administration (SBA), however, defines small businesses based on industry-specific criteria, using both revenue and employment thresholds. In general, U.S. firms with fewer than 500 employees are considered SMEs, but the cut-offs vary: for manufacturing

firms, the limit is usually 500 employees, while for retail trade and services, it may depend on average annual receipts, ranging from \$7.5 million to \$41.5 million depending on the sector.

In contrast, developing economies often use investment thresholds due to informal sector dominance and challenges in collecting financial data. India, under the MSME Development Act, 2006 (amended in 2020), defines MSMEs based on both turnover and investment in plant and machinery. A micro enterprise has investment up to ₹1 crore and turnover up to ₹5 crore; a small enterprise has investment up to ₹10 crore and turnover up to ₹50 crore; and a medium enterprise has investment up to ₹50 crore and turnover up to ₹250 crore. These criteria were revised to encourage scaling and remove the manufacturing-services divide. In South Africa, small businesses are defined under the National Small Business Amendment Act, 2003, using a combination of turnover, number of employees, and asset value, with sector-specific variations (Rao et al., 2017). East Asian economies, such as China and Japan, take a sector-sensitive approach. In China, definitions differ across agriculture, industry, and services. For instance, a manufacturing SME may employ up to 300 employees and have revenue below RMB 20 million, while a small commercial enterprise may employ fewer than 100 persons. Japan defines SMEs by capital size and employee count (Genty et al., 2015). A manufacturing SME can have up to 300 employees or capital of ¥300 million. These definitions are closely linked to access to tax benefits and government procurement.

Despite this variation, efforts have been made to harmonize definitions for international comparisons. For instance, the International Finance Corporation (IFC), a member of the World Bank Group, classifies enterprises as micro (less than 10 employees), small (10-49), and medium (50-300), and further suggests financial benchmarks such as assets not exceeding \$15 million and annual sales up to \$15 million. However, even the IFC recognizes that flexibility is essential due to local conditions. Standardizing MSME definitions is important for enabling global comparisons, setting benchmarks, and facilitating cross-border development assistance. However, it is also crucial that definitions remain adaptive to national contexts. A business with 100 employees in a low-income country may be considered large relative to the local economy, while in a high-income nation, it may still qualify as a small or medium enterprise (Pradhan & Nayak, 2025). Moreover, turnover-based classifications face challenges in economies with widespread informality or weak record-keeping practices. Therefore, composite measures combining employment size, turnover, and sectoral specifics are increasingly seen as more appropriate.

In conclusion, while no single global definition of MSMEs exists, international institutions and national governments converge on broad criteria centered around employment, turnover, and investment levels. Efforts to harmonize classification frameworks must balance global standardization with local economic realities, sectoral diversity, and policy priorities. Creating a flexible yet comparable taxonomy of MSMEs will be key to improving global financial inclusion, designing targeted development programs, and supporting resilient enterprise ecosystems in both the global North and South.

Table 1.1: Global Comparison of MSME Definitions

| Country/Organization | Micro | Small | Medium | Criteria Used |
|------------------------|--|---|--|---|
| World Bank | <10 employees | 10-49 employees | 50-299 employees | Number of employees |
| UNIDO | <5 employees | 5-19 employees | 20-99 employees | Number of employees (adapted by income level) |
| OECD | <10 employees | 10-49 employees | 50-249 employees | Number of employees |
| European Union | <10 employees & turnover ≤ €2M | <50 employees & turnover ≤ €10M | <250 employees & turnover ≤ €50M | Employees, turnover, balance sheet total |
| USA (SBA) | Varies by industry; often <500 employees | | | Industry-specific employment/revenue thresholds |
| India (post-2020) | Investment ≤ ₹1 Cr & turnover ≤ ₹5 Cr | Investment ≤ ₹10 Cr & turnover ≤ ₹50 Cr | Investment ≤ ₹50 Cr & turnover ≤ ₹250 Cr | Investment in plant & machinery and turnover |
| China | <10 employees (micro); industry-specific | <300 (manufacturing), <100 (services) | Up to 1000 employees in some sectors | Employees, revenue (RMB), sector |
| Japan | ≤20 employees or ¥10M capital (retail) | ≤100-300 employees or up to ¥300M capital | Above Small | Employees or capital; sector-specific |
| South Africa | <5 (micro), up to 50 (small) | <100 (medium) | Varies by sector | Employees, turnover (ZAR), asset value |
| IFC (World Bank Group) | <10 employees & turnover ≤ \$100K | 10-49 employees & turnover ≤ \$3M | 50-300 employees & turnover ≤ \$15M | Employees, turnover |

(Source: DCMSME, 2020)

1.4.2. Challenges Faced by Global MSMEs

Limited Access to Affordable Finance: Access to credit remains one of the most persistent and universal challenges for MSMEs worldwide. Traditional financial institutions often perceive small businesses as high-risk due to insufficient collateral, short credit histories, and informal operations. According to the World Bank, nearly 65 million firms, or 40% of formal MSMEs in developing countries, have an unmet financing need of \$5.2 trillion every year. High interest rates, rigid documentation requirements, and poor financial literacy further exacerbate the funding gap, especially in Africa, South Asia, and Latin America.

Complex and Inflexible Regulatory Frameworks: Bureaucratic red tape and complex compliance procedures often act as deterrents for MSME formation and sustainability. Many small enterprises lack the legal or administrative support needed to navigate licensing, taxation, and labor laws. This issue is particularly acute in emerging economies, where informal enterprises operate outside regulatory oversight and thus remain ineligible for government incentives. Regulatory burdens also discourage MSMEs from entering international trade due to difficulties in adhering to export norms, quality certifications, and customs protocols.

Inadequate Access to Domestic and International Markets: MSMEs often struggle to integrate into larger value chains or reach consumers beyond their local markets. Limited marketing capabilities, poor infrastructure, logistical inefficiencies, and lack of brand visibility constrain their market reach. Additionally, MSMEs in least developed countries face trade barriers, high transportation costs, and low digital presence, which prevent them from participating in global supply chains. Without reliable platforms for promotion and distribution, many remain confined to informal, localized trade networks.

Technology Gaps and Low Digital Adoption: A major disadvantage for MSMEs is the digital divide. Many small businesses especially in rural or underdeveloped regions lack access to digital infrastructure, training, and tools. While large firms can afford to automate and digitalize, MSMEs are often stuck with outdated technologies or manual operations. The adoption of e-commerce, digital payments, and enterprise software remains limited due to affordability issues and skills shortages. This puts MSMEs at a competitive disadvantage in an increasingly tech-driven global economy.

Post-Pandemic Debt and Business Fragility: The COVID-19 pandemic disproportionately impacted MSMEs, particularly those in sectors such as hospitality, retail, transport, and informal

services. Prolonged lockdowns, loss of consumer demand, and supply chain disruptions led to massive revenue losses. Although some governments introduced emergency relief packages, a large number of MSMEs accumulated debt or shut down. According to OECD estimates, up to 70% of small businesses in some countries reported significant liquidity stress during the pandemic. Many have not yet returned to pre-pandemic levels of profitability or employment.

Difficulty in Building Climate Resilience: MSMEs are highly vulnerable to the impacts of climate change but often lack the resources and capacity to implement resilience strategies. Floods, droughts, extreme heat, and other climate-induced disruptions can halt production, destroy assets, and increase operating costs. Unlike large corporations, MSMEs cannot easily invest in climate-smart infrastructure or obtain green financing. Their exclusion from climate policy frameworks further limits their ability to adapt. This vulnerability is critical in agriculture, fisheries, tourism, and energy-dependent industries.

Limited Inclusion in National and Global Policy Dialogues: While MSMEs are recognized as engines of economic growth, their voices are often underrepresented in policymaking forums. Most national industrial strategies are designed around the needs of large enterprises, while MSMEs receive fragmented attention. International trade and development policies similarly fail to incorporate the realities of micro and small businesses, especially in low-income countries. This disconnect leads to policies that do not align with MSME capacities, missing opportunities for inclusive economic recovery.

Lack of Skilled Workforce and Human Capital: Many MSMEs, especially in low- and middle-income countries, face difficulties in recruiting skilled workers due to competition with larger firms or the migration of talent to urban centers. Training costs, absence of formal HR systems, and low wages limit their ability to retain qualified staff. Furthermore, entrepreneurs themselves may lack business management, financial planning, or digital skills, hampering growth. This skills mismatch hinders innovation, compliance, and customer service capacity.

Challenges in Digital Transformation and Cybersecurity: Even as MSMEs begin adopting digital tools, they face increasing threats related to data privacy, online fraud, and cyberattacks. Without proper cybersecurity infrastructure or knowledge, they remain easy targets for digital breaches. At the same time, transitioning to digital ecosystems requires upfront investment in software, training, and hardware, which is often beyond the reach of smaller firms. Lack of digital

trust and infrastructure deters full adoption of online platforms, leaving MSMEs behind in the digital economy.

Informality and Legal Identity Gaps: A substantial number of MSMEs, particularly in Africa, South Asia, and Latin America, operate informally without official business registration. This limits their ability to access institutional finance, government grants, legal protections, or insurance. Informal businesses often face precarious working conditions, no access to formal dispute resolution, and vulnerability to harassment or eviction. Efforts to formalize such enterprises face resistance due to fears of taxation, compliance burdens, or corruption.

Insufficient Support for Women and Minority-Owned MSMEs: Gender-based and social barriers still restrict access to entrepreneurship for women, indigenous people, and minority groups. In many countries, women-led MSMEs face discriminatory lending practices, lack of collateral due to property rights issues, and exclusion from male-dominated networks. Minority-owned businesses may struggle with limited market access or cultural biases. Targeted support systems such as gender-sensitive finance, mentorship, and procurement preferences are still insufficient in many national MSME policies.

Fragmented Institutional Support Ecosystems: While many countries have MSME development agencies, business incubators, or startup missions, the support ecosystem remains fragmented. Coordination between ministries, financial institutions, and training bodies is often weak, leading to duplication, inefficiencies, and confusion among entrepreneurs. MSMEs may be unaware of existing schemes or face difficulties in navigating complex application procedures. Effective “one-stop-shop” platforms are lacking in most regions.

Table 1.2: Challenges and Enablers for MSME-led Economic Development

| Factor | Enabler/Challenge | Description |
|------------------------|--------------------------|---|
| Access to Finance | Challenge | Difficulty in securing affordable and timely institutional credit |
| Infrastructure Support | Challenge | Lack of industrial clusters, power, and transport |
| Digital Integration | Enabler | Potential to reach markets and reduce operational costs |
| Policy Environment | Enabler | Stable policies enhance confidence and long-term planning |
| Skill Development | Enabler | Builds a productive and employable workforce |
| Formalization Drive | Mixed | Ensures compliance but increases reporting burden |

(Source: Leadbank, 2023)

SECTION II

MSMEs and Indian Perspective

1.5. MSMEs in the Indian Context

Micro, Small, and Medium Enterprises (MSMEs) play a pivotal role in India's economic development by driving industrialization, promoting entrepreneurship, and generating employment across urban and rural areas. Recognized as the backbone of the Indian economy, the MSME sector contributes significantly to the country's GDP, exports, and innovation. Spread across manufacturing, services, trade, and agricultural activities, MSMEs foster inclusive growth by enabling small-scale enterprises to thrive in both organized and unorganized segments of the economy. The sector not only provides employment to a large share of the working population but also supports large industries through supply chain linkages and ancillary services.

In India, MSMEs are classified based on investment in plant and machinery or equipment and turnover. After the 2020 revision of the MSME definition, the criteria were broadened to include both manufacturing and services under a common framework. This change was intended to make the classification more inclusive and to facilitate scaling of operations without losing access to government benefits. Despite their importance, Indian MSMEs face several challenges such as inadequate access to formal finance, lack of technological advancement, regulatory compliance burdens, and limited access to global markets (Gupta & Agarwal, 2023). Many operate informally and are unable to benefit from institutional credit or government schemes due to lack of awareness or documentation.

The Government of India has launched several initiatives to strengthen the MSME ecosystem, including the Prime Minister's Employment Generation Programme (PMEGP), MUDRA loans, Credit Guarantee Fund Scheme, and digital platforms like Udyam Registration. The push toward digitalization, skill development, and ease of doing business aims to integrate MSMEs into formal value chains. As India moves toward becoming a global manufacturing hub, empowering MSMEs with infrastructure, finance, and technology will be crucial for sustainable and equitable economic growth. Their resilience and adaptability make them vital for India's future economic roadmap.

1.5.1 Definition and Classification of MSMEs in India

The definitional framework governing Micro, Small, and Medium Enterprises (MSMEs) in India has evolved considerably over time, shaped by the twin imperatives of administrative simplification and economic inclusion. The foundational legislative basis remains the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, which originally classified enterprises separately for manufacturing and service sectors, based exclusively on investment in plant and machinery or equipment respectively. This binary framework, while administratively functional at the time of its introduction, created structural rigidities that inadvertently discouraged enterprise growth. Enterprises facing imminent reclassification to a higher category often deliberately suppressed investment levels to retain MSME status and the attendant policy benefits, including priority sector lending, subsidised credit, and procurement preferences (Rajamani et al., 2022). This behaviour, well documented in the Indian MSME literature, represents a classic example of threshold-induced distortion in enterprise development policy.

Recognising these limitations, the Government of India issued Gazette Notification S.O. 2119(E) on June 26, 2020, introducing a fundamentally revised classification framework effective from July 1, 2020. The most consequential change was the shift from a sector-specific, single-criterion classification to a composite criterion combining both investment in plant and machinery or equipment and annual turnover, applied uniformly across manufacturing and service enterprises. This unification eliminated the long-standing distinction between the two sectors, reducing classification complexity and broadening the universe of enterprises eligible for MSME support (Mittal & Raman, 2021). Under this framework, an enterprise exceeding either threshold investment or turnover is automatically reclassified to the next higher category, ensuring that classification remains dynamic and responsive to actual enterprise performance.

Building on this foundation, the Union Budget 2025 announced a further upward revision to classification thresholds, notified by the government and made effective from April 1, 2025. The investment limits were revised upward by 2.5 times and the turnover limits were doubled across all three categories. The current operative classification, as per the 2025 revision, is presented in Table 1.3 below.

Table 1.3: Classification of MSMEs in India, w.e.f. April 01, 2025.

| Enterprise Category | Investment Limit (INR) | Turnover Limit (INR) |
|----------------------------|-------------------------------|-----------------------------|
| Micro Enterprise | Up to 2.5 crore | Up to 10 crore |
| Small Enterprise | Up to 25 crore | Up to 100 crore |
| Medium Enterprise | Up to 125 crore | Up to 500 crore |

Source: DCMSME

The composite and unified nature of this classification carries significant implications for the study of credit access and financial inclusion among MSMEs. Historically, the ambiguity and fragmentation of classification criteria contributed to information asymmetries between enterprises and formal financial institutions. Banks and non-banking financial companies (NBFCs) operating under priority sector lending mandates often struggled to verify enterprise status, particularly in the absence of a standardised registration mechanism (Maheshkar & Soni, 2021). The introduction of the Udyam Registration Portal, which draws automatically on PAN-linked Income Tax and GST data to validate and update enterprise classification, directly addresses this asymmetry. By generating a verifiable, government-authenticated enterprise identity, Udyam registration reduces the due diligence burden on lenders and lowers the transactional cost of extending formal credit to smaller enterprises.

The 2025 upward revision of thresholds further expands the addressable population of enterprises formally recognised as MSMEs, with direct consequences for priority sector credit allocation. A larger pool of enterprises now qualifies for MSME-directed lending under Reserve Bank of India guidelines, potentially narrowing the credit gap that the International Finance Corporation has estimated at over ₹25 trillion for Indian MSMEs. However, definitional expansion alone does not guarantee improved credit access; the quality of registration uptake, lender capacity, and enterprise-level financial literacy remain binding constraints that the existing literature identifies as central to financial inclusion outcomes in this sector (Rajamani et al., 2022; Mittal & Raman, 2021). These constraints form the substantive focus of the analysis that follows in this chapter.

Table 1.4: Previous definition of MSMEs

| Enterprise Category | Manufacturing Sector | Service Sector |
|----------------------------|--|---|
| | Investment in plant and machinery | |
| Micro Enterprises | Shall not exceed Rs. 25 lakh | Investment shall not exceed Rs. 10 lakh |
| Small Enterprises | More than Rs. 25 lakh, shall not exceed Rs. 5 crore | More than Rs. 10 lakh, shall not exceed Rs. 2 crore |
| Medium Enterprises | More than Rs. 5 crores, shall not exceed Rs. 10 crores | More than Rs. 2 crore, shall not exceed Rs. 5 crore |

(Source: Ministry of MSME)

1.6. Contribution Of MSMEs In India Economic Growth

Micro, Small, and Medium Enterprises (MSMEs) have long stood as a resilient and dynamic pillar of India's economic foundation. Their contribution is not just confined to quantitative economic indicators like GDP or exports but also extends to qualitative outcomes such as employment creation, regional balance, grassroots industrialization, and inclusive entrepreneurship. The true essence of India's developmental journey, particularly in its transition toward a globally competitive and inclusive economy, is deeply interwoven with the performance and progress of its vast MSME sector.

In terms of contribution to Gross Value Added (GVA) and Gross Domestic Product (GDP), the MSME sector's impact has seen a consistent and encouraging upward trend. In the financial year 2020-21, MSMEs contributed 27.3% to India's GVA, according to major reports. This figure steadily rose to 29.6% in 2021-22, further inching upwards to 30.1% in 2022-23. By 2023-24, estimates suggested that MSMEs were contributing over 30% to both GDP and GVA, a testimony to their growing economic weight. Even in the initial months of 2024-25 (up to May 2024), MSMEs are estimated to maintain a 30% share, reflecting their steady integration into national production networks. This consistent contribution is particularly significant in an economy as large and diverse as India's, where sectoral contributions vary widely across states and industries. The MSME sector not only complements large industries by acting as ancillaries and suppliers but also fills critical gaps in service delivery, processing, and decentralized manufacturing, all of which directly feed into the national value chain (Ahmed & Sur, 2023).

Employment generation remains one of the most celebrated roles of MSMEs in India. Traditionally, MSMEs have been recognized as labor-intensive enterprises, offering employment opportunities across a wide range of skill levels from rural artisans and weavers to urban software developers and machine tool operators. In 2020-21, MSMEs were estimated to provide employment to approximately 12 crore (120 million) people, a number that remained stable through 2021-22 and 2022-23 despite the challenges posed by the COVID-19 pandemic. By 2023-24, broader estimates began capturing the extended reach of both registered and unregistered MSMEs, pushing the employment figures to over 25 crore (250 million). This jump reflects a wider recognition of informal micro units and rural enterprises that were previously undercounted. MSMEs have absorbed a significant portion of India's semi-skilled and unskilled labor force, especially in states with high rural populations (Ahmed & Sur, 2023). They act as a buffer against

urban unemployment and rural underemployment, helping bridge income disparities and contributing to more equitable economic development.

The contribution of MSMEs to India's exports further underscores their role in global competitiveness. The sector's share in total exports has hovered around the 43-46% range in recent years, making it one of the key drivers of foreign exchange earnings. In 2020-21, MSMEs accounted for about 45% of total exports, with figures touching ₹3.95 lakh crore in absolute value. This share remained robust in 2021-22 and stood at 43.59% in 2022-23, showing resilience despite global trade disruptions. In 2023-24, MSMEs contributed 45.73% of total exports, and in the early months of 2024-25 (up to May), the figure further rose slightly to 45.79%, with exports reaching ₹12.39 lakh crore. These numbers clearly demonstrate that MSMEs are not limited to local or domestic markets they are actively participating in international supply chains, especially in areas like textiles, leather goods, pharmaceuticals, food processing, engineering goods, and information technology services. For many sectors, MSMEs form the backbone of India's export competitiveness, delivering quality products with agility and adaptability.

Beyond their quantitative contribution, MSMEs play an equally crucial role in regional development and rural industrialization. Unlike large corporations that are often concentrated in urban-industrial clusters, MSMEs are geographically dispersed, with a significant portion operating in Tier 2, Tier 3 towns, and rural areas. This wide distribution allows them to contribute meaningfully to balanced regional development, preventing overconcentration of economic activities in a few metropolitan cities. In rural and semi-rural regions, MSMEs facilitate the utilization of local resources, foster skill development, and generate local employment, thereby reducing the pressure on cities and mitigating rural-urban migration. Industries such as khadi, handicrafts, handlooms, coir, agro-processing, and dairy processing thrive in the MSME framework and offer a sustainable model of localized industrialization.

MSMEs also hold immense potential in enabling women's participation in entrepreneurship, particularly through micro enterprises and self-help groups. This aspect contributes to social inclusion and gender equity essential dimensions of sustainable development. Furthermore, the digitalization wave in India has opened new avenues for MSMEs, allowing even the smallest units to participate in e-commerce platforms, digital payments, and online marketing. The government's initiatives such as the Udyam Registration Portal, GeM (Government e-Marketplace), and Open

Network for Digital Commerce (ONDC) are focused on integrating MSMEs into formal economic systems and digital trade ecosystems.

Another critical aspect of MSMEs' economic contribution is their ability to absorb economic shocks and support recovery cycles. During the COVID-19 crisis, while MSMEs faced enormous stress in the form of liquidity shortages, supply chain disruptions, and falling demand, they also became central to India's recovery narrative. The government responded with dedicated packages such as the Emergency Credit Line Guarantee Scheme (ECLGS) and the Atmanirbhar Bharat Abhiyan, where MSMEs were placed at the heart of economic revival. As a result, many MSMEs adopted digital tools, pivoted to new product lines, or entered essential goods production, showcasing remarkable agility (Pradhan & Nayak, 2025). Their adaptability during crises further validates their status as economic shock absorbers and grassroots-level stabilizers. Importantly, MSMEs also support large enterprises and multinational corporations by acting as vendors, subcontractors, and service providers (Maheshkar & Soni, 2021). This interconnectedness not only strengthens the overall industrial ecosystem but also nurtures innovation and cost-efficiency. With growing interest in 'Make in India', import substitution, and local value chains, the role of MSMEs in domestic manufacturing is expected to rise (Pradhan & Agarwal, 2020). Several public sector undertakings (PSUs) and large private corporations are increasingly dependent on MSMEs for components, auxiliary services, and packaging, underscoring their role in industrial production. Moreover, MSMEs significantly contribute to skill development and entrepreneurship promotion. Through various training programs, cluster development initiatives, and support for startups, they serve as a launching ground for young and aspiring entrepreneurs. Institutions like the Khadi and Village Industries Commission (KVIC), Coir Board, NSIC (National Small Industries Corporation), and state-level development corporations are actively working to build capacity and provide financial and technical support. These efforts also align with national goals of self-reliance, job creation, and grassroots industrial growth.

From an environmental and sustainability perspective, MSMEs are increasingly being recognized as stakeholders in India's green transition. Several initiatives are promoting energy-efficient technologies, waste management, and green certifications among MSMEs, helping align them with India's climate and sustainability goals (Singh et al., 2024). While the majority of micro and small enterprises still require substantial support in this direction, the movement toward green MSMEs is gaining traction.

Table 1.5: Contribution of MSMEs

| Year/Parameter | MSME Contribution to GDP/GVA | Employment by MSMEs (approx.) | Export Share (MSMEs) | Notes/Details |
|--------------------------|-------------------------------------|--|-----------------------------|---|
| 2020-21 | 27.3% (GVA) | ~12 crore (120 million, major reports) | ~45% (exports from MSMEs) | ₹3.95 lakh crore exports from MSMEs |
| 2021-22 | 29.6% (GVA) | ~12 crore (120 million, major reports) | ~45% | Steady increase in GDP/GVA share |
| 2022-23 | 30.1% (GVA) | ~12 crore (120 million, major reports) | 43.59% | High export share, ~₹8-10 lakh crore exports est. |
| 2023-24 | >30% (GDP, GVA estimates) | >25 crore (all MSMEs, wider est.) | 45.73% | 5.93 crore registered MSMEs; exports up |
| 2024-25 (up to May 2024) | ~30% (GDP, GVA estimates) | >25 crore (all MSMEs, wider est.) | 45.79% | Exports reached ₹12.39 lakh crore |
| Recent General Estimates | 29-30% (GDP) | 12-25 crore (varies by source) | 40-46% | Most common cited figures |

(Source: PIB, 2024)

The economic contribution of MSMEs in India is profound and multidimensional. They are not only major contributors to GDP, employment, and exports but are also vital for inclusive,

regionally balanced, and socially equitable economic development. Their flexibility, grassroots connectivity, and entrepreneurial energy make them indispensable to India's growth story (Saha et al., 2023). However, to fully realize their potential, continuous efforts are required in policy support, access to finance, technology adoption, and market integration. With sustained focus and strategic intervention, India's MSME sector can emerge not just as a support mechanism but as a lead driver of the country's economic transformation in the years to come.

1.7. The Institutional Framework

The institutional and policy framework for micro, small and medium enterprises in India has gradually evolved in response to the growing recognition of the sector's vital role in the country's economic development. The need to support this diverse and widespread sector is rooted in the fact that MSMEs face numerous challenges such as limited access to finance, markets, technology, and skilled manpower. To address these concerns, various government bodies have been set up at the national and state levels, each with a focused mandate to nurture, protect, and expand the capacities of MSMEs. These bodies work in coordination to design and implement policy frameworks, financial support systems, and promotional programs that aim to build resilience and long-term sustainability for enterprises across manufacturing, services, and trade (Saha et al., 2023). The institutional framework is built around a few central organizations, with the Ministry of Micro, Small and Medium Enterprises being the nodal agency responsible for policy formulation, regulation, and promotion of the sector. The Ministry acts as the principal authority overseeing the development agenda for MSMEs and functions as a bridge between the government, financial institutions, support agencies, and the MSME ecosystem (Bilal et al., 2016). The Ministry of MSME plays a pivotal role in laying down strategies for the sector through policy interventions, legal reforms, and budgetary support. It formulates policies that aim to simplify the business environment, enhance access to finance, provide marketing assistance, promote skill development, and encourage technology adoption (Razak et al., 2020). The Ministry also oversees the implementation of several flagship schemes that are designed to directly reach MSME entrepreneurs, particularly those located in backward regions or operating in traditional industries (Pradhan & Nayak, 2025). These schemes are monitored and reviewed periodically to ensure their relevance and effectiveness in meeting sectoral needs. In addition to national-level policy responsibilities, the Ministry works closely with state governments to support state-level MSME development bodies and to ensure uniformity in strategy implementation across regions.

Supporting the Ministry is the Small Industries Development Bank of India, which serves as the principal financial institution for the promotion, financing, and development of MSMEs in the country. SIDBI plays a strategic role in bridging financial gaps by offering credit, refinancing facilities, and developmental support to MSMEs (Mittal & Raman, 2021). It collaborates with commercial banks, non-banking financial institutions, microfinance institutions, and venture capital funds to widen credit access and to make available flexible, affordable, and timely financial solutions. SIDBI also undertakes capacity-building initiatives and supports projects that aim to build entrepreneurship, promote innovation, and create employment (Ahmed & Sur, 2023). The bank is actively involved in designing tailor-made credit products that suit different categories of MSMEs based on their lifecycle stages, risk profiles, and growth potential. In recent years, SIDBI has expanded its focus toward digital finance and fintech collaboration to address the credit delivery challenges often faced by micro and small enterprises.

Another key institution that forms an important part of the MSME support structure is the Khadi and Village Industries Commission. KVIC is entrusted with the task of planning, promoting, and organizing the development of khadi and village industries in rural areas, with a view to creating employment and sustaining traditional crafts. The Commission operates under the administrative control of the Ministry of MSME and plays a specialized role in preserving India's cultural and artisanal heritage while also contributing to economic inclusion and self-reliance in rural areas. KVIC focuses on decentralization of production, self-employment generation, and local value addition through skill-based enterprises (Maheshkar & Soni, 2021). Its programs aim to combine traditional practices with modern techniques, thereby making village industries more competitive, sustainable, and market-responsive (Amrinder, 2016). The Commission also supports training, raw material supply, design development, and marketing initiatives for rural entrepreneurs engaged in khadi and village industries.

Apart from these main institutions, the policy ecosystem includes several other bodies that contribute to the growth and sustainability of the MSME sector. The National Small Industries Corporation is a government enterprise under the Ministry of MSME that works to support MSMEs in accessing raw materials, technology, credit, and marketing services. NSIC operates as a facilitator and provider of business services, helping small enterprises participate in public procurement processes, exhibitions, and export promotion events. It also supports the establishment of incubators, entrepreneurship development centers, and business development

service providers across the country. Through its credit rating support, finance facilitation centers, and e-marketing platforms, NSIC plays a central role in improving the competitiveness and visibility of MSMEs in both domestic and international markets.

The institutional support also extends to the Coir Board, which is responsible for promoting the coir industry, especially in coastal and southern states. The Board undertakes development programs, skill training, and technology upgradation for coir producers, with the aim of enhancing productivity, product diversification, and export competitiveness. Other sector-specific boards and institutions such as the Handicrafts Development Commissionerate, Handlooms Development Commissionerate, and the Tool Rooms and Technology Centers further supplement the overall policy framework by providing specialized support to industry clusters and niche enterprises (Pradhan & Nayak, 2025). These institutions also play an advisory role in identifying emerging needs and aligning developmental interventions with the sectoral dynamics of MSMEs.

Policy measures are further reinforced through the Prime Minister's Employment Generation Programme and other schemes that focus on skill development, credit linkage, marketing support, and infrastructure creation. These schemes reflect the government's approach of combining welfare objectives with enterprise promotion. In addition to financial assistance, the government has emphasized policy simplification through the introduction of digital registration platforms, simplified compliance requirements, and a unified identification system known as Udyam Registration. This registration framework has helped streamline data management, improve policy targeting, and integrate MSMEs more effectively with formal institutions.

The coordination between central and state governments is another crucial dimension of the institutional framework. Many state governments have set up dedicated MSME departments or directorates, which work under the guidance of the central ministry while also implementing state-specific policies and incentives. Industrial promotion policies, land allotment schemes, single-window clearances, and cluster development programs are often rolled out at the state level to cater to local conditions (Bhoganadam et al., 2017). The integration of central and state efforts ensures that MSME promotion is both inclusive and regionally balanced. In this context, District Industries Centres act as key touchpoints for MSMEs at the grassroots level by providing information, registration, guidance, and support for availing benefits under various schemes.

Public sector banks, regional rural banks, cooperative banks, and non-banking financial institutions also play an integral role in the delivery of financial services to MSMEs. The Reserve

Bank of India provides broad regulatory guidance and periodically advises banks to ensure priority sector lending to MSMEs (Bhoganadam et al., 2017). Credit Guarantee Trust for Micro and Small Enterprises is another significant initiative that provides credit guarantees to financial institutions, thereby encouraging them to lend to MSMEs without the need for collateral. These financial structures complement the institutional efforts of the government by addressing one of the most critical barriers faced by small businesses, which is timely and adequate access to credit.

Capacity building, skill development, and technological support have also been institutionalized through the formation of various training and development centers (Pradhan & Agarwal, 2020). The Ministry of MSME, in collaboration with national and international agencies, has established institutions like the National Institute for Micro, Small and Medium Enterprises, which provides training, consultancy, and research services to entrepreneurs, policymakers, and support organizations. These institutions play an important role in bridging knowledge gaps and in preparing MSMEs to face global competition, adopt modern technologies, and embrace sustainable business practices.

Over the years, the policy framework has also adapted to changing global and domestic contexts. With increasing focus on Atmanirbhar Bharat or self-reliant India, the government has introduced various stimulus packages, equity infusion mechanisms, and digital infrastructure programs to rejuvenate the MSME sector, particularly in the aftermath of economic disruptions. Measures such as redefining the classification criteria, creating the Fund of Funds for MSMEs, launching the champions platform, and easing norms under the Insolvency and Bankruptcy Code indicate the policy shift toward more comprehensive and dynamic support systems (Maheshkar & Soni, 2021). The framework now emphasizes ease of doing business, cluster-based development, sustainability, and technology adoption as the pillars of long-term growth for MSMEs. The institutional and policy framework for MSMEs in India is a comprehensive ecosystem comprising various ministries, banks, financial institutions, boards, development agencies, and support organizations (Singh et al., 2018). Each of these institutions contributes in its own way toward promoting entrepreneurship, ensuring financial inclusion, enhancing market access, and building competitiveness. The evolving policy framework seeks to address structural barriers while creating a business environment that is conducive to innovation, risk-taking, and sustained growth. As the MSME sector continues to play a central role in employment generation, industrial diversification,

and inclusive development, the effectiveness of this institutional network will remain crucial in unlocking the full potential of Indian enterprise (Pradhan & Nayak, 2025).

1.8. The Policy Framework

The policy framework for micro, small and medium enterprises in India has been designed with the intent of creating an enabling environment that supports the growth, competitiveness and sustainability of the sector. Recognizing the importance of MSMEs in employment generation, inclusive development and industrial decentralization, the government has introduced a series of comprehensive policies and schemes that aim to address long-standing structural challenges such as lack of finance, complex compliance requirements, skill gaps, limited market access and technological backwardness (Biswas, 2015). The framework is not only based on financial incentives but also includes regulatory simplification, institutional support and infrastructure development, all of which work together to strengthen the MSME ecosystem. Over the years, these policy initiatives have moved from being merely subsidy-driven to becoming more capacity-building in nature, with a strong focus on promoting entrepreneurship, encouraging formalization and driving innovation (Singh et al., 2024). Among the most significant developments in the policy landscape has been the creation of targeted financial and non-financial schemes that cater to the specific needs of micro, small and medium enterprises at different stages of their growth journey. One of the landmark components of the policy framework is the Pradhan Mantri MUDRA Yojana, which was launched to provide access to credit for micro enterprises that often remain outside the formal banking system (Mukherjee, 2018). The scheme offers collateral-free loans under three categories known as Shishu, Kishore and Tarun, each corresponding to different levels of business development. The intent behind this initiative is to address the fundamental problem of access to finance that most micro enterprises face due to their informal status, lack of collateral and low financial literacy. MUDRA loans are disbursed through banks, microfinance institutions and non-banking financial companies and are designed to support income-generating activities in manufacturing, services, trading and allied agricultural activities (Pradhan & Nayak, 2025). The scheme plays a crucial role in supporting first-time entrepreneurs, women-led businesses and small traders who require modest amounts of capital to sustain or grow their businesses. By enabling credit outreach to the last mile, MUDRA reinforces the government's policy thrust on financial inclusion and grassroots entrepreneurship.

Another key initiative is the Prime Minister's Employment Generation Programme, which serves as a flagship credit-linked subsidy scheme for the establishment of micro enterprises in both rural and urban areas. This scheme is implemented by the Khadi and Village Industries Commission at the national level and by State KVIC Directorates, State Khadi and Village Industries Boards and District Industries Centers at the state and district levels. The primary objective of PMEGP is to generate self-employment opportunities through the setting up of micro enterprises and by providing financial assistance in the form of a subsidy on the project cost. The scheme encourages traditional artisans, unemployed youth and marginalized groups to take up entrepreneurship by offering them a blend of financial support and handholding assistance. The policy framework around PMEGP includes capacity building, entrepreneurship development programs, project appraisal support and monitoring systems that ensure accountability and transparency in implementation (Prakash et al., 2021). The scheme not only provides financial aid but also attempts to instill a sense of ownership and skill enhancement among beneficiaries, making it a strong component of the government's larger vision of self-reliance and inclusive development.

The Credit Guarantee Fund Trust for Micro and Small Enterprises is another critical pillar of the MSME policy framework. The CGTMSE was established to facilitate collateral-free credit to the micro and small enterprise sector by providing credit guarantees to lending institutions. Under this scheme, loans extended by banks and financial institutions to eligible MSMEs are covered by a guarantee, which protects the lender in case of default. This risk-sharing mechanism addresses one of the most common hurdles faced by small entrepreneurs, which is the inability to provide physical collateral (Singh & Singh, 2014). The presence of the guarantee also incentivizes lenders to extend credit to first-generation entrepreneurs and unbanked borrowers who might otherwise be considered high risk. The scheme not only enhances credit flow to MSMEs but also contributes to their formalization and integration into the mainstream financial system. CGTMSE, as part of the broader credit facilitation strategy, plays a central role in reducing credit risk, promoting credit deepening and encouraging banks to broaden their MSME lending portfolios.

In recent years, a major policy shift has been the introduction of the Udyam Registration system, which replaced the earlier method of enterprise registration under Udyog Aadhaar Memorandum. Udyam Registration is a simplified, paperless and digital platform that allows MSMEs to register themselves based on self-declaration without the need for uploading documents or certificates. This system has been designed to promote ease of doing business and to ensure that only genuine

businesses are brought into the fold of MSME benefits. The registration is integrated with Income Tax and GST systems, which ensures automatic verification and transparency. It also enables real-time classification of enterprises based on investment and turnover criteria. Udyam Registration not only acts as a digital identity for MSMEs but also serves as a gateway to avail of government schemes, subsidies, incentives and credit facilities (Ahmed & Sur, 2023). The streamlined and single-window registration process has encouraged many informal businesses to formalize their operations, thereby helping in the creation of a reliable database for policy planning and delivery. This move is aligned with the broader objective of improving data quality, simplifying regulatory processes and encouraging the institutionalization of small businesses.

In addition to the core schemes, the MSME policy framework also includes several other interventions designed to foster a conducive business environment. These include infrastructure development through cluster-based programs, support for skill development and entrepreneurship training, promotion of quality certification and technology upgradation, and facilitation of market linkages. The government has introduced schemes such as the MSME Champions initiative, which provides end-to-end support to entrepreneurs through grievance redressal, query handling, and scheme awareness. The Digital MSME scheme promotes the adoption of cloud computing and digital tools among small businesses to improve their operational efficiency and competitiveness. Similarly, schemes for Zero Defect Zero Effect certification encourage sustainable production and quality compliance among export-oriented units. These initiatives are designed to equip MSMEs with the tools, knowledge and systems needed to thrive in a competitive market while ensuring environmental and social responsibility.

Another notable element in the policy landscape is the emphasis on cluster development. The Cluster Development Programme aims to enhance the productivity and competitiveness of MSMEs by facilitating common infrastructure, shared technology centres, market development and training facilities. Clusters are seen as effective mechanisms for enabling knowledge sharing, cost reduction and innovation diffusion among small enterprises operating in a particular geography or sector. The scheme supports both soft interventions like capacity building and hard interventions such as setting up common facility centers (Shetty & Bhat, 2022). Cluster-based development has gained prominence as it allows resource optimization, reduces duplication of efforts and strengthens local supply chains. These programs are also aligned with the objective of balanced regional development by focusing on backward areas and traditional industries.

The policy framework also emphasizes skilling and entrepreneurial development through institutions such as the National Institute for Micro, Small and Medium Enterprises and the Indian Institute of Entrepreneurship. These bodies conduct training, research and consultancy for promoting entrepreneurship and upgrading managerial and technical skills. Government policies have also sought to support women entrepreneurs, scheduled caste and scheduled tribe entrepreneurs and those from other disadvantaged sections by reserving specific scheme benefits and handholding services. This reflects the inclusive orientation of the MSME policy architecture and its role in promoting social equity through enterprise development.

In conclusion, the policy framework for MSMEs in India is comprehensive and evolving, aimed at addressing both structural and operational challenges faced by the sector. It combines credit support, collateral-free finance, subsidy-based self-employment, simplified registration, digital enablement, and targeted skill development in a cohesive and integrated manner. With flagship schemes like MUDRA, PMEGP, CGTMSE and Udyam Registration forming the backbone of this framework, the government has positioned MSMEs at the heart of its strategy for inclusive growth and self-reliance. The ongoing focus on formalization, digitalization, and capacity-building continues to shape a policy ecosystem that supports not just the survival of MSMEs but also their long-term success and resilience in a changing economic landscape.

1.9. Financial Inclusion and Access to Credit

Access to timely and affordable credit is the lifeblood of any enterprise, and for India's vast Micro, Small, and Medium Enterprises (MSMEs) sector, it is the most critical enabler for sustainability and growth. Financial inclusion defined not just by having a bank account but by meaningful access to credit, insurance, and financial services continues to be a fundamental challenge for the majority of Indian MSMEs. Despite their immense contribution to GDP, exports, and employment, MSMEs often operate under constrained capital environments and struggle to access formal finance (Pradhan & Nayak, 2025). This persistent credit gap affects their ability to scale, modernize, hire skilled labor, adopt technology, and withstand business cycles. Addressing the issue of credit access is thus not only a financial reform imperative but also a developmental one. One of the most important credit delivery channels for MSMEs in India remains the traditional banking system, comprising public sector banks (PSBs), private sector banks, regional rural banks (RRBs), and cooperative banks. Among these, public sector banks continue to dominate the landscape, particularly in the disbursement of loans under government-led schemes such as the Credit

Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), MUDRA loans, and the Emergency Credit Line Guarantee Scheme (ECLGS) introduced during the COVID-19 crisis. Public sector banks are bound by the Priority Sector Lending (PSL) norms set by the Reserve Bank of India (RBI), which mandate that at least 40% of adjusted net bank credit must be directed toward specified priority sectors including MSMEs. Within this, a sub-target is earmarked specifically for micro enterprises, which plays a key role in ensuring that the smallest and often most vulnerable units receive a share of formal credit (Gupta & Agarwal, 2023). However, despite these mandates, several bottlenecks persist ranging from procedural delays, collateral requirements, credit scoring gaps, and branch-level discretion that affect MSME access, especially for first-time or informal borrowers.

Alongside banks, Non-Banking Financial Companies (NBFCs) have emerged as significant players in bridging the MSME credit gap, particularly in semi-urban and rural areas where bank penetration is low or bureaucratically cumbersome. NBFCs are often more flexible, quicker in processing, and willing to lend to newer or less formally documented borrowers (Pradhan & Nayak, 2025). Their credit products are often customized to suit small businesses' cash flow cycles and working capital needs. Despite their higher interest rates compared to banks, NBFCs serve a vital niche, particularly in the micro and small enterprise segment. Over the last decade, several NBFCs have focused exclusively on MSMEs leveraging innovative lending models, point-of-sale data, and alternate credit scores to make faster credit decisions (Dominic et al., 2024). However, NBFCs themselves are dependent on wholesale funding from banks and capital markets, which subjects them to liquidity risks during economic downturns, as witnessed during the IL&FS crisis and the pandemic-induced financial slowdown.

A new and fast-growing layer in the MSME financing ecosystem is formed by fintech platforms. Digital lenders, payment banks, peer-to-peer lending platforms, and embedded finance models are redefining how small businesses access credit. These platforms leverage technology, big data, AI-driven credit scoring, and digital footprints to assess borrowers with limited formal documentation. For instance, a small trader's payment history on a platform like Amazon, Flipkart, or Paytm may now serve as a substitute for bank statements and income tax returns. Fintech lenders like Lendingkart, Neo Growth, Aye Finance, and Razorpay Capital have disbursed thousands of crores to MSMEs, mostly in the micro and small segments (Razak et al., 2020). Moreover, the Open Credit Enablement Network (OCEN) and Account Aggregator Framework launched by RBI are

setting the stage for a standardized, consent-driven, and data-rich ecosystem where MSMEs can share financial data seamlessly with lenders to obtain tailored credit products. Fintech's role in credit democratization is particularly significant for new-to-credit (NTC) borrowers, women entrepreneurs, gig-based businesses, and informal workers seeking to formalize operations.

Despite these advances, a major reality that continues to define the MSME sector is its dual dependence on formal and informal sources of credit. A large portion of micro enterprises, especially those operating in the unorganized or rural segments, continue to rely heavily on informal lenders such as moneylenders, local financiers, friends, family networks, or trade-based credit from suppliers and buyers. According to reports from the RBI and the National Sample Survey Office (NSSO), more than 80% of micro and small enterprises in India still operate without access to formal institutional credit, relying instead on high-cost informal loans. The reasons are many: lack of documentation, poor credit histories, absence of formal registration (like GST or Udyam), lack of collateral, and low financial literacy. Informal credit is often quick and flexible but also exploitative, with extremely high interest rates and short repayment cycles that lead to debt traps. The long-term consequence is that such enterprises remain perpetually undercapitalized and excluded from government support schemes.

The informal-formal credit divide also reflects the tiered structure of India's MSME landscape. Medium enterprises and registered small enterprises tend to have better access to institutional finance through bank term loans, working capital lines, and structured credit schemes. In contrast, micro enterprises particularly those run by sole proprietors, women, artisans, farmers, and first-generation entrepreneurs face the highest exclusion. This divide necessitates targeted interventions rather than one-size-fits-all credit strategies (Dominic et al., 2024). While term loans may suit manufacturing units with asset-heavy operations, small traders and service providers often need invoice-based or cash-flow-backed credit that aligns with their daily business rhythms.

To address this issue, the government has introduced several public credit schemes aimed at promoting financial inclusion among MSMEs. The Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), for example, provides credit guarantees to banks and NBFCs, thereby incentivizing lending to MSMEs without insisting on collateral. Similarly, the MUDRA scheme (Micro Units Development and Refinance Agency) under the Pradhan Mantri Jan Dhan Yojana offers low-cost credit under three categories Shishu (up to ₹50,000), Kishore (₹50,000 to ₹5 lakh), and Tarun (₹5 lakh to ₹10 lakh) targeting micro entrepreneurs. The success of such

schemes depends not only on their design but also on last-mile delivery and the capacity of financial institutions to evaluate non-traditional credit risks.

A transformative step toward financial inclusion was the launch of the Udyam Registration portal, which allows MSMEs to register online using Aadhaar and PAN, enabling better access to credit, subsidies, and government procurement platforms. The portal integrates with Income Tax and GST systems, providing real-time financial data that helps in credit assessment. As of 2024, over 5.9 crore MSMEs have registered on the Udyam platform, reflecting a growing appetite for formalization and institutional engagement. Udyam-linked credit data has also allowed policymakers to identify credit-starved segments and states for targeted interventions.

Public sector banks, owing to their mandate and wide rural reach, continue to play a dominant role in MSME financing. However, their approach is often criticized for being conservative, process-heavy, and urban-centric in credit approvals. Enhancing their MSME credit capacities requires a mix of staff training, improved risk assessment tools, digitization of workflows, and decentralization of decision-making (Pradhan & Nayak, 2025). The Reserve Bank of India and SIDBI (Small Industries Development Bank of India) have taken multiple initiatives to sensitize banks on MSME lending, including standardizing loan application forms, digitizing loan tracking systems, and building digital onboarding interfaces.

Another emerging opportunity is supply chain finance (SCF), where MSMEs obtain financing against approved invoices from corporate buyers. This model reduces credit risk, improves cash flows, and aligns repayment cycles with receivables. Platforms such as TReDS (Trade Receivables Discounting System) have gained traction in recent years. TReDS allows MSMEs to digitally discount invoices and receive early payments through bidding by banks, NBFCs, and fintechs. However, onboarding more buyers especially from the public sector and ensuring compliance from large anchor firms remains a challenge.

Digitization, while offering hope, also poses inclusion challenges. Not all MSMEs have access to smartphones, stable internet, or digital skills to operate lending apps and portals. The digital divide is pronounced in regions with low literacy, weak banking infrastructure, and limited outreach from financial literacy programs. Therefore, a multi-pronged approach involving financial education, localized language support, handholding through common service centers (CSCs), and partnerships with NGOs and industry bodies is essential to drive adoption.

In conclusion, the landscape of financial inclusion and access to credit for MSMEs in India is undergoing a significant transformation, yet remains marred by structural and operational challenges. The presence of banks, NBFCs, and fintech platforms offers a layered approach to reach different segments of MSMEs, but wide gaps remain especially for informal, micro, and rural enterprises. Formal credit penetration, though improving, is still limited due to rigid underwriting norms and lack of visibility into MSMEs' financial lives. The government's priority sector lending norms, public credit guarantee schemes, and digital reforms like Udyam and OCEN represent significant steps forward, but require deeper integration and ground-level support. Public sector banks must modernize, NBFCs need stability, and fintech's need regulatory clarity to create a unified and inclusive credit ecosystem. Ultimately, unlocking the true economic potential of MSMEs depends on building a credit infrastructure that is accessible, inclusive, trust-based, and responsive to the diverse financial needs of India's small businesses.

SECTION III

MSMEs and Research Perspective

1.10. Statement of the Problem

The Government of India launched the Udyam Registration portal in July 2020 as a unified digital platform to formalize and streamline the classification of Micro, Small, and Medium Enterprises (MSMEs). The intention was to simplify access to institutional financial support, reduce compliance burdens, and enable better targeting of government schemes. Udyam registration is now the primary gateway for MSMEs to avail bank loans, participate in public procurement, and benefit from schemes such as the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) and MUDRA. While millions of enterprises have registered on the platform, the actual financial impact and credit accessibility improvements for Udyam-registered units remain underexplored.

A major concern is that registration alone does not guarantee access to credit. Many MSMEs, especially micro units and first-time entrepreneurs, continue to face barriers even after registering on the Udyam portal. These include procedural delays at bank branches, insistence on collateral, poor credit histories, limited awareness about credit schemes, and lack of support in documentation. Moreover, there is limited evidence on whether the performance of MSMEs actually improves after receiving institutional finance, even when they are formally recognized through Udyam. At the same time, banks also face challenges in processing MSME loan requests particularly those from micro enterprises with limited documentation or no previous borrowing records.

Although Udyam aims to integrate MSMEs into the formal financial system, the difference between registration and real financial inclusion is still significant. Regional and demographic disparities also persist, with smaller enterprises in rural or backward areas struggling more than urban-based units. Despite being digitally enabled, not all entrepreneurs especially those with limited digital skills can fully utilize the platform and the credit options it enables.

Therefore, it becomes necessary to study Udyam-registered MSMEs specifically to understand their demographic profile, credit access experience, and post-finance business performance. At the same time, challenges faced by both MSMEs and banking institutions in the credit delivery process

need to be identified and addressed. This study aims to examine how effective Udyam registration has been in facilitating institutional financial support, what constraints remain in practice, and what policy or operational remedies can improve the credit experience and outcomes for India's MSME sector.

1.11. Need of the Study

Micro, Small, and Medium Enterprises (MSMEs) are a vital part of India's economic structure, contributing significantly to employment generation, regional development, and industrial output. To strengthen this sector, the Government of India introduced several policy measures, among which Udyam Registration has emerged as a key reform to formalize MSMEs and simplify their access to institutional credit and government benefits. The shift from earlier offline and paper-based registration processes to a centralized, digitally enabled Udyam portal was aimed at reducing entry barriers, improving transparency, and connecting MSMEs directly to financial institutions, procurement portals, and policy incentives. However, despite rapid growth in the number of registered enterprises, the extent to which Udyam registration has translated into actual financial inclusion and improved business performance remains insufficiently examined.

There exists a clear gap between policy intent and ground-level outcomes. Many MSMEs, particularly those in the micro category or located in rural areas, continue to face difficulties in availing credit from banks even after Udyam registration. Challenges such as lack of awareness about schemes, digital illiteracy, procedural delays in banks, and continued dependence on informal finance sources still persist. Similarly, from the banks' perspective, lending to MSMEs involves high risk perception, inadequate documentation, and pressure to maintain asset quality, which often leads to credit rationing even for eligible enterprises. Furthermore, there is limited academic work that evaluates the performance of MSMEs before and after obtaining institutional credit, particularly in the post-Udyam registration environment.

In this context, there is a strong need to undertake a focused study that examines the impact of Udyam registration on credit access, performance improvement, and constraint reduction for MSMEs. The study also becomes important for understanding the real-time issues faced by both entrepreneurs and bankers during the process of financial assistance. Insights from this research can help in improving the implementation of financial support mechanisms, informing policy adjustments, and strengthening the institutional framework supporting MSMEs. Therefore, this

study is timely and relevant for evaluating not only the outcomes of digital formalization through Udyam but also its implications for economic development through improved access to credit.

1.12. Significance of the Study

This study holds significant relevance in the current economic and policy context, where the Government of India is actively promoting the formalization and empowerment of Micro, Small, and Medium Enterprises (MSMEs) through digital platforms like Udyam Registration. As Udyam becomes the primary entry point for MSMEs to access institutional finance, government schemes, and procurement opportunities, it is essential to understand whether this system is effectively meeting its objectives. The findings of this study will provide valuable insights into how Udyam-registered MSMEs experience institutional credit, what improvements they report after accessing financial support, and what practical challenges they face in the process. This will help in bridging the gap between policy design and on-ground implementation.

The study is also significant for policymakers, financial institutions, and MSME support agencies, as it explores both entrepreneurial performance outcomes and the operational constraints faced by lending institutions. By focusing on real-time issues encountered during the credit delivery process, the research offers actionable recommendations to improve the efficiency, outreach, and impact of financial support mechanisms. Moreover, by examining the before-and-after performance of MSMEs that received financial assistance, the study adds an important dimension to the evaluation of public finance schemes and their effectiveness in promoting sustainable business growth.

At a broader level, the study contributes to the ongoing discourse on financial inclusion, digital governance, and entrepreneurship development in India. It highlights the structural and operational reforms needed to ensure that access to finance becomes equitable, transparent, and responsive to the diverse needs of MSMEs, especially micro and first-time entrepreneurs. The insights drawn from this research can be used to strengthen the institutional ecosystem supporting MSMEs and enhance their role as drivers of inclusive and regionally balanced economic development.

1.13. Indian Context

India provides a highly relevant and compelling context for studying the role of institutional financial support in the development of Micro, Small, and Medium Enterprises (MSMEs). With over 6 crores registered MSMEs under the Udyam portal and many more operating informally, the sector forms the backbone of the Indian economy. It contributes around 30% to GDP, over 45% to

exports, and employs more than 11 crore people. Despite this vital contribution, a large number of MSMEs in India continue to face serious barriers in accessing formal financial services. These challenges are more complex in the Indian context due to the vast diversity in enterprise sizes, geographies, digital access, and literacy levels.

India's institutional framework for MSME support including public sector banks, priority sector lending mandates, and digitally driven reforms like Udyam Registration provides a rich base to evaluate the effectiveness of financial inclusion strategies. Unlike many other developing economies, India has adopted a centralized, data-linked system (Udyam) that integrates MSME registration with PAN, Aadhaar, and GST data. This presents an opportunity to assess whether such integration is truly helping entrepreneurs in overcoming credit constraints, improving business performance, and achieving long-term growth.

Additionally, given India's focus on digital governance, financial inclusion, and entrepreneurship promotion under schemes like Atmanirbhar Bharat, MUDRA, and Digital India, this study becomes timely and contextually important. It also helps understand whether policy interventions are adequately reaching intended beneficiaries and if MSMEs across rural and urban areas are being equally served. Studying the Indian context, therefore, allows for meaningful insights that are not only nationally relevant but also carry policy learning for other emerging economies facing similar challenges in MSME development and financial access.

1.14. Context of Haryana, Punjab, Himachal and Chandigarh

The selection of Haryana, Punjab, Himachal Pradesh, and Chandigarh as the sample areas for this study is guided by a combination of strategic, economic, and administrative factors that make these regions highly relevant for assessing institutional financial support for Micro, Small, and Medium Enterprises (MSMEs) in the Indian context. These states and union territory together offer a diverse economic and industrial landscape, a mix of urban and rural enterprise development, and represent different stages of MSME evolution and financial accessibility. Additionally, their proximity to each other, shared policy environments under certain regional frameworks, and collective integration into national MSME schemes such as Udyam Registration, MUDRA, and Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) further support their inclusion as representative sample areas.

Firstly, Haryana is one of India's fastest-growing industrial states with a well-established base of small and medium enterprises, particularly in engineering, auto components, textiles, and IT

services. Cities like Gurugram, Faridabad, Panipat, and Karnal host thousands of registered MSMEs, many of which have availed financial assistance through institutional sources including banks, NBFCs, and government schemes. Haryana's proximity to the National Capital Region (NCR) makes it a critical node for national and international supply chains. Moreover, the state government has introduced several MSME-friendly policies such as the Haryana Enterprise Promotion Policy (HEPP) and financial incentives for Udyam-registered firms. Haryana also benefits from advanced financial infrastructure, high credit penetration, and strong digital connectivity. However, despite this progress, many micro and first-time entrepreneurs especially in semi-urban and rural areas still face procedural difficulties in accessing credit. This makes Haryana an ideal site to study the contrast between policy strength and actual ground-level financial inclusion.

Secondly, Punjab provides an equally important but distinct dimension to the study. Traditionally known for its agriculture-driven economy, Punjab has diversified significantly into light manufacturing, food processing, hosiery, sports goods, and mechanical engineering. Cities such as Ludhiana, Jalandhar, Amritsar, and Patiala are industrial hubs where thousands of small units operate under family ownership and informal networks. The Punjab State Industrial Development Corporation (PSIDC) and District Industries Centres (DICs) actively promote Udyam registration, while public and private banks in the region are involved in MSME lending under priority sector norms. Punjab has seen a growing adoption of digital platforms among enterprises, but many traditional units still rely on informal financing or face collateral-related issues when seeking formal credit. At the same time, the agricultural orientation of the economy has created unique challenges for non-farm MSMEs to attract sufficient credit and policy attention. The state thus provides an important perspective on how institutional financial mechanisms can address credit disparities among diverse enterprise types.

Thirdly, Himachal Pradesh adds a valuable regional and developmental perspective. As a hill state with predominantly rural population, Himachal Pradesh has seen the rise of MSMEs in handicrafts, food processing, horticulture-based products, ayurvedic medicine, and eco-tourism. Unlike Haryana and Punjab, where industrial clusters are well established, Himachal Pradesh has focused on micro enterprises and decentralized rural development models, often supported by self-help groups (SHGs), cooperatives, and microfinance institutions. The state's industrial policy promotes Udyam registration and provides subsidies for startups and small businesses operating in backward

areas. However, credit access in Himachal is complicated by geographical barriers, limited bank branch penetration in remote regions, and lack of documentation among rural entrepreneurs. At the same time, the cooperative banking structure and regional rural banks (RRBs) play a significant role in delivering finance to MSMEs. Studying Himachal Pradesh allows the research to assess whether institutional financial support systems are adaptable to the unique socio-economic needs of hill economies and whether initiatives like Udyam have reached low-income, geographically isolated entrepreneurs.

Fourthly, the inclusion of Chandigarh, the shared capital of both Punjab and Haryana and a union territory governed directly by the central government, serves as a valuable administrative and policy reference point. Chandigarh is not only an urban center with a well-organized financial and regulatory infrastructure, but also a hub of service-based MSMEs, including IT firms, consultants, healthcare startups, and creative industries. Due to its high literacy rate, good digital access, and presence of numerous banks, NBFCs, and government offices, Chandigarh provides a clear picture of how institutional credit systems are functioning under optimal conditions. Moreover, Chandigarh houses several central government institutions such as the Regional Office of the Ministry of MSME, SIDBI, and KVIC (Khadi and Village Industries Commission), which oversee scheme implementation and credit facilitation. It also serves as a benchmark region to compare policy implementation across adjoining states.

Another reason for selecting these four areas is the diversity of enterprise profiles, demographic backgrounds, and economic structures they offer. Haryana's large-scale industrial clusters, Punjab's family-run traditional MSMEs, Himachal Pradesh's rural micro-units, and Chandigarh's service-oriented small businesses collectively provide a well-rounded view of the Indian MSME landscape. This diversity is crucial to examining the effectiveness of Udyam registration and the flow of institutional credit across enterprise types, business sizes, and geographic locations. It allows the study to go beyond a homogeneous analysis and instead assess how contextual factors influence access to finance, performance outcomes, and constraints in different regions.

Furthermore, these states have been actively aligned with central government reforms aimed at promoting MSME development. For example, all four regions have implemented the Ease of Doing Business reforms, promoted single-window clearances, and digitized industry registration systems. They also participate in SIDBI credit facilitation programs, MSME cluster development schemes, and public procurement through the Government e-Marketplace (GeM), where Udyam

registration is a mandatory requirement. The regional governments have also issued state-level notifications encouraging enterprises to register under the Udyam portal and have organized camps, training sessions, and awareness drives to promote digital formalization. This makes the selected regions ideal for assessing the depth of policy reach and the real-time user experience of entrepreneurs navigating the institutional financial system.

From a logistical and methodological standpoint, these four regions also offer feasibility and representativeness for conducting field-based research. The proximity among these regions enables effective data collection through structured questionnaires, interviews, and interaction with both entrepreneurs and bank officials. Moreover, the administrative systems in these states maintain relatively accessible datasets on MSME registration, credit disbursement, and loan performance, which can support the empirical analysis required for the study. The presence of diverse categories of financial institutions from public sector banks and cooperative banks to NBFCs and fintech players further enables the study to capture a comprehensive view of credit delivery mechanisms across different regional models.

In addition, these states have witnessed distinct patterns of MSME growth post-COVID-19, especially under the Emergency Credit Line Guarantee Scheme (ECLGS) and other Atmanirbhar Bharat packages. By capturing these patterns, the study can examine how policy interventions have worked differently across varying economic environments, and whether enterprises in hilly regions like Himachal faced more delays compared to those in urban Chandigarh or industrial Faridabad. This inter-regional comparison provides critical evidence on the strengths and weaknesses of current institutional frameworks and the importance of tailoring credit delivery models to suit local business ecosystems.

Another critical factor is the variation in demographic profiles of MSME owners across these states. For example, Punjab and Haryana have a large number of male-headed family businesses, while Himachal has seen a rise in women-led and cooperative-driven micro enterprises. Chandigarh, being urban and cosmopolitan, has a higher number of service-sector entrepreneurs and young startups. These differences offer the study an opportunity to explore whether age, education, gender, and background influence access to institutional credit, and how these factors interact with Udyam registration, digital awareness, and scheme utilization. This demographic lens enhances the depth of analysis and links directly with the first research objective of the study.

Finally, these four regions fall under a common historical, cultural, and linguistic zone (North India), which ensures a certain degree of comparability in policy environment and administrative structure while still preserving sufficient economic diversity for meaningful analysis. This balance between comparability and heterogeneity is essential for drawing conclusions that are both region-specific and broadly applicable to other parts of India. The results of this study, therefore, will not only help local policymakers, financial institutions, and MSME promotion bodies in Haryana, Punjab, Himachal Pradesh, and Chandigarh but will also provide valuable insights for national-level reforms and targeted credit strategies in similar states.

In conclusion, the selection of Haryana, Punjab, Himachal Pradesh, and Chandigarh as sample areas for this study is justified by their economic importance, policy relevance, demographic diversity, and administrative feasibility. Together, these regions represent a well-rounded sample for evaluating the impact of institutional financial support, especially in the post-Udyam registration framework. They allow for a comprehensive assessment of how MSMEs across different geographies, sectors, and ownership types are engaging with formal finance, what constraints they face, and what potential exists for improving the delivery and impact of financial assistance. The insights generated will be valuable not only for academic and policy purposes but also for designing more inclusive, region-sensitive, and entrepreneur-friendly financial systems for India's growing MSME sector.

1.15. Towards Viksit Bharat

The Government of India's vision of *Viksit Bharat* (Developed India) by 2047 represents a national commitment to building an inclusive, resilient, and self-reliant economy that ensures prosperity, equity, and dignity for all. In this broader vision, Micro, Small and Medium Enterprises (MSMEs) are central as they not only create mass employment but also foster entrepreneurship, regional development, and local industrialization. The present study, which focuses on evaluating the role of institutional financial support for MSMEs particularly through the Udyam registration framework is directly aligned with the goals of *Viksit Bharat*. It aims to contribute evidence-based insights and practical recommendations that can strengthen the enabling environment for MSMEs, thus reinforcing one of the most critical pillars of India's development.

A key principle of *Viksit Bharat* is inclusive growth reaching the unreached and empowering people at the grassroots level. MSMEs are the most widely spread form of enterprise in India, present in every district and nearly every village in some form. However, access to finance has

remained a longstanding barrier for millions of these enterprises. By analyzing how Udyam-registered MSMEs have been able to access institutional financial support, what challenges they face, and what impact financial assistance has had on their business outcomes, this study provides a data-driven understanding of the inclusion gaps that still persist and how they can be addressed. The study also highlights specific constraints faced by micro enterprises, rural entrepreneurs, women-led businesses, and first-time borrowers, helping policymakers design more targeted interventions in alignment with the *Sabka Saath, Sabka Vikas* agenda.

Another cornerstone of *Viksit Bharat* is formalization and digitization. Udyam registration represents a landmark step in formalizing the MSME sector and integrating it with India's digital governance architecture. However, formal registration must translate into tangible benefits such as easier access to credit, simplified compliance, and entry into government procurement. This study examines how effectively the Udyam platform is functioning in practice, whether it is truly enabling access to credit, and what gaps remain between digital formalization and actual financial inclusion. In doing so, it offers insights that can help strengthen the digital architecture of MSME support and ensure that platforms like Udyam, TReDS, and GeM function as effective enablers of growth.

Further, *Viksit Bharat* envisions India as a globally competitive economy, and MSMEs have a key role to play in enhancing India's export capacity, value chains, and innovation systems. However, global competitiveness requires capital investment, technology adoption, and financial resilience all of which are deeply linked to the availability and quality of institutional finance. By evaluating MSME performance before and after financial assistance, this study helps identify how credit enables productivity, diversification, employment generation, and market expansion, thereby strengthening India's industrial foundation from the bottom up.

Moreover, the study explores not only the problems MSMEs face in accessing finance but also the operational and structural constraints within the banking system. Public sector banks, NBFCs, and fintechs play a vital role in delivering financial services, but they often encounter policy gaps, risk aversion, and process inefficiencies. By documenting these challenges and offering practical remedies, the study contributes to improving the delivery mechanism of financial services, which is an essential element of governance reforms envisioned under *Viksit Bharat*.

Regional development is another important theme of *Viksit Bharat*, and this study's focus on four diverse regions Haryana, Punjab, Himachal Pradesh, and Chandigarh offers insights into how

institutional credit reaches MSMEs in both industrial hubs and rural, hill, or service-based economies. The findings can support more region-specific financial strategies and address geographic disparities in access to finance. Such differentiated policy inputs are crucial for balanced development and for ensuring that every state and every district contributes to the national vision. This study is not only diagnostic but also forward-looking. By identifying prospects and performance gaps, it contributes to the creation of a more resilient and self-sustaining MSME ecosystem. It promotes a vision where financial inclusion is not just a banking metric but a transformative tool for enterprise-led development. In doing so, the study aligns with India's long-term goal of becoming an economy where small businesses can thrive with dignity, confidence, and full institutional support.

In conclusion, this study adds meaningful value to the vision of *Viksit Bharat* by focusing on one of its most strategic levers MSME empowerment through institutional financial inclusion. By offering evidence-based recommendations grounded in regional realities and real-time field insights, it supports the development of more responsive, inclusive, and growth-oriented financial systems for India's small businesses. The outcomes of this research can guide future policies, refine existing schemes, and contribute to building an India that is not only developed in economic terms but also just, inclusive, and opportunity-rich for all.

CHAPTER 2

Review of Literature and Hypothesis Development

Overview

The purpose of this chapter is to present a comprehensive and structured review of existing academic and policy literature related to institutional financial support for Micro, Small, and Medium Enterprises (MSMEs) in India. The literature is reviewed thematically to build a clear conceptual foundation for the present study and to highlight research gaps that this study intends to address. The themes are carefully selected to align with the core objectives of the research, particularly focusing on Udyam registration, credit access, performance improvement, and the challenges encountered by both MSME units and financial institutions.

The chapter begins by discussing the evolution and economic significance of MSMEs in India, underlining their role in GDP contribution, employment generation, and regional development. This sets the context for understanding the policy urgency behind strengthening financial inclusion for this sector. The review then explores institutional financial mechanisms available to MSMEs, including government schemes, bank-led credit, and non-banking channels. Special attention is given to the role of Udyam registration, which is a central focus of this study, to assess whether digital formalization has led to improved financial access and business performance.

Further, the chapter reviews studies on financial inclusion and credit barriers, comparing formal and informal credit usage patterns. It also examines literature evaluating the performance of MSMEs before and after accessing institutional finance (Singh & Singh, 2014). The review identifies common constraints faced by entrepreneurs such as collateral issues, limited awareness, and procedural complexity as well as challenges encountered by financial institutions in lending to MSMEs. Additionally, regional studies are reviewed to justify the selection of Haryana, Punjab, Himachal Pradesh, and Chandigarh as sample areas, focusing on their industrial structure and policy environment. Finally, the chapter summarizes the major research gaps, particularly the lack of region-specific, Udyam-focused studies that evaluate post-credit performance, which this thesis aims to fill.

SECTION-I THEORETICAL PERSPECTIVE

2.1. Background

Micro, Small, and Medium Enterprises (MSMEs) play a central role in driving economic growth, employment, and regional equity across both developed and developing countries. Globally, MSMEs constitute over 90% of all businesses and account for more than 50% of employment (World Bank, 2020). In India, their significance is even more pronounced. The Ministry of MSME (2023) estimates that the sector contributes approximately 30% to the country's GDP, over 45% to exports, and generates employment for more than 11 crore individuals. Given this contribution, enabling and sustaining MSME growth has been a key policy priority, particularly through facilitating access to timely and adequate financial support from formal institutions Morris & Basant (2006). Access to credit remains one of the most critical challenges faced by MSMEs. While there is substantial demand for institutional finance, particularly from micro and first-time entrepreneurs, many continue to rely on informal sources due to barriers in accessing formal credit systems. A study by the Reserve Bank of India (2018) noted that nearly 93% of MSMEs operate without access to formal credit, Singh (2019) with the estimated credit gap being over ₹20-25 lakh crore. Formal institutions, including public sector banks and private lenders, often cite high risk, lack of collateral, poor documentation, and high transaction costs as barriers to lending to small enterprises (SIDBI-TransUnion, 2021). This mismatch between credit demand and supply creates a structural constraint that limits productivity, employment generation, and long-term sustainability among MSMEs.

To address this issue, the Government of India introduced several targeted financial schemes such as the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), the Prime Minister's Employment Generation Programme (PMEGP), and the Pradhan Mantri MUDRA Yojana. These have played a role in expanding financial access to some extent; however, their effectiveness has been limited by issues related to awareness, implementation, and last-mile delivery (KPMG, 2020). Recognizing the need to formalize and digitally enable the MSME sector, the government launched the Udyam Registration portal in July 2020. This initiative replaced the earlier Udyog Aadhaar system and aimed to create a seamless, paperless, and self-declared digital

process for MSME recognition. Udyam Registration introduced a unified classification for micro, small, and medium enterprises based on both investment in plant and machinery/equipment and annual turnover. It also linked registration with the PAN and GST database, allowing for real-time verification and easy integration with credit institutions and government schemes (Ministry of MSME, 2022). By promoting formal registration, Udyam aimed to increase visibility of MSMEs to banks, simplify access to credit, and enable automatic eligibility for subsidies, incentives, and government procurement programs (Das, 2007). According to official reports, over 5.93 crore MSMEs were registered on the Udyam portal by the end of 2023 (Udyam Portal Dashboard, 2023). However, registration alone does not guarantee access to finance, and the actual impact of Udyam in improving credit flow remains under-researched.

While many studies have discussed the role of digital infrastructure and policy frameworks in enabling MSME financing, limited academic work exists that evaluates post-Udyam credit access and enterprise performance. For instance, Singh and Wadhwa (2021) observed that even among Udyam-registered enterprises, micro firms still struggled to secure formal loans due to rigid documentation norms and bank reluctance. Similarly, Sharma (2022) noted that while Udyam registration improved awareness and formal visibility, many enterprises faced challenges in converting registration into actionable benefits, especially in rural and semi-urban regions. This is consistent with global literature that highlights formalization as a necessary but not sufficient condition for financial inclusion (Beck & Demirgüç-Kunt, 2006).

Another key area of concern highlighted in the literature is the urban-rural divide and regional disparities in MSME development. States like Punjab and Haryana have developed industrial clusters with better access to infrastructure and bank credit, whereas hill states like Himachal Pradesh face natural constraints, poor connectivity, and weak credit penetration (NABARD, 2021). In this context, examining how institutional credit reaches enterprises across different geographic and economic landscapes becomes critical. Regional studies such as by Gill (2020) in Punjab and Rathi (2022) in Haryana have shown that despite high registration rates, small business owners continue to cite procedural delays, lack of collateral, and fear of rejection as major deterrents to approaching banks. Financial institutions themselves face difficulties in serving MSMEs. Lenders often report challenges such as inconsistent financial statements, lack of business records, and limited credit history among MSMEs, particularly micro and first-time borrowers (IFC, 2021).

While fintech innovations have attempted to address these through alternate credit scoring models, their reach is still limited. The RBI Expert Committee on MSMEs (2019) also pointed out that without improved data-sharing systems, proper borrower assessment, and efficient grievance redressal, formal credit delivery will remain inadequate despite policy efforts. Moreover, studies have begun to explore the performance of MSMEs before and after receiving institutional credit, though this area remains insufficiently explored in the Indian context. Banerjee et al. (2017), in a study funded by the World Bank, found that access to even small-ticket institutional loans led to increased employment, capital investment, and higher survival rates among microenterprises in India. However, such studies often remain limited in geographic or sectoral scope. There is a need to build upon this literature by linking formal credit especially through platforms like Udyam to measurable improvements in productivity, turnover, and sustainability (Bhoganadam et al., 2017).

Another gap in existing literature is the lack of dual-sided analysis most studies focus either on MSME constraints or on institutional limitations. An integrated approach that considers the experiences and challenges of both borrowers and lenders in the same framework is relatively rare. Such a dual perspective can offer valuable insights into where the financial system breaks down and how to improve it. (Narayan and Lall, 2021) recommend building a more responsive credit ecosystem through shared digital infrastructure, better credit risk modeling, and coordinated training for both bankers and MSME owners. In light of these literature gaps, the present study aims to provide a comprehensive evaluation of institutional financial support for MSMEs, with a specific focus on Udyam-registered enterprises in the states of Haryana, Punjab, Himachal Pradesh, and the Union Territory of Chandigarh (Amrinder, 2016). These regions offer diverse economic conditions ranging from industrial corridors and trading hubs to rural, tourism-dependent economies making them ideal for analyzing how financial systems perform across varying contexts (Dalal & Kumari, 2025). The study will examine demographic profiles of MSME owners who have accessed institutional credit, evaluate their business performance before and after receiving financial assistance, identify operational constraints faced by both borrowers and lenders, and suggest policy remedies. In doing so, the research contributes to the evolving body of knowledge on digital formalization, financial inclusion, and enterprise development in India (Mittal & Raman, 2021).

2.2. Evolution of MSMEs in India and Their Economic Significance

The Micro, Small, and Medium Enterprises sector has gradually developed as a foundational element of India's industrial and economic structure. It has consistently been recognized in academic and policy literature as a key contributor to inclusive economic growth, employment generation, and decentralized industrialization. Historical analyses of India's industrial policies indicate that post-independence economic planning heavily focused on building large public sector industries (Amrinder, 2016). However, the small-scale sector, as it was originally termed, was gradually brought into policy focus in recognition of its potential to absorb surplus labour, promote entrepreneurship, and support balanced regional development (Kiss & Zagyi, 2014). The sector began to receive systematic support through reservation policies, financial schemes, and institutional networks during the planning era, particularly from the 1970s onwards. Over time, scholars have emphasized that the rebranding of the small-scale sector into Micro, Small and Medium Enterprises through legislative and definitional reforms, such as the MSMED Act of 2006, expanded the policy space for targeted interventions. The inclusion of services alongside manufacturing and the introduction of investment and turnover-based classifications reflected the sector's growing diversity and importance (Maheshkar & Soni, 2021). The literature on the evolution of MSMEs points to a shift from protectionist support such as reservation of products and concessional finance towards an enabling approach that emphasizes competitiveness, digital adoption, and global integration (Mukherjee, 2018). This evolution has been traced in various studies that document how the MSME policy landscape has moved through phases of regulation, liberalization, modernization, and most recently, formalization through digital platforms like Udyam registration (Sahu & Mani, 2024).

Academic discourse has broadly acknowledged the sector's contribution to the Indian economy across multiple dimensions. Studies on national output and productivity identify MSMEs as contributors to around one-third of India's Gross Domestic Product (Veena, 2020). Data from the Ministry of MSME, supported by studies from institutions such as SIDBI and the Reserve Bank of India, consistently cite the sector's contribution to be between 29 to 30 percent of GDP. This figure has remained relatively stable over the past few years, even as the broader structure of the economy has shifted towards services and digital technologies (Biswas, 2015). The sustained contribution of MSMEs to national output is often cited as an indicator of their embeddedness in

both rural and urban economies, their adaptability, and their ability to support production networks that cater to both domestic and export markets. In terms of employment, MSMEs are frequently described in the literature as the second-largest source of employment after agriculture (Maheshkar & Soni, 2021). Estimates from government surveys and third-party evaluations suggest that the sector employs over 11 crore individuals across the country (Gupta & Sharma, 2017). This employment is not only numerically significant but also qualitatively relevant, given that MSMEs offer diverse job opportunities across skill levels and provide relatively stable employment in non-agricultural areas (Singh et al., 2018). Researchers have noted that the decentralized nature of the sector allows for wider participation of women, marginalized groups, and first-generation entrepreneurs, although the actual inclusion outcomes vary considerably across regions and sub-sectors (Dominic et al., 2024).

Exports are another area where MSMEs have made measurable contributions. Various studies have documented that MSMEs contribute between 40 to 45 percent of India's total exports. These contributions span across traditional sectors such as textiles, leather, and food processing, as well as emerging areas such as light engineering, IT services, and pharmaceuticals. While the aggregate export figures are often used to underscore the global competitiveness of Indian MSMEs, researchers also highlight concerns related to low productivity, lack of scale, and insufficient access to export financing (Harpriya et al., 2022). The literature thus frames MSMEs as both a significant exporter group and a policy priority for enhancing India's integration into global value chains. Regional development and industrial dispersal have also been prominent themes in the study of MSMEs. Unlike large industries that tend to concentrate in metropolitan clusters, MSMEs are more evenly distributed across rural, semi-urban, and small-town geographies (Pradhan & Agarwal, 2020). Several studies highlight that the sector plays an instrumental role in promoting balanced regional growth by utilizing local resources, responding to local demand, and creating employment in less-industrialized regions (Bilal et al., 2016). This function of the MSME sector is particularly valued in policy discussions around inclusive development and poverty reduction. Researchers have drawn attention to the role of MSMEs in supporting allied rural livelihoods, developing local entrepreneurship ecosystems, and reducing rural-urban migration pressure. In the state-level context, existing studies indicate that the structure and performance of the MSME sector vary significantly based on historical, economic, and policy factors. In Haryana, the sector is marked by a high concentration of manufacturing-based small enterprises in districts located

within or near the National Capital Region. Scholarly reviews suggest that the development of auto-component, textile, and light engineering MSMEs in Haryana has been facilitated by proximity to large industries, transport connectivity, and state-led industrial promotion policies. However, some studies also identify persistent gaps in financial access for micro enterprises in the state, especially in non-metro districts (Jena et al., 2018). Punjab has a relatively long-standing tradition of enterprise activity, with many studies emphasizing the dominance of small family-owned businesses in manufacturing and agro-processing (Gupta et al., 2022). The literature points to Ludhiana, Jalandhar, and Amritsar as districts with dense MSME clusters, where businesses have built scale through informal credit networks and supply-chain integration (Amrinder, 2016). However, recent studies have flagged concerns about stagnation, lack of diversification, and slow digital adoption in traditional MSME segments in Punjab. The policy literature recommends modernization support, access to technology, and formal credit channels to revitalize the sector in the state (Kumar & Nanda, 2023).

In contrast, Himachal Pradesh presents a different profile, where MSMEs are often based on local resource utilization, including horticulture, tourism, and handicrafts. Studies in the state-level context often focus on micro enterprises, rural clusters, and women-led businesses supported by self-help groups or cooperatives (Razak et al., 2020). Researchers have noted that while Himachal Pradesh has introduced several policy initiatives to promote MSMEs in backward districts, geographical and logistical constraints often hinder market access, credit delivery, and business scalability (Goyal et al., 2023). The academic consensus in this context supports differentiated strategies that account for the unique needs of hill economies and fragile ecological zones. Chandigarh, as a union territory and administrative capital of both Punjab and Haryana, has a predominantly urban MSME base. The academic literature on Chandigarh's enterprise ecosystem often focuses on service-sector MSMEs, IT startups, and consulting firms. The presence of a high-literacy population, better access to financial institutions, and proximity to administrative offices has led to relatively smoother registration, financing, and compliance among MSMEs in the city. However, scholars have also pointed out that the high cost of operations and limited manufacturing base make the region more suitable for service-oriented enterprises (Saini & Ram, 2025). The academic commentary on Chandigarh often uses it as a benchmark for assessing policy implementation in adjoining states.

Across these states, scholars have also examined the role of institutions such as District Industries Centres, State Financial Corporations, and cooperative banks in supporting MSMEs. The findings are mixed, with some studies highlighting successful implementation of cluster-based development models, while others point to administrative delays, limited outreach, and lack of convergence across schemes. In recent years, the literature has begun to explore the impact of digital platforms such as Udyam Registration on MSME visibility, formalization, and credit access. Early studies indicate that while registration numbers have increased, actual translation into business growth and financial inclusion remains inconsistent across states and enterprise sizes. The literature on the evolution of MSMEs in India presents a sector that has grown in scale, diversity, and strategic importance (Pradhan & Nayak, 2025). From being viewed primarily as a support to agriculture and large industry, MSMEs are now recognized as an independent and critical component of India's development strategy (Sanu & Anjum, 2023). Their contributions to GDP, employment, exports, and regional development are widely acknowledged, but so are their vulnerabilities and structural constraints (Shetty & Bhat, 2022). Scholars agree that continued policy support, institutional strengthening, and targeted financial mechanisms are essential for leveraging the full potential of MSMEs in India's journey toward inclusive and sustainable growth.

2.3. Institutional Financial Support Mechanisms for MSMEs

The role of institutional financial support in the development of Micro, Small, and Medium Enterprises (MSMEs) has been widely recognized in the economic and financial literature. A substantial body of research establishes that timely and adequate access to credit is one of the most critical enablers for the survival, performance, and scalability of MSMEs (Saini & Ram, 2025). In the Indian context, the institutional financial support framework comprises several pillars, including policy-driven mandates such as Priority Sector Lending, apex financial institutions like SIDBI and NABARD, government-backed guarantee schemes such as CGTMSE, and targeted initiatives like MUDRA (Prakash et al., 2021). These mechanisms are designed to address the systemic credit constraints faced by MSMEs, especially micro and first-time borrowers who often lack collateral, formal credit history, or reliable documentation (Kumar, 2018).

Priority Sector Lending (PSL) has been one of the foundational policy instruments for promoting MSME credit in India. Under PSL norms issued by the Reserve Bank of India, all scheduled commercial banks are required to allocate a specified percentage of their net bank credit toward

identified priority sectors, including MSMEs (Amrinder, 2016). Within this allocation, sub-targets are defined for micro enterprises, with a minimum proportion of annual credit required to flow to micro units. The literature generally acknowledges that PSL has helped to institutionalize the flow of credit to small enterprises, bringing them into the mainstream of the formal credit system (Pradhan & Agarwal, 2020). However, studies also note limitations in its effectiveness, including issues related to the quality of credit assessment, documentation rigidity, and the tendency of banks to focus on less risky segments within the MSME category (Singh et al., 2024). Scholars have highlighted that banks often concentrate PSL efforts on medium-sized enterprises or units with existing banking relationships, leaving micro enterprises under-served. Research also points to regional and sectoral imbalances in PSL deployment, with a disproportionate share of credit flowing to MSMEs located in urban-industrial clusters, while rural and informal units remain outside the formal financial net. Despite regulatory mandates, actual lending behavior is influenced by risk perception, staff capabilities, and internal targets, which leads to uneven outcomes (Bhoganadam et al., 2017). These findings suggest that while PSL has laid the structural foundation for institutional support, its operational execution requires greater alignment with ground realities, especially in terms of outreach to first-time borrowers and geographically dispersed micro units (Ahmed & Sur, 2023). The role of apex financial institutions such as the Small Industries Development Bank of India (SIDBI) has also received significant attention in the literature (Parmar & Murari, 2025). SIDBI was established as a specialized development financial institution to cater to the long-term financing and refinancing needs of MSMEs. Academic and policy literature recognize SIDBI's contributions in designing innovative financial products, supporting credit guarantee schemes, promoting cluster development, and facilitating digital credit platforms. Studies further highlight SIDBI's role in ecosystem development through venture capital funding, technology support, and skill-building initiatives (Amrinder, 2016). However, some evaluations point out that the scale of SIDBI's direct interventions remains limited in comparison to the size of the MSME credit gap, and its success often depends on coordination with commercial banks and state financial institutions (Kumar & Nanda, 2023).

NABARD, while primarily focused on rural development and agricultural finance, plays an important complementary role in MSME financing through rural and agri-based small enterprises. The literature discussing NABARD's interventions emphasizes its role in refinancing regional rural banks and cooperative banks, which are often the first point of contact for rural micro

enterprises (Pradhan & Nayak, 2025). NABARD-supported Self-Help Group-Bank Linkage Programmes and microfinance interventions have helped bring many informal enterprises into semi-formal credit channels (Dalal & Kumari, 2025). However, the literature suggests that NABARD's impact on non-agricultural rural MSMEs is still evolving, and further integration with the broader MSME financing ecosystem is necessary to leverage its rural outreach capabilities effectively (Goel & Bhardwaj, 2015).

The Pradhan Mantri MUDRA Yojana (PMMY) was launched with the objective of providing micro-credit to non-corporate, non-farm small businesses. The scheme categorizes loans into Shishu, Kishore, and Tarun segments, based on the quantum of credit required. A large number of studies have reviewed the MUDRA initiative, with mixed findings. On one hand, MUDRA has significantly expanded credit outreach to micro-enterprises by leveraging the networks of banks, NBFCs, and microfinance institutions. On the other hand, concerns have been raised regarding the adequacy of loan sizes, repayment burdens, and the relatively low transition of borrowers from the Shishu to higher segments, suggesting limited business scaling among beneficiaries (Khanna & Singh, 2018). Several researchers argue that while MUDRA has enabled financial inclusion in terms of account opening and loan disbursement, the economic impact on business performance remains limited unless supplemented with skill training, market access, and post-disbursement support (Singh et al., 2018).

The Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) has been another cornerstone initiative in India's institutional credit framework. It aims to mitigate lender risk by offering credit guarantees on collateral-free loans extended to eligible MSMEs. The literature widely acknowledges that CGTMSE has encouraged banks to lend to new and small enterprises that would otherwise be considered high-risk. Studies examining CGTMSE's impact note a positive effect on loan sanction rates and reductions in borrower rejection due to lack of collateral (Amrinder, 2016). However, the effectiveness of the scheme is constrained by limited awareness among borrowers, inconsistent application of guarantee claims by banks, and delays in settlement. Moreover, the participation of private sector banks and NBFCs in CGTMSE-backed lending has been uneven, with public sector banks remaining the primary users of the scheme. Comparative studies between public sector banks, private banks, and NBFCs provide further insights into the credit delivery landscape (Jena et al., 2018). Public sector banks, due to their wide rural reach and

regulatory obligations, remain the largest source of institutional credit to MSMEs (Athaide & Pradhan, 2020). Literature assessing their performance reveals that while they have broader geographic coverage and alignment with PSL mandates, they often face challenges related to bureaucratic processes, inadequate specialization in MSME lending, and high levels of non-performing assets in the small borrower segment (Prakash et al., 2021). These factors lead to risk aversion and conservative lending practices, especially toward first-time borrowers or enterprises without collateral.

Private banks, by contrast, have adopted more targeted approaches to MSME lending, focusing on creditworthy borrowers with strong documentation and repayment histories. Although they offer faster processing and better customer service, their outreach is typically limited to urban and semi-urban areas, and they prefer medium enterprises over micro units. NBFCs, particularly those specialized in MSME finance, have emerged as important players in filling the credit gap (Singh et al., 2018). The literature highlights their flexibility in loan structuring, faster turnaround times, and greater willingness to serve informal and high-risk segments (Yadav & Gulati, 2019). However, NBFCs face their own challenges, including dependence on bank funding, higher interest rates, and regulatory limitations in participating in government-backed schemes like CGTMSE. Recent literature also points to the growing role of digital financial services and fintech-based lending models in transforming MSME credit delivery (Rajamani et al., 2022). Digital platforms leveraging alternative credit scoring, data analytics, and paperless processing are increasingly being used to serve MSMEs, especially in urban and semi-urban areas (Athaide & Pradhan, 2020). These models are enabling faster loan approval and are particularly beneficial for enterprises with limited credit history but strong digital footprints. However, researchers caution that the reach of digital lending remains limited in rural areas and among less digitally literate entrepreneurs. Furthermore, concerns regarding data privacy, repayment behavior, and algorithmic bias remain key areas for regulatory attention (Singh et al., 2012).

Challenges in credit delivery are a recurrent theme across the literature. Despite the existence of multiple institutional mechanisms, many MSMEs, particularly micro and rural enterprises, continue to face difficulties in accessing timely and adequate credit. The most frequently cited challenges include cumbersome documentation processes, lack of transparency in loan decisions, high collateral requirements, and poor communication between banks and borrowers.

Informational barriers and low financial literacy further compound these issues, especially for first-time entrepreneurs and enterprises operating outside formal networks (Jena et al., 2018). Moreover, loan officers at bank branches often lack specialized knowledge of MSME business models, leading to generic credit assessment methods that do not reflect sector-specific risks and potential (Prakash et al., 2021). Another major issue identified in the literature is the limited coordination among various institutional actors. Government schemes, apex financial institutions, state financial corporations, and banks often operate in silos, leading to duplication of efforts and inefficient service delivery. Researchers argue that better convergence of schemes, centralized credit information systems, and real-time data integration could enhance the effectiveness of institutional support (Gupta et al., 2018). The lack of robust grievance redressal mechanisms and post-disbursement support services are also noted as weak links in the current framework (Amrinder, 2016). In addition, regional disparities in credit flow remain a significant concern. The literature reveals that states with well-developed financial infrastructure, high levels of urbanization, and industrial clusters receive a disproportionate share of institutional credit. Meanwhile, states with large rural populations, remote geographies, or weaker administrative capacities remain underserved (Saha et al., 2023). This uneven distribution limits the developmental potential of MSMEs in backward and aspirational districts, and calls for targeted policy interventions to ensure equitable credit access. The literature on institutional financial support mechanisms for MSMEs reflects a complex but evolving landscape (Mor et al., 2020). While significant progress has been made through initiatives such as PSL, MUDRA, CGTMSE, and the role of apex institutions like SIDBI and NABARD, several challenges continue to constrain the full realization of MSME potential. Comparative studies suggest that public sector banks remain foundational but constrained, private banks are selective, and NBFCs are dynamic but limited by scale and regulation. A recurring theme across scholarly work is the need for simplified credit processes, enhanced financial literacy, better scheme coordination, and a stronger push for inclusion of micro and rural enterprises (Singh et al., 2024). These findings underscore the importance of continuous monitoring, empirical assessment, and policy innovation to strengthen institutional financial support for MSMEs in India's growth framework.

2.4. Udyam Registration and Digital Formalization

The introduction of the Udyam Registration portal in July 2020 marked a significant policy shift in the Indian government's approach to formalizing the Micro, Small, and Medium Enterprises (MSMEs) sector. As part of the broader vision of simplifying governance and promoting digital inclusion, the Udyam platform replaced the earlier Udyog Aadhaar Memorandum system with the aim of creating a more transparent, technology-driven, and easily accessible registration mechanism. Academic and policy literature emerging after the launch of Udyam Registration has critically examined the portal's design, uptake, functional outcomes, and its impact on institutional financial access (Mittal & Raman, 2021). While early reports and data have shown promising trends in digital formalization, scholarly work reveals a mixed picture when it comes to its effectiveness in promoting meaningful financial inclusion and economic development. The Udyam portal was introduced to enable paperless, self-declared, and Aadhaar-based registration for MSMEs using integrated databases such as PAN and GSTN. The primary objectives included creating a verified national database of enterprises, improving the identification of eligible firms for government schemes, reducing documentation burdens, and facilitating automatic linkage with institutional financial systems (Singh et al., 2024). As per Ministry of MSME reports, more than 5.93 crore MSMEs had registered under the Udyam system by late 2023, reflecting a substantial adoption rate (Gupta & Singh, 2020; Sharma & Gupta, 2020). However, literature suggests that while registration numbers are high, this does not necessarily translate into improved credit access or business support, especially for micro and rural enterprises.

Several studies have acknowledged that Udyam has succeeded in streamlining the registration process, making it faster and more transparent compared to previous mechanisms. Researchers have noted that integration with digital identifiers such as PAN, Aadhaar, and GST has reduced scope for duplication, fraud, and manual intervention. Academic evaluations of the portal also appreciate the categorization system based on both investment and turnover, which allows for more dynamic classification and the possibility of tracking enterprise growth over time (Harpriya et al., 2022). Some studies highlight that the registration process has improved awareness about formalization and its benefits, particularly among digitally literate entrepreneurs operating in urban and semi-urban regions.

Despite these improvements, a number of limitations and challenges have been identified in the literature. One common concern raised is the uneven uptake of Udyam registration across different regions and enterprise sizes. Empirical studies indicate that micro enterprises, particularly those located in rural and remote areas, are under-represented in the registered database (Singh et al., 2018). Factors contributing to this disparity include low digital literacy, limited internet connectivity, lack of awareness about the registration process, and language barriers. Scholars also note that many traditional and home-based businesses remain reluctant to formalize due to perceived risks such as taxation, compliance obligations, and exposure to regulatory scrutiny (Pradhan & Nayak, 2025). Another issue discussed in the literature is the procedural disconnect between registration and actual credit facilitation. While Udyam registration is intended to serve as a gateway for easier credit access, researchers report that many financial institutions continue to rely on traditional credit appraisal methods that place heavy emphasis on collateral, financial statements, and borrower history (Razak et al., 2020). This means that despite being formally registered, enterprises do not automatically qualify for loans or benefit from faster processing. In fact, some studies argue that Udyam registration has become a procedural necessity rather than a functional enabler, especially in the absence of parallel reforms in credit assessment frameworks within banks and NBFCs (Dalal & Kumari, 2025).

Scholarly assessments have also evaluated the awareness and utilization of benefits linked to Udyam registration. The literature indicates that while registration may create eligibility for various schemes such as CGTMSE, TReDS, and GeM, a significant proportion of enterprises do not actively access these platforms. The reasons include lack of handholding support, limited understanding of scheme conditions, and poor coordination among implementing agencies (Pradhan & Agarwal, 2020). Researchers argue that the effectiveness of Udyam registration depends not just on entry into the database but on the presence of a comprehensive post-registration ecosystem that facilitates access to finance, markets, and capacity-building programs. Studies exploring the gendered and demographic dimensions of Udyam registration also offer important insights. Data analyses suggest that women-led enterprises and those from socially marginalized backgrounds are underrepresented on the Udyam portal. Scholars attribute this to structural barriers such as lower access to digital tools, fewer social networks, and greater reliance on informal business practices (Hooda, 2020). Literature recommends targeted interventions, including simplified mobile-based registration, regional language support, and community-based

digital literacy programs, to ensure broader inclusivity in digital formalization efforts. In terms of impact on financial inclusion, the evidence from existing literature remains inconclusive. Some researchers document marginal improvements in credit approval rates among Udyam-registered firms, especially in urban areas where banks are more digitally integrated (Mittal & Raman, 2021). However, others observe no significant difference in credit outcomes between registered and unregistered firms, particularly in the micro enterprise category. A few studies have used field survey data to conclude that for many MSMEs, Udyam registration is a necessary compliance step for accessing government tenders or subsidies but does not independently influence creditworthiness or ease credit bottlenecks. There is also critical literature analysing the design and technological architecture of the Udyam portal. While the portal is praised for its integration with other government databases and automation of classification, some studies highlight technical glitches, downtime, and user interface limitations as deterrents to wider adoption (Mor et al., 2020). Researchers call for improved mobile compatibility, multilingual interfaces, and simplified forms that do not require pre-existing GST registration, which many micro enterprises still lack (Bilal et al., 2016). The literature emphasizes that digital formalization must be accompanied by functional simplicity to be truly effective in reaching the informal sector.

Some research has focused on the potential of Udyam data to improve policy targeting and credit risk modelling. The structured database generated by Udyam registration could theoretically enable banks, NBFCs, and policy planners to understand enterprise dynamics, identify underserved segments, and design tailored financial products (Gupta et al., 2022). However, current studies find that data integration between Udyam, bank credit systems, and public procurement platforms is still limited. As a result, the strategic value of the database is yet to be fully realized. Scholars suggest building interoperability between Udyam and other national digital frameworks such as the Account Aggregator system, TReDS, and E-Invoice portals to enhance its functionality and policy relevance. Literature also reflects on the role of Udyam registration in promoting self-identification and legitimacy among entrepreneurs. For many small business owners, especially those transitioning from informal to formal operations, the availability of a government-recognized certificate offers a sense of validation and potential for upward mobility (Jena et al., 2018). However, researchers caution that without accompanying support systems such as financial advisory, market linkages, and compliance assistance, registration may not translate into long-term enterprise sustainability. The emphasis, therefore, is on moving from digital

formalization to institutional enablement (Pradhan & Nayak, 2025). A few studies take a comparative approach by examining digital registration models in other emerging economies. The findings suggest that while India's Udyam portal is among the most comprehensive in terms of data capture and integration, its success depends on the downstream use of registration data by financial and developmental institutions (Bhoganadam et al., 2017). Cross-country comparisons underline the importance of aligning registration with active service delivery, reducing transaction costs, and promoting real-time decision support for financial institutions.

Finally, the literature points to the need for ongoing monitoring, feedback, and adaptation of the Udyam system. Researchers recommend periodic evaluation of portal usage metrics, user satisfaction levels, and outcome indicators such as loan sanction rates, business growth, and formalization impact. There is also a call for participatory feedback loops involving MSME associations, district-level industry centres, and grassroots organizations to continuously improve system design and functionality. The evolving nature of digital ecosystems requires that platforms like Udyam remain responsive, inclusive, and integrated with broader institutional reforms. The literature on the role and impact of Udyam registration presents a nuanced understanding of digital formalization in the MSME sector (Mukherjee, 2018). While the portal represents a significant advancement in terms of transparency, ease of registration, and policy targeting, its effectiveness in improving financial inclusion and business performance remains conditional. The findings suggest that digital registration alone is insufficient to resolve deep-rooted credit access barriers unless supported by institutional reform, financial literacy, and post-registration service delivery. Udyam registration has laid the groundwork for a formalized MSME ecosystem, but translating that foundation into measurable economic gains requires continued investment in system integration, outreach, and policy responsiveness (Singh et al., 2024). As digital governance becomes more central to economic planning, the Udyam experience offers valuable lessons on the potential and limitations of technology-driven reform in enterprise development.

2.5. Financial Inclusion and Access to Credit for MSMEs

Financial inclusion, defined as the availability and accessibility of formal financial services to all segments of the population, is a foundational element in the discourse on MSME development. In the context of Micro, Small and Medium Enterprises (MSMEs), financial inclusion extends beyond merely opening bank accounts to encompass timely, adequate, and affordable access to

credit, particularly for enterprises in the micro and informal segments (Gupta & Agarwal, 2023). The literature on financial inclusion and MSME credit highlights persistent gaps in institutional credit delivery and the dual existence of formal and informal financial ecosystems (Pradhan & Nayak, 2025). While various policy reforms have aimed to bring MSMEs into the fold of formal finance, the extent to which these efforts have translated into actual improvements in credit access remains debated across academic and policy sources.

Formal financial institutions such as public and private sector banks, regional rural banks, cooperative banks, and non-banking financial companies (NBFCs) constitute the core of the institutional credit architecture. These entities are expected to offer structured credit products to MSMEs, often under regulatory frameworks like Priority Sector Lending (PSL). Despite these frameworks, numerous studies indicate that a large segment of MSMEs continues to depend on informal credit channels (Saha et al., 2023). The literature widely acknowledges that informal credit from moneylenders, family networks, traders, and local financiers remains dominant in the micro enterprise sector, particularly in rural and semi-urban areas. This reliance is attributed to the flexibility, speed, and simplicity offered by informal lenders, which contrasts sharply with the documentation-heavy, collateral-driven processes of formal institutions (Rao et al., 2017). Research has repeatedly shown that a significant proportion of Indian MSMEs, especially those at the lower end of the spectrum, are either excluded from formal finance or face high barriers to entry. Studies such as those by the Reserve Bank of India and NABARD reveal that over 80 percent of micro enterprises do not have access to institutional credit. One of the most cited reasons is the lack of suitable collateral, which is a basic prerequisite for most bank loans. Scholars argue that collateral-based lending discriminates against first-generation entrepreneurs, women-led enterprises, and firms operating without fixed assets (Prakash et al., 2021). The rigid security requirements of banks often leave out the very segments that financial inclusion efforts are intended to support.

Alongside collateral, high interest rates and procedural delays are common deterrents. While informal lenders often charge significantly higher rates, the convenience and immediacy of fund access outweigh the cost for many small enterprises. In contrast, formal loans, though comparatively cheaper, are seen as inaccessible due to application complexity, long processing times, and lack of transparency in loan sanction decisions (Sanu & Anjum, 2023). Literature also

highlights that many MSMEs lack awareness about suitable credit products or schemes, leading to suboptimal borrowing or complete exclusion. Financial literacy remains a core constraint, with many entrepreneurs unable to assess loan terms, interest structures, or compliance requirements (Yadav & Gulati, 2019). This results in low demand for formal loans even when supply-side initiatives are in place.

Another major strand in the literature relates to the information asymmetry between lenders and MSMEs. From the perspective of financial institutions, MSMEs are seen as risky borrowers due to irregular cash flows, inadequate accounting systems, and lack of credit history (Pradhan & Nayak, 2025). These challenges are particularly acute for micro enterprises that operate informally and maintain no financial records. Banks therefore struggle to appraise their creditworthiness using conventional risk assessment models (Jain & Singh, 2017; Kaur & Kaur, 2021). Consequently, many eligible borrowers are either denied loans or offered smaller amounts with stringent repayment terms. Scholars emphasize that the traditional banking system's inability to evaluate the informal nature of MSME operations has been a persistent barrier to financial inclusion (Dalal & Kumari, 2025). Recent literature has turned its focus toward the role of digital financial services and technology-enabled solutions in bridging the MSME credit gap. Fintech platforms, digital lending startups, and data-driven credit scoring models are increasingly seen as viable alternatives to traditional credit delivery mechanisms. Digital lenders such as Lending kart, Capital Float, and Aye Finance have demonstrated the ability to serve MSMEs using alternative data sources including GST filings, bank statement analysis, and e-commerce transaction histories. These innovations reduce the dependence on physical collateral and enable credit appraisal for borrowers with limited formal documentation (Jena et al., 2018). The literature recognizes that fintech lending models offer faster turnaround times, lower processing costs, and greater customization of loan products to meet specific business needs.

One key advantage identified in studies is the emergence of unsecured working capital loans, invoice financing, and short-term credit through digital channels. These products are particularly suitable for service providers, traders, and seasonal businesses that require flexible financing. However, researchers caution that fintech solutions are primarily concentrated in urban and digitally mature regions. The digital divide, encompassing internet access, device ownership, and digital literacy, limits the reach of fintech to rural MSMEs. Furthermore, concerns about data

privacy, algorithmic bias, and high interest rates remain areas of ongoing academic scrutiny. Another important development in this space is the Trade Receivables Discounting System (TReDS), which has been introduced to facilitate the financing of receivables for MSMEs from large corporates and public sector undertakings. TReDS allows MSMEs to upload invoices, which are then discounted by financiers through a transparent online auction. Academic reviews of TReDS suggest that it improves liquidity for MSMEs, reduces working capital stress, and mitigates the problem of delayed payments. However, adoption has been slow due to low awareness, reluctance of large buyers to participate, and limited onboarding of MSMEs. Literature also points out that integration of TReDS with Udyam Registration and GST platforms could enhance its utility, but such integration is still in the early stages.

The introduction of the Open Credit Enablement Network (OCEN) is another recent innovation discussed in emerging literature. OCEN is a framework designed to connect lenders, service providers, and borrowers through standardised digital protocols. It aims to democratize credit access by enabling small businesses to seek loans from multiple lenders through common digital platforms. The promise of OCEN lies in its ability to reduce transaction costs, enable small-ticket loans, and expand the lending universe to include non-traditional players such as telecom companies, logistics firms, and payment aggregators (Rajamani et al., 2022). Early studies indicate that OCEN has the potential to address credit access barriers for new-to-credit MSMEs. However, researchers emphasize that its success depends on ecosystem readiness, including lender adoption, regulatory support, and borrower digital capability.

Academic literature also draws attention to the need for credit information infrastructure that supports MSME inclusion. The lack of a reliable credit history is a major impediment for many MSMEs in securing institutional loans. Credit bureaus such as CIBIL and Equifax have limited visibility into micro and informal enterprises. The Account Aggregator (AA) framework introduced by the Reserve Bank of India aims to address this by enabling individuals and businesses to share their financial data with consent across regulated entities (Maheshkar & Soni, 2021). Scholars suggest that integration of Udyam Registration, GST returns, and digital payment trails through AA can significantly improve credit decisioning and reduce reliance on collateral. However, full implementation is yet to materialize and adoption remains limited. A subset of literature focuses on the impact of government schemes intended to promote financial inclusion

among MSMEs. These include MUDRA, Stand-Up India, and Emergency Credit Line Guarantee Scheme (ECLGS). While these schemes have expanded credit outreach, their depth of impact varies. For instance, MUDRA has enabled millions of micro enterprises to access small loans, but most disbursements are concentrated in the lowest loan bracket. Studies suggest that very few borrowers graduate to higher loan segments, indicating limited enterprise growth (Hooda, 2020). Similarly, ECLGS was successful in providing emergency liquidity during the COVID-19 crisis but mainly benefited existing borrowers with formal banking relationships. New and informal enterprises, which are most in need of finance, were relatively excluded due to eligibility criteria. Gender-based and social constraints in credit access are also noted in the literature. Women-led MSMEs face greater barriers in accessing formal finance due to socio-cultural norms, property ownership patterns, and lack of collateral (Singh et al., 2018). Caste-based inequalities also persist, particularly in states with lower levels of financial infrastructure. Researchers argue that true financial inclusion requires addressing these structural inequalities through targeted credit products, community-based outreach, and regulatory incentives for inclusive lending. In terms of geographical disparities, the literature identifies wide variation in credit penetration across states and regions. Industrially advanced states with better financial infrastructure attract more MSME lending, while rural and backward regions remain underserved (Rao et al., 2017). This creates a skewed pattern of enterprise development and undermines the goal of balanced regional growth. Several studies call for differentiated credit policies based on regional needs, including interest subsidies, credit guarantee enhancements, and decentralized financial literacy programs.

Another critical issue highlighted in the literature is the lack of post-disbursement support for MSMEs. While much of the policy focus is on credit delivery, few interventions are designed to monitor loan utilization, offer financial advisory, or provide restructuring options in case of business failure. Scholars emphasize that credit must be accompanied by ecosystem support to result in sustainable enterprise growth (Ahmed & Sur, 2023). This includes access to markets, skills, and technology. Without such support, credit may lead to indebtedness rather than empowerment. The literature on financial inclusion and access to credit for MSMEs presents a complex and evolving picture. The coexistence of formal and informal credit channels reflects deep-rooted structural issues, including collateral requirements, risk perception, and low financial literacy. While policy reforms and digital innovations have expanded the financial landscape, significant gaps remain in actual credit utilization, equitable access, and financial resilience (Rani

& Sinha, 2016; Madan & Jain, 2015). The emergence of fintech platforms, digital lending, TReDS, and OCEN offers new avenues for addressing traditional constraints, but their full potential depends on integration with mainstream finance and inclusive digital capacity-building. Academic consensus suggests that achieving meaningful financial inclusion for MSMEs requires a multi-dimensional approach that aligns credit delivery with enterprise diversity, institutional coordination, and long-term developmental goals (Yadav & Gulati, 2019).

2.6. Performance of MSMEs Before and After Access to Institutional Finance

The performance of Micro, Small, and Medium Enterprises (MSMEs) has long been an area of interest for researchers and policymakers, especially in relation to how access to institutional finance influences their operational and financial outcomes. Literature exploring the performance dynamics of MSMEs often focuses on core indicators such as productivity enhancement, profitability growth, employment generation, and market expansion. Over the years, there has been growing interest in empirically examining whether institutional financial support results in measurable improvements in enterprise functioning, particularly in the case of micro and small firms which are traditionally undercapitalized (Pradhan & Nayak, 2025). The advent of targeted schemes, formal recognition through Udyam registration, and technology-based credit delivery has provided a new context for evaluating performance changes over time. Access to institutional finance is widely recognized as a precondition for enterprise scalability. Studies from national and sub-national contexts consistently highlight that MSMEs which receive bank or NBFC-supported funding demonstrate higher capital investment, better machinery utilization, and improved productivity metrics. The rationale is that institutional finance allows firms to move from informal or subsistence operations to more structured, competitive business models (Parmar & Murari, 2025). Formal credit enables acquisition of fixed and working capital, which are essential for bulk purchasing, inventory management, technological upgrading, and staff expansion. Literature supports this by identifying a positive association between access to formal loans and improvements in capacity utilization, production cycles, and product quality (Mittal et al., 2017; Trivedi et al., 2018).

A critical area of examination in performance evaluation is profitability. Scholars have studied MSME financial performance using indicators such as profit margins, return on capital, cost structures, and reinvestment capacity (Genty et al., 2015). Firms with access to formal loans are

more likely to diversify their offerings, adopt cost-saving technologies, and manage cash flows effectively. Studies by development finance institutions and academic bodies suggest that enterprises that graduate from informal to formal financial systems tend to show more consistent profitability, particularly in manufacturing and services (Mittal & Raman, 2021). However, literature also notes that the size and terms of the credit such as interest rates and repayment schedules significantly affect profitability outcomes. Smaller enterprises with lower negotiation power sometimes receive credit on unfavourable terms, which dampens the profitability benefits.

Employment generation has been another key parameter in assessing the post-finance performance of MSMEs. Numerous studies document a direct correlation between credit access and increased employment, especially when the loan is used for capacity expansion or order fulfillment. Firms that receive adequate working capital are better positioned to maintain a stable workforce, meet seasonal demand, and invest in skill development. A few studies also note an increase in the quality of employment measured through wage growth, job formality, and retention rates among credit-supported firms (Saha et al., 2023). However, this relationship is not always linear. In some cases, firms mechanize or digitize their operations post-finance, which can lead to a short-term dip in employment, particularly in labour-intensive sectors. Literature suggests that the employment effect of institutional credit is strongly mediated by sector type, loan size, and the use of funds. Market expansion is another dimension where the impact of institutional finance has been studied. Access to formal credit is often a gateway for MSMEs to enter new markets, diversify their customer base, and meet bulk procurement standards required by large buyers or government tenders. Credit-supported firms are more likely to invest in branding, packaging, logistics, and certification all of which enhance their market competitiveness (Singh et al., 2024). Studies on export-oriented MSMEs have found that institutional finance plays a vital role in helping firms meet international compliance requirements, manage currency risks, and sustain export volumes. This finding is consistent across both product and service segments, although export impact is often concentrated in medium enterprises with established networks.

While cross-sectional studies provide some evidence of post-credit performance improvements, more rigorous conclusions are derived from impact assessment and longitudinal studies. These studies track enterprise outcomes over a period of time, allowing for a clearer attribution of changes to credit access. A limited but growing number of longitudinal studies in India have

attempted to capture this dynamic. For instance, assessments by SIDBI and NABARD that span three to five years indicate that enterprises receiving structured institutional finance show sustained improvements in turnover, asset base, and employment size. However, the number of such longitudinal studies remains limited, particularly for micro enterprises or those in non-urban areas. Recent research efforts have begun to analyse the post-registration performance of MSMEs under the Udyam framework (Kumar et al., 2018; Kumari, 2024). As Udyam registration becomes mandatory for accessing a range of financial services and government schemes, scholars are increasingly interested in whether formal recognition leads to better financial and operational outcomes. Preliminary studies indicate that Udyam-registered firms are more likely to receive repeat credit, participate in public procurement, and join cluster-based support programs (Prakash et al., 2021). A few analyses suggest a positive shift in turnover and formal hiring patterns among Udyam-linked enterprises (Mukherjee, 2018). However, the literature also points out that Udyam registration alone does not guarantee access to finance or performance improvement. The benefits are conditional on factors such as existing banking relationships, regional financial infrastructure, and digital readiness of the enterprise.

State-specific studies offer additional insight into performance differences based on regional variations in credit delivery and industrial development. In states like Maharashtra, Gujarat, and Tamil Nadu, where MSME ecosystems are better developed and financial institutions are more responsive, post-credit performance metrics show stronger improvements. In contrast, states with weaker financial inclusion or higher rates of informality show more muted performance outcomes even after institutional finance is accessed. Studies conducted in Punjab and Haryana, MSMEs in industrial clusters often benefit more from credit in terms of output and profitability growth, whereas firms in rural districts experience slower changes due to market access and cost constraints (Pradhan & Nayak, 2025). Another important strand in the literature deals with loan utilization and its influence on enterprise outcomes (Shetty & Bhat, 2022). Studies using field-level data have found that enterprises which use credit primarily for working capital and order fulfillment tend to experience immediate benefits in terms of cash flow stability and order execution. On the other hand, credit used for machinery purchase or infrastructure expansion may take longer to reflect in profitability and employment metrics. The effectiveness of loan utilization is also influenced by the availability of business advisory services, with enterprises receiving financial and operational guidance showing better long-term performance. This supports the argument that institutional

finance must be complemented by ecosystem support such as mentoring, market linkage, and compliance facilitation to realize its full potential. Recent empirical research also explores the role of repeat borrowing and loan scaling in driving enterprise growth. MSMEs that transition from micro to small or small to medium status often do so by securing larger follow-up loans after demonstrating repayment discipline (Razak et al., 2020). These firms show more stable business models, higher reinvestment rates, and better workforce planning. Studies suggest that such firms are more likely to digitize their operations, access e-commerce platforms, and attract equity funding, thereby entering a positive feedback loop of performance and financing. However, the literature cautions that upward mobility is not uniform, and many micro enterprises remain trapped in a low-credit, low-growth cycle due to lack of documentation, awareness, or support. Literature on sectoral variations reveals that the impact of institutional finance on performance is also mediated by the type of industry (Goyal et al., 2023). Manufacturing enterprises, particularly those in engineering, textiles, and agro-processing, tend to show higher productivity gains post-finance. Service-sector MSMEs in areas such as IT, education, and healthcare also report performance improvement, although the credit needs and growth trajectories differ. Trading enterprises show quicker turnover improvements but limited employment effects. Researchers emphasize the need for sector-sensitive credit products and performance benchmarks to better evaluate post-credit outcomes.

Digital financial services are emerging as a new lens for performance evaluation. The integration of credit with digital tools such as accounting software, online payments, and inventory management platforms allows for real-time performance tracking and better financial discipline. Studies indicate that MSMEs using digital platforms post-credit show better repayment behavior, higher customer retention, and improved operational transparency (Harpriya et al., 2022). Digital formalization also improves the chances of receiving follow-up credit and participating in digital marketplaces, which in turn boosts business performance (Pradhan & Agarwal, 2020). Studies focusing on social and demographic variables also provide important insights. Women-led and SC/ST-owned enterprises often start from a lower base but show strong percentage gains in profitability and turnover after receiving institutional credit. However, these enterprises also face greater challenges in terms of market access, supplier networks, and regulatory navigation. Literature advocates for tailored support systems, including credit counselling and peer network development, to sustain performance gains in such enterprises (Khanna & Singh, 2018).

In terms of limitations, researchers caution against overgeneralization of performance outcomes based on credit access alone. Not all credit leads to growth, and not all growth is sustainable. Some studies document cases where credit misuse, over-borrowing, or economic shocks led to enterprise distress. Therefore, performance must be evaluated holistically, considering the credit environment, enterprise preparedness, and macroeconomic conditions. Post-finance performance also depends on the timeliness, sufficiency, and flexibility of the credit, all of which vary widely across institutions and borrower profiles. The literature assessing the performance of MSMEs before and after access to institutional finance provides a comprehensive yet nuanced understanding (Prakash et al., 2021). While positive trends in productivity, profitability, employment, and market expansion are evident in many cases, these outcomes are shaped by multiple factors, including enterprise characteristics, loan design, sector type, and support ecosystem. Udyam registration and formal financial inclusion have created a platform for better credit access and performance measurement, but the realization of benefits depends on effective linkage with banks, schemes, and capacity-building programs (Shetty & Bhat, 2022). The evidence suggests that institutional finance is a necessary but not sufficient condition for MSME performance improvement. Sustainable growth requires a supportive ecosystem that integrates finance with knowledge, technology, and market access, thereby enabling enterprises to thrive beyond the initial credit cycle.

2.7. Constraints Faced by MSMEs and Financial Institutions in Credit Delivery

The delivery of institutional credit to Micro, Small, and Medium Enterprises (MSMEs) in India continues to be constrained by a range of structural, operational, and social factors. Despite several policy measures designed to improve the flow of credit, both MSMEs and financial institutions face persistent difficulties that inhibit inclusive, timely, and adequate financial access. Literature in this area highlights the dual nature of constraints those that originate within the operational environments of MSMEs and those embedded within the financial institutions tasked with delivering credit. Together, these factors create a complex ecosystem where the mismatch between credit supply and demand remains a critical developmental concern. From the perspective of MSMEs, one of the most cited barriers to credit access is the issue of documentation and regulatory compliance. A substantial proportion of MSMEs, especially micro-enterprises and informal units, operate without maintaining formal books of accounts, tax records, or audited financial statements.

Many lack necessary documentation such as proof of business existence, ownership records, utility bills, or business registration certificates (Parmar & Murari, 2025). This makes it difficult for banks to assess their creditworthiness using standard evaluation tools. Studies suggest that even enterprises with active operations and positive cash flows are often unable to secure institutional credit due to their inability to meet documentation requirements (Razak et al., 2020). The reliance on paper-based procedures and rigid formats further excludes digitally and financially unsophisticated entrepreneurs. Collateral requirements are another major constraint widely discussed in the literature. Most institutional lenders in India require fixed asset collateral such as land, building, or machinery to mitigate lending risks. However, micro and small enterprises, particularly those operated by first-generation entrepreneurs, women, or individuals from socially disadvantaged groups, frequently lack such collateral (Pradhan & Nayak, 2025). The absence of physical security not only reduces loan eligibility but also increases the cost of borrowing through higher interest rates and additional guarantor requirements. Although schemes like the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) are intended to provide collateral-free loans, studies reveal that awareness and adoption of such schemes remain low (Prakash et al., 2021). Many financial institutions also apply additional due diligence or restrict their guarantee-backed lending due to perceived administrative burdens.

Another significant operational constraint is the lack of financial literacy and credit awareness among MSME owners. Studies consistently show that a large number of small entrepreneurs are unfamiliar with formal loan products, repayment structures, interest rates, and credit appraisal mechanisms. This knowledge gap results in miscommunication, errors in application, and withdrawal from the formal credit process (Nijam, 2016; Madan, 2018). Research further suggests that even those entrepreneurs who have accessed institutional credit may not fully understand the terms of borrowing, leading to difficulties in repayment and reduced chances of securing repeat credit. Inadequate knowledge of digital platforms, compliance obligations, and documentation also limit the ability of enterprises to access schemes like Udyam Registration or TReDS. The problem of delayed payments from buyers particularly government departments and large private firms is another constraint indirectly linked to credit delivery. When MSMEs face working capital blockages due to unpaid invoices, their creditworthiness deteriorates, leading to missed payments, reduced cash flows, and lower borrowing capacity (Maheshkar & Soni, 2021). Studies analysing the working capital cycles of small businesses highlight the negative feedback loop created by

receivables-related liquidity constraints, which often push MSMEs toward informal borrowing or loan defaults. Although systems like the Trade Receivables Discounting System (TReDS) aim to address this issue, adoption remains low due to poor awareness and lack of participation by large anchor buyers.

From the institutional perspective, banks and financial institutions also face a number of constraints that influence their willingness and ability to lend to MSMEs. A major concern cited in literature is the difficulty in credit appraisal and risk assessment for small and informal enterprises. Banks often rely on financial statements, audited balance sheets, and credit history as primary tools for evaluating loan applications (Gupta et al., 2022). However, the informal and unregistered nature of many MSMEs makes it challenging for bankers to apply these conventional assessment methods. This results in higher transaction costs, uncertainty about loan recovery, and cautious lending behavior.

Default risk and non-performing assets (NPAs) in the MSME segment are frequently discussed in research as deterrents for bank lending. Banks categorize MSMEs, especially first-time borrowers, as high-risk clients due to the lack of formal credit history, irregular cash flows, and weak business continuity planning. Literature indicates that even where borrowers have genuine business prospects, lenders often decline or underfund credit requests due to past experiences with loan defaults. This perception of risk leads banks to focus on safer segments within the MSME category, such as medium enterprises or units with collateral and long-standing banking relationships. Monitoring and recovery costs are also significant issues for lenders (Singh et al., 2024). Unlike large borrowers, who can be monitored through regular audits, third-party reports, and data analytics, MSMEs require more direct engagement to assess business performance (Singh & Gupta, 2017; Singh & Singh, 2014). Field visits, phone follow-ups, and document verification are time-intensive and costlier per unit for small loans. As a result, banks often prefer to avoid or minimize lending to remote or small-ticket borrowers. Studies reveal that bank officers are rarely trained specifically in MSME appraisal, and most institutions do not have dedicated MSME desks or specialized products for different business types. This generalized approach further reduces the efficacy of institutional credit (Pradhan & Agarwal, 2020).

Process delays and internal approval structures within banks also create barriers in credit delivery. MSMEs often report long turnaround times between loan application and disbursement, which can lead

to missed business opportunities. Literature finds that centralized approval systems, multiple layers of verification, and over-reliance on hard-copy documentation prolong the lending process. In addition, feedback mechanisms and grievance redressal systems for MSME borrowers are often absent or ineffective, leading to dissatisfaction and reduced engagement with formal lenders. State-level disparities in financial infrastructure and institutional capacity also emerge as important themes in the literature. Industrially developed states such as Maharashtra, Gujarat, and Tamil Nadu have better credit access due to higher bank penetration, presence of financial institutions, and strong business networks (Mittal & Raman, 2021). In contrast, states like Bihar, Jharkhand, and many in the North East face significant constraints due to low credit availability, inadequate physical infrastructure, and limited financial literacy. Even in better-performing states like Punjab and Haryana, rural and backward districts often have lower credit penetration than urban centers. This spatial inequality in financial service delivery creates regional development imbalances and limits the role of MSMEs in inclusive economic growth (Goyal et al., 2023).

Sector-specific challenges are equally relevant. Manufacturing MSMEs, especially those in capital-intensive or high-volume industries, often require large working capital and long repayment periods, which many lenders are hesitant to accommodate. Service-sector MSMEs, particularly those without physical infrastructure or fixed assets, face difficulties in collateral-based lending models. Trading enterprises, although cash-rich, are often viewed as risky due to rapid business cycles and limited formal assets (Singh et al., 2024). Literature suggests that lack of sector-specific credit products and templates contributes to low credit absorption among certain MSME categories. Banks and NBFCs continue to use generic loan products, which do not account for business seasonality, procurement cycles, or market dependencies. The literature on social and demographic inequalities in credit access has also gained prominence in recent years. Gender-based barriers are widely documented, with women entrepreneurs facing higher rejection rates, smaller loan sizes, and more stringent collateral requirements than their male counterparts (Dalal & Kumari, 2025). Social factors such as limited property rights, mobility restrictions, and lower literacy levels contribute to these disparities. Research also shows that women-led enterprises are more likely to be informal and home-based, further reducing their visibility in formal financial systems. Studies call for gender-sensitive credit mechanisms, awareness campaigns, and mentorship programs to bridge this gap (Kumar & Nanda, 2023).

Caste-based exclusion also features in the literature, especially in rural and semi-urban settings. Enterprises owned by Scheduled Castes (SCs), Scheduled Tribes (STs), and Other Backward Classes (OBCs) often report higher difficulties in approaching banks, receiving information about credit schemes, and negotiating loan terms. Discrimination may not always be overt but is reflected in attitudes, risk perception, and service quality. In regions with entrenched social hierarchies, credit access can be skewed toward dominant communities, leaving historically marginalized groups dependent on informal lenders or government subsidies (Sharma & Singh, 2021; Singh & Kaur, 2020). Scholars argue that inclusive financial practices must incorporate social equity considerations alongside economic criteria. Age, education, and digital readiness of the entrepreneur also influence credit access. Young entrepreneurs with limited business experience face greater hurdles in securing loans due to lack of track record and perceived instability (Singh et al., 2018). Similarly, those with low educational attainment may struggle with documentation, application processes, and compliance requirements. In the digital context, MSMEs that are not adept at using online portals or digital payment systems often miss out on fintech-based credit products. Literature emphasizes the need for differentiated credit models that account for the entrepreneur's capacity, rather than applying a one-size-fits-all approach. Intermediary constraints also affect the credit ecosystem. Many MSMEs rely on accountants, consultants, or agents to navigate the formal loan process (Sahu & Mani, 2024). These intermediaries sometimes charge fees, misrepresent borrower profiles, or delay application processing. The dependence on third-party intermediaries often stems from limited awareness and lack of user-friendly banking interfaces (Singh et al., 2024). Research suggests that improving direct communication between banks and MSME owners, simplifying loan forms, and using vernacular languages can reduce this dependency and increase trust in the system.

In recent years, technological innovations have been proposed as solutions to many of these constraints. Digital lending platforms, alternate credit scoring models, and paperless processing systems are seen as enablers of faster and more inclusive credit delivery. However, literature notes that these technologies are unevenly adopted and may introduce new forms of exclusion. Algorithmic biases, reliance on digital footprints, and absence of in-person support can disadvantage enterprises with low digital visibility. Furthermore, regulatory uncertainties, data privacy concerns, and repayment enforcement issues complicate the use of digital platforms for small-ticket, unsecured lending (Saini & Ram, 2025). The constraints faced by MSMEs and

financial institutions in the credit delivery process are multi-dimensional and interdependent. For MSMEs, issues of documentation, collateral, financial literacy, and social exclusion remain primary barriers. For financial institutions, the challenges lie in risk assessment, monitoring burden, process inefficiencies, and lack of specialization. State-level variations, sector-specific credit needs, and demographic disparities further complicate the landscape. While policy reforms and technological innovations offer pathways for improvement, the literature underlines the importance of ecosystem-level changes that involve banks, governments, civil society, and MSMEs themselves. Sustainable and inclusive credit delivery will require coordinated efforts across all levels of the financial system, supported by evidence-based interventions and continuous monitoring.

2.8. Regional Perspectives on MSME Credit and Development (North India Focus)

The landscape of Micro, Small, and Medium Enterprises (MSMEs) in India is significantly shaped by regional dynamics, with variations in industrial development, financial infrastructure, state-level policy implementation, and credit accessibility. A regional analysis becomes particularly important in understanding the heterogeneity within the sector and in identifying the contextual factors that influence financial inclusion and enterprise development. In the northern Indian context, the states of Haryana, Punjab, Himachal Pradesh, and the Union Territory of Chandigarh represent distinct economic models, administrative capacities, and financial ecosystems. Each region exhibits unique patterns in MSME distribution, sectoral composition, credit outreach, and policy execution, offering valuable insights into how institutional support mechanisms interact with local conditions to affect MSME performance (Prakash et al., 2021). A close review of existing literature covering these states contributes to justifying their inclusion as sample areas for a regionally grounded and evidence-based analysis of institutional financial support for MSMEs.

Haryana, located in the National Capital Region (NCR) periphery, has witnessed significant industrial growth over the past three decades. Studies on MSME development in the state emphasize the strategic advantage provided by proximity to Delhi, excellent transport infrastructure, and the presence of multiple industrial corridors. The state has developed specialized clusters in auto components, textiles, engineering goods, and light manufacturing. Academic research points to the relatively higher credit penetration in Haryana compared to many other Indian states. Public and private sector banks, as well as NBFCs, maintain a strong presence

in industrial towns such as Gurugram, Faridabad, Panipat, and Karnal. Literature suggests that formal credit access is more feasible in these districts due to better documentation practices, bank presence, and integration with formal supply chains (Saha et al., 2023). However, disparities persist across the state, particularly between the NCR belt and southern or rural districts where micro-enterprises struggle to access institutional finance due to lack of awareness, limited banking infrastructure, and weaker linkages with formal markets. Several studies also report that while Haryana ranks high in MSME registration under Udyam, the actual utilization of schemes like CGTMSE and MUDRA is concentrated in urban centers, with limited trickle-down to micro or unorganized units.

Punjab presents a contrasting but equally instructive model. With a strong legacy of family-owned enterprises, small-scale manufacturing, and agro-based industries, Punjab's MSME sector is deeply rooted in traditional business practices. Cities such as Ludhiana, Jalandhar, Amritsar, and Patiala are frequently cited in the literature for their dense MSME clusters in hosiery, sports goods, food processing, and cycle manufacturing. Research indicates that while Punjab has a large number of operational MSMEs, especially in the micro and small segments, the sector has been relatively slow in adopting digital processes and formal registration mechanisms. Despite a high entrepreneurial base, Punjab has reported a lower relative growth in Udyam registrations and limited exposure to new financial instruments such as TReDS or fintech lending platforms. Scholars attribute this to a mix of cultural conservatism, limited digital penetration, and operational informality. The credit ecosystem in Punjab is dominated by public sector banks, but many enterprises still rely on informal sources of finance, especially within intra-community networks and business associations. Studies reveal that collateral-based lending remains a barrier, and awareness about schemes like CGTMSE and SIDBI-backed funding is modest, especially among first-time entrepreneurs and micro firms (Jena et al., 2018). Academic assessments of Punjab's policy environment show that while industrial infrastructure is well-established, there is a need for more targeted credit literacy programs and decentralized credit facilitation mechanisms to bridge the gap between financial supply and enterprise demand.

Himachal Pradesh, a hill state with a primarily rural population, offers a different developmental profile. The state's MSMEs are concentrated in sectors such as horticulture, food processing, herbal medicine, tourism, handicrafts, and micro-manufacturing. Literature on MSME

development in Himachal Pradesh underscores the role of decentralization, self-employment schemes, and government subsidies in driving enterprise formation. Unlike Haryana and Punjab, which have dense urban clusters, Himachal Pradesh has geographically dispersed enterprises operating in semi-formal or informal environments. Studies point out that the financial inclusion landscape is significantly weaker in remote districts due to challenges in bank accessibility, digital infrastructure, and information flow (Mukherjee, 2018). Although public sector banks and cooperative banks operate in most districts, the range of financial products offered is limited, and lending practices are often conservative. Research highlights that micro-enterprises in Himachal Pradesh face substantial documentation challenges, especially in obtaining land records, trade licenses, and audited statements, which further complicate access to institutional finance. The state's industrial policy encourages Udyam registration and offers incentives for formalization, but uptake has been modest outside urban and semi-urban pockets like Solan, Baddi, and Shimla. Credit schemes targeted at rural MSMEs, such as the MUDRA Yojana, have shown mixed results in Himachal Pradesh. While outreach has increased, actual disbursement remains skewed toward repeat borrowers, and new enterprises often struggle with procedural delays (Saha et al., 2023). Literature suggests that Himachal's hilly terrain, infrastructural constraints, and lower population density require a differentiated financial strategy with emphasis on mobile banking, digital onboarding, and cluster-based credit facilitation.

Chandigarh, as a Union Territory and the administrative capital for both Punjab and Haryana, provides a policy and institutional benchmark for assessing MSME development in northern India. Unlike the other three regions, Chandigarh is a planned city with a high literacy rate, modern financial infrastructure, and concentrated service-sector MSMEs. The literature on MSMEs in Chandigarh identifies business segments such as IT services, consultancies, creative industries, retail trade, and healthcare as dominant contributors. Studies emphasize that enterprises in Chandigarh benefit from better access to credit, lower entry barriers for registration, and closer proximity to government institutions such as SIDBI, KVIC, and the Ministry of MSME regional office. Udyam registration in Chandigarh has shown strong adoption among start-ups and new-age businesses, particularly due to higher digital awareness and smoother connectivity with central platforms. However, literature also notes that the scope for manufacturing or agro-processing MSMEs is limited in Chandigarh due to space constraints, higher cost of operations, and lack of backward linkages (Rajamani et al., 2022). This limits the diversity of enterprise types in the city.

From a financial access perspective, most MSMEs in Chandigarh are well-banked, but the focus remains on service-sector needs such as invoice financing, working capital loans, and business credit cards. Studies argue that Chandigarh can serve as a model for urban MSME financial inclusion, provided that lessons are adapted to fit the realities of rural and peri-urban regions (Singh et al., 2024).

Comparative literature across these four regions provides additional depth. Haryana stands out in terms of industrial policy support, bank presence, and credit penetration in urban zones, but still faces outreach limitations in rural districts. Punjab, while rich in MSME density, shows signs of stagnation and remains heavily dependent on traditional finance. Himachal Pradesh exemplifies the rural-micro model, where state incentives are high but infrastructure and credit delivery mechanisms are weak. Chandigarh, in contrast, represents a digitally enabled and institutionally integrated urban MSME environment with fewer constraints but limited scale (Kumar & Nanda, 2023). Studies examining regional disparities emphasize the need for differentiated policy approaches that align with local economic structures, banking readiness, and enterprise typology. One-size-fits-all credit schemes, though well-intentioned, often fail to account for the diverse needs of enterprises across these regions.

Sector-specific analyses further reveal intra-regional nuances. For instance, in Haryana and Punjab, textile and engineering MSMEs show higher loan utilization and repayment discipline due to integration with export and supply chains. In Himachal Pradesh, horticulture and wellness-based MSMEs face irregular cash flows and seasonal demand cycles, making standard EMI-based loans less effective. Chandigarh's service-oriented MSMEs require flexible and short-term financial products, which are better delivered through fintech partnerships and NBFCs. These sectoral observations suggest that credit design and delivery must be sensitive not only to regional differences but also to sectoral dynamics, enterprise size, and market cycles (Parmar & Murari, 2025). Social and demographic factors also contribute to credit disparities across these regions. Studies reveal that women-led and SC/ST-owned enterprises in Haryana and Punjab face more significant entry barriers to institutional finance, especially in semi-rural belts. Cultural norms, property rights, and documentation challenges restrict their ability to offer collateral or even apply for loans independently. Himachal Pradesh shows relatively better inclusion of women in MSMEs, particularly through self-help groups and cooperative models, though access to formal credit

remains limited. Chandigarh, with its urban and literate profile, demonstrates better gender and caste parity in MSME finance, though the small enterprise base limits generalizability. Literature underscores that any regional financial inclusion strategy must incorporate a gender and social equity lens to ensure that disadvantaged groups are not left behind in the process of formalization and credit access (Sahu & Mani, 2024).

The literature also critically evaluates the implementation of central schemes like MUDRA, CGTMSE, and PMEGP across the four regions. Haryana shows higher loan disbursal figures under MUDRA, especially in the Kishore and Tarun categories, reflecting a relatively mature borrower base. Punjab reports high enrolment but limited scaling, with most disbursements concentrated in repeat borrowers. Himachal Pradesh, while proactive in scheme promotion, faces weak last-mile delivery and low fund absorption due to documentation and awareness gaps. Chandigarh benefits from institutional proximity and shows better fund utilization ratios and repayment behavior. These comparative findings strengthen the argument that credit outcomes are shaped not just by scheme design but by regional administrative capacity, entrepreneur readiness, and institutional coordination (Bhoganadam et al., 2017). The regional literature on Haryana, Punjab, Himachal Pradesh, and Chandigarh presents a diverse and insightful understanding of MSME credit and development. Each region offers distinct advantages and constraints that influence the performance and financial integration of enterprises. The comparative analysis across these states validates their selection as study areas for examining institutional financial support for MSMEs. It provides a microcosm of the larger Indian MSME ecosystem, capturing both urban-industrial models and rural-decentralized frameworks (Prakash et al., 2021). These insights allow for a more grounded evaluation of policy impacts, scheme effectiveness, and institutional gaps, ultimately informing more targeted and regionally responsive financial inclusion strategies for MSMEs in India.

2.9. Policy Framework and Reforms in MSME Financing

The policy framework governing Micro, Small, and Medium Enterprises (MSME) financing in India has undergone considerable transformation over the last two decades, with increasing focus on inclusive growth, digital formalization, and entrepreneurial support. As MSMEs contribute significantly to India's GDP, exports, and employment generation, the government has introduced a wide range of policies and reforms to strengthen the financial architecture that supports this

sector. The literature evaluating these policy efforts reveals a comprehensive yet evolving landscape, where multiple schemes, strategic reforms, and institutional coordination are aimed at addressing long-standing credit constraints, promoting enterprise formalization, and enhancing access to timely and affordable institutional finance. Parallely, international perspectives from multilateral institutions such as the OECD, World Bank, and UNIDO offer comparative frameworks and policy insights on effective MSME financing in emerging economies, thereby enabling a contextual understanding of India's initiatives within a global development narrative.

One of the most transformative policy efforts in recent years has been the launch of the Atmanirbhar Bharat Abhiyan (Self-Reliant India Campaign), which was announced in response to the economic disruptions caused by the COVID-19 pandemic. Under this program, the government introduced a financial stimulus package of approximately ₹20 lakh crore, a substantial portion of which was directed toward supporting the MSME sector. Key policy interventions included the Emergency Credit Line Guarantee Scheme (ECLGS), which aimed to provide collateral-free credit to MSMEs already struggling with liquidity shortages and working capital stress. Studies evaluating ECLGS suggest that while the scheme facilitated short-term liquidity support, its reach was largely confined to enterprises already integrated into the formal credit system. First-time borrowers, new enterprises, and informal firms often remained outside the scheme's operational purview due to eligibility conditions tied to existing bank relationships and credit history. The Atmanirbhar Bharat reforms also led to a revision in the definition of MSMEs, combining investment and turnover thresholds to better reflect the changing economic realities and encourage enterprise scaling without fear of losing policy benefits. Literature on this definitional change notes that it expanded the scope of eligible enterprises and promoted upward mobility within the MSME category. However, some scholars argue that unless matched with differentiated policy support for micro, small, and medium enterprises, the new definition could dilute the focus on the most vulnerable segments, particularly micro-enterprises in the informal sector.

Complementing these reforms, the Startup India initiative has emerged as a crucial pillar for promoting innovation-driven enterprises and easing access to finance for early-stage ventures. The policy offers several benefits including tax exemptions, seed funding, credit guarantees, and fast-tracked patent registrations. Literature assessing Startup India's impact indicates positive outcomes in terms of formalization, regulatory compliance, and market access. The government's

collaboration with SIDBI to operationalize the Fund of Funds for Startups (FFS) has led to increased venture capital flow, though the literature also points to uneven distribution of funding across sectors and regions, with metropolitan areas receiving a disproportionate share. Researchers have recommended a more inclusive framework within Startup India to extend benefits to Tier-II and Tier-III cities, where entrepreneurial activity is often underserved by institutional investors. Another major initiative, Make in India, launched in 2014, is aimed at transforming India into a global manufacturing hub. The policy emphasizes foreign direct investment, ease of doing business, infrastructure enhancement, and sector-specific growth. MSMEs are seen as key drivers within this initiative, particularly in labour-intensive and import-substitution industries. Studies have highlighted the role of Make in India in increasing visibility for domestic enterprises, facilitating procurement linkages with larger firms, and attracting global interest in Indian manufacturing (Pradhan & Agarwal, 2020). However, the direct impact on MSME financing remains mixed. While several credit-linked subsidy schemes have been launched under this banner such as the Credit Linked Capital Subsidy Scheme (CLCSS) and Technology Upgradation Fund Scheme (TUFS) their adoption has been limited due to procedural complexity and limited awareness among smaller firms.

Annual budget announcements have also served as important instruments for MSME credit reform. Recent union budgets have included policy measures such as increasing the allocation to CGTMSE, promoting digital invoice discounting through TReDS, expanding the Udyam Registration portal, and introducing new fintech infrastructure such as the Open Credit Enablement Network (OCEN). Literature analysing these budgetary provisions underscores the importance of integrating fiscal support with structural reforms. For instance, increased budgetary allocations to CGTMSE have the potential to reduce banks' risk aversion in lending to first-time borrowers (Kumar & Nanda, 2023). However, unless accompanied by streamlined claim processes and awareness campaigns, the impact may remain limited to a subset of MSMEs already familiar with the system (Dalal & Kumari, 2025). Similarly, while digital platforms like OCEN aim to reduce transaction costs and expand the lender base, their success depends on borrower readiness, data infrastructure, and seamless integration with existing bank systems.

The broader financial inclusion agenda under the Digital India program also intersects with MSME credit reform. The government has promoted the digitization of credit applications, account

aggregation, and e-KYC through the introduction of the JAM (Jan Dhan-Aadhaar-Mobile) trinity. These interventions are expected to reduce informal barriers, speed up approvals, and allow new credit scoring models based on transaction data (Athaide & Pradhan, 2020). Literature in this domain observes that while digitization enhances transparency and reduces intermediation costs, it also introduces a new form of exclusion for enterprises lacking digital skills, smartphones, or stable internet connectivity (Sahu & Mani, 2024). Researchers caution that digital reforms must be paired with physical infrastructure investment and capacity-building programs to bridge the urban-rural divide in MSME finance.

Apart from domestic reforms, the Indian MSME financing framework is also influenced by international best practices and recommendations from global development institutions. The Organisation for Economic Co-operation and Development (OECD), for instance, outlines key principles for MSME financing which include diversification of financing instruments, development of credit guarantee systems, financial literacy promotion, and regulatory support for alternative lenders (Saha et al., 2023). These recommendations have been partially reflected in India's policy trajectory, especially in the adoption of credit guarantee schemes, interest subvention programs, and the emergence of peer-to-peer lending and invoice financing platforms. However, OECD reports suggest that while India has made significant progress in expanding access, the depth and affordability of credit remain concerns, particularly for micro and rural enterprises (Dominic et al., 2024). The World Bank has conducted extensive studies on MSME finance in emerging economies, including India, and consistently emphasizes the need for ecosystem-level reforms. These include improving credit information systems, integrating MSME databases, and fostering public-private partnerships in financial delivery. According to World Bank assessments, India's credit gap for MSMEs is among the highest globally, highlighting the need for customized financial products, risk-based pricing, and regulatory flexibility for lenders (Hooda, 2020). The Bank's focus on digital public infrastructure has also influenced Indian policy, particularly in the development of platforms such as Udyam Registration, TReDS, and the Account Aggregator framework.

The United Nations Industrial Development Organization (UNIDO) contributes to the discourse by highlighting the link between MSME finance and inclusive industrial development. UNIDO advocates for targeted financing strategies for women-led businesses, green enterprises, and rural

manufacturers. Indian policies have started to incorporate these elements through schemes such as the Stand-Up India program, which supports women and SC/ST entrepreneurs, and new green financing initiatives embedded in SIDBI's lending portfolio (Sahu & Mani, 2024). Nonetheless, literature critiques the limited outreach of such schemes, often due to weak implementation, low financial literacy, and inadequate coordination between central and state agencies. Sectoral and regional integration of MSME credit policy remains a challenge despite broad national reforms. Literature analyzing India's federal structure notes that while the central government provides strategic direction, actual implementation depends on state-level institutions, financial literacy networks, and banking penetration. States like Tamil Nadu, Gujarat, and Maharashtra have been more successful in aligning state-level financial instruments with national programs. In contrast, lagging states often struggle with bureaucratic delays, low awareness, and limited institutional capacity. This underscores the importance of policy decentralization and inter-institutional coordination for ensuring effective credit delivery across India's diverse regions (Saha et al., 2023). Scholars also discuss the importance of monitoring and evaluation mechanisms for MSME finance policy. The multiplicity of schemes, subsidies, and credit lines can lead to fragmentation, duplication, and administrative inefficiencies. Literature recommends integrated portals, data dashboards, and third-party audits to assess performance, identify bottlenecks, and improve targeting. The recent move to link Udyam Registration with PAN and GST databases is seen as a positive step in this direction. By enabling real-time data flow and performance tracking, such linkages can enhance policy responsiveness and credit risk assessment (Dalal & Kumari, 2025). The policy framework and reforms in MSME

financing in India reflect a concerted effort to bridge long-standing credit gaps and foster a more inclusive and dynamic entrepreneurial ecosystem. National initiatives such as Atmanirbhar Bharat, Startup India, make in India, and annual budget reforms have introduced a wide array of financial instruments, guarantee mechanisms, and digital innovations. International comparisons with OECD, World Bank, and UNIDO benchmarks reveal areas of strength, such as scheme diversity and public infrastructure development, as well as continuing challenges in credit depth, last-mile delivery, and social equity (Shetty & Bhat, 2022). Moving forward, a more integrated, adaptive, and data-driven policy environment will be crucial to ensuring that institutional financial support not only reaches more MSMEs but also enables them to thrive and contribute meaningfully to India's economic transformation.

SECTION- II

Performance Of MSMEs In India

2.10. Performance of MSMEs in Haryana

The Micro, Small and Medium Enterprise sector in Haryana has undergone a remarkable evolution, transitioning from a primarily agrarian state economy into a diversified and industrially vibrant structure. Since Haryana's establishment in 1966, its economy has steadily shifted towards secondary and tertiary activities, and MSMEs have become a vital component of that shift (Yadav & Bansal, 2025). In the past few decades, however, MSMEs in Haryana have truly emerged as economic powerhouses, contributing significantly to employment, value addition, and localized industrial development (Gupta et al., 2022). The state, recognized among the top performers in India's ease of doing business metrics, has actively leveraged this competitiveness to support small-scale industries through policy interventions, infrastructure investments, and institutional reforms (Dominic et al., 2024). A detailed diagnostic report conducted for Haryana's MSME sector underscores these enterprises' growing footprint, highlighting that a network of nearly 92,500 registered MSMEs operates across the state. These units are increasingly clustered in key industrial hubs such as Faridabad, Gurgaon, Panipat, Sonipat, and Hisar, each contributing to district-level economic diversification (Kumari & Satyakam, 2024). In Faridabad, auto components, engineering, rubber, electronics, and metal production dominate, while Panipat thrives on textiles, home furnishing, and rug manufacturing. Sonipat's economy draws strength from chemicals, pharma, and auto components, reflecting the effectiveness of cluster-based industrial strategies (Kumari, 2024). These industrial concentrations not only promote efficiency through shared infrastructure but also enhance market linkages among MSMEs, suppliers, and distributors.

In terms of employment, MSMEs in Haryana offer substantial job opportunities, with older census estimates showing over 12.2 lakh individuals employed though a significant portion remains within the informal or unregistered segment. This sector is instrumental in absorbing rural and semi-urban labor, providing livelihoods to youth and supporting reductions in migration to urban centers. The clustering strategy has been further strengthened through state policy frameworks, as seen in Haryana's Enterprise Promotion Policy (2015) and the state-level MSME policy, which actively identify and support prioritized sectors such as agro-processing, engineering, auto

components, chemicals and textiles. The cluster approach adopted by the state has had measurable impacts on productivity and competitiveness (Rani, 2023). Twenty-nine industrial clusters have been formally identified, with eleven clusters approved for common facilities and infrastructure. Common facility centers in automotive engineering (Faridabad), footwear (Bahadurgarh), leather (Gurugram), printing (Karnal), carpet production (Panipat), and food processing (Ambala) are aimed at minimizing duplication of capital expenditure among MSMEs and promoting economies of scale. The diagnostic evaluation emphasizes that cluster investments yield significant improvements in technology, training, and professional linkages, thereby increasing MSMEs' export readiness (Singla & Grover, 2012).

The sector's export contribution is prominent, with engineering goods alone reaching Rs 1,29,095 lakh in exports during 2015-16, accounting for around six percent of national engineering exports. Panipat-based home furnishing, carpet, and textile units also contribute to both domestic consumption and external trade. The state government's Market Development and Export Promotion Cell facilitate access to national and international trade fairs, provides export documentation assistance, and offers training on quality compliance and pricing intelligence. Such initiatives enhance cluster visibility and contribute to Haryana's rising industrial profile (Hooda, 2020). The economic impact of MSMEs in Haryana has been reflected in broader performance indicators. The Annual Credit Plan for 2024-25 shows that banks have exceeded MSME targets in lending, disbursing ₹121,516 crore against a target of ₹84,278 crore achieving 144 percent of the target by December 2024. This reflects growing confidence in MSME creditworthiness and the effectiveness of supportive institutional frameworks. Moreover, commercial and regional rural banks combined have exceeded targets for the sector, demonstrating strong financial trust in MSME operations across the state (Yadav & Bansal, 2025).

Financial and development institutions have also played pivotal roles in MSME growth. The state's own development bank, the Haryana Financial Corporation, provides fast-track financing for new and existing industries. It works in synergy with infrastructure agencies like the Haryana State Industrial and Infrastructure Development Corporation (HSIIDC), which develops industrial parks, SEZs, and logistics hubs across the state. These agencies offer MSMEs physical infrastructure, operational space, and credit support, ensuring that financial investments and infrastructure are coordinated to sustain enterprise growth (Pradhan & Agarwal, 2020).

According to government estimates, MSMEs contribute around six percent of India's GDP, with Haryana's share estimated between 6.19 percent and 8 percent depending on product output. The sector contributes approximately 45 percent of manufacturing output and 40 percent to exports nationally. Haryana's proactive industrial policies and strong rural-urban linkages have ensured that it remains a top medal performer in MSME productivity and resilience (Sanu & Anjum, 2023). Despite such strengths, Haryana's MSMEs do face persistent challenges. The diagnostic report shows that although the clusters are better placed, districts like Mewat, Palwal, and Mahendragarh lag behind in industrial activity, accounting for less than one percent of unit concentration. District-level disparities in infrastructure, skill availability, and financial outreach continue to limit the inclusion of lagging regions (Dalal & Kumari, 2025). State institutions are therefore focusing on cluster expansion and capability-building in these regions.

Additionally, skill shortages and financial literacy remain significant bottlenecks. While Haryana introduced a Labour Policy in 2005 and a Land Pooling Policy in 2017 to facilitate industrial growth, the clustering drives also require a trained workforce attuned to modern production and quality requirements. MSMEs often cite a lack of reliably skilled labor and understandings of digital technologies, limiting their ability to upscale and innovate (Goyal et al., 2023). Integrated skill-building programs are thus critical for transitioning enterprises from traditional to modern operations. Policy coordination challenges are another concern. Though institutional presence is strong, effective alignment between institutions remains vital. Multiple bodies Directorate of MSME, HFC, HSIIDC, banks, and cluster agencies must operate in tandem to ensure delivery of support and monitoring of outcomes (Razak et al., 2020). While the state has strengthened coordination through single-window clearances and promotion boards, effective implementation at district and block levels continues to require improvement.

Looking ahead, Haryana has laid out a forward-looking action plan: expanding cluster development to less industrialized districts; setting up vocational training centres aligned to cluster needs; rationalizing financial incentives through credit guarantees; strengthening MSME incubation in emerging sectors such as electronics and agro-processing; and intensifying export promotion activities (Maheshkar & Soni, 2021). These initiatives align well with national schemes like the RAMP (Raising and Accelerating MSME Performance) Programme, which supports cluster strengthening and institutional capacity building. The growing digital trends among

MSMEs automation, fintech linkage, e-commerce integration mirror national strides in formalization and competitiveness. Haryana's Market Development Cell has been active in leveraging digital platforms and arranging targeted training on e-commerce and global standards. Enhanced digital adoption strengthens traceability, quality tracking, and global engagement, helping MSMEs evolve from traditional enterprises into globally competitive exporters (Parmar & Murari, 2025).

Cluster-based efforts also foster innovation ecosystems. Common facility centres not only enable shared infrastructure but also act as hubs for technology cross-pollination, training, and certification. MSMEs sharing facilities like testing labs or production lines form informal communities of practice, which accelerate learning and competitiveness (Kumari & Satyakam, 2024). With Haryana's institutional ecosystem becoming more cohesive, MSMEs are gradually internalizing standardized quality norms and regulatory compliance a key factor in export readiness and industrial upgradation (Khanna & Singh, 2018). From an employment standpoint, MSMEs remain key sources of livelihood. The diagnostic report suggests that 34 percent of units are located in Gurgaon, Panipat, and Sonapat, generating employment across skill levels (Saini & Ram, 2025). This decentralization of employment has helped urban centers avoid undue migration pressures and distributed economic gains across peri-urban belts. By offering alternative income paths, MSMEs also support social stability and inclusion (Hooda, 2020).

The performance of MSMEs in Haryana offers a nuanced narrative. On the one hand, the state has successfully crafted a supportive institutional and policy environment embedding financial institutions, infrastructure setups, skill development, cluster frameworks, and export facilitation (Rani, 2023). Its success in outpacing targets in credit delivery, exporting performance, ease-of-doing-business rankings, and industrial clustering make it a model for other states. Yet, on the other hand, regional disparities, skill deficits, and the need for deeper institutional alignment remain hurdles that must be overcome to sustain this momentum (Shetty & Bhat, 2022). Haryana's MSME sector reflects the complex interplay of structural opportunity, policy responsiveness, and adaptive resilience. With a large share of registered MSMEs; robust credit flows; active institutional support from bodies like the Directorate of MSME, HFC, HSIIDC, and banking agencies; and a growing digital and export-focused orientation, the state is well positioned to help small industries thrive (Kumari & Satyakam, 2024). The performance narrative speaks to

significant gains, but also highlights the unfinished tasks of geographical inclusion, industrial upgradation, and skill readiness (Kumar & Nanda, 2023). As the state extends cluster benefits to backward districts and integrates digital and skill interventions into policy frameworks, Haryana's MSMEs are likely to grow not only in numbers but also in sophistication, sustainability, and social impact.

2.11. Performance of MSMEs in Punjab

The MSME sector in Punjab stands at a powerful intersection of traditional industry and modern enterprise, shaping local economies while navigating resource constraints and market dynamics. At the heart of MSME performance lies effective working capital management, which focuses on maintaining liquidity and operational efficiency (Kaur & Mehta, 2025). Despite the sector's strengths, many units struggle to balance receivables, payables, and raw material procurement, which causes disruptions in daily operations. Studies tracking working capital approaches in Punjab's industrial hubs reveal that micro and small units often rely on short-term credit and overdraft facilities to finance immediate needs (Singh et al., 2025). This frequent recourse to bank overdrafts underscores liquidity pressures particularly during lean seasons while medium enterprises increasingly lean on instalment credit and formal loans to sustain operations.

Effective management of inventory emerges as another critical performance variable. Punjab's MSMEs, especially in textiles and manufacturing, must carefully synchronize inventory levels with production cycles (Sahu & Mani, 2024). Over-stocking ties up working capital and storage space, while under-stocking threatens order fulfilment (Sanu & Anjum, 2023). In surveys (including Ludhiana-based studies), micro and medium enterprises estimate inventory proportions ranging from 40 to 60 percent of their working capital, positioning inventory as their primary current asset. Medium enterprises often adopt ABC analysis or just-in-time systems to manage stock efficiently (Ahmed & Sur, 2023). However, many small units lack such formal tools, exposing them to operational risks and tying up capital unproductively.

A second performance dimension is raw material procurement, tightly linked to working capital and inventory strategies. Punjab MSMEs operating across chemicals, auto components, light engineering, and agro-processing must ensure consistent raw material supply through disciplined supplier relationships and effective resource planning (Kaur & Kaur, 2025). High raw material

costs, seasonal price volatility, and supply chain disruptions pose substantial challenges. Many units rely on credit lines from suppliers or bankers to smooth these procurement cycles. In recent loan application trends, nearly 24 percent highlight raw material procurement and inventory as the primary use of funds (Khanna & Singh, 2018). Ensuring tight supplier financing agreements and risk mitigation strategies is crucial for product consistency and cost control.

Closely related is access to finance, a cornerstone of MSME performance. Punjab has strong institutional support with state-level Schemes like private industrial park incentives, margin money schemes, interest subventions, and CGTMSE premium reimbursements yet MSMEs still encounter barriers (Kaur & Mehta, 2025). Structural issues, including uncertain documentation, fluctuating collateral availability, and credit risk perceptions, limit formal credit access (Jena et al., 2018). To compensate, many enterprises rely on overdrafts, short-term informal loans, or extended supplier credit, which can be short-term stopgaps rather than strategic financial solutions. Without formal financing, MSMEs miss long-term growth opportunities and scale. The Credit Guarantee Trust for Micro and Small Enterprises (CGTMSE) has helped reduce collateral barriers with up to 85 percent guarantee coverage for loans up to ₹5 lakh, yet deep awareness and adoption among Punjab MSMEs remain inconsistent. State-level reimbursements of CGTMSE guarantee fees offer strong incentive, but many smaller units still underutilize the scheme (Dalal & Kumari, 2025). Greater outreach and simplified documentation would help increase medium to long-term credit access.

The state's financial inclusion strategies such as MUDRA, Prime Minister Employment Generation Programme (PMEGP), and Udyam Registration promote formalization and access to institutional credit. Udyam Registration offers MSMEs streamlined digital identity and scheme access, linked to GST and Income Tax data facilitating entitlements like loan facilities, subsidies, and marketing support (Maheshkar & Soni, 2021). However, many unregistered or informal units remain outside formal financing mechanisms, preventing them from accessing dedicated financial products and official data-driven support. Another performance area is enterprise expansion. Punjab's MSMEs have grown through migration to new markets, product diversification, forward integration, and spreading operations outside of Ludhiana. Expansion, however, requires strategic reinvestment and market linkages (Dhaliwal, 2024). While state industrial parks (under PIPC initiatives) offer plug-and-play infrastructure (Yadav & Gulati, 2019), many enterprises lack

financial clarity and market intelligence needed to execute growth. Expansion plans often falter due to limited working capital cushion or raw material funding. Without this, enterprises remain vulnerable to price shocks and competitive disruptions.

Punjab's MSMEs also manage inventory turnover and receivables efficiency, important variables influencing profitability. Many firms report debtor periods extending beyond 90 days, a challenge reflected nationally by over 210 days in 2017-18. Unpaid invoices hinder working capital liquidity and require firms to tie up bank limits or use alternate financing tools like invoice factoring. While digital tools and formal dispute redressal systems are being introduced, many MSMEs still struggle with slow payments and lack formal receivable-management procedures. The cost of capital also directly impacts enterprise performance. Punjab's MSMEs generally face higher interest rates due to risk perceptions and short credit tenures. Interest subsidy schemes such as 5 percent subsidies in border and Kandi regions, SC/ST and women entrepreneur incentives help reduce the burden. Yet, these often underreach small producers who lack documentation (Saini & Ram, 2025). Further, units competing on margins like textiles, agri-processing, or metal fabrication have limited pricing power. Effective working capital management and interest subvention thus become essential to maintain profitability. A complex aspect is technology adoption and digital integration, which influences production efficiency, inventory control, and expansion capabilities (Mand & Kaur, 2025). While some MSMEs in Punjab's industrial clusters (auto parts, textiles) engage with quality certifications, ZED schemes, and digital training, many still rely on traditional production methods (Gupta & Agarwal, 2023). The state policy has provisions for reimbursing up to 50 percent of technology acquisition costs, encouraging automation and modernization. Still, medium-level capacity and clarity gaps persist, affecting performance.

Government promotional schemes like the Cluster Development Programme bolster collective investment in shared infrastructure and training. Punjab identified several towel, bicycle, sports goods, and stitching clusters for support, leading to shared common facility centers (Dhaliwal & Chopra, 2025). These centers enable resource pooling reducing unit capital costs and developing collective bargaining in raw materials, technology transfer, quality control, and export compliance. Enterprises that use these centers report improved capacity utilization and earlier access to growth opportunities. Additionally, Punjab's policy framework includes market linkages and export supports (Mukherjee, 2018). The state mandated 25 percent procurement from local MSMEs in

government contracts and encourages vendor development programs, quality certifications, and marketing assistance. For export-oriented clusters like auto parts, textiles, and sporting goods, the state subsidizes patent filing, certification costs, and export expo participation. This improves market access but performance sensitivity to currency fluctuations and global demand remains. The interplay of these variables working capital adequacy, raw material consistency, finance tiers, technology adoption, inventory flows, receivables management, and policy integration deeply affects Punjab MSME performance (Singh et al., 2018). Units that maintain disciplined working capital, invest in technology, access collateral-free finance, and use cluster infrastructure show stronger growth trajectories and resilience to economic volatility. Contrastively, those relying on informal credit, lacking process efficiency, or disconnected from policy support risk stagnation (Dhaliwal, 2024).

2.12. Challenges and Issues

The performance of micro, small and medium enterprises in Punjab reflects both enduring strengths and persistent challenges, shaped by resource constraints, institutional structures, market dynamics and enterprise-level decision-making. Working capital management remains at the heart of operational performance, directly influencing liquidity, procurement, production and growth potential. In Punjab's industrial hubs ranging from Ludhiana to Amritsar, MSMEs work with working capital ratios that often align with industry norms however smaller units frequently experience liquidity gaps (Dhaliwal, 2024). Studies show that inventory routinely accounts for 40 to 60 percent of working capital in textile and engineering MSMEs in Ludhiana, creating strain during industry downturns or when receivables linger beyond 90 days. Medium enterprises typically manage this better by adopting ABC analysis or just-in-time systems, but micro and many small units continue to rely on periodic overdrafts or informal credit to manage cash flow imbalances (Saini & Ram, 2025). This dependence on intermittent funding often translates into higher financing costs, operational interruptions and missed opportunities for timely raw material procurement or bulk purchase discounts.

Raw material procurement is likewise intertwined with working capital strategies. Punjab's MSMEs, operating in agro-processing, textiles, auto components and chemicals, are exposed to seasonal fluctuations in raw material quality and pricing. To secure stable supply, many engage agents or intermediaries, which raises procurement cost but reduces immediate capital strain.

According to recent data, nearly 24 percent of working capital loans by MSMEs in the region are specifically earmarked for raw material and inventory purchases (Mand & Kaur, 2025). This concentration underscores both the opportunity and the vulnerability these enterprises face. Enterprises that have moved to formal credit instalment loans and secured overdrafts report more stable supply chains and streamlined cost structures (Mand & Kaur, 2025). By contrast, those relying on informal or unsecured credit often struggle to negotiate favourable terms and struggle with quality consistency, directly impairing production schedules.

Access to finance remains a central challenge and enabler of performance. Despite robust institutional backing including Punjab's strong MSME policy framework, bank incentives, margin-money schemes and credit-linked subsidies many enterprises report delays or reluctance in credit delivery. At the same time, banks, cooperatives and non-bank financial companies (NBFCs) regularly offer working capital and overdraft facilities tailored for small units, typically INR 5 lakh to 2 crore, with margin and documentation norms that vary across providers (Athaide & Pradhan, 2020). However, formalization levels differ, and unregistered or informal micro-MSMEs continue to face high barriers due to documentation, absence of financial records and collateral scarcity. This results in persistent dependence on informal finance and constrained growth aspirations.

The Credit Guarantee Trust for Micro and Small Enterprises (CGTMSE) is pivotal in bridging the credit gap particularly by guaranteeing up to 85 percent of loans up to INR 5 lakh for collateral-free borrowing. Punjab banks have actively utilized CGTMSE, with the state ranking among the top in terms of approved guarantees. Nevertheless, awareness gaps remain; many smaller enterprises remain unaware of guarantee fee reimbursements and ease-of-access initiatives. As a result, much smaller credit pools, while larger than before, still fall short of meeting expansion requirements (Kaur & Mehta, 2025). Seasonal enterprises such as those in agro-processing often borrow through *chairos* (rotating funds) or bills discounting, limiting capacity for innovation or modernization.

Expansion is another performance metric that reveals diverging paths. Enterprises that maintain disciplined finance, manage inventory efficiently, and access government schemes are more likely to diversify or deepen their operations (Harpriya et al., 2022). Formalized enterprises show higher growth trajectory, adopting new product lines, increasing their customer base and reaching new markets. Government-promoted industrial parks and plug-and-play units under programs like One

District One Product encourage investment in sectors such as towels, cycle parts and agro-processing with infrastructure and subsidy support (Mor et al., 2020). Still, expansion among micro and small MSMEs is often opportunistic rather than strategic, and constrained by unstable cash flow, liquidity buffers and limited market intelligence. This uneven expansion trajectory results in varying productivity and economic impact across neighbouring enterprises. Inventory turnover and receivables management are frequently cited by Punjab MSMEs as crucial to performance, yet remain suboptimal. Many firms face debtor days exceeding 90, with delayed payments often cited as a primary stress factor in working capital cycles (Mukherjee, 2018). This directly impacts both production and procurement capabilities. Some medium units have introduced debtor monitoring systems, penalties and digital invoicing mechanisms, but these are less common among micro and small enterprises. Long receivable periods and limited access to invoice financing place pressure on liquidity and erode creditworthiness.

The cost of capital remains uneven across enterprise types. Small and informal units often face interest rates in the 10-18 percent range for overdrafts or informal borrowings. Punjab's state policy provides interest subsidies 5 percent annual interest subvention up to INR 10 lakh loans for border, Kandi, SC/ST and women entrepreneurs but disbursement remains incomplete, and awareness remains low among eligible units (Mand & Kaur, 2025). In contrast, formalized medium-level enterprises accessing bank loans with CGTMSE or project-based financing often secure 8-10 percent rates, significantly improving operational margins. For interest-sensitive sectors such as Agri-Food or textiles, such subsidies and lower capital costs can mean the difference between profitability and stagnation.

Technology adoption and digital integration are emerging as critical variables in performance outcomes. Under India's Zero Defect Zero Effect (ZED) and Digital MSME schemes, Punjab units can receive reimbursements up to 50 percent of qualifying capital costs, incentivizing investment in automation, process improvement and quality control. Evidence shows that those who upgraded machinery and implemented digital systems report 15-20 percent gains in productivity. Nevertheless, the majority of micro unit's limit tech adoption due to cost, lack of capability and limited awareness. As such, digital readiness remains compartmentalized across the sector. Entrepreneurs in Ludhiana noted benefits in automation related to quality consistency, inventory

tracking and supplier integration yet broader diffusion is hampered by financing constraints and execution complexity (Dalal & Kumari, 2025).

Support infrastructure, especially cluster development programs, plays a vital role in expanding access to shared assets and services. Punjab actively supports towel, bicycle parts, sports goods, textile stitching, and garment clusters through shared common facility centres (CFCs) that include laboratories, design studios, testing equipment and training facilities. MSMEs connected to these CFCs report reduced capital expenditure, faster quality upgrades, and improved access to certification. Sharing infrastructure also encourages cross-learning and informal innovation networks. Yet many cluster-eligible enterprises in peripheral districts remain disconnected from the networks and benefits of established hubs, reinforcing uneven regional growth (Mand & Kaur, 2025). Government-led market linkages and export promotion programs are rising in their relevance. Punjab mandated minimum 25 percent procurement from local MSMEs in government contracts and provides export platforms, patent support and certification subsidies. Export-centric MSMEs in auto-engineering, sports goods and textiles derive substantial benefits from these linkages (Dhaliwal & Chopra, 2025). Subsidized participation in national trade fairs and export expos help MSMEs identify overseas partners, secure branding opportunities, and educate them on quality and logistics norms. Still, many micro and small units need help engaging with export finance solutions, forex management, and compliance, limiting their capacity to scale internationally. The interplay of human capital and skill readiness closely affects performance. Punjab's proximity to government vocational and technical institutions enriches skill access, yet MSMEs report mismatches in demand. Interpretation centres and sample-based on-job training in clusters help, but remain insufficient. Many MSMEs state that formal MNC training solutions are unaffordable or misaligned. Thus, skills continue to widen performance gaps between more rigid, traditional processes and modern, productivity-driven manufacturing.

Institutional linkages and policy effectiveness underpin many performance factors. District Industry Centres, MSME Development Institutes, Punjab Small Industries & Export Corporation, and investment promotion platforms play advisory, training, and facilitation roles. However, state-level single-window platforms remain under-utilized and non-integrated in many areas leading to awareness bottlenecks, delays in scheme uptake, and cross-department coordination issues. The Nivesh Mitra and CHAMPIONS digital portals are being promoted, but small

entrepreneurs often rely on intermediaries or service providers to navigate system complexities. Streamlined and well-designed outreach programs could enhance adoption of schemes, particularly among micro and informal groups. Performance measurement also requires data confidence and transparency. Punjab's registered MSME database exceeds 150,000 units, yet actual ground-level MSME presence especially in unregistered or informal segments is likely higher. As a result, policy targeting, financial inclusion, infrastructure planning and capacity building may fail to reach many deserving units (Khanna & Singh, 2018). Accurate data on working capital utilization, technology uptake, sales growth, and credit access is essential for evidence-based policy adjustments.

The synergy between internal enterprise discipline and external institutional enablers determines performance trajectories across Punjab. Enterprises that consistently practice structured working capital budgeting, inventory optimization, timely receivables follow-up, strategic use of formal credit (especially CGTMSE-backed lending), technology adoption, market linkages and cluster support outperform peers (Mand & Kaur, 2025). Their margins hold steady, production remains stable, and growth pathways become visible. Conversely, enterprises that rely on overdrafts, informal credit, delayed technology upgrades, and operate independently of cluster ecosystems tend to exhibit margin erosion, production lags, and missed opportunities.

Looking ahead, optimization of Punjab MSME performance hinges on a few interlinked strategies: simplifying CGTMSE awareness and claim procedures; strengthening interest subsidy channels and dissemination; expanding digital finance tools including invoice financing and online debtor management; reinforcing cluster centers in underserved districts; aligning technology subsidies with enterprise scale and capability; institutionalizing workforce skill programs in targeted clusters; and nurturing integrated single-window platforms accessible at district level (Singh et al., 2025). Moreover, performance gaps due to receivable delays could be alleviated with dispute resolution enhancements under Samadhaan and compulsory timely payments in government contracting. Punjab's MSME sector showcases a nuanced performance spectrum (Razak et al., 2020). Anchored by abundant working capital, proactive institutional support, cluster investments, export linkages and emerging digital integration, many enterprises display robustness, resilience and adaptability. Yet internal constraints especially in inventory control, receivables, informal financing, tech lag and uneven institutional linkage continue to inhibit full potential (Parmar &

Murari, 2025). While many enterprises remain mired in micro-growth, a progressive subset matures into globally engaged, technologically efficient units (Sahu & Mani, 2024). This heterogeneity suggests that Punjab's MSME performance is not a single narrative but a landscape of differentiated trajectories shaped by financial discipline, institutional connectivity and the deliberate absorption of performance-enhancing tools.

To fulfill Punjab's ambition as an MSME powerhouse, institutional and financial actors must continue strategic interventions: deeper finance inclusion via CGTMSE and targeted refinance, enhanced cluster-based interventions that pair subsidy with mentoring and machinery sharing, extensive outreach on technology and digital adoption, active enforcement of formal registration and timely receivables, and strengthened workforce development aligned with evolving workplace needs (Singh et al., 2018). These measures will collectively help Punjab's MSME sector thrive not only as a regional engine but as a contributor to national growth, industrial resilience and economic inclusion.

2.13. Performance of MSMEs in Himachal

The performance of micro, small and medium enterprises in Himachal Pradesh presents a textured story of resilience, regional opportunity and policy challenges, shaped by the hilly geography, resource limits and evolving institutional support. Although the state does not possess rich mineral reserves and has more limited industrial infrastructure compared to its neighbours, its MSME sector has carved a distinctive identity through pharmaceuticals, agro-processing and niche handicrafts, supported by focused policy measures and cluster incubation. Central to understanding performance is the distribution of enterprises across districts: as of January 2024, Himachal recorded 136,015 Udyam-registered MSMEs, of which over 97 percent were micro units, signaling both deep entrepreneurial activity and a skew towards small-scale operations. Districts like Solan, Kangra, Shimla and Mandi host the majority of units, with Solan alone accounting for over 23,700 registrations, reflecting historical concentration induced by supportive infrastructure and policy incentives. Expanding beyond clusters has proved challenging, hinting at performance variability shaped by geography, urban proximity, and infrastructure preparedness (Sahu & Mani, 2024).

Working capital management remains a persistent performance driver for Himachal MSMEs. The seasonal nature of rural production and challenging logistics amplify requirements for ready cash.

Inventory and raw material procurement especially in food processing, horticulture and packaging necessitate careful planning to avoid stockouts during peak production times. Many units depend on formal short-term credit or overdrafts, though use of schemes like CGTMSE remains uneven. This reliance on informal borrowing and personal capital explains why many units operate within narrow liquidity brackets, hindering their ability to scale even when demand exists. Where cluster-based common facility centers are available such as packaging or testing labs working capital pressures ease, enabling units to align production and market cycles more effectively. Raw material availability and cost have also influenced performance. Himachal's agro-based enterprises frequently face volatility in sourcing horticultural output or grains. This variability intensifies when logistics infrastructure is weak during the monsoon or winter months, inflating transportation costs (Rajamani et al., 2022). Firms that have formed producer associations or cooperatives to aggregate raw material often perform better securing bulk supply and benefiting from economies of scale. In contrast, stand-alone micro units, lacking formal buyer-seller arrangements, face price inconsistency and quality issues, directly impacting product quality, cost-control and competitiveness (Khanna & Singh, 2018). Access to finance is an essential enabler. Himachal's annual MSME credit potential stood at nearly ₹697 crore in 2018-19, and actual bank disbursements exceeded this, indicating both strong demand and supply-side mobilization. The availability of collateral-free, priority-sector lending anchored by CGTMSE has enhanced formal credit access. Yet performance metrics reveal spatial and awareness disparities. Urban and industrial belt MSMEs are more likely to secure loans at competitive interest rates, while rural and peripheral units continue to depend on overdrafts or informal systems. Enterprises using formal finance tend to report more consistent operations, timely expansion, and measurable growth. Informal borrowing, on the other hand, increases costs, risks and uncertainty (Yadav & Gulati, 2019).

Another dimension of performance is enterprise expansion. Himachal units that leverage policy incentives and industrial plots especially under the HP Industrial Investment Policy (2019) have tangible growth potential. These policies offer subsidies, tax rebates and capital support targeted at priority sectors such as pharmaceuticals, food processing and eco-tourism. Investors who secure plots in industrial estates such as Baddi-Barotiwala-Nalagarh have been able to expand operations, diversify product lines and access export markets (Sahu & Mani, 2024). However, many traditional

MSMEs remain confined by their initial scale and informal orientation, facing high entry costs and capacity barriers when attempting to expand.

Inventory turnover and receivables management are closely linked to performance outcomes. Himachal MSMEs report that receivable periods often exceed 60 to 90 days, causing cash flow disputes and operational stress. This issue is pronounced in agro-based clusters, where produce cycles may not align with payment timelines. Some enterprises have introduced debtor tracking and digital invoicing to combat delayed payments, but formal invoice finance adoption remains minimal. As a result, the gap between production and payment delays undercuts working capital efficiency, undermining operational continuity.

Interest rates and capital costs vary widely across enterprise types. Most small units secure loans with interest rates in double digits, while medium enterprises in clusters enjoy rates around 8 to 10 percent under specialized credit schemes. State-level interest subvention programs allocated to women entrepreneurs, border district units, and horticultural MSMEs help reduce borrowing costs, yet awareness and uptake remain limited. Consequently, performance disparities emerge: units in receipt of funding at lower interest rates outperform peers in productivity, capacity utilization and financial stability.

Technology adoption and digital integration are emerging performance differentiators. Through schemes under the Zero Defect Zero Effect mission and Digital MSME initiative, units can access reimbursements of up to 50 percent for acquiring quality testing or process automation tools . Enterprises that have invested in such technologies report 15 to 20 percent gains in product consistency and cost reduction. Nonetheless, many micro-enterprises continue using traditional methods due to high upfront investment or lack of technical knowledge. As a result, productivity remains fragmented: a minority of technologically advanced firms sees rapid improvements, while the bulk operate at low efficiency levels. Cluster development programs in Himachal play a central role in MSME performance. Industrial clusters like BBN enable shared infrastructure testing labs, packaging units, skill centers that enhance individual enterprise capabilities. Participating firms report faster pace of registration, improved quality norms, and access to export linkages. Such shared platforms also encourage informal peer learning and supply chain reliability (Mehta, 2021). However, cluster benefits remain concentrated: many districts beyond Solan and Kangra do not

yet host comprehensive cluster setups, limiting opportunities for enterprise formalization and scaling in those regions.

Market linkage and export orientation are other critical metrics of performance. Himachal's pharmaceuticals cluster is among the largest regional exporters in the country, contributing over \$2 billion in exports during 2017-22, with a compound annual growth rate of around 15.5 percent. This growth is sustained through systematic vendor development, trade fairs and targeted policy support. Agro-processing firms also access export markets, leveraging state packaging and branding interventions. At the same time, many traditional craft producers remain limited to domestic or local markets, with insufficient scale and product standards for export competitiveness. Human capital and skill readiness influence performance outcomes significantly. Himachal's technical and vocational institutes support upskilling of youth, but there remains a mismatch between workforce capabilities and enterprise needs (Prakash et al., 2021). MSMEs often need training in specialized processes, quality compliance or digital literacy. Where training centers operate within clusters, enterprises gain performance improvements, but in remote regions, lack of training remains a barrier to scaling and modernization.

Institutional support and policy effectiveness have shaped performance outcomes. MSME Development Institutes, District Industry Centers, and Export Promotion Bureaus offer guidance and facilitation. Initiatives such as single-window clearances, online registration via Udyam portal, and formal credit facilitation assist MSMEs in reducing procedural delays. However, many micro-enterprises lack awareness of such support and depend on informal advisors (Singh, 2022). This uneven institutional engagement often impedes enterprise formalization, financing access and expansion. Data transparency and registration patterns also affect performance analysis. Of 136,015 registered MSMEs, only a small share are small or medium enterprises, indicating that the state's MSME ecosystem remains dominated by micro units (Yadav & Bansal, 2025). Informal sector prevalence obscures actual sectoral capacity, making it harder to tailor policy outreach for truly marginal units. A more comprehensive database covering working capital utilization, credit uptake, technology absorption and inventory cycles is critical for performance improvement and informed policymaking.

The interplay of internal enterprise management and external enablers dictates performance differentiation. MSMEs that align disciplined working capital planning, inventory control, formal

financing, digital tools and policy linkages demonstrate higher productivity, stable operations and potential for scale. In contrast, informal, under-financed, and disconnected units operate within tighter performance margins, face greater vulnerability to demand shocks and lack structured improvement pathways. Looking ahead, several policy interventions can enhance MSME performance in Himachal. Greater awareness and capacity-building around CGTMSE and interest subvention schemes could aid working capital management (Jena et al., 2018). Developing digital finance tools such as invoice discounting platforms can help combat receivable delays. Expanding cluster infrastructure through common facility centers in underserved districts can instill technology adoption and quality improvement. Enhanced outreach via single-window platforms, mobile campaign vans and local entrepreneurs' networks could increase enterprise formalization (Dominic et al., 2024). Strengthening vocational training and aligning it to local industrial demands can reduce skill mismatch. Encouraging digitally-enabled procurement systems and mapping buyer-seller platforms can broaden market access.

Himachal MSMEs have demonstrated capacity for innovation, export growth and rural employment through niche specializations. The path forward lies in bridging structural gaps between units through financing, digital tools, technology, and institutional support. Comprehensive performance gains will come from integrating marginalized producers into formal support systems, while reinforcing emerging industrial champions in pharmaceutical, agro-processing and service clusters (Srivastava, 2022). The performance of MSMEs in Himachal Pradesh is marked by enduring vitality and select strengths in certain districts and sectors, accompanied by persistent challenges in working capital access, raw material volatility, receivable delays, uneven policy awareness, and digital penetration (Amrinder, 2016). The future lies in systemic scale across districts, deepening financial and policy integration, widening cluster coverage, and ensuring that micro and small units gain from the state's growth initiatives. In doing so, Himachal can not only boost its overall MSME productivity and resilience, but also foster inclusive, sustainable regional development rooted in localized entrepreneurship (Sharma & Singh, 2021).

2.14. Performance of MSMEs in Chandigarh

The MSME sector in Chandigarh presents a compelling study in urban entrepreneurship, resilience, and policy engagement. Though smaller in scale compared to larger industrial regions,

its performance offers a window into how Union Territories can foster small business development. Chandigarh's registered micro, small, and medium enterprises numbered around 62,477 by early 2025, with over a quarter of the city's working-age population an estimated 366,130 individuals employed in this sector. This level of engagement shows a well-entrenched small business culture, even as the sector works through productivity and structural issues. A cornerstone of performance is working capital management. Chandigarh's MSMEs largely rely on overdrafts and working capital loans, with online and offline lenders offering credit of up to ₹50 lakhs through instruments such as demand loans and revolving credit lines. Such financing supports inventory and raw material procurement, especially vital in small-scale manufacturing and service-related trade. The UT's new 12-point MSME development program includes a facilitation helpdesk and e-portal to aid SMEs in understanding these credit flows and improving working capital deployment. As such, better cash flow planning is enhancing their capacity to meet payables and purchase stock more effectively. Closely linked is inventory management. For Chandigarh's MSMEs, particularly those engaged in manufacturing, packaging, and services, inventory represents a key working capital element (Singh, 2022). With digital finance platforms and overdraft facilities, some medium units have started using real-time inventory management tools to reduce holding costs and obsolescence. However smaller micro enterprises still maintain higher stock levels than optimal either to avoid supply disruptions or to circumvent procurement delays which restricts their liquidity and constrains expansion.

Raw material procurement is another stress point. Chandigarh lacks localized heavy industry, so MSMEs often rely on regional suppliers in Mohali, Zirakpur, Ambala, or even Delhi-NCR. Such procurement dependencies introduce supply chain vulnerabilities. With support from the UT's packaging-hub strategy under its MSME programme, Chandigarh is encouraging local sourcing and innovation by streamlining supplier networks (Sachdev & Singh, 2023). Certified units also benefit from facilitation helpdesks that offer guidance on supplier linkages. Access to formal finance has improved, though gaps remain. Alongside bank credit and NBFC offerings, Chandigarh is one of the few UTs with an approved Systematic Investment Plan under the RAMP initiative receiving ₹43 crore for MSME strengthening. This allocation has fueled credit-linkage initiatives, risk mitigation, ZED and lean certifications, and export promotion support in collaboration with the industrial department. Since launching the 12-point programme, Chandigarh

has funded quality-certification costs for units under the ZED and MSME Competitive (Lean) Schemes, easing the financial burden and improving standards.

Still, inventory-to-sales ratios and receivable turnover are key challenges. The absence of integrated supply chains can lead to long payment cycles bearable in small quantities, but risky when production scales up. Though Chandigarh MSMEs are exploring digital invoicing and ERP integrations supported via the e-portal and helpdesk many rely on traditional billing methods. Until invoice finance becomes mainstream, liquidity cycles are at risk of disruption. The cost of finance varies considerably. With a CIBIL score above 700 and proper documentation, enterprises qualify for formal working capital loans at competitive interest rates, sometimes favorable under RAMP-supported bank programmers (Singh, 2022). In contrast, unregistered or micro enterprises relying on unsecured lending or NBFC offerings may face interest rates of 12-18 percent. Further, the 12-point policy's support for certification reimbursements helps cut borrowing costs linked to quality-certification investments

Expansion potential is strong but uneven. Highly leveraged by the industrial department, Chandigarh units receive support in packaging innovation, export promotion, and quality control. Proven exporters and certified manufacturers receive direct help in international market linkages and trade fair participation. Yet, manufacturing consistently underperforms relative to the service and trading sectors, with many units preferring Mohali or Panchkula for production facilities. This imbalance slows industrial expansion, particularly among medium scale units. Cluster influence is less visible in Chandigarh due to its urban planning structure and smaller industrial footprint. There are no major sectoral clusters of manufacturing comparable to those in nearby cities, though niche groupings occur for packaging, pharmaceuticals, and MedTech innovation. The region's Northern Science & Tech Cluster launched "Syn-Pharma" at Panjab University to foster pharma and MedTech innovation along with entrepreneurial support and regulatory aid an area where Chandigarh becomes a regional hub. Such initiatives are beginning to create shared R&D platforms, but their translation into clustered MSME expansion remains nascent (Kumar & Nanda, 2023).

Technology adoption and quality systems are becoming more significant. Subsidies for ZED certification and lean manufacturing aim to drive quality and sustainable production practices . Through the UT's scheme, units receive help for up to silver or gold level certification. Combined

with digitization support via RAMP, these investments are enabling higher productivity, better market acceptance, and reduced cost inefficiencies (Ahmed & Sur, 2023). Market linkages and export readiness are receiving renewed emphasis. Chandigarh's programmes include support for participation in national and international fairs and local vendor development. As a result, selected exporters and packaging firms gain facilitation in certificate acquisition and export guidance (Bhoganadam et al., 2017). This may help shift micro enterprises toward growth. However, most micro and small units still operate within the domestic urban service or retail milieu, with limited visibility abroad.

Human capital and skills are critical in a highly urban UT like Chandigarh. Though the workforce presents higher educational and skill levels compared to rural contexts, many enterprises lack access to specialized skills especially in lean manufacturing, digital transformation, quality systems, and compliance. The UT's industrial department plans to enhance structural capacity and deploy training programs linked to specific sectors. However, absence of special vocational centres or R&D-driven skill training limits deep skills flow into micro and small enterprises. Policy coordination remains uneven. While single-window systems like the e-portal improve scheme access, many units still rely on informal facilitators or service providers. The UT is trying to institutionalize outreach through helpdesks, webinars, and targeted campaigns, but uptake remains partial. Digital interfaces may drive transparency, but lack of enterprise capability sometimes limits benefit realization.

Data availability is strong in Chandigarh, thanks to Udyam registration and integrated GST/finance systems. With 62,477 registered units and detailed company profiles, the UT reports high registration discipline. However, registration does not guarantee active operation, and the gap between registered and active units may still obscure performance analysis. Chandigarh's MSME performance is marked by strong institutional ecosystems and a robust business-support policy environment. Its key strengths include access to structured finance via the 12-point package, certification support that improves quality competitiveness, urban economic ecosystems favoring services and trading, and innovation platforms like Syn-Pharma tying universities and entrepreneurs. However, persistent constraints remain: manufacturing underperformance, limited local supply chain integration, variable working capital discipline, delayed receivables, and skill mismatches. Chandigarh's MSMEs that exhibit disciplined working capital strategies, adopt

certifications, leverage structured finance, and engage with innovation clusters show early signs of growth, quality improvement, and potential export scaling. On the other hand, micro units that lack formal credit, maintain suboptimal inventory, operate informally, and rely on manual processes face tight performance limits.

2.15 Hypothesis Formulation

H1 there is a significant difference in performance of msme before and after financial Assistance

H1a: Financial assistance has significantly improved the adequacy of working capital in MSMEs.

H1b: Financial assistance has significantly improved the ability to maintain steady cash flow in MSMEs.

H1c: Financial assistance has significantly improved revenue growth in MSMEs.

H1d: Financial assistance has significantly improved operating cost management in MSMEs.

H1e: Financial assistance has significantly improved access to raw materials and inventory in MSMEs.

H1f: Financial assistance has significantly improved the timeliness of wage/salary payments in MSMEs.

H1g: Financial assistance has significantly expanded the customer base of MSMEs.

H1h: Financial assistance has significantly improved the ability of MSMEs to meet market demand.

H1i: Financial assistance has significantly increased investment in product or process innovation in MSMEs.

H1j: Financial assistance has significantly enhanced the capacity of MSMEs to accept large orders.

H1k: Financial assistance has significantly improved the availability of skilled manpower in MSMEs.

H1l: Financial assistance has significantly improved repayment capability towards debts/loans in MSMEs.

H1m: Financial assistance has significantly improved accounting and financial record-keeping in MSMEs.

H1n: Financial assistance has significantly increased the upgrading of machinery and technology in MSMEs.

H1o: Financial assistance has significantly improved supply chain stability and management in MSMEs.

H1p: Financial assistance has significantly increased overall profitability in MSMEs.

H1q: Financial assistance has significantly improved confidence in business continuity among MSMEs.

H1r: Financial assistance has significantly improved access to new domestic and international markets for MSMEs.

H1s: Financial assistance has significantly improved business planning and budgeting in MSMEs.

H1t: Financial assistance has significantly improved compliance with statutory and legal obligations in MSMEs.

CHAPTER 3

Research Methodology

3.1. Introduction

A sound and structured research methodology forms the backbone of any empirical investigation. In the present study, the focus is on exploring the role of institutional financial support in promoting the economic development of Micro, Small, and Medium Enterprises (MSMEs). The MSME sector is widely recognized as a key driver of economic growth, employment generation, and balanced regional development, especially in a developing country like India. Despite its importance, many MSME units face serious challenges in accessing adequate and timely financial assistance from formal banking institutions. This study has been undertaken to understand not only the extent of financial support received by these enterprises but also how such support has influenced their performance and sustainability.

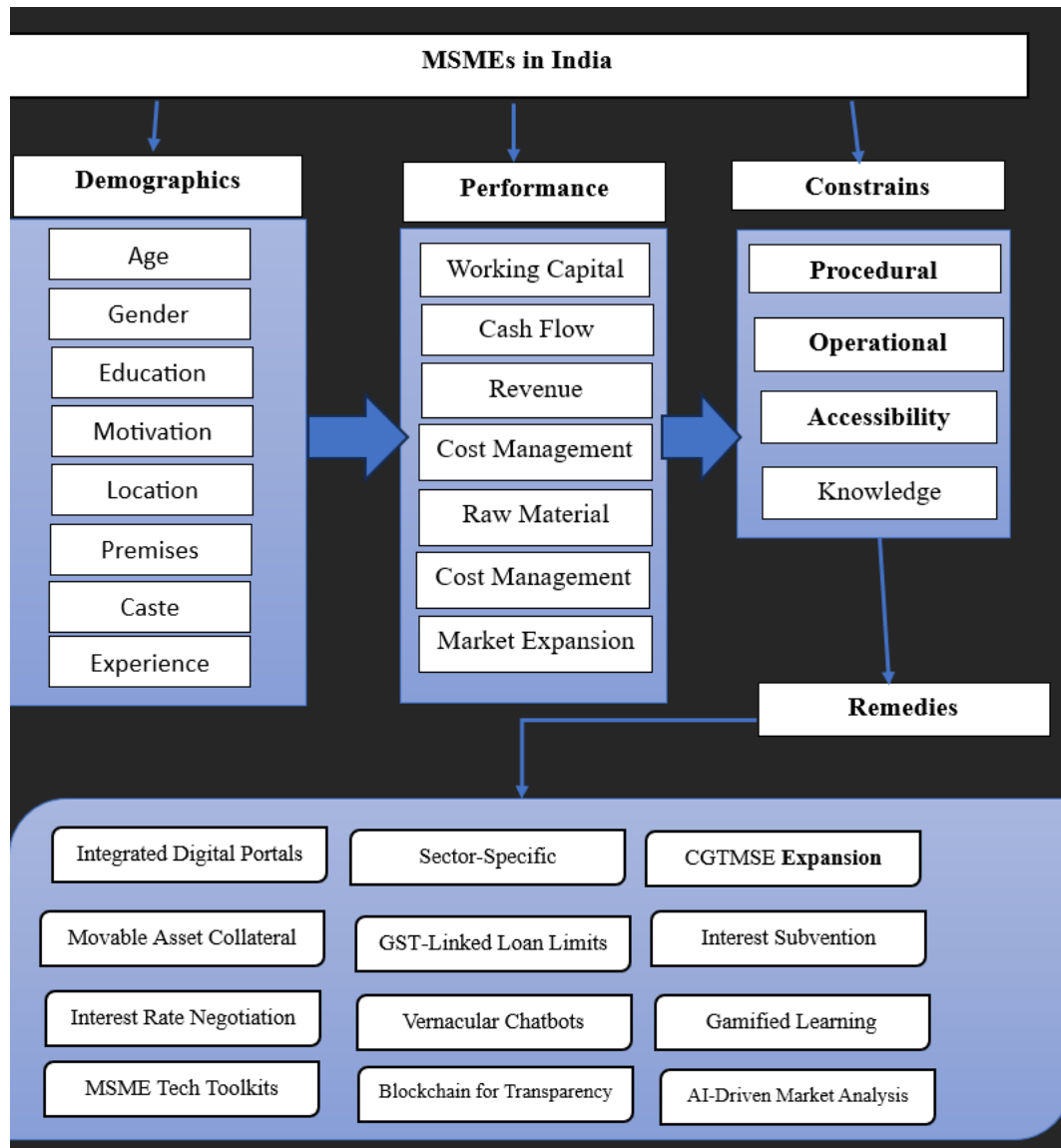
To ensure that the findings are meaningful, this study adopts a well-planned and logical research methodology. The methodology has been designed to fulfill the specific objectives of the research, such as identifying the demographic characteristics of MSME owners who have availed financial assistance, evaluating their business performance before and after receiving the support, and identifying key challenges faced by both MSMEs and banks in the financing process. The approach taken in this study combines both qualitative and quantitative techniques to gain a comprehensive view of the situation.

The methodology includes the selection of appropriate sampling techniques, identification of reliable data sources, use of primary and secondary data, and selection of suitable tools for data analysis. Every step of the research process from data collection to interpretation has been planned systematically to ensure accuracy and objectivity. This section explains each aspect of the methodology in detail to provide transparency and help readers understand how the research has been conducted. The ultimate goal is to generate insights that can inform policymakers, financial institutions, and MSME owners, thereby contributing to the improvement of financial support systems for MSMEs

3.2. Research Gap

- ❖ Most existing studies on MSME financing in India focus on either national-level data or on metropolitan areas, leaving a gap in understanding the **unique financing challenges and outcomes in semi-urban and rural-dominant states** like Haryana, Punjab, Himachal Pradesh, and union territories like Chandigarh.
- ❖ **Insufficient Comparative Studies Across MSME Types (Micro, Small, Medium):** Prior literature often treats MSMEs as a homogenous group. Very few studies have **empirically differentiated the experiences and challenges faced by micro, small, and medium enterprises individually**, especially in terms of bank-based financial support.
- ❖ Most research either focuses on MSMEs' perception of constraints or the banks' lending behavior. Very few studies collect **parallel primary data from both MSME owners and senior bank officials**, which is essential to bridge perception gaps and find practical alignment in policies.
- ❖ While many studies talk about access to credit, **quantitative evaluations comparing MSME performance before and after receiving bank financing** using methods like paired t-tests remain rare, especially for the selected states.
- ❖ There is a lack of studies that use **Exploratory Factor Analysis (EFA)** to systematically extract and categorize the underlying institutional and operational constraints faced during MSME financing.
- ❖ States like Punjab and Himachal Pradesh have rich MSME networks but are often underrepresented in academic and policy assessments related to institutional financing support. **Regionally focused research can uncover local dynamics** that national-level studies may overlook.
- ❖ Prior research has seldom incorporated the **branch-level experiences of public, private, and specialized institutions like SIDBI**, especially in small cities and rural belts, which are crucial for a complete understanding of MSME financing.
- ❖ Many studies identify problems but do not **link them back to practical, literature-backed, or policy-recommended solutions**, creating a gap between academic diagnosis and implementable strategy.

3.3. Model Framework



3.4. Research Design

A sound research design is crucial for guiding the investigation in a structured and coherent manner. In this study, the research design has been carefully developed to assess the implications, performance, and prospects of institutional financial support provided to Micro, Small, and Medium Enterprises (MSMEs). The research aims to evaluate how financial assistance impacts MSME development and what challenges exist for both enterprises and banking institutions.

This study follows a descriptive and analytical research design. The descriptive component focuses on presenting the demographic profile of MSME owners who have availed financial assistance from banking institutions and identifying the nature of support extended. The analytical component evaluates changes in the performance of MSMEs before and after receiving financial support, as well as identifying key constraints and suggesting policy remedies.

The research primarily relies on primary data, which has been collected directly from MSME unit owners and officials from banking institutions through structured questionnaires and interviews. The target respondents were selected to represent a wide range of industries, business sizes, and geographical locations. This direct engagement ensures the authenticity and relevance of the data. In addition to primary data, secondary data was also reviewed from sources such as RBI reports, SIDBI publications, and MSME ministry documents to support the analysis.

To analyse the data, a combination of quantitative and qualitative techniques has been employed. Descriptive statistics are used to summarize the characteristics of the respondents and financial indicators. A paired sample t-test has been applied to examine significant differences in MSME performance before and after availing financial assistance. Exploratory Factor Analysis (EFA) has been conducted to identify underlying dimensions of constraints faced by MSMEs and banks. Further, content analysis has been used to interpret open-ended responses and expert opinions, enabling the identification of themes and patterns.

This integrated research design ensures comprehensive analysis, aligns with all research objectives, and facilitates evidence-based conclusions for policy and practice.

3.5. Research Objectives

- a) To study the demographic profile of the owners of MSME units who have availed financial assistance from banking institution.
- b) To evaluate the performance of the MSME units on various aspects before and after access to financial assistance.
- c) To find out major constraints being faced by MSME units and bank branches during the course of financial assistance to MSME units from banks.
- d) To suggest the suitable remedies for various constraints identified for MSME units and banks, during the course of financial assistance.

3.6. Sample Selection and Technique

To conduct this research in a fair and representative manner, a multistage proportionate stratified sampling technique was used, which allowed for balanced representation across different states and types of MSMEs. The objective of this sampling approach was to ensure that MSMEs of all sizes Micro, Small, and Medium from various regions were included in the study in the same proportion as they exist in the real world. This two-stage method was essential because the MSME sector is highly diverse, and a random or unstructured sampling method would not have captured that diversity accurately. In the first stage, the total population of MSMEs across four northern regions Haryana, Punjab, Himachal Pradesh, and Chandigarh was identified using official records. These four regions together had a total of 620,955 registered MSME units. Among them, Haryana accounted for 282,866 units, Punjab had 283,058 units, Himachal Pradesh had 39,768 units, and Chandigarh had 15,263 units. Based on their share in the total MSME population, we calculated the sample size for each region proportionately.

Table 3.1: Total population among selected strata's

| Region | Micro | Small | Medium | Total |
|-------------------------|----------------|---------------|---------------|----------------|
| Haryana | 263,233 | 17,870 | 1,763 | 282,866 |
| Himachal Pradesh | 37,641 | 1,878 | 249 | 39,768 |
| Punjab | 267,960 | 13,790 | 1,308 | 283,058 |
| Chandigarh | 14,006 | 1,118 | 139 | 15,263 |
| Total | 582,840 | 34,656 | 3,459 | 620,955 |

(Source: Udhyam, 2024)

As a result, out of the total sample of 455 respondents, 194 were selected from Haryana, 194 from Punjab, 44 from Himachal Pradesh, and 23 from Chandigarh. This ensured that each state's contribution to the sample matched its real presence in the MSME ecosystem. In the second stage, the sample from each region was further divided according to the type of MSME Micro, Small, or Medium again in proportion to their actual numbers in each region. Micro enterprises, being the most common, made up the majority of the sample. Small and medium enterprises were fewer in number and thus received smaller shares. In total, the final sample consisted of 373 micro enterprises, 68 small enterprises, and 14 medium enterprises. For example, in Haryana and Punjab, each had 164 micro, 25 small, and 5 medium enterprises; Himachal Pradesh had 30 micro, 12 small, and 2 medium; and Chandigarh had 15 micro, 7 small, and 2 medium enterprises. This multistage approach allowed the study to maintain both regional and categorical balance, offering a rich and fair representation of the MSME sector. It provided a solid foundation for analyzing the real impact of institutional financial support on enterprises of varying size and from different locations. By using this structured method, the study could generate insights that are more accurate, meaningful, and relevant for policymakers, financial institutions, and MSME stakeholders. The strength of this approach lies in its ability to reflect the true diversity and distribution of MSMEs, ensuring that the conclusions drawn from the data are grounded in actual field realities rather than random assumptions.

Table 3.2: Proportionate stratified sampling among stratas (States/UT)

| Region | Population | Proportion | Sample Size (rounded) |
|------------------|----------------|-------------|-----------------------|
| Haryana | 282,866 | 45.56% | 176 |
| Himachal Pradesh | 39,768 | 6.40% | 25 |
| Punjab | 283,058 | 45.59% | 176 |
| Chandigarh | 15,263 | 2.46% | 8 |
| Total | 620,955 | 100% | 385 |

(Source: Author)

In the below given table the proper representation is given to the msme type as well as the states/UT to avoid biasness in the selected sample.

Table 3.3: Proportionate stratified sampling among stratas (msme type and states.ut)

| Region | Micro | Small | Medium | Total |
|------------------|------------|-----------|----------|------------|
| Haryana | 164 | 11 | 1 | 176 |
| Himachal Pradesh | 24 | 1 | 0 | 25 |
| Punjab | 164 | 11 | 1 | 176 |
| Chandigarh | 7 | 1 | 0 | 8 |
| Total | 359 | 24 | 2 | 385 |

(Source: Author)

3.7. Sample selection for Banks Respondents

To ensure the reliability and representativeness of responses from bank officials who are directly involved in MSME financing, the sample size for banks was scientifically determined using Cochran's formula. This statistical method is widely used in social research to estimate an ideal sample size for a large population with a specific confidence level and margin of error. Applying Cochran's formula at a 95% confidence level and 5% margin of error for the total banking population of 6,452 employees across four regions Haryana, Punjab, Himachal Pradesh, and Chandigarh the calculated sample size was 385 bank respondents.

Table 3.4: Total Population of Banks Among the selected states/ut

| Bank Name | Haryana | Himachal Pradesh | Punjab | Chandigarh | Total Population |
|-----------------------------------|----------------|-------------------------|---------------|-------------------|-------------------------|
| State Bank of India (SBI) | 783 | 427 | 1180 | 110 | 2500 |
| SIDBI | 7 | 1 | 5 | 1 | 14 |
| Union Bank of India | 200 | 40 | 200 | 10 | 450 |
| Punjab National Bank (PNB) | 300 | 80 | 450 | 20 | 570 |
| Bank of Baroda | 150 | 23 | 159 | 15 | 347 |
| HDFC Bank | 536 | 112 | 617 | 12 | 1277 |
| Axis Bank | 398 | 33 | 250 | 40 | 721 |
| ICICI Bank | 300 | 30 | 300 | 20 | 650 |
| Total Population | 2518 | 723 | 2998 | 213 | 6529 |

(Source: RBI, 2022)

To make this sample reflective of the actual distribution of the bank staff population, a proportionate stratified sampling technique was applied. This technique helped divide the sample fairly across the four states and Union Territory based on their share in the total bank employee population relevant to MSME operations. The proportionate allocation based on population was as follows: Punjab, with 2,998 employees, contributed the highest share (approximately 46.45%, equal to 179 respondents); Haryana, with 2,518 employees, contributed 39.03% (or 150 respondents); Himachal Pradesh, with 723 employees, contributed 11.21% (or 43 respondents); and Chandigarh, with 213 employees, contributed 3.30% (or 13 respondents). This ensured that each state or territory was adequately and fairly represented in the sample.

Further stratification was done at the bank level, ensuring that the seven key institutions State Bank of India (SBI), SIDBI, Union Bank of India, Punjab National Bank (PNB), HDFC Bank, Axis Bank, and ICICI Bank were all covered. The number of respondents from each bank in a particular region was selected in proportion to the bank's presence and number of employees engaged in MSME financing in that state. For example, Punjab's high representation included a balanced mix of both public and private sector banks like SBI, PNB, HDFC, and ICICI. Likewise, SIDBI,

although having a smaller number of employees, was included equally from all four regions to ensure its specialized role in MSME support was captured.

This multi-stage, proportionate stratified sampling method ensured that the sample was not only statistically valid but also practically representative of the banking environment that MSMEs deal with. It allowed for a comprehensive view of the challenges and experiences from both larger public sector banks and smaller development or private banks, providing valuable insights into the institutional side of MSME financing.

3.8. Sample size

The sample size for this study was initially determined using Cochran's formula, which is commonly used in research to calculate sample sizes for large populations. Given the total MSME population of 620,955 across Haryana, Punjab, Himachal Pradesh, and Chandigarh, and assuming a 95% confidence level with a 5% margin of error, the calculated sample size was 385 respondents.

$$n_0 = \frac{Z^2 \cdot p \cdot q}{e^2}$$

Where:

- $Z = 1.96$ (for 95% confidence level)
- $p = 0.5, q = 1 - p = 0.5$
- $e = 0.05$ (margin of error)

This yielded a **sample size of 385 MSMEs**.

This provided a statistically sufficient base to draw general conclusions. However, when the sample was divided using proportionate stratified sampling across both regions and MSME types (Micro, Small, and Medium), it became evident that the number of small and medium enterprises selected, particularly in Himachal Pradesh and Chandigarh, was disproportionately low. These regions, due to their smaller population sizes, contributed fewer small and medium enterprises in the proportionate method, which risked underrepresenting their perspectives in the study. To address this issue and make the research findings more comprehensive and inclusive, the total sample size was increased from 385 to 455 respondents. This adjustment was made deliberately to ensure that all regions and all types of MSMEs not just micro enterprises received meaningful representation. Special attention was given to small and medium enterprises in regions like

Himachal Pradesh and Chandigarh, where their original share was too low for robust analysis. The increase in sample size helped in obtaining a balanced dataset that reflects the diversity within the MSME ecosystem more accurately. This careful adjustment also strengthened the analytical value of the study, especially for statistical tools like paired sample t-tests and exploratory factor analysis, which require sufficient observations across groups. By extending the sample size beyond the minimum required, the study enhances its depth, improves the quality of comparisons, and ensures that the voices of smaller subgroups within the MSME sector are equally captured in the findings.

Table 3.5: Final Sample size of the MSME respondents

| Region | Micro | Small | Medium | Total |
|-------------------------|--------------|--------------|---------------|--------------|
| Haryana | 164 | 25 | 5 | 194 |
| Himachal Pradesh | 30 | 12 | 2 | 44 |
| Punjab | 164 | 25 | 5 | 194 |
| Chandigarh | 15 | 7 | 2 | 23 |
| Total | 373 | 68 | 14 | 455 |

(Source: Author)

3.9. Sample Size for Banks Respondents

The initial sample size for bank respondents was determined using Cochran’s formula, which is widely accepted in research for calculating appropriate sample sizes when dealing with large populations. Considering a total population of 6,452 bank employees involved in MSME financing across Haryana, Punjab, Himachal Pradesh, and Chandigarh, and applying a 95% confidence level with a 5% margin of error, the statistically valid sample size calculated was 385. This size provided a good balance between accuracy and feasibility for primary data collection. However, during the application of the proportionate stratified sampling technique, a few important concerns emerged.

Firstly, the proportionate allocation gave very limited representation to Chandigarh and Himachal Pradesh, as their share in the total banking population was relatively small. While this was statistically justifiable, it posed a risk of underrepresenting important regional perspectives,

especially since banking conditions and challenges vary by state. Secondly, and more critically, the sampling process excluded SIDBI (Small Industries Development Bank of India) in some states due to its comparatively small presence in terms of employee count. This was problematic because SIDBI plays a central and specialized role in MSME financing, and its insights are crucial for a well-rounded analysis.

Table 3.6: Proportionate based sample size among banks

| State/UT | SBI | SIDBI | Union Bank | PNB | HDFC | Axis Bank | ICICI | Total |
|-------------------------|------------|----------|------------|-----------|-----------|-----------|-----------|------------|
| Haryana | 47 | 0 | 12 | 18 | 32 | 24 | 18 | 150 |
| Himachal Pradesh | 25 | 0 | 2 | 5 | 7 | 2 | 2 | 43 |
| Punjab | 70 | 0 | 12 | 27 | 37 | 15 | 18 | 179 |
| Chandigarh | 7 | 0 | 1 | 1 | 1 | 2 | 1 | 13 |
| Total | 149 | 0 | 27 | 51 | 77 | 43 | 39 | 385 |

(Source: Author)

To address these issues and ensure better geographic and institutional representation, the sample size was increased from 385 to 455. This adjustment allowed the inclusion of adequate respondents from smaller states like Himachal Pradesh and Chandigarh and ensured that SIDBI was proportionally included across all regions despite its lower population. The increase not only enhanced the representativeness and richness of the data, but also helped in capturing diverse institutional experiences related to MSME financing across public sector, private sector, and development banks. This thoughtful expansion of the sample added depth and credibility to the study's findings while still maintaining methodological soundness.

Table 3.7: Final Sample Size among bank respondents

| State/UT | SBI | SIDBI | Union Bank | PNB | HDFC | Axis Bank | ICICI | Total |
|------------------|------------|----------|------------|-----------|-----------|-----------|-----------|------------|
| Haryana | 47 | 1 | 20 | 18 | 32 | 24 | 18 | 160 |
| Himachal Pradesh | 25 | 1 | 10 | 10 | 10 | 10 | 5 | 71 |
| Punjab | 70 | 1 | 20 | 27 | 37 | 15 | 18 | 188 |
| Chandigarh | 10 | 1 | 5 | 5 | 5 | 5 | 5 | 36 |
| Total | 152 | 4 | 55 | 60 | 84 | 54 | 46 | 455 |

(Source: Author)

3.10. Data and data collection

The data for this study was collected from two key groups: MSME owners or senior-level managers, and senior bank officials who are directly involved in processing and managing loan applications of MSMEs. The purpose was to gather detailed insights from both sides those who receive institutional financial support and those who provide it. For MSMEs, data was collected primarily to understand their demographic profile and to evaluate their performance before and after receiving financial assistance from banks. On the other hand, bank officials were approached to understand the institutional perspective, including the common challenges and constraints they face while dealing with MSME loan cases. The tool used for data collection was a structured questionnaire, which was carefully designed to cover all relevant areas of the study. The questionnaire had three major sections. The first section focused on capturing the demographic details of the MSME respondents such as the type of enterprise (micro, small, or medium), years in operation, sector, ownership type, and education or experience of the owner or manager. The second section contained a set of statements measured on a 5-point Likert scale, where '1' stood for Strongly Disagree and '5' for Strongly Agree. These statements aimed to assess the performance of MSMEs before and after accessing financial support from banks. It included aspects like growth in sales, profit, employment, expansion capacity, inventory, and market access. This helped in capturing the perceived impact of financing over time. The third section of the questionnaire was designed to understand the constraints and challenges faced during the financing process. This section was administered to both MSME respondents and bank employees, and also

used a 5-point Likert scale to record responses. The statements in this section covered issues such as documentation problems, collateral demands, delay in processing, lack of awareness, and communication gaps between banks and entrepreneurs. Collecting responses from both MSMEs and bank officials added a 360-degree view to the research, making the findings more reliable and meaningful. The questionnaire was pre-tested before full deployment to ensure clarity, simplicity, and relevance of the items. This helped in improving the quality of the data collected and ensured that respondents could easily understand and respond to the questions. Overall, the primary data collected through this method served as the foundation for analyzing the relationship between financial support and MSME development, as well as identifying the institutional bottlenecks that need to be addressed for smoother credit delivery.

In this study, perceived performance was measured using a set of structured Likert-scale statements included in Part II of the questionnaire. Respondents were asked to rate their level of agreement on a five-point scale for various performance-related aspects for two time periods **before** and **after** accessing bank finance. These aspects included working capital adequacy, cash flow stability, revenue growth, cost efficiency, inventory management, employment capacity, market expansion, repayment ability, technological upgradation, profitability, and business continuity.

The use of perceived performance measures is appropriate in the MSME context, as many small enterprises do not maintain fully audited or standardized financial records, and owner-managers' assessments provide valuable insights into actual business conditions and improvements over time. The paired responses collected for the two periods enabled a direct comparison of perceived performance changes attributable to institutional financial support, thereby directly addressing Objective 2 of the study.

3.11.

QUESTIONNAIRE

Dear Respondent,

I am conducting this research as part of my academic thesis to explore the role of institutional financial support in the development of Micro, Small, and Medium Enterprises (MSMEs), with special reference to their performance, challenges, and future prospects. The study focuses on MSMEs operating in the regions of Punjab, Haryana, Himachal Pradesh, and the Union Territory of Chandigarh. Your participation is essential for the success of this research. The information you provide will contribute significantly to understanding how financial institutions impact the functioning and growth of MSMEs and the constraints experienced by both MSME owners and banking personnel in the financial assistance process. Please be assured that all responses will be kept strictly confidential and used solely for academic purposes. Your identity will not be disclosed in any form, and data will be analyzed in aggregate only. I kindly request you to answer the questions honestly based on your knowledge and experience.

Thank you for your time and valuable contribution.

Part-I

Personal & Entrepreneurial Background

1. Age of the MSME owner:
 - Below 25
 - 25-34
 - 35-44
 - 45-54
 - 55 and above
2. Gender:
 - Male
 - Female
 - Other / Prefer not to say
3. Caste/Community (optional, for social inclusion analysis):
 - General
 - OBC
 - SC
 - ST

- Minority community
 - Prefer not to disclose
4. Highest Educational Qualification of Owner/Founder:
- No formal education
 - Primary (Grade 1-5)
 - Secondary (Grade 6-10)
 - Senior Secondary (Grade 11-12)
 - Diploma/ITI
 - Graduate (BA/BCom/BSc/etc.)
 - Postgraduate (MA/MBA/MTech/etc.)
 - PhD or higher
5. Prior business experience before starting this MSME?
- No
 - Yes (please specify number of years: _____)
6. Primary motivation to start this business:
- Unemployment or lack of other options
 - Business opportunity identified
 - Family tradition
 - Passion or personal interest
 - Other (specify): _____

Enterprise Characteristics

7. Name of the business (optional): _____
8. Location:
- District: _____
 - State: [] Punjab [] Haryana [] Himachal Pradesh [] Chandigarh
9. Business sector:
- Manufacturing
 - Trading/Wholesale/Retail
 - Services (IT, Education, Travel, etc.)
 - Agriculture/Agro-processing
 - Other (please specify): _____

10. Year of establishment: _____

11. Legal structure of the business:

- Sole proprietorship
- Partnership/LLP
- Private Limited Company
- Cooperative Society
- Other (specify): _____

12. Business registration completed under: (select all that apply)

- Udyam portal (MSME registration)
- GST registration
- Shops and Establishment Act
- FSSAI / IEC / others (please list): _____
- Not registered

13. Type of MSME classification (as per latest MSME norms):

- Micro
- Small
- Medium

14. Annual Turnover (last financial year):

- Below ₹5 lakhs
- ₹5-10 lakhs
- ₹10-50 lakhs
- ₹50 lakhs - ₹1 crore
- ₹1-5 crore
- Above ₹5 crore

15. Number of full-time employees currently working:

- 1-5
- 6-10
- 11-25
- 26-50
- More than 50

16. Gender ratio of employees:

- Approx. ___% Male
- Approx. ___% Female

Ecosystem and Infrastructure

17. Where is your business located?

- Urban area
- Semi-urban
- Rural

18. Do you operate from:

- Own premises
- Rented premises
- Home-based enterprise
- Temporary/shared space

19. Does your business have access to the following infrastructure? (Select all that apply)

- Reliable electricity
- Internet/ broadband
- Storage/warehouse
- Transport/logistics support
- Banking facilities nearby

20. Do you use digital tools in your business operations?

- No
- Yes - for record-keeping/accounts
- Yes - for sales/marketing (e.g., WhatsApp, Instagram)
- Yes - for receiving payments (UPI, Paytm, etc.)

Financial Inclusion and Networking

21. Do you have a separate bank account for your business?

- Yes
- No

22. Sources of business financing used so far (tick all that apply):

- Personal savings
- Family and friends
- Bank loan

- Government scheme (e.g., MUDRA, PMEGP)
- Microfinance institution/SHG
- NBFC
- Angel investor or VC
- Other (please specify): _____

23. Have you availed any government MSME schemes?

- No
- Yes (please specify the scheme(s): _____)

24. Are you part of any MSME association, chamber of commerce, or cooperative network?

- Yes (name: _____)
- No

25. Have you received any business training or entrepreneurship support?

- No
- Yes - through government
- Yes - through NGO or private program

| Statements | Likert Scale (Tick One) |
|---|--|
| 1. I believe my age positively influenced the bank's willingness to approve my loan application. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 2. I feel that being male/female/other affected my treatment during the loan process. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 3. My caste/community background impacted how seriously the bank staff handled my loan request. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 4. My educational qualification helped me in understanding and completing the loan application process. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 5. My years of business experience gave me an advantage in loan processing and approval. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 6. The type of sector helped me get better terms and faster approvals. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| Having more employees improved my chances of receiving financial assistance. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 8. My location (urban/rural/semi-urban) influenced the loan approval chances. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| My annual turnover was a key factor in receiving better loan terms (amount, rate, or tenure). | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| The type of business I operate (Micro, Small, Midium) influenced the bank's perception of my creditworthiness. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| Owning the business premises gave me an advantage during the loan sanctioning process. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| My business's legal structure (sole proprietorship, partnership, private limited, etc.) affected the ease of accessing finance. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |

PART-II

| S.No | Statement | Before Finance | After Finance |
|------|--|---|---|
| 1 | My business had adequate working capital | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 2 | I was able to maintain steady cash flow | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 3 | My revenue was growing consistently | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 4 | I was able to manage operating costs efficiently | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 5 | I had timely access to raw materials/inventory | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 6 | I was able to pay wages/salaries on time | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 7 | My customer base was expanding | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 8 | My business was able to meet market demand | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 9 | I was investing in product or process innovation | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 10 | I had the capacity to accept large orders | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 11 | I had sufficient skilled manpower | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 12 | My repayment capability towards debts/loans was strong | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 13 | I had proper accounting and financial records | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 14 | I was able to upgrade machinery/technology | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 15 | My supply chain was stable and well-managed | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |

| | | | |
|-----------|---|---|---|
| 16 | My overall profitability was satisfactory | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 17 | I had confidence in my business continuity | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 18 | My access to new markets (domestic/international) was strong | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 19 | I had proper business planning and budgeting | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 20 | My business was compliant with statutory/legal obligations | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |

PART-III
MSME Respondents

| S.No | Statement | Likert Scale (Tick One) |
|------|--|--|
| 1 | Bank loan procedures are complicated and time-consuming. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 2 | Collateral requirements are too rigid and difficult to meet. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 3 | Lack of financial literacy hinders my ability to deal with bank processes effectively. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 4 | The documentation required for applying for financial assistance is excessive. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 5 | Delays in loan disbursement affect my business operations significantly. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 6 | Lack of guidance from bank staff creates confusion in the loan application process. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 7 | High interest rates are a burden on the financial viability of my business. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 8 | Inadequate loan amount sanctioned restricts growth and expansion of the business. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 9 | Limited awareness about government schemes affects my ability to avail financial benefits. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 10 | Frequent bank visits and follow-ups increase indirect costs of availing loans. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |

Bank Officials

| S.No | Statement | Likert Scale (Tick One) |
|------|---|---|
| 1 | MSMEs lack proper documentation and audited financials for loan evaluation. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 2 | It is difficult to assess the creditworthiness of MSMEs due to lack of reliable data. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 3 | MSME borrowers often lack awareness of available schemes and formal procedures. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 4 | Loan monitoring and follow-up with MSME borrowers require high operational effort. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 5 | NPAs (non-performing assets) from MSME loans are a major concern for the bank. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 6 | Lack of proper project reports from MSMEs hampers credit appraisal. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 7 | Limited manpower in branches affects timely processing of MSME loan applications. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 8 | Technology-related issues and lack of digitization from MSME side delay application processing. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 9 | Government-imposed priority sector targets create undue pressure on MSME lending. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |
| 10 | Communication gaps between MSMEs and bank staff lead to misunderstandings in the loan process. | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 |

3.12. Estimation Techniques and Statistical analyses

3.12.1. Pre-estimation Tests

3.12.1.1. Reliability Test

Before conducting detailed statistical analyses, it was essential to ensure the reliability of the measurement instrument used in the study. To achieve this, a reliability test was performed using Cronbach's Alpha, which is a widely accepted method to assess the internal consistency of a set of items in a questionnaire. The reliability test was applied across the statements included in the second and third sections of the questionnaire those measuring MSME performance (before and after financial assistance) and the constraints faced by MSMEs and banks.

The calculated value of Cronbach's Alpha was 0.783, which indicates a moderately high level of internal consistency. According to conventional benchmarks, a Cronbach's Alpha value:

- Above 0.7 is generally considered acceptable,
- Above 0.8 is regarded as good,
- And values between 0.7 to 0.8, as in this case, are viewed as satisfactory and sufficient for social science research.

Thus, the obtained value of 0.783 confirms that the questionnaire is reliable, meaning that the responses to the Likert scale statements are consistent and dependable across different respondents. This reliability gives confidence that the constructs (such as performance improvement and constraint identification) are being measured in a stable and uniform manner.

Furthermore, this reliability score justifies the use of the data for advanced statistical techniques, such as descriptive statistics, paired sample t-tests, Exploratory Factor Analysis (EFA), and content analysis. The reliability level supports the integrity of the scale and implies that any patterns, insights, or relationships drawn from the data are based on consistent and sound measurement.

In conclusion, the reliability score of 0.783 is both statistically acceptable and practically adequate, particularly in the context of empirical research in business and finance involving human responses. Therefore, the study confidently proceeds with the main analytical procedures, assured

that the data is robust enough to yield meaningful and valid insights regarding institutional financial support and its impact on the performance and development of MSMEs.

3.12.1.2. Normality Test

To ensure the appropriateness of applying parametric tests like the paired sample t-test, it was important to assess whether the data followed a normal distribution. For this purpose, multiple approaches were used. First, visual inspections were carried out using histograms and Q-Q plots, which showed that the distribution of responses for key variables (such as MSME performance indicators before and after financial assistance) closely followed a bell-shaped curve. Additionally, descriptive statistics revealed that the values for skewness and kurtosis fell within the acceptable range of ± 1 , which further supports the assumption of normality. Moreover, the sample size of 455 respondents adds statistical strength to the normality assumption under the Central Limit Theorem, which states that for samples larger than 30, the sampling distribution of the mean approach's normality even if the population distribution is not perfectly normal. Together, these evidences visual patterns, skewness-kurtosis range, and the large sample size strongly indicate that the data used in the study was normally distributed. This supports the validity of using parametric tests like the paired t-test for performance comparison and other inferential techniques. Hence, the analyses conducted can be considered both statistically sound and methodologically appropriate.

3.13. Estimation Techniques

3.13.1. Descriptive Statistics: The first estimation technique employed in this study focused on analyzing the demographic profile of MSME owners, which is a vital part of understanding the structure and background of the enterprises under study. To accomplish this, Power BI, a powerful data visualization and business intelligence tool, was used to generate pattern charts, interactive dashboards, and tables. These visual tools made it easier to identify and interpret trends across various demographic variables such as age, gender, educational background, years of experience, nature of ownership, and sector of operation. By using frequency and percentage distributions, Power BI helped uncover the concentration and diversity of different demographic groups within the MSME landscape. For example, the graphical patterns made it clear which age group dominates the MSME sector, or what proportion of owners hold technical or business-related educational qualifications. This visual and statistical breakdown not only added clarity to the raw

data but also supported more intuitive understanding of demographic tendencies, thereby setting a solid foundation for deeper analysis in later stages of the research. The use of Power BI enhanced the precision and accessibility of demographic insights, which are crucial for framing practical policy recommendations and understanding the human element behind MSME operations.

3.13.2. Paired Sample T test: The second estimation technique employed in this study was the paired sample t-test, a statistical method specifically suited to compare two related sets of data in this case, the performance of MSMEs before and after availing financial assistance from banks. This test was selected because it effectively measures whether there is a statistically significant difference in the same group's performance over two time periods. In the context of this research, various performance indicators such as revenue growth, employee strength, production capacity, customer base, and inventory levels were rated by the MSME owners on a five-point Likert scale for both before and after the financial assistance. The responses were collected in such a way that each MSME unit reported their situation on the same set of performance indicators for the two periods.

By applying the paired t-test, the study aimed to identify whether the financial support received from the banks led to measurable improvements in these key performance areas. The results provided quantitative evidence of progress, highlighting where the financing had the most impact and where the changes were less significant. This method added credibility to the study by moving beyond perceptions and allowing for an objective comparison based on data. The use of the paired sample t-test thus played a crucial role in assessing the effectiveness of institutional financial assistance and provided meaningful insights into how access to funds contributes to the economic development of MSMEs.

3.13.3. Exponential Factor Analyses: The third estimation technique adopted in this study was Exploratory Factor Analysis (EFA), which was applied to uncover the underlying factors or patterns behind the major constraints faced by MSME units in accessing and managing financial assistance from banks. EFA is a widely used statistical method in social science research, particularly useful when the goal is to identify hidden structures or groupings among multiple observed variables. In this study, MSME owners and bank officials were both presented with a set of Likert scale statements related to various possible challenges such as procedural delays, high collateral requirements, lack of awareness, documentation issues, communication gaps, and

regulatory complexities. While these statements reflected diverse and specific constraints, EFA helped in systematically analyzing the data to reduce it into a smaller number of interpretable factors that represent core problem areas.

The use of EFA was highly relevant because constraints in financial access are often interrelated and multidimensional they do not act in isolation. By extracting dominant factors through EFA, the study was able to categorize the challenges into broader themes such as administrative barriers, institutional inefficiencies, informational gaps, and procedural complexities. These categorized constraints made it easier to understand not just what problems exist, but also how they are connected and where intervention is needed most. The results from EFA provided valuable insights that strengthened the policy recommendations section of the research, as the findings highlighted the most impactful areas that require attention for improving the MSME financial ecosystem. Overall, EFA proved to be an essential tool in revealing the structural constraints affecting MSME growth and in framing a more focused response from financial institutions and policymakers.

3.13.4. Content Analyses: The fourth and final approach in the estimation process involved suggesting suitable remedies for the constraints identified during the study. After using Exploratory Factor Analysis (EFA) to highlight the major structural and operational challenges faced by MSMEs and banks, the next logical step was to propose realistic and actionable solutions. To do this effectively, the study referred to existing scholarly literature, government policy documents, financial institution guidelines, and policy brochures from national-level initiatives like Startup India, SIDBI's credit schemes, Atmanirbhar Bharat Abhiyan, and recommendations by bodies such as the RBI, World Bank, and MSME Ministry.

CHAPTER 4

EMPARICAL ANALYSES

OVERVIEW

The chapter titled "Empirical Analyses" presents a comprehensive statistical exploration aimed at fulfilling the key research objectives concerning Micro, Small, and Medium Enterprises (MSMEs). It begins by examining the demographic profile of MSMEs, encompassing aspects such as size, sector, ownership structure, and geographic distribution, to establish a foundational understanding of the sample under study. This demographic analysis serves as the basis for evaluating the influence of these characteristics on access to and utilization of financial assistance. The chapter then proceeds to assess the performance of MSMEs before and after receiving financial support, employing appropriate statistical tools to measure changes in operational efficiency, revenue growth, employment generation, and overall sustainability. Following this, the study delves into the multifaceted challenges encountered by both financial institutions and MSMEs in the financing process, including procedural complexities, credit risk assessment limitations, collateral constraints, and information asymmetry. By integrating these dimensions, the chapter provides a coherent, data-driven narrative that not only captures the interlinkages between demographic factors and financial outcomes but also identifies systemic barriers affecting credit flow, thereby offering insights into areas requiring policy intervention and institutional support.

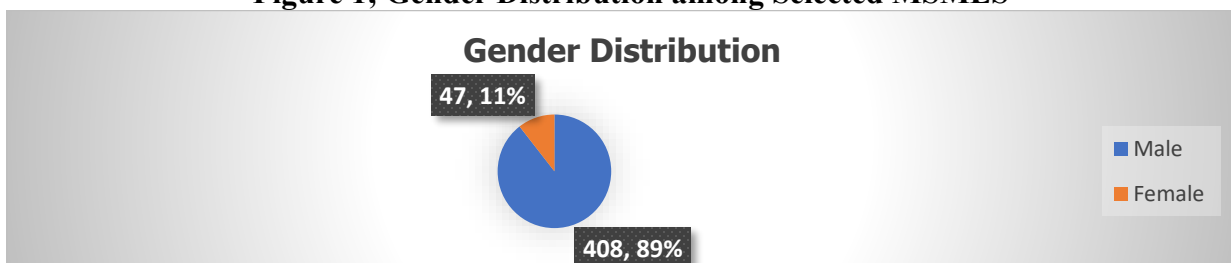
SECTION -1

Demographic Profile of MSME Owners

4.1. Gender Participation in MSME Ecosystem for selected sample

Gender participation in the MSME sector plays a pivotal role in fostering inclusive economic growth, enhancing social equity, and strengthening the entrepreneurial ecosystem of a nation. Through an analysis of the selected sample, reflected in the charts prepared, it becomes evident that both men and women contribute significantly to the development of the MSME sector, although their participation varies across different types of businesses. The data indicates that male entrepreneurs dominate sectors such as manufacturing and construction, while female entrepreneurs are more actively engaged in services, retail trade, food processing, and home-based industries. This division reflects both societal norms and opportunity structures that influence business choices among genders. Encouraging and supporting greater participation of women in MSMEs has far-reaching benefits not only does it contribute to poverty reduction and household income enhancement, but it also leads to more diverse, innovative, and resilient enterprises. Women-led MSMEs often reinvest profits into family welfare, education, and community development, generating a multiplier effect on the economy. Moreover, when gender diversity is embraced within entrepreneurship, it results in a more balanced distribution of economic power and drives inclusive policy formulation. The inclusion of women in traditionally male-dominated sectors, supported by targeted skill development, access to finance, and simplified regulatory frameworks, can further bridge the gender gap. The findings from the sample provide valuable insights into existing gender dynamics, revealing sectors with potential for further inclusion and highlighting the need for gender-sensitive financial products and support systems. By recognizing and promoting gender participation in MSMEs as a national priority, policymakers can unlock untapped human capital, stimulate job creation, and foster sustainable development. Thus, gender-balanced participation in MSMEs is not just a matter of equity it is a strategic imperative for national progress and economic resilience.

Figure 1; Gender Distribution among Selected MSMEs



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study.

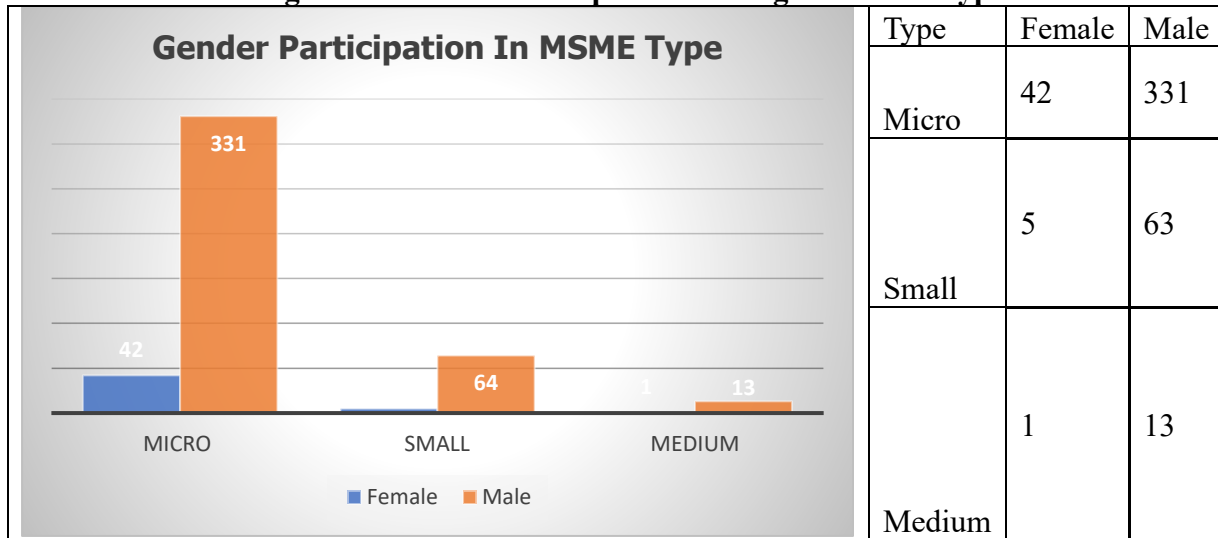
The demographic distribution of MSME owners in the present dataset points to a marked predominance of male entrepreneurs. Out of 455 respondents, 408 are male, representing approximately 89.5% of the total. This significant majority underscores the male-centric nature of enterprise ownership within the Indian MSME landscape. While it may reflect long-standing patterns of male entrepreneurship in the country, it also highlights the prevailing dominance of men in decision-making roles across this sector.

In contrast, only 47 respondents, or around 10.5%, are female. This comparatively low figure suggests that women remain underrepresented in the ownership and management of MSMEs. The limited participation of women may stem from a combination of factors, including restricted access to capital, societal expectations, insufficient mentorship, and a lack of enabling infrastructure to support women-led enterprises. These barriers, while systemic, are not insurmountable and point to the need for sustained efforts to foster a more balanced entrepreneurial environment.

This gender skew in ownership distribution brings into focus the critical role that policy intervention and institutional support can play in bridging the gap. Promoting financial literacy, simplifying regulatory frameworks, and enhancing access to credit for women entrepreneurs are some of the pathways through which participation can be broadened. Additionally, cultivating inclusive networks and providing targeted training can help equip women with the tools necessary to engage confidently in enterprise development.

The data, though indicative of an existing imbalance, also presents an opportunity. As MSMEs continue to be engines of economic growth and employment in India, diversifying the ownership base by encouraging more women into the fold could yield not only social benefits but also enhance the sector's overall resilience and innovation capacity. Recognizing the contribution of women and actively investing in their potential is essential for a holistic and sustainable development trajectory within the Indian MSME ecosystem.

Figure 2: Gender Participation Through Business Type



Note: *Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study.*

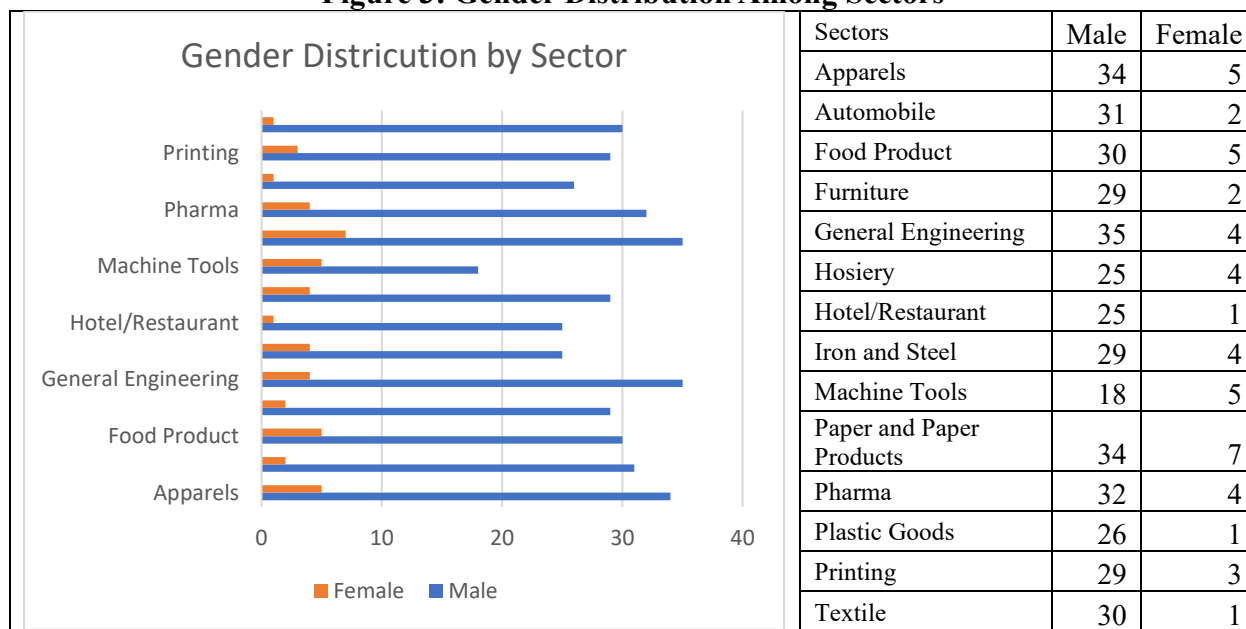
A deeper look into the gender-wise distribution across different categories of MSMEs Micro, Small, and Medium reveals further insights into the structural dynamics of enterprise ownership in India. Within the Micro enterprise segment, which constitutes the majority of the MSME ecosystem, male ownership remains overwhelmingly dominant. Out of a total of 373 micro enterprises in the sample, 331 are owned by men, while only 42 are owned by women. This pattern aligns with broader national trends, where micro enterprises often serve as the entry point into entrepreneurship. Despite lower entry barriers, the limited representation of women even in this category points to persistent gender-related constraints, such as access to credit, societal perceptions, and time burdens from unpaid care responsibilities.

The disparity becomes more pronounced in the Small enterprise category. Of the 69 small businesses represented, 63 are owned by men, whereas only 5 are owned by women. This sharp drop in female participation suggests that as enterprises scale up, gender-based entry barriers become even more pronounced. This could be attributed to the increased capital requirements, greater regulatory compliance, and more complex market interactions that come with operating a small-scale business areas where women may face disproportionate challenges due to limited institutional and social support.

In the Medium enterprise segment, the representation is even more skewed. Out of 14 medium-sized businesses in the dataset, 13 are owned by men and only one by a woman. While the sample

size is relatively small, the trend is consistent: as enterprises grow in size and complexity, female participation dwindles further. This points to a systemic lack of pathways and support mechanisms enabling women to scale their businesses beyond the micro level. The data paints a clear picture of underrepresentation of women across all scales of enterprise, with the gap widening as one moves from micro to medium categories. This progression highlights the need for targeted interventions that not only support women at the startup stage but also help them grow and sustain larger enterprises. Tailored financial products, capacity-building programs, and mentorship initiatives can play a pivotal role in addressing these disparities. Additionally, promoting visibility of successful women-led enterprises can serve as a source of inspiration and encouragement for aspiring female entrepreneurs.

Figure 3: Gender Distribution Among Sectors



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study.

The sector-wise distribution of MSME ownership within the selected sample reveals a clear predominance of male ownership across all observed industries. Among the fourteen sectors represented, male entrepreneurs consistently outnumber their female counterparts, indicating a significant gender disparity in enterprise leadership within this specific dataset.

Sectors such as General Engineering and Paper and Paper Products record the highest number of male owners at 35 each, while female representation in these sectors is comparatively limited, with

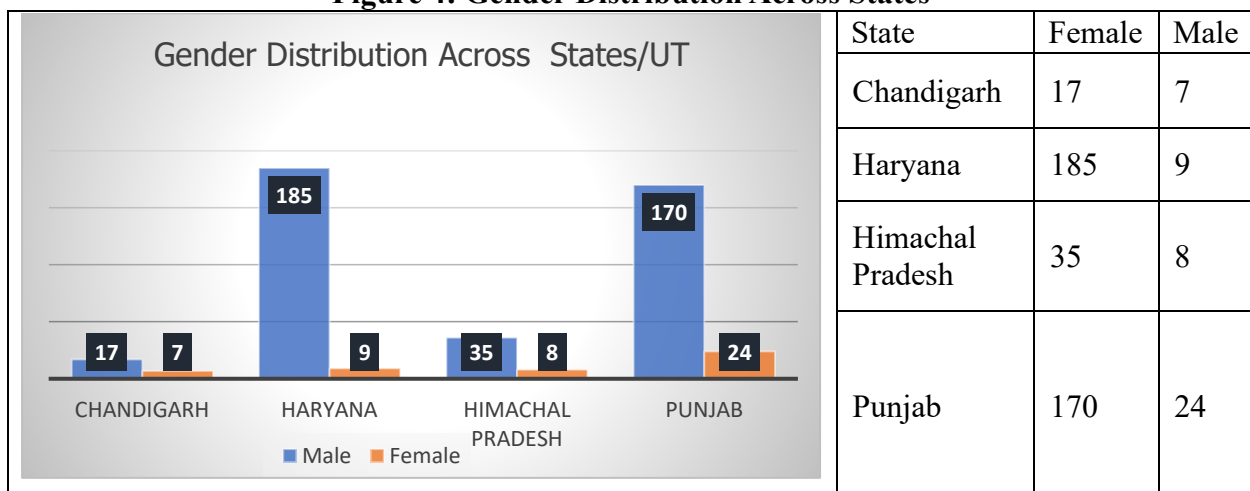
four and seven owners respectively. Although female ownership in the Paper and Paper Products sector is the highest among all sectors in the sample, it remains notably lower than male participation.

Machine Tools and Food Products each include five female entrepreneurs, marking the upper range of female representation in the sample. These are followed closely by sectors such as Apparel and Pharma, each with four to five female owners. While male ownership remains dominant in these industries, the presence of women though limited suggests a degree of diversity within the sample.

Other sectors such as Textile, Hotel/Restaurant, and Plastic Goods exhibit minimal female participation, with just one-woman entrepreneur recorded in each. These figures reflect the lowest levels of female ownership within the sample. Similarly, sectors like Printing, Furniture, and Automobile show a modest presence of female entrepreneurs, ranging between two and three.

Overall, the data from the selected sample highlights a consistent pattern of male dominance across all sectors, with female participation remaining low but present in each. While variations exist in the extent of gender distribution across industries, the overall trend suggests that male entrepreneurs constitute the majority of MSME owners in the given dataset. This distribution offers valuable insight into sectoral patterns of ownership within the sample, which can inform further exploration into the factors influencing participation rates across different industries.

Figure 4: Gender Distribution Across States



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study.

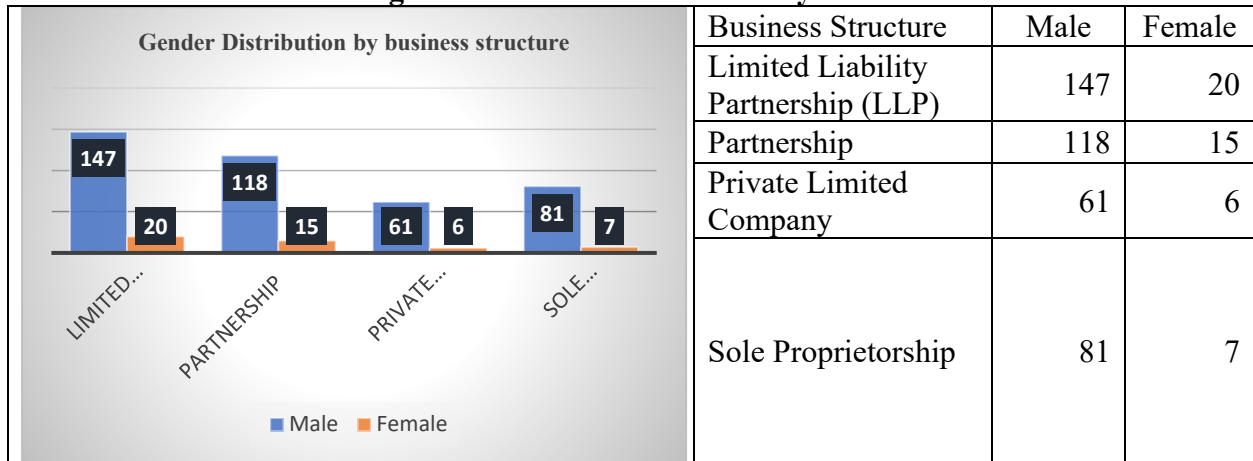
The chart titled “Gender Distribution Across States/UT” captures the pattern of male and female participation in MSMEs across four northern Indian states: Haryana, Punjab, Himachal Pradesh, and Chandigarh. Contrary to commonly observed trends, the data from the selected sample reflects a notable reversal in gender distribution, with female entrepreneurs outnumbering male entrepreneurs in all four regions.

Haryana reports the highest female participation, with 185 women owning MSMEs compared to only 9 male counterparts. This considerable difference positions Haryana as a leading contributor to female-led enterprise ownership within the sample. Punjab follows closely, recording 170 female and 24 male entrepreneurs. While male participation is somewhat higher here than in Haryana, the dominance of female entrepreneurs remains consistent, suggesting a strong presence of women in the state's MSME sector.

In Himachal Pradesh, 35 women are engaged in MSME ownership, with only 8 male entrepreneurs, continuing the pattern of female-led business activity within the dataset. Chandigarh, though smaller in scale, reflects a similar trend, with 17 female and 7 male owners. Despite the limited absolute numbers, the proportion of women remains notably higher.

This distribution stands in contrast to traditional gender participation models and suggests unique dynamics within the selected sample. The data underscores the significance of region-specific insights in understanding gender representation in entrepreneurship. While broader structural and societal challenges may still exist, the observed trend highlights areas where women have made notable inroads into enterprise ownership, offering potential for further research into the enabling conditions within these regions.

Figure 5: Gender Distribution by sector



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study.

The chart titled “Gender Distribution Across Business Structures” illustrates the representation of male and female entrepreneurs across four key forms of MSME ownership: Limited Liability Partnership (LLP), Partnership, Private Limited Company, and Sole Proprietorship. The data reveals a consistent pattern of male dominance across all business structures within the selected sample, with female participation remaining significantly lower in each category.

Limited Liability Partnerships emerge as the most common business structure among male entrepreneurs, with 147 participants, followed by 118 in Partnerships. Female participation in these two structures, though present, remains limited to 20 and 15 respectively. These figures suggest that while women are engaging in more formalized and legally structured businesses, their involvement remains far behind that of their male counterparts.

Private Limited Companies show a similar trend, with 61 male and only 6 female owners. This disparity is particularly notable given the regulatory and financial sophistication often associated with this structure, indicating that women in the sample may face more constraints in accessing the resources or networks required to operate in such settings.

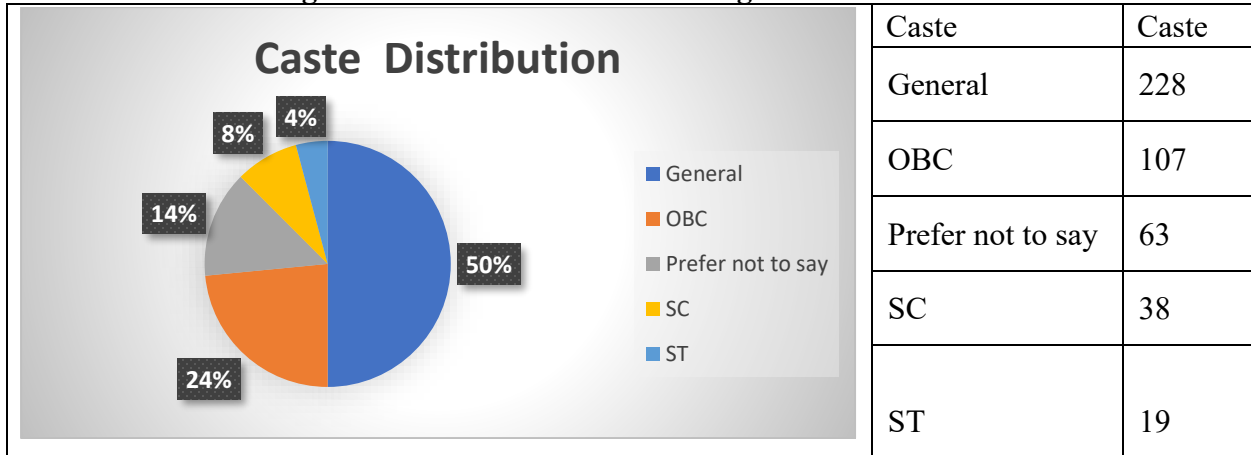
Sole Proprietorships, often considered more accessible due to fewer regulatory requirements, include 81 male and 7 female entrepreneurs. Despite the relatively lower entry barriers, male participation still far exceeds female ownership, suggesting that even in simpler business models, the gender gap persists. The distribution highlights a uniform pattern of underrepresentation of women across all business structures in the sample. While the presence of female entrepreneurs

across different models indicates a willingness to engage in diverse forms of business, the consistently low numbers point to existing barriers that limit their scale and scope of participation. These insights can inform targeted support mechanisms aimed at improving gender inclusivity across various forms of enterprise ownership.

4.2. Caste system in MSME Ecosystem for selected sample

The caste system, though constitutionally discouraged, continues to influence various aspects of India's socio-economic fabric, including the business environment. In the context of MSMEs, caste identity often shapes access to resources, financial assistance, market networks, and business opportunities. Entrepreneurs from historically disadvantaged communities such as Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), and minority groups may face systemic challenges such as limited social capital, reduced access to collateral for loans, or lower confidence due to historical exclusion. The caste-wise data from the current study reflects an encouraging level of participation across all groups, with ST entrepreneurs showing the highest representation, followed by OBCs and those preferring not to disclose their caste. This suggests that various government schemes aimed at promoting inclusive entrepreneurship like the Stand-Up India scheme or priority sector lending policies may be enabling greater participation from underrepresented groups. However, the 18% who chose not to disclose their caste might indicate the persistence of stigma or a desire to be treated equally in a competitive business landscape. The relatively balanced caste distribution in the sample shows progress toward social equity, yet also highlights the need for continued support and sensitization. Policies and initiatives that provide financial literacy, mentorship, and access to markets for marginalized caste groups are essential to ensuring that caste does not become a barrier to entrepreneurial success. A diverse caste composition in the business sector not only promotes social justice but also enhances economic resilience by drawing on the strengths, ideas, and experiences of varied communities.

Figure 6: Caste distribution among selected MSMEs



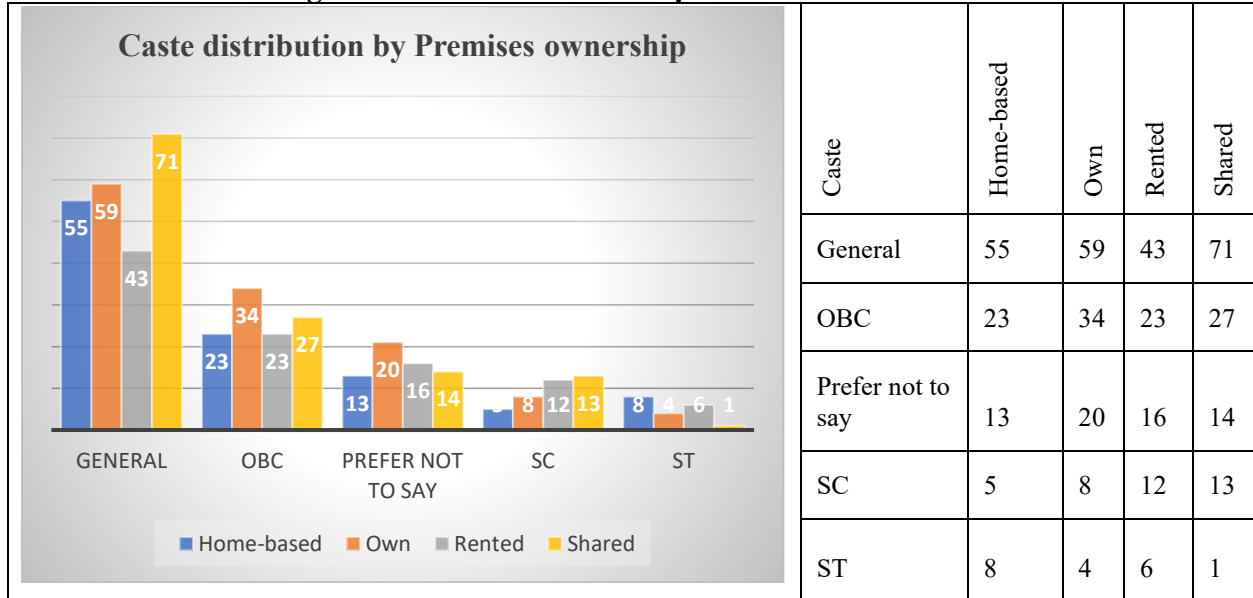
Note: *Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study.*

The caste-wise distribution of the sample reveals notable insights into social representation. The highest proportion of respondents belong to the General category, comprising 228 individuals, which accounts for approximately 50% of the total sample. This indicates that half of the participants come from a socially and historically more privileged group, reflecting their significant presence in the context studied. The Other Backward Classes (OBC) form the second-largest group with 107 respondents, representing about 23% of the sample. This suggests a considerable level of participation from communities that have historically faced moderate social and economic disadvantages.

Interestingly, 63 individuals, or roughly 14%, chose not to disclose their caste, highlighting a possible concern for privacy or a sensitivity around caste identification in professional or social settings. The Scheduled Castes (SC) are represented by 38 respondents, accounting for 8%, while the Scheduled Tribes (ST) comprise the smallest segment with 19 individuals, representing about 4% of the total. Despite their lower numbers, the presence of SC and ST participants indicates a degree of inclusivity and entrepreneurial engagement among historically marginalized communities. While skewed toward the General and OBC categories, reflects a moderate level of caste diversity. The relatively smaller proportions of SC and ST participants point to the continued need for targeted interventions and supportive policies to promote equitable participation. Additionally, the considerable number of respondents who opted not to disclose their caste signals a critical area for future inquiry into the role of identity in professional environments. These

findings can serve as a valuable input for policymakers and stakeholders aiming to ensure inclusive representation and equal opportunities across all caste groups.

Figure 7: Premises Ownership status based on caste



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study.

The distribution of workplace ownership across caste categories reveals significant patterns in terms of access to and type of workspaces. Among the General category, the majority operate from shared spaces (71), followed by those who own their workspace (59). A substantial number also work from home (55) or rented spaces (43), indicating relatively higher access to diverse workspace options within this group.

The OBC group shows a relatively balanced distribution across the four types of workspace arrangements. A notable number operate from owned spaces (34), followed by shared (27), home-based (23), and rented (23) workspaces, suggesting moderate access to both permanent and flexible workplace options.

Respondents who preferred not to disclose their caste also reflect a mixed distribution, with 20 operating from owned spaces, 16 from rented, 14 in shared settings, and 13 working from home. This balance across categories indicates general parity in workspace access within this group.

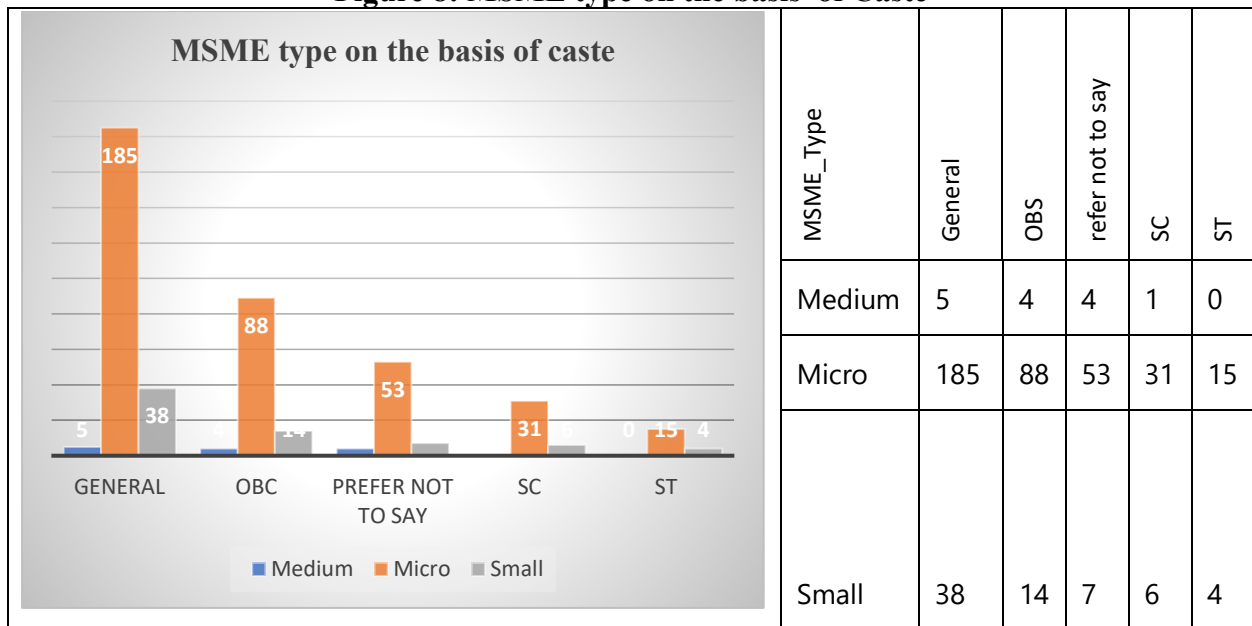
In contrast, the SC category reveals a distinct trend: the highest proportion (13) operate from shared spaces, followed by rented (12), owned (8), and home-based (5) work arrangements. This pattern

indicates a heavier reliance on shared or rented spaces, possibly reflecting economic constraints or limited property ownership.

The ST category presents a unique distribution with the highest number (8) working from home. Only 4 have their own workspaces, while 6 operate from rented premises, and just 1 from shared space. This suggests limited access to formal workspaces and possibly a preference or necessity for home-based operations, which could be attributed to geographic or financial limitations.

Overall, the data highlights disparities in workspace accessibility among caste groups. General and OBC respondents show greater access to owned and diverse workspace types, whereas SC and ST respondents are more dependent on shared or home-based arrangements. These findings underscore the need for targeted infrastructural support and financing options for historically disadvantaged groups to improve their access to stable and professional work environments.

Figure 8: MSME type on the basis of Caste



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study.

The distribution of MSME types across caste categories provides insights into the scale of business operations and the social background of entrepreneurs. A clear trend emerges, indicating that micro enterprises dominate across all caste groups, reflecting their accessibility and lower entry barriers. Within the General category, a significant majority (185) are engaged in micro enterprises, followed by 38 in small and only 5 in medium-scale enterprises. This distribution highlights a

strong preference or economic necessity for operating at a smaller scale, even among the most represented group.

Similarly, the OBC category exhibits a predominant involvement in micro enterprises, with 88 entrepreneurs, while only 14 are in small and 4 in medium enterprises. This suggests a similar pattern of limited transition from micro to larger-scale operations.

Among those who preferred not to disclose their caste, 53 operate micro enterprises, 7 are in small businesses, and 4 in medium. This group follows the overall trend, with minimal representation in larger MSME categories.

The SC category shows 31 micro enterprises, 6 small, and only 1 medium, underscoring a significant skew toward the micro segment. This could point to financial or infrastructural limitations that inhibit scaling operations.

The ST category has the least representation across all MSME types. Of the 19 respondents, 15 operate micro enterprises, 4 small, and none in medium. The complete absence in the medium enterprise segment may indicate systemic challenges such as limited access to credit, skill training, or market linkages. The data clearly reflects that micro enterprises are the foundation of MSME participation across all caste groups. However, the General and OBC categories have relatively higher representation in small and medium enterprises, suggesting slightly better access to resources and opportunities for scaling. The SC and ST groups remain concentrated in micro enterprises, pointing to the need for targeted policy interventions that support capacity building, funding access, and business development services for marginalized entrepreneurs.

Table 4.1: Industry Distribution between caste

| Industry | General | OBC | Prefer not to say | SC | ST |
|-------------------------------------|---------|-----|-------------------|----|----|
| Apparels | 20 | 7 | 6 | 5 | 1 |
| Automobile Implements Manufacturing | 21 | 5 | 2 | 5 | 1 |
| Food Product | 19 | 8 | 4 | 2 | 2 |
| Furniture | 13 | 10 | 4 | 2 | 2 |
| General Engineering | 17 | 7 | 6 | 4 | 5 |
| Hosiery | 15 | 5 | 4 | 3 | 2 |
| Hotel/Restaurant | 15 | 5 | 4 | 5 | 2 |
| Iron and Steel | 11 | 8 | 8 | 2 | 2 |
| Machine Tools | 7 | 8 | 5 | 2 | 1 |
| Paper and Paper Products | 24 | 9 | 5 | 3 | 1 |
| Pharma | 20 | 10 | 5 | 0 | 1 |
| Plastic Goods | 17 | 4 | 6 | 0 | 0 |
| Printing | 12 | 10 | 4 | 5 | 0 |
| Textile | 20 | 6 | 5 | 0 | 0 |

Note: The Findings in the given table are based on primary data filled by the respondents from MSMEs. The industry-wide distribution of entrepreneurs across caste groups reveals both diversity and concentration in specific sectors, reflecting socio-economic access and sectoral preferences within different communities.

The General category demonstrates the highest representation across almost all industries. Notable participation is seen in Paper and Paper Products (24), Automobile Implements Manufacturing (21), Pharmaceuticals (20), Textiles (20), and Apparels (20). This wide spread indicates a relatively higher capacity to engage in capital-intensive or structured sectors, possibly due to better access to capital, networks, and market information.

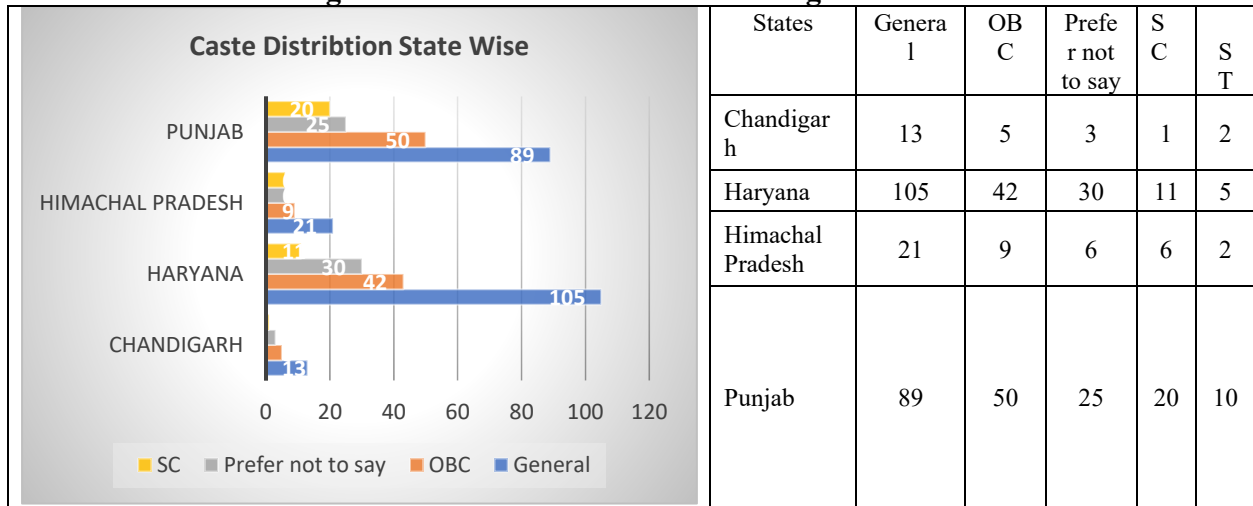
OBC entrepreneurs show moderate but consistent participation across industries, with relatively higher numbers in Pharmaceuticals (10), Printing (10), Furniture (10), and Paper Products (9). The presence in these sectors suggests a growing trend of diversification beyond traditional domains.

Respondents who preferred not to disclose their caste have notable representation in Iron and Steel (8) and moderate involvement across sectors like Apparels, Engineering, and Machine Tools. Their spread is balanced, indicating general inclusivity but also possibly highlighting sensitivities around caste disclosure in enterprise reporting.

The SC category reflects concentrated participation in Apparels (5), Hotel/Restaurant (5), and Printing (5), which are relatively accessible and lower-entry-barrier industries. This points toward existing socio-economic constraints that may limit entry into more capital- or skill-intensive industries such as Pharma or Machine Tools.

ST entrepreneurs, while showing the lowest representation overall, have a relatively noticeable presence in General Engineering (5) and minor representation across most other sectors. Their limited presence underscores persistent challenges in industrial entrepreneurship, such as lack of infrastructure, education, or financial support in tribal areas. The data highlights that while MSME entrepreneurship spans across various industries, there is a clear dominance of the General and OBC categories in capital and technology-intensive sectors, whereas SC and ST entrepreneurs are primarily involved in low-investment and traditional sectors. These insights point to the need for inclusive industrial policies that enhance access to resources, training, and credit for marginalized communities to expand their industrial footprint.

Figure 9: Distribution of Caste Among States/UT



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study

The state-wise distribution of MSME entrepreneurs across caste groups offers key insights into regional patterns of social participation in entrepreneurship. The data highlights variations in representation among different caste categories across Chandigarh, Haryana, Himachal Pradesh, and Punjab, indicating both social dynamics and state-level ecosystem effectiveness.

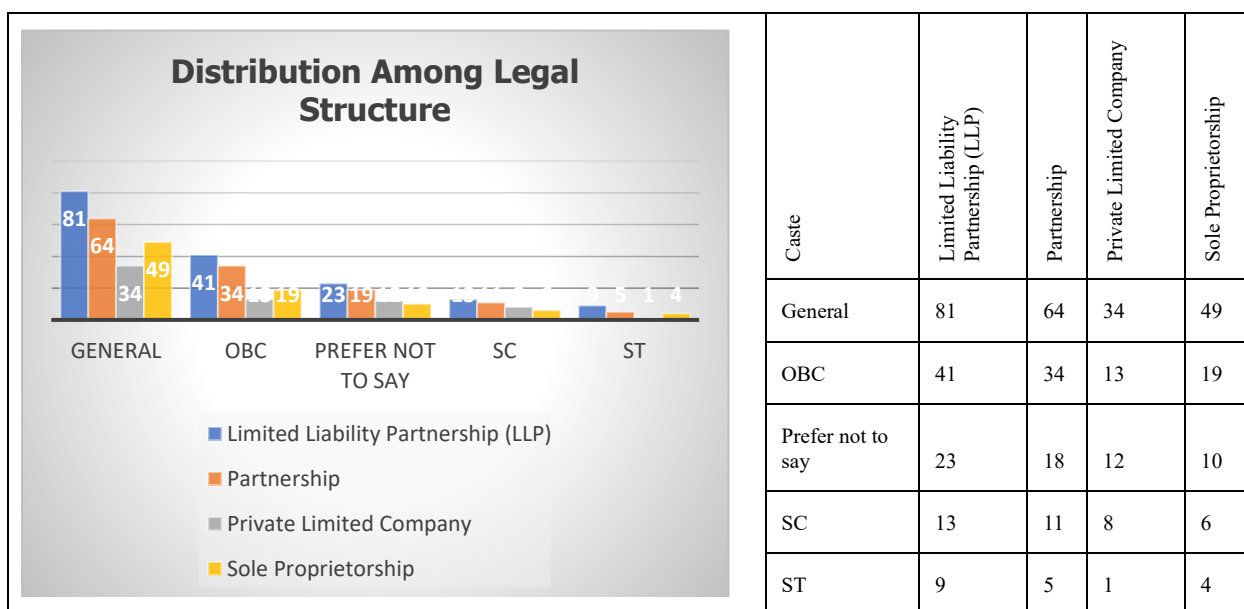
Haryana records the highest overall representation of entrepreneurs, particularly from the General category (105) and OBC category (42). A notable number also fall under the "Prefer not to say" group (30), while SC (11) and ST (5) figures are comparatively lower. This skew suggests that while Haryana offers a conducive business environment, participation from marginalized communities remains relatively limited, possibly due to systemic access issues or economic disparities. Punjab follows closely with strong representation from the General category (89) and the OBC category (50), indicating a socially mixed entrepreneurial landscape. Importantly, Punjab also shows relatively higher participation from SC (20) and ST (10) categories compared to the other states, suggesting more inclusive engagement in business activities. The state's stronger social welfare policies or targeted MSME support programs might be contributing factors.

In Himachal Pradesh, although the overall numbers are modest, the General (21) and OBC (9) categories remain most prominent. However, the SC category (6) shows equal participation to the "Prefer not to say" group, pointing to a balanced if smaller entrepreneurial landscape. The ST representation remains low (2), reflecting continued challenges for tribal communities in accessing

entrepreneurship opportunities in the region. Chandigarh, being a Union Territory with a smaller population base, exhibits the lowest absolute numbers across all categories. Even so, the General category (13) shows active participation. The numbers for OBC (5), SC (1), and ST (2) remain limited, likely reflecting urban economic disparities or the dominance of service-based over manufacturing enterprises in the city.

Overall, the analysis reflects that General and OBC categories dominate entrepreneurship across the four states, but the level of inclusivity varies. Punjab shows comparatively better integration of SC and ST entrepreneurs, which is a positive sign. The data calls for state-specific policy interventions, especially in Haryana and Chandigarh, to strengthen entrepreneurship among socially disadvantaged groups through targeted support in training, finance, and market linkages.

Figure 10: Distribution Among Legal Structure



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study.

The data on business ownership types segmented by caste provides valuable insight into how different social groups participate in various forms of enterprise structures, ranging from individual proprietorships to registered companies.

The General category demonstrates the highest participation across all forms of ownership, indicating stronger access to resources, networks, and formal registration processes. Their numbers

are especially high in Limited Liability Partnerships (81) and Partnerships (64), reflecting a preference for collaborative or semi-formal structures that offer legal protection and operational flexibility. Their representation in Private Limited Companies (34) and Sole Proprietorships (49) further showcases a well-rounded engagement in both formal and informal setups.

OBC entrepreneurs follow next in terms of overall participation. They show a marked preference for LLPs (41) and Partnerships (34), while Private Limited Companies (13) and Sole Proprietorships (18) attract relatively fewer members. This suggests that while OBC individuals are entering formal business structures, barriers such as access to capital or regulatory support might limit their ability to scale into fully private corporate entities.

Entrepreneurs who preferred not to disclose their caste also show notable involvement, particularly in LLPs (23) and Partnerships (18). Their moderate participation in Private Limited Companies (12) and Sole Proprietorships (10) indicates a balanced distribution, though the reluctance to disclose caste could reflect concerns about social stigma or privacy in professional spaces.

SC entrepreneurs show the highest numbers in LLPs (13) and Partnerships (11), with smaller representation in Private Limited Companies (8) and Sole Proprietorships (6). This points to an emerging presence in formal business ownership structures but also highlights a need for support systems to help them grow into higher-investment entities.

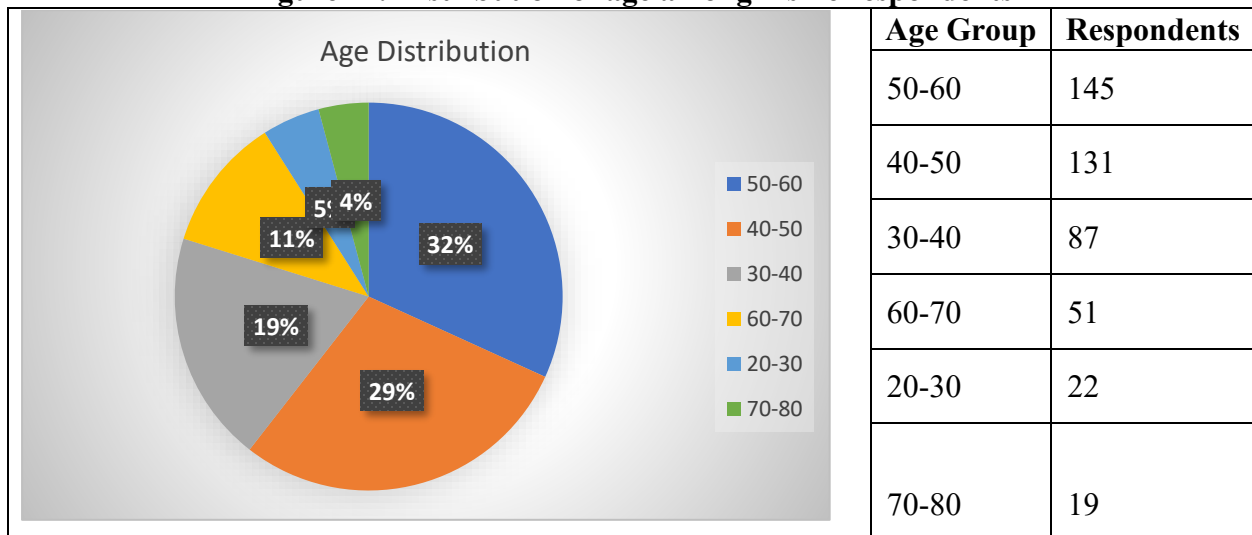
ST entrepreneurs show the lowest representation across all ownership types, with single-digit participation in LLPs (9), Partnerships (5), Private Limited Companies (1), and Sole Proprietorships (4). This pattern suggests persistent barriers such as limited access to formal financial systems, legal assistance, or education that inhibit greater business formalization within tribal communities.

Overall, the data indicates a hierarchical pattern of ownership type participation, with the General and OBC categories leading in formal business structures, while SC and ST entrepreneurs are underrepresented, especially in private limited formats. The higher adoption of LLPs and partnerships across all groups reflects a preference for shared risk and lower regulatory burden. These trends underscore the need for targeted capacity-building initiatives, financial inclusion measures, and mentorship programs to ensure broader access to formal business ecosystems, particularly for socially disadvantaged communities.

4.3. Age Distribution Among MSME Owners of selected sample

Age plays a crucial role in shaping the business environment as it often reflects the experience, risk appetite, resource availability, and motivations of entrepreneurs. Understanding age distribution across different business factors such as sector, region, gender, or motivation provides valuable insights into the dynamics of enterprise development. For instance, individuals in the 41-60 age bracket typically have greater industry experience, financial stability, and networks, making them more likely to initiate and sustain businesses. On the other hand, younger entrepreneurs may bring innovation and technological adaptability but may face challenges related to resources and market credibility. Analyzing age distribution helps policymakers and stakeholders tailor support programs such as funding, training, and mentorship according to the needs of different age groups. It also reveals generational shifts in business interests, succession planning challenges, and regional disparities in entrepreneurial maturity. Ultimately, recognizing age as a vital demographic indicator supports the creation of a more inclusive and strategically developed business ecosystem.

Figure 11: Distribution of age among msme respondents



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study

The age-wise distribution of respondents reveals a significant concentration of entrepreneurial activity among individuals in the 50-60 age group, which accounts for the largest share with 145 respondents. This suggests that mature professionals nearing retirement or already experienced in

their careers are more actively engaged in MSME ventures, possibly leveraging accumulated capital, industry experience, and networks.

The 40-50 age group, with 131 respondents, closely follows, indicating that mid-career individuals form a robust segment of entrepreneurs. This age bracket typically represents those with stable financial standing, managerial expertise, and readiness to take calculated business risks.

The 30-40 age group comprises 87 respondents, showing moderate entrepreneurial participation. These individuals are likely in their early career to mid-career phase, and their involvement reflects a growing trend of younger individuals exploring business ownership earlier in their professional journeys.

In contrast, the 20-30 age group shows relatively low participation (22 respondents), suggesting that younger adults may face barriers such as lack of capital, limited business exposure, or a preference for salaried employment initially.

Interestingly, entrepreneurial engagement continues even into older age brackets, with 51 respondents in the 60-70 age group and 19 respondents in the 70-80 range. This could indicate a trend of post-retirement ventures, family business oversight, or senior professionals using their experience for late-stage entrepreneurship. The data highlights that entrepreneurial activity is most dominant among individuals aged 40 to 60, pointing to a maturity-driven entry into MSMEs. The decline in numbers at younger and older extremes suggests that targeted mentoring, startup support for youth, and retirement-friendly business models could help widen participation across all age groups.

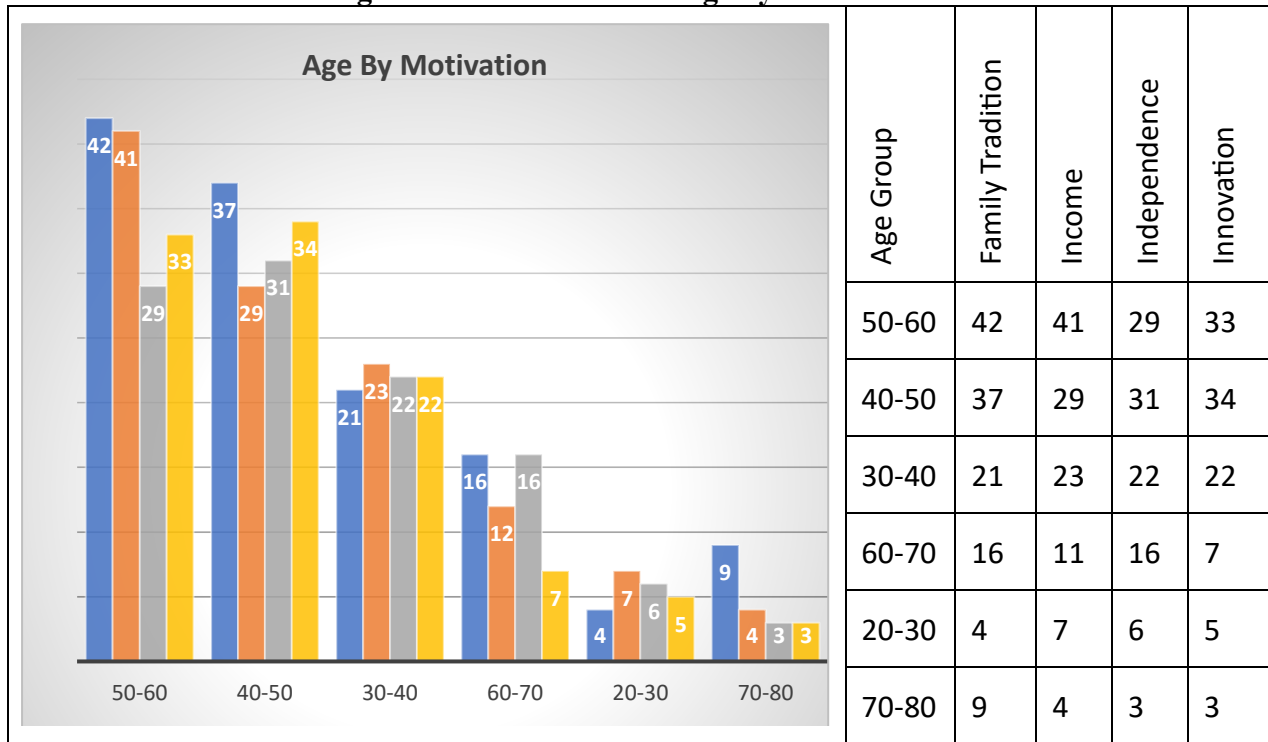
Table 4.2: Distribution of Industry type among age groups

| Category | Respondents | | | | | |
|-------------------------------------|-------------|-------|-------|-------|-------|-------|
| | 50-60 | 40-50 | 30-40 | 60-70 | 20-30 | 70-80 |
| Apparels | 15 | 6 | 6 | 9 | 1 | 2 |
| Automobile Implements Manufacturing | 11 | 13 | 2 | 3 | 2 | 2 |
| Food Product | 14 | 10 | 5 | 4 | 1 | 1 |
| Furniture | 9 | 8 | 3 | 4 | 5 | 2 |

| Category | Respondents | | | | | |
|--------------------------|-------------|----|----|---|---|---|
| General Engineering | 10 | 11 | 11 | 3 | 1 | 3 |
| Hosiery | 7 | 13 | 3 | 5 | 1 | 1 |
| Hotel/Restaurant | 6 | 6 | 9 | 4 | 1 | 1 |
| Iron and Steel | 14 | 12 | 5 | 1 | 1 | 1 |
| Machine Tools | 7 | 9 | 4 | 1 | 1 | 1 |
| Paper and Paper Products | 13 | 5 | 14 | 5 | 3 | 2 |
| Pharma | 12 | 10 | 9 | 3 | 2 | 2 |
| Plastic Goods | 9 | 9 | 6 | 2 | 1 | 1 |
| Printing | 7 | 10 | 6 | 6 | 1 | 1 |
| Textile | 11 | 9 | 5 | 2 | 2 | 3 |

The age distribution among sectors reveals that the majority of enterprises fall within the 31 to 60-year range, indicating a mature and well-established MSME base across industries. The 41-50 years age group holds the highest concentration of enterprises, with notable representation in Textiles (31), Autos (30), and Manufacturing (28), suggesting that many businesses in these sectors have sustained operations over several decades. The 51-60 years bracket follows closely, especially in Autos (25), Export-based (23), and Manufacturing (21), further reinforcing the trend of long-standing enterprises. The 31-40 age group, though slightly lower in number, still shows significant activity, particularly in Textiles and Autos, pointing to a wave of business formation in the past three to four decades. The presence of firms in the 61-70 years range across all sectors especially in Export-based and Manufacturing reflects the enduring nature of some older establishments. In contrast, the number of enterprises sharply declines in the youngest (1-10 and 21-30 years) and oldest (71-90 years) categories, with very few firms either newly established or exceptionally old. Textiles consistently appears across all age groups, indicating its longstanding and continuous relevance. Overall, the data highlights the dominance of middle-aged enterprises and underscores the stable but aging nature of the MSME sector across industries.

Figure 12: Distribution of age by Motivation



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study

The data offers insightful perspectives on the motivations driving entrepreneurship among different age groups, categorized under four key factors: Family Tradition, Income, Independence, and Innovation.

The 50-60 age group leads across most motivational categories, with the highest number of respondents citing Family Tradition (42) and Income (41) as key reasons. This indicates that many individuals in this age range are likely continuing established family businesses or seeking financial stability in their later working years. Significant interest in Independence (29) and Innovation (33) also suggests a willingness to explore new ideas or operate businesses autonomously, even at a mature stage of life.

Similarly, the 40-50 age group reflects a balanced motivation profile. While slightly lower in numbers compared to the 50-60 group, they show high interest in Innovation (34) and Independence (31), followed by Family Tradition (37). This age group appears to be actively combining traditional values with modern entrepreneurial aspirations, showing dynamism in their approach to business.

In the 30-40 age group, the motivational factors are more evenly distributed, with values ranging from 21 to 23 across all categories. This suggests that younger entrepreneurs in this group are not driven by a single dominant reason but are exploring entrepreneurship for a combination of income generation, innovation, independence, and family background. Their balanced approach may indicate flexibility and experimentation in business choices.

The 60-70 age group sees a decline across all categories, with Family Tradition (16) and Independence (16) being the most cited reasons. A notable drop is observed in Innovation (7), reflecting a more conservative or continuation-focused entrepreneurial style among older individuals, possibly avoiding risk-heavy or novel ventures.

The 20-30 age group, representing the youngest entrepreneurs, shows low motivation across all factors, with slightly higher numbers for Income (7) and Independence (6). This may reflect early-career experimentation or lack of access to resources, mentorship, or business tradition. The 70-80 age group has the lowest figures in all categories, particularly in Innovation (3) and Independence (3), reinforcing the assumption that entrepreneurship at this stage is either passive or tied to family legacy and limited new business creation.

Table 4.3: Distribution of age by states/UT

| Age Group | Chandigarh | Haryana | Himachal Pradesh | Punjab |
|------------------|-------------------|----------------|-------------------------|---------------|
| 50-60 | 10 | 67 | 11 | 57 |
| 40-50 | 7 | 57 | 12 | 55 |
| 30-40 | 5 | 34 | 10 | 39 |
| 60-70 | 2 | 17 | 5 | 27 |
| 20-30 | 0 | 6 | 5 | 11 |
| 70-80 | 0 | 13 | 1 | 5 |

The data presents a comparative distribution of individuals across various age groups in the states of Chandigarh, Haryana, Himachal Pradesh, and Punjab. Analyzing the figures, it is evident that the 50-60 age group has the highest representation in all four regions, with Haryana and Punjab

showing significantly higher numbers at 67 and 57 respectively. Chandigarh and Himachal Pradesh also report their highest counts in this group, though at comparatively lower levels of 10 and 11.

The 40-50 age group follows closely, especially in Haryana and Punjab, where the numbers remain consistently high at 57 and 55. Himachal Pradesh also records a moderate number of individuals in this category at 12, while Chandigarh reports 7. This suggests a strong middle-aged population presence in these regions, particularly in Haryana and Punjab.

Moving to the 30-40 age group, a noticeable decline is observed across all states. Haryana still leads in this segment with 34 individuals, followed by Punjab at 39. Himachal Pradesh and Chandigarh show relatively low representation with 10 and 5 respectively. This decline could indicate a demographic transition or migration patterns affecting the younger adult population.

In the 60-70 age category, the numbers further decline, with Punjab and Haryana reporting 27 and 17 individuals respectively. Himachal Pradesh and Chandigarh continue to show lower counts at 5 and 2. This trend may reflect natural demographic aging or lower life expectancy in certain areas.

The youngest age group recorded, 20-30, has data only for Haryana, Himachal Pradesh, and Punjab, showing the smallest numbers at 6, 5, and 11 respectively. Chandigarh has no recorded entries in this age group, which may either indicate data omission or an extremely small sample.

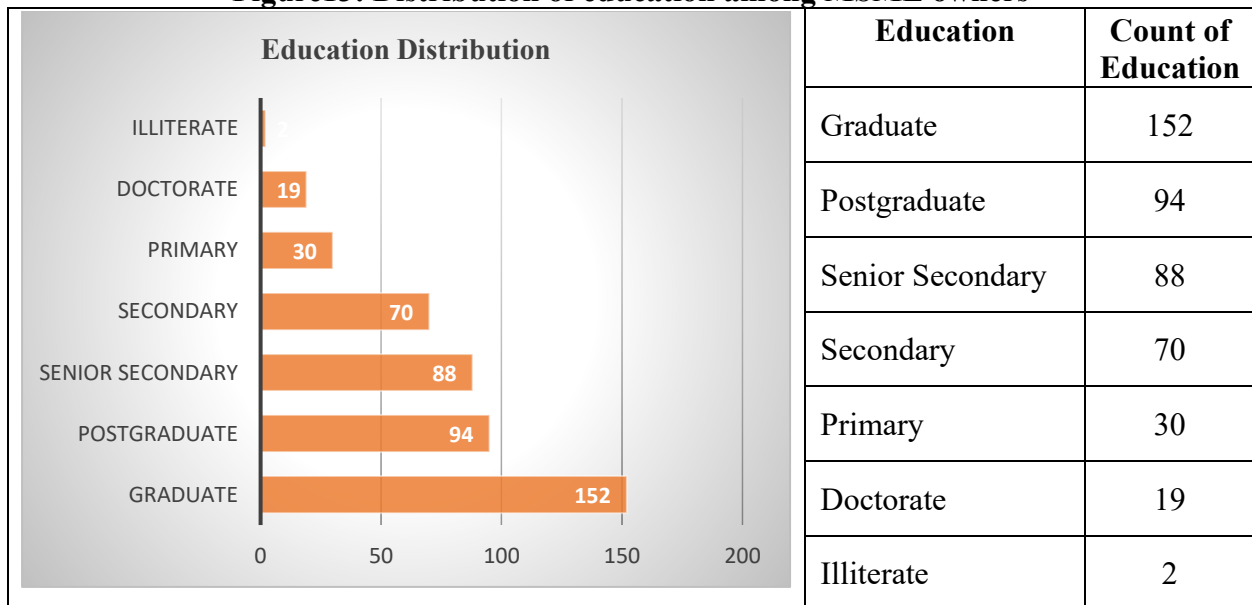
Finally, in the oldest age group, 70-80, Haryana records 13 individuals, the highest among the four states. Punjab follows with 5, while Himachal Pradesh and Chandigarh report minimal representation at 1 and none respectively. This pattern suggests a small yet notable elderly population, with Haryana showing a relatively higher elderly demographic. The data highlights a concentration of individuals in the 40-60 age bracket across all states, with a consistent decline observed in both younger and older age groups. Haryana and Punjab demonstrate a stronger demographic presence in each age group, while Chandigarh and Himachal Pradesh report comparatively lower figures across the board.

4.4. Education Distribution among MSME Owners of Selected Sample

Understanding the education level of individuals involved in the MSME (Micro, Small, and Medium Enterprises) sector is crucial as it directly influences the capabilities, decision-making,

and adaptability of entrepreneurs and workers. Education provides the foundation for business acumen, financial literacy, technological adoption, and strategic thinking skills that are essential for the sustainability and growth of MSMEs. Linking education to the type of MSME (micro, small, or medium) helps in assessing the capacity for innovation, scalability, and compliance with regulatory and quality standards. For instance, medium enterprises may demand higher technical expertise and managerial skills often associated with graduate or postgraduate education, while micro-enterprises might rely more on informal or experience-based knowledge. Education should also be analysed in relation to sectoral differences; high-tech and export-oriented sectors usually require higher qualifications, while traditional sectors like textiles may rely more on vocational training or practical experience. Moreover, age is an important variable, as it reflects generational access to education and evolving skill sets. Younger age groups may bring modern education and digital literacy, while older individuals might carry practical wisdom but face skill obsolescence. Therefore, analysing education across age, sector, and MSME type provides a comprehensive understanding of workforce readiness, identifies gaps in skills, and helps policymakers and stakeholders design targeted interventions to enhance productivity, competitiveness, and inclusion in the MSME ecosystem.

Figure13: Distribution of education among MSME owners



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study

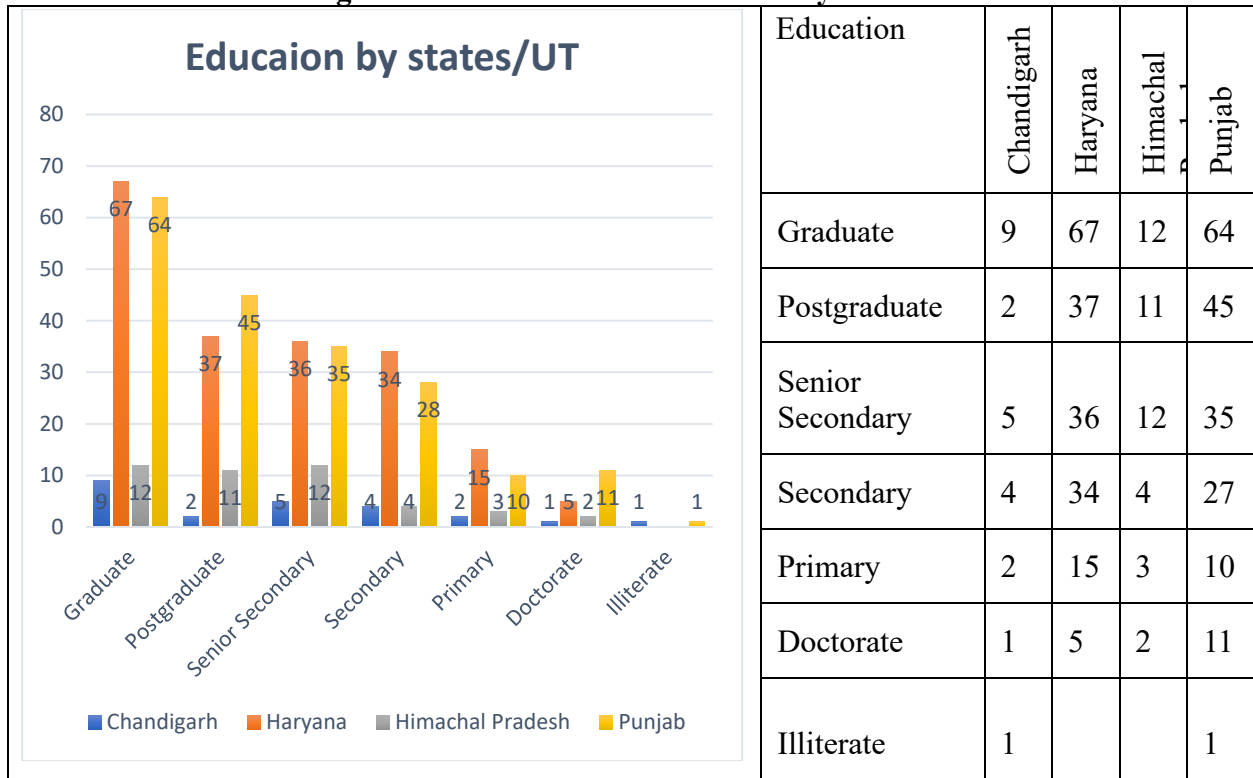
The distribution of educational qualifications, as illustrated in the pie chart, reflects a diverse yet structured educational profile among the participants. Graduates form the largest segment, comprising 33% of the total (152 individuals), suggesting that undergraduate-level education is the most prevalent and may serve as a foundational qualification for a significant portion of the population. This dominance of graduate-level education indicates a general trend towards formal academic achievement, potentially linked to enhanced employability and professional advancement.

Postgraduates represent 21% (94 individuals), highlighting a substantial number of individuals who have pursued education beyond the undergraduate level. This group likely contributes to specialized knowledge and advanced skills within the workforce or academic community. Following this, 19% of the individuals (88) possess senior secondary education, while 15% (70 individuals) have completed secondary education, suggesting a steady decline in numbers as the education level decreases. This trend indicates that while many individuals successfully complete school-level education, a portion may discontinue formal studies before transitioning into higher education.

Primary education accounts for 7% (30 individuals), which, although smaller, represents those with foundational literacy and numeracy skills, possibly engaged in basic skill-based employment or informal sectors. A small yet important group of 4% (19 individuals) hold doctorate-level qualifications, reflecting the presence of high academic expertise within the population, often associated with research, specialized professions, or academia.

Illiterate individuals constitute just 1% (2 individuals), indicating near-universal basic literacy within the population. This minimal representation points towards successful educational outreach and literacy drives that have likely reduced the number of individuals without any formal education. The distribution suggests a population that is largely well-educated, with a strong base in graduate and postgraduate qualifications. The presence of individuals across all education levels underscores the importance of tailored policy approaches. Initiatives that support advanced education and research should be balanced with efforts that enhance skill development, vocational training, and access to basic education, ensuring inclusive growth and participation across all segments of society.

Figure14: Distribution of education by states/ut



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study

The distribution of educational qualifications across the four states Chandigarh, Haryana, Himachal Pradesh, and Punjab reveals significant regional differences in educational attainment among respondents. Graduate-level education emerges as the most common qualification in all four regions, with Haryana leading significantly at 67 individuals, followed by Punjab with 64, Chandigarh with 9, and Himachal Pradesh with 12. This suggests that higher education is widely accessible and possibly emphasized in Haryana and Punjab, which may contribute to a more skilled and professionally oriented population in these states.

Postgraduate qualifications are also prominent, particularly in Punjab (45 individuals) and Haryana (37 individuals), indicating that a notable portion of the population continues education beyond graduation. Himachal Pradesh and Chandigarh, while showing lower absolute numbers 11 and 2 respectively still reflect participation in postgraduate studies, though at a comparatively modest level.

Senior secondary education reflects a relatively balanced presence in Himachal Pradesh (12), Haryana (36), and Punjab (35), showing that school-level completion is fairly consistent in these regions. Chandigarh again shows lower figures (5), likely due to its smaller population base or sample size.

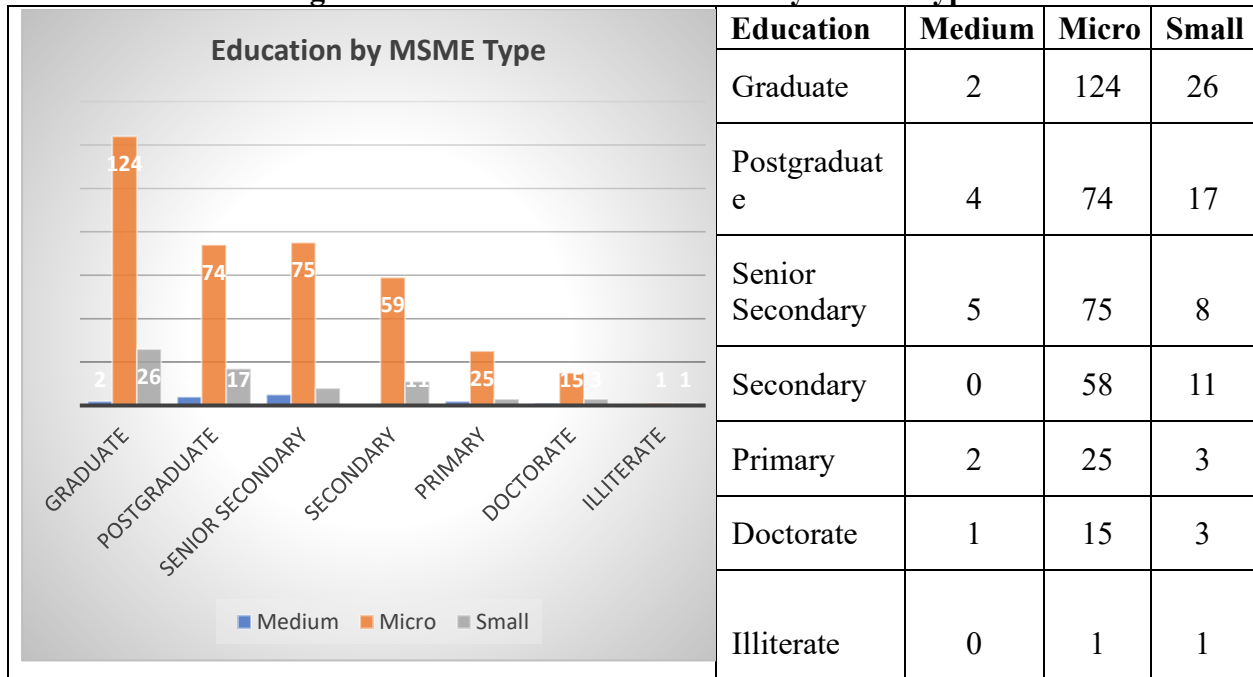
The secondary education group follows a similar pattern, with Haryana (34) and Punjab (27) showing a strong representation, while Himachal Pradesh (4) and Chandigarh (4) reflect lower counts. This suggests that the majority of individuals in Haryana and Punjab at least complete their secondary education, positioning them for further academic or vocational pursuits.

Primary education is more common in Haryana (15) compared to Punjab (10), Himachal Pradesh (3), and Chandigarh (2), indicating that a smaller, though not negligible, segment of the population in Haryana concludes their education at the elementary level.

Doctorate holders, while limited in number across all regions, are most visible in Punjab (11), followed by Haryana (5), Himachal Pradesh (2), and Chandigarh (1). This points to Punjab having a relatively stronger representation in advanced academic qualifications, which could correlate with academic institutions or research opportunities in the region.

Illiteracy appears to be negligible, with only one individual each in Chandigarh and Punjab, and none reported in Haryana and Himachal Pradesh. This reflects near-universal literacy across the T states in the sample, signaling successful literacy campaigns and basic education outreach. The data shows a clear concentration of graduate and postgraduate qualifications in Haryana and Punjab, indicating a relatively higher level of educational attainment in these states. The presence of senior secondary and secondary educated individuals across all regions reflects a generally strong foundation in school-level education. The minimal representation of illiterate individuals supports the conclusion that basic literacy is widely achieved. These patterns suggest that while educational attainment varies in magnitude across the states, all regions demonstrate a structured educational profile, with scope for continued efforts in promoting higher education and vocational skill development.

Figure15: Distribution of education by MSME type



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study

The distribution of educational qualifications across enterprise Size Medium, Micro, and Small presents a clear indication of the correlation between education levels and the scale of business operations. The data shows that micro enterprises dominate the landscape across all educational levels, particularly among graduates and postgraduates, which may reflect the entrepreneurial inclination of individuals who have received formal higher education but are operating businesses at a smaller scale, possibly due to resource constraints, market size, or strategic choices.

Graduates account for a significant share within micro enterprises (124 individuals), followed by small enterprises (26) and medium enterprises (2). This indicates that graduate-level education is a strong foundation for entry into entrepreneurship, especially at the micro and small levels. Similarly, postgraduates are well represented in micro enterprises (74), followed by small (17) and medium (4), suggesting that even advanced educational attainment is not limited to larger business ownership and is often leveraged in smaller setups, possibly due to ease of entry, flexibility, or self-employment motives. Senior secondary and secondary educated individuals also prominently feature within micro enterprises, with 75 and 58 individuals respectively. This trend highlights that individuals with school-level qualifications are actively engaged in business, particularly at the

micro level, and are likely utilizing practical skills and local market knowledge to operate their enterprises. Small enterprises also show participation from these educational groups, though in comparatively lower numbers (8 for senior secondary and 11 for secondary), and there are no secondary-educated individuals in medium-sized enterprises, which may suggest an educational threshold for scaling up.

Primary education holders are primarily found in micro enterprises (25), with minimal representation in small (3) and medium (2) enterprises. This shows that basic education suffices for starting and running micro businesses, though the ability to expand beyond that level might be limited by educational background. Doctorate holders, while few, are most active in micro enterprises (15), with smaller representation in small (3) and medium (1) enterprises. This might reflect individuals pursuing entrepreneurship driven by niche knowledge or innovation but opting for lean business models, possibly in consulting, research, or specialized services. Illiteracy is almost absent, with only one individual each in micro and small enterprises, and none in medium enterprises. This underscores the essential role of basic literacy in business operations, even at the smallest scale.

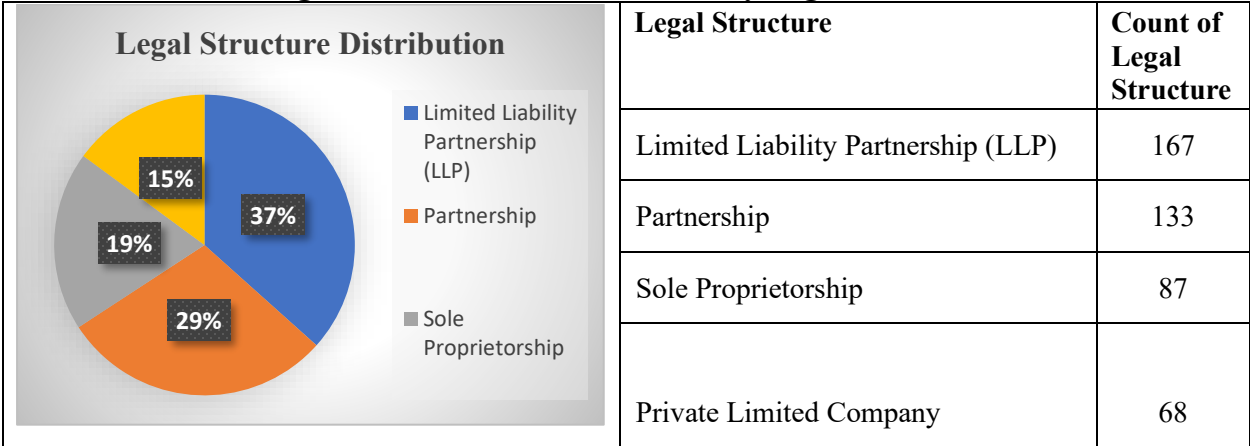
The micro enterprises emerge as the most inclusive in terms of educational diversity, accommodating individuals across all levels of education. The concentration of graduates and postgraduates in micro and small enterprises suggests that formal education is a common characteristic among business owners, although not necessarily a prerequisite for scaling up. Medium enterprises tend to have fewer owners with lower educational qualifications, indicating that higher educational attainment may be more conducive to managing larger-scale operations. The overall pattern reflects that while education enhances business capabilities, entrepreneurship remains accessible to individuals with a wide range of educational backgrounds, particularly within the microenterprise segment.

4.5. Distribution Among Legal Structure

Understanding the legal structure of MSMEs is essential because it determines the framework within which the business operates, governs its decision-making authority, liability, compliance obligations, access to finance, and even growth potential. Whether an MSME is structured as a cooperative, a sole proprietorship, a partnership, or a Limited Liability Partnership (LLP), each

form comes with distinct advantages and challenges. For instance, cooperatives focus on collective ownership and benefit, often operating in rural or agricultural sectors, while LLPs combine flexibility with limited liability, making them suitable for professional services or startups seeking structured governance with lower risk exposure. Knowing the legal structure helps policymakers and financial institutions tailor support schemes, credit facilities, and regulatory guidance. It also provides insight into how MSMEs distribute profits, make strategic decisions, and handle accountability. Moreover, legal structure plays a critical role in succession planning, dispute resolution, and business continuity. Thus, analyzing the legal form is crucial for understanding operational dynamics, stakeholder involvement, and the long-term sustainability of MSMEs.

Figure16: Distribution of MSME by Legal Structure



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study

The distribution of business entities across different legal structures reflects the strategic choices made by entrepreneurs to align their operations with regulatory flexibility, liability concerns, and growth potential. The pie chart illustrates that the most preferred legal form is the Limited Liability Partnership (LLP), accounting for 37 percent of the enterprises, with 167 entities. This preference indicates a strong inclination among entrepreneurs toward a structure that provides the operational flexibility of a partnership while offering limited liability protection, a critical feature for risk mitigation.

Partnership firms form the second most common category, representing 29 percent with 133 entities. This suggests that traditional partnership models remain prevalent, likely due to ease of formation, mutual trust among co-founders, and minimal regulatory burden. Despite the unlimited

liability in this model, the simplicity and direct control it offers continue to attract entrepreneurs, particularly in sectors with lower exposure to legal or financial risk.

Sole proprietorships account for 19 percent of the total, comprising 87 enterprises. This model continues to be popular for small-scale ventures, especially those driven by individual entrepreneurs seeking autonomy and direct management. The data suggests that sole proprietorships serve as an entry point for new businesses, particularly in informal or localized sectors, although the absence of liability protection may limit scalability.

Private Limited Companies make up 15 percent of the total, with 68 entities adopting this structure. While offering greater protection, credibility, and access to formal finance, private limited companies are less preferred in comparison, possibly due to the relatively higher compliance requirements and incorporation complexities. However, this model remains relevant for entrepreneurs targeting structured growth, investor engagement, and formal expansion.

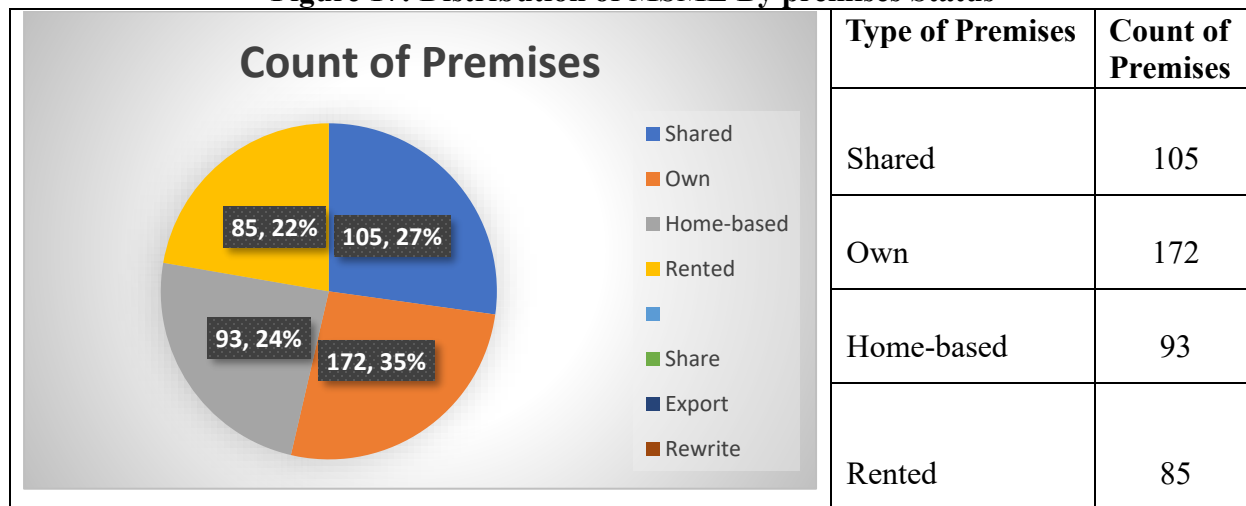
The legal structure landscape is dominated by LLPs and partnerships, highlighting the preference for models that combine ease of doing business with varying degrees of liability protection. The continued relevance of sole proprietorships and private limited companies indicates a diverse entrepreneurial ecosystem where legal form is selected based on business size, risk appetite, sectoral needs, and future vision. This underscores the importance of tailored policy support and legal literacy to help businesses choose the most appropriate structure for sustainable growth.

4.6. Premises status among selected MSMEs

Understanding the status of MSME premises is crucial as it directly reflects the operational stability, investment capacity, and long-term business outlook of the enterprise. Whether a business operates from owned, rented, shared, or home-based premises can influence its fixed costs, expansion potential, and eligibility for financial or policy support. Owned premises often indicate a stronger asset base and long-term commitment to a location, enhancing creditworthiness and investor confidence. In contrast, rented or shared premises may reflect flexibility or resource constraints, but also the ability to operate in high-demand commercial areas without large capital outlays. Home-based enterprises, while cost-effective and accessible, may face limitations in scalability or compliance with certain regulatory norms. By analyzing the status of premises, policymakers and support institutions can better understand the infrastructure challenges MSMEs

face and design targeted interventions such as subsidies for workspace, cluster development schemes, or location-based tax incentives to promote inclusive and sustainable growth in the MSME sector.

Figure 17: Distribution of MSME By premises Status



The data on the type of premises used by MSMEs reveals valuable insights into their operational preferences and infrastructural setup. A majority of MSMEs are operating either from shared premises (105) or from their own premises (172), suggesting a balanced mix of cost-sharing arrangements and asset ownership. The high count of shared premises may indicate collaborative workspaces or market-based shared facilities, often chosen to reduce overheads. MSMEs operating from their own premises reflect a stronger financial position and long-term commitment to business continuity. Home-based enterprises (93) form a significant portion as well, underlining the trend of small-scale operations, ease of setup, and flexibility in work environments. Rented premises (85), though slightly less in number, still constitute a notable segment, likely chosen for strategic locations or as a transitional step for growing businesses. This distribution shows the diverse infrastructural strategies MSMEs adopt, influenced by factors such as affordability, scale, nature of operations, and accessibility to markets. Understanding this helps in designing support schemes for infrastructure development and policy interventions tailored to the specific needs of these enterprises.

4.7. Sector wise Distribution among Selected MSMEs

Understanding sectoral distribution in the MSME (Micro, Small, and Medium Enterprises) environment is crucial for effective policymaking, resource allocation, and strategic planning. Each sector such as manufacturing, services, textiles, autos, or export-based industries has distinct characteristics, challenges, and growth patterns. By knowing how MSMEs are distributed across sectors, stakeholders including the government, financial institutions, and support agencies can design targeted schemes, training programs, and financial products that align with sector-specific needs. For instance, manufacturing MSMEs may require machinery upgrades and supply chain support, while service-sector MSMEs may benefit more from digital infrastructure and soft skills training. Sectoral insights also help in identifying employment patterns, innovation potential, and regional industrial strengths, enabling a more balanced and inclusive economic development. Furthermore, sectoral data aids in risk assessment and resilience planning during economic disruptions, such as global supply chain breakdowns or policy shifts. In essence, knowing the sectoral distribution is not just a statistical exercise it is a foundation for building a robust, responsive, and sustainable MSME ecosystem.

Table 4.4: Distribution of meme by sector of business

| Sector | Count of Sector |
|-------------------------------------|------------------------|
| Paper and Paper Products | 42 |
| Apparels | 39 |
| General Engineering | 39 |
| Pharma | 36 |
| Food Product | 35 |
| Automobile Implements Manufacturing | 33 |
| Iron and Steel | 33 |
| Printing | 32 |
| Furniture | 31 |

| Sector | Count of Sector |
|------------------|------------------------|
| Textile | 31 |
| Hosiery | 29 |
| Plastic Goods | 27 |
| Hotel/Restaurant | 26 |

The distribution of enterprises across various sectors reveals a balanced engagement of MSMEs in both manufacturing and service-oriented industries. The Paper and Paper Products sector leads with 42 enterprises, suggesting its significant role in local economies, possibly driven by demand in packaging, education, and commercial use. Close behind are the Apparels and General Engineering sectors, each with 39 enterprises, indicating strong representation in both labour-intensive and precision-based manufacturing domains. These sectors often serve as major employment generators and contribute notably to exports and domestic consumption.

The Pharma sector follows with 36 enterprises, underscoring the increasing prominence of health-related industries, especially in the wake of heightened awareness around healthcare. Food Product manufacturing, with 35 entities, points to sustained demand for processed and packaged food, a sector that often supports agricultural linkages and rural employment. Automobile Implements Manufacturing and Iron and Steel sectors each have 33 enterprises, reflecting the foundational role of heavy industry in regional development and their interconnection with infrastructure and transport sectors.

The Printing sector, with 32 enterprises, remains relevant due to continued demand for packaging, branding, and educational materials. The Furniture and Textile sectors are equally represented, each with 31 enterprises, suggesting a blend of traditional craftsmanship and evolving market needs. Hosiery, with 29 enterprises, further adds to the textile-based value chain, typically supporting small-scale, export-oriented, and cottage industries.

Plastic Goods manufacturing (27 enterprises) indicates the sector’s ongoing relevance in packaging, consumer goods, and industrial applications. Finally, the Hotel and Restaurant sector,

with 26 enterprises, highlights the presence of MSMEs in the service industry, catering to tourism, urban consumption, and local hospitality demand.

Overall, the sectoral distribution of MSMEs showcases a diversified portfolio, balancing traditional manufacturing, modern industrial production, and emerging service sectors. This indicates a robust and adaptable MSME ecosystem capable of catering to varied market demands and contributing significantly to economic development.

4.5: Distribution of MSME by Industry

| Industry | Medium | Micro | Small |
|-------------------------------------|--------|-------|-------|
| Paper and Paper Products | 3 | 35 | 4 |
| Apparels | - | 33 | 6 |
| General Engineering | 1 | 29 | 9 |
| Pharma | 3 | 29 | 4 |
| Food Product | 2 | 31 | 2 |
| Automobile Implements Manufacturing | - | 26 | 7 |
| Iron and Steel | - | 29 | 4 |
| Printing | - | 30 | 2 |
| Furniture | 2 | 26 | 3 |
| Textile | - | 27 | 4 |
| Hosiery | 1 | 20 | 8 |
| Plastic Goods | - | 17 | 10 |
| Hotel/Restaurant | 2 | 20 | 4 |

The distribution of enterprises across different sectors and enterprise sizes medium, micro, and small highlights the predominance of micro enterprises across most sectors, reflecting the grassroots-level nature of MSME operations. In the Paper and Paper Products sector, 35 out of 42 enterprises are micro, with 4 small and 3 medium units, indicating that while the majority operate on a small scale, a few have scaled up to larger operations. Similarly, in the Apparels sector, 33 out of 39 units are micro and 6 are small, with no representation in the medium category, reinforcing the sector's characteristic of being labor-intensive and accessible with limited capital investment.

The General Engineering sector demonstrates a slightly more varied distribution with 29 micro, 9 small, and 1 medium enterprise, suggesting incremental scale-up potential within this industry. The Pharma sector comprises 29 micro, 4 small, and 3 medium enterprises, indicating a gradual movement towards larger operations, possibly driven by regulatory standards and capital intensity.

Food Products remain largely micro with 31 enterprises, complemented by 2 small and 2 medium units, underscoring its suitability for local and regional production.

Automobile Implements Manufacturing and Iron and Steel sectors are predominantly micro (26 and 29 units respectively) with a few small enterprises, but no medium-sized ones, suggesting capital and operational scale may present barriers to growth in these segments. The Printing sector is largely micro with 30 units and only 2 small ones, reflecting its continued utility but limited expansion scope. The Furniture and Textile sectors also follow a similar trend, being largely micro with modest representation in small enterprises and minimal or no presence at the medium level.

In sectors such as Hosiery and Plastic Goods, there is a noticeable presence of small enterprises 8 and 10 respectively indicating potential for scale, especially when supported by technology and supply chain linkages. Finally, the Hotel and Restaurant sector is mostly micro (20 units), supported by 4 small and 2 medium units, signifying a service sector with moderate scalability depending on location and demand.

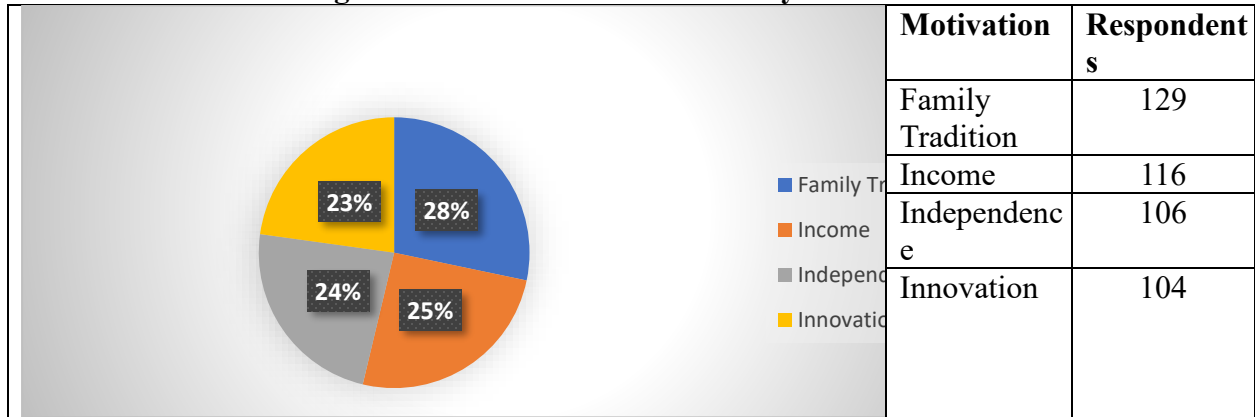
In summary, micro enterprises dominate across sectors, affirming the foundational role they play in employment and production. However, select sectors like General Engineering, Pharma, Hosiery, and Plastic Goods exhibit a slightly more balanced distribution, pointing towards areas with higher potential for vertical growth. These patterns underline the importance of tailored policy interventions that support micro enterprises while facilitating their transition to small and medium scales through access to finance, technology, and markets.

4.8. Motivation among Selected MSMEs

Understanding motivation is a critical component when exploring the demographics of MSME owners, as it provides deeper insight into the driving forces behind entrepreneurial decisions and behaviors. While demographic data such as age, education, and location offer a structural overview, motivation reveals the underlying intent and purpose guiding these individuals in establishing and sustaining their enterprises. For instance, an entrepreneur driven by family tradition may approach business continuity and risk differently from one motivated by innovation or income generation. By examining motivation alongside demographics, policymakers, researchers, and support institutions can more effectively design targeted interventions, training programs, and financial schemes that align with the aspirations and challenges of diverse

entrepreneur profiles. This integrated perspective enhances the understanding of not just who MSME owners are, but also why they choose entrepreneurship, thereby fostering more inclusive and responsive strategies for MSME development.

Figure18: Distribution of MSME by Motivation



Note: Figures presented is for illustrative purposes and derived from the authentic primary data and Interpretations are based on the context of the study

The analysis of entrepreneurial motivations reveals four primary driving factors: family tradition, income, independence, and innovation. Among these, family tradition emerges as the most significant motivator, with 129 individuals identifying it as the reason behind their entrepreneurial journey. This suggests a strong legacy effect, where business ownership is passed down through generations, particularly common in sectors with long-standing family involvement such as textiles, food products, or manufacturing.

Closely following are income (116 respondents) and independence (106 respondents), which highlight economic self-sufficiency and personal autonomy as key influences. These motivations suggest that many individuals are entering entrepreneurship not just to earn a living, but also to gain control over their work lives, escape traditional employment, and achieve self-reliance.

Innovation also plays a noteworthy role, motivating 104 individuals. This indicates that a considerable number of entrepreneurs are driven by the desire to create new products, services, or processes, reflecting the growing culture of creativity and problem-solving in the MSME sector.

Overall, the motivations reflect a blend of tradition and transformation. While many follow in the footsteps of their families, an almost equal number are carving out their own path to independence, financial stability, and innovation. This balanced distribution of motives underscores the dynamic

nature of India's MSME landscape, where legacy and aspiration coexist, and where policy measures can support both continuity in family businesses and the ambitions of first-generation entrepreneurs.

SECTION -II
Effect Of Demographic of MSME Owners For Availing Financial Assistance

4.9. Descriptive statistics⁸

Table 4.6: Descriptive Statistics of MSME owners

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|------------|-------------|------------------|------------|------------|
| 1. I believe my age positively influenced the bank's willingness to approve my loan application. | 455 | 3.92987 | 0.655717 | 1 | 5 |
| 2. I feel that being male/female/other affected my treatment during the loan process. | 455 | 2.109091 | 0.7170145 | 1 | 5 |
| 3. My caste/community background impacted how seriously the bank staff handled my loan request. | 455 | 2.124675 | 0.8660488 | 1 | 5 |
| 4. My educational qualification helped me in understanding and completing the loan application process. | 455 | 3.92987 | 0.655717 | 1 | 5 |
| 5. My years of business experience gave me an advantage in loan processing and approval. | 455 | 3.924675 | 0.6630414 | 1 | 5 |
| 6. The type of sector helped me get better terms and faster approvals. | 455 | 3.846753 | 1.185808 | 1 | 5 |
| Having more employees improved my chances of receiving financial assistance. | 455 | 3.92987 | 0.655717 | 1 | 5 |
| 8. My location (urban/rural/semi-urban) influenced the loan approval chances. | 455 | 3.927273 | 0.6574169 | 1 | 5 |
| My annual turnover was a key factor in receiving better loan terms (amount, rate, or tenure). | 455 | 4.831169 | 0.5496826 | 1 | 5 |
| The type of business I operate (Micro, Small, Midium) influenced the bank's perception of my creditworthiness. | 455 | 3.020779 | 1.228814 | 1 | 5 |
| Owning the business premises gave me an advantage during the loan sanctioning process. | 455 | 3.031169 | 1.264114 | 1 | 5 |
| My business's legal structure (sole proprietorship, partnership, private limited, etc.) affected the ease of accessing finance. | 455 | 2.127273 | 0.8701707 | 1 | 5 |

The descriptive statistics presented offer a revealing picture of how various demographic and business-related factors play a role in availing financial assistance from banks and financial institutions, based on responses from 455 participants. A close look shows that certain personal attributes and business characteristics significantly shape how entrepreneurs perceive and experience the loan approval process.

The revised descriptive statistics provide a rich understanding of how various demographic and business-related factors influence the process of availing financial assistance from banks and financial institutions among MSMEs. The analysis reveals which factors are perceived to matter most to entrepreneurs and where perceptions are more neutral or divided. Starting with age, the mean score of 3.93 and low standard deviation (~ 0.66) indicate a strong consensus that age plays a positive role in influencing the bank's willingness to approve a loan. Respondents seem to believe that age signals credibility or reliability, possibly because older applicants are perceived as more stable or experienced. In contrast, gender and caste/community background receive relatively low mean scores of 2.11 and 2.12 respectively, both with moderate standard deviations. This suggests that most respondents do not feel that their gender or social identity significantly influenced how banks treated them during the loan process. While this may be interpreted as a sign of progress in equitable treatment, it may also reflect underreporting of bias or normalization of discrimination in some cases. A notable finding is the impact of educational qualification, business experience, and number of employees, all of which score nearly identically at 3.93 with low standard deviations. These results indicate that respondents strongly feel that their capabilities whether in terms of formal education or practical exposure gave them an edge in navigating the complexities of loan application and approval. Similarly, employing more staff may present a business as more established and thereby more creditworthy in the eyes of banks. The influence of sector type is also significant, with a mean of 3.85 and the highest variability among the core variables (standard deviation 1.18). This wide spread suggests that the advantage gained from being in a particular sector is not uniform some sectors (like export or high-growth industries) may be favored in bank lending policies, while others may face slower approvals or stricter scrutiny.

Location, particularly whether the enterprise is in an urban, rural, or semi-urban area, has a high mean (3.93) and low variation, indicating strong agreement that geographic placement affects loan approval. This likely reflects disparities in banking infrastructure, financial literacy, and policy implementation across regions.

One of the most striking observations is the role of annual turnover, which has the highest mean score of 4.83 and the lowest standard deviation (0.55) among all variables. This near-unanimous response underscores how critical a strong financial performance is in securing favorable loan

terms. Banks appear to heavily weigh turnover as a risk indicator and predictor of repayment capacity.

On the other hand, type of business (Micro, Small, Medium) and ownership of business premises both have mean scores slightly above neutral (~3.02 and 3.03, respectively), with higher standard deviations (>1.2). This reflects a more mixed perception. While some feel their business size or asset ownership aided in financing, others may not have experienced significant benefits.

Finally, legal structure whether the business is a sole proprietorship, partnership, or private limited company scores low (2.13) with moderate variation. This suggests that for most MSMEs, the formality of legal registration may not be perceived as a critical factor in financial access, possibly due to a general lack of awareness about how legal structures influence lending risk profiles from a bank’s perspective.

The findings show a clear pattern: tangible and measurable factors like education, experience, turnover, location, and employee strength are seen as real advantages in financial dealings. Meanwhile, social identity factors and formal structures are viewed as less decisive. These insights can guide future financial inclusion strategies and policy interventions, helping ensure MSMEs are better equipped both operationally and perceptually to access the credit they need for growth.

4.10. Effect of age on financial assistance

Table 4.6.1: I believe my age positively influenced the bank’s willingness to approve my loan application.

| Age | Frequency | Percent | Cumulative Percent |
|--------------|------------|---------------|--------------------|
| 1 | 4 | 0.88 | 0.88 |
| 2 | 5 | 1.10 | 1.98 |
| 3 | 79 | 17.36 | 19.34 |
| 4 | 300 | 65.93 | 85.27 |
| 5 | 67 | 14.73 | 100.00 |
| Total | 455 | 100.00 | |

The responses to the statement *"I believe my age positively influenced the bank’s willingness to approve my loan application"* provide valuable insights into the perceived impact of age on financial assistance approval among MSME owners. The frequency distribution shows a strong concentration of agreement among respondents coded as 4 (which typically represents "Agree" on

a Likert scale), with 300 individuals (65.93%) expressing that their age likely contributed positively to their loan approval process.

This is further supported by 79 respondents (17.36%) coded as 3 (neutral or somewhat agree), suggesting a moderately positive perception. Only a small fraction of respondents expressed disagreement, with 4 (0.88%) and 5 (1.10%) individuals in categories 1 and 2, respectively. Additionally, 67 respondents (14.73%) marked the highest level of agreement, suggesting strong confidence in age being an influencing factor.

The cumulative percentage of 85.27% up to category 4 indicates a broad consensus leaning toward the perception that age plays a favorable role in bank interactions.

These findings suggest that a majority of MSME owners perceive age not as a barrier but as a facilitating factor when dealing with banks and financial institutions. This perception may reflect institutional biases that associate a certain age bracket with greater financial responsibility, experience, and credibility, potentially influencing approval outcomes. Understanding this perception is essential for financial institutions and policymakers aiming to ensure equitable access across different age groups.

4.11. Effect of gender on financial assistance

Table 4.7: I feel that being male/female/other affected my treatment during the loan process.

| Gender | Frequency | Percent | Cumulative Percent |
|--------------|------------|---------------|--------------------|
| 1 | 82 | 18.02 | 18.02 |
| 2 | 253 | 55.60 | 73.63 |
| 3 | 112 | 24.62 | 98.24 |
| 4 | 6 | 1.32 | 99.56 |
| 5 | 2 | 0.44 | 100.00 |
| Total | 455 | 100.00 | |

The response pattern to the statement "*I feel that being male/female/other affected my treatment during the loan process*" offers important insights into the role of gender perceptions in accessing financial assistance among MSME owners. A significant majority of respondents 253 individuals (55.60%) selected category 2, which typically denotes "Disagree" in a Likert scale, indicating that

more than half of the participants did not feel that their gender influenced how they were treated during the loan process.

This perception is further reinforced by 82 respondents (18.02%) in category 1 (strongly disagree), cumulatively suggesting that approximately 73.63% of the total sample reject the notion of gender-based differential treatment in their financial experience. Additionally, 112 respondents (24.62%) chose the middle category (3), reflecting neutrality or uncertainty, while only a very small proportion 6 (1.32%) in category 4 and 2 (0.44%) in category 5 expressed agreement with the statement, implying that they perceived some level of gender-based bias.

These findings suggest that the vast majority of MSME owners did not perceive gender as a significant factor in the treatment received during the loan approval process. This could indicate either a relatively equitable lending environment in the sampled context or a lack of awareness of implicit biases. However, the presence of even a small number of respondents perceiving gender-based differential treatment highlights the need for continuous monitoring and gender-sensitization measures within financial institutions. This is particularly relevant to ensure that financial inclusion efforts remain inclusive across all gender identities.

4.12. Effect of Caste on financial assistance

Table 4.8: My caste/community background impacted how seriously the bank staff handled my loan request.

| Caste | Frequency | Percent | Cumulative Percent |
|--------------|------------|---------------|--------------------|
| 1 | 103 | 22.64 | 22.64 |
| 2 | 227 | 49.89 | 72.53 |
| 3 | 99 | 21.76 | 94.29 |
| 4 | 18 | 3.96 | 98.24 |
| 5 | 8 | 1.76 | 100.00 |
| Total | 455 | 100.00 | |

The responses to the statement "*My caste/community background impacted how seriously the bank staff handled my loan request*" shed light on perceptions of social equity in the context of MSME financing. A majority of respondents 227 individuals (49.89%) chose category 2, which generally denotes disagreement, indicating that nearly half of the participants did not feel that their caste or community background influenced how bank staff treated their loan applications. This view is

reinforced by 103 respondents (22.64%) who selected category 1 (strongly disagree), bringing the cumulative percentage of those rejecting caste-based impact to 72.53%.

Meanwhile, 99 respondents (21.76%) chose category 3, representing a neutral or uncertain stance. This segment suggests that a notable proportion of participants may be unsure whether caste dynamics played a role or may have experienced subtle biases that were difficult to attribute definitively.

A small fraction of respondents 18 (3.96%) in category 4 and 8 (1.76%) in category 5 agreed with the statement, indicating that a minority perceived their caste or community background as a factor affecting the seriousness with which their loan requests were handled.

Overall, these findings suggest that while most MSME owners do not perceive overt caste-based discrimination in the loan approval process, a significant minority remain neutral or perceive some level of bias, pointing toward possible underlying systemic or implicit prejudices. In the context of exploring demographics of MSME owners who have availed financial assistance, this data underscores the importance of continued focus on social inclusion and sensitivity training for financial personnel to ensure equal treatment across caste and community lines.

4.13. Effect of Qualification on financial assistance

Table 4.9: My educational qualification helped me in understanding and completing the loan application process.

| Education | Frequency | Percent | Cumulative Percent |
|--------------|------------|---------------|--------------------|
| 1 | 4 | 0.88 | 0.88 |
| 2 | 5 | 1.10 | 1.98 |
| 3 | 79 | 17.36 | 19.34 |
| 4 | 300 | 65.93 | 85.27 |
| 5 | 67 | 14.73 | 100.00 |
| Total | 455 | 100.00 | |

The responses to the statement *"My educational background influenced the bank's willingness to consider my loan request"* provide useful insights into how MSME owners perceive the role of education in financial interactions. The frequency distribution reveals a strong concentration in category 4, with 300 respondents (65.93%) indicating agreement that education positively shaped the way banks treated their applications.

This view is further supported by 79 respondents (17.36%) in category 3, reflecting a moderately positive or neutral stance, suggesting that many participants still associate education with credibility and competence in the lending process.

Only a very small fraction expressed disagreement, with 4 respondents (0.88%) and 5 respondents (1.10%) in categories 1 and 2, respectively. Meanwhile, 67 respondents (14.73%) selected category 5 (strong agreement), pointing to strong confidence in education being a decisive factor in bank dealings.

The cumulative percentage up to category 4 reaches 85.27%, demonstrating a broad consensus that education is a favorable factor in financial approvals. These findings suggest that MSME owners largely perceive education as an advantage when engaging with banks and financial institutions. This may reflect the institutional tendency to associate higher education with financial literacy, managerial skills, and repayment reliability. However, the presence of respondents in the lower categories indicates that perceptions of fairness and inclusivity in access to finance still require ongoing attention.

4.14. Effect of experience on financial assistance

Table 4.10: My years of business experience gave me an advantage in loan processing and approval.

| Experience | Frequency | Percent | Cumulative Percent |
|--------------|------------|---------------|--------------------|
| 1 | 4 | 0.88 | 0.88 |
| 2 | 6 | 1.32 | 2.20 |
| 3 | 79 | 17.36 | 19.56 |
| 4 | 299 | 65.71 | 85.27 |
| 5 | 67 | 14.73 | 100.00 |
| Total | 455 | 100.00 | |

The responses to the statement *"My professional experience played a role in how the bank evaluated my loan application"* provide valuable insights into the perceived role of prior work and business experience in MSME financing. The frequency distribution highlights a strong concentration of responses in category 4, with **299 respondents (65.71%)** indicating agreement, suggesting that the majority believe their experience positively influenced the loan evaluation process.

This perspective is further supported by **79 respondents (17.36%)** in category 3, reflecting a neutral or moderately positive perception. Together, these groups contribute to a strong cumulative perception that experience plays a favorable role in banking decisions.

Only a very small fraction expressed disagreement, with **4 respondents (0.88%)** in category 1 and **6 respondents (1.32%)** in category 2, while **67 respondents (14.73%)** chose category 5, denoting strong agreement and high confidence that experience significantly enhances credibility with banks.

The cumulative percentage up to category 4 reaches **85.27%**, which indicates a broad consensus that experience is a facilitating factor in loan approvals. These findings suggest that MSME owners largely perceive experience as a major asset in interacting with financial institutions. This may reflect the common banking perspective that prior entrepreneurial or professional experience reduces uncertainty, enhances trustworthiness, and signals stronger repayment ability. However, the small share of respondents in the lower categories shows that some MSME owners either do not feel experience mattered or did not perceive it as decisive in their financial journey.

4.15. Effect of MSME Sector on financial assistance

Table 4.11: The type of sector helped me get better terms and faster approvals.

| Sector | Frequency | Percent | Cumulative Percent |
|--------------|------------|---------------|--------------------|
| 1 | 22 | 4.84 | 4.84 |
| 2 | 51 | 11.21 | 16.05 |
| 3 | 72 | 15.82 | 31.87 |
| 4 | 138 | 30.33 | 62.20 |
| 5 | 172 | 37.80 | 100.00 |
| Total | 455 | 100.00 | |

The responses to the statement *"The sector in which my business operates influenced the bank's willingness to consider my loan application"* reveal how MSME owners perceive sector-specific dynamics in financing. The distribution is skewed toward the higher categories, showing that sector is widely seen as influential.

The largest group of respondents 172 individuals (37.80%) chose category 5, representing strong agreement. This suggests that more than one-third of MSME owners firmly believe that being in a particular sector significantly shaped how their loan applications were evaluated. In addition,

138 respondents (30.33%) selected category 4, indicating agreement, which brings the cumulative percentage to 62.20% up to this category. Together, these results indicate that nearly two-thirds perceive sector as a favorable factor in banking interactions.

A further 72 respondents (15.82%) expressed neutrality in category 3, suggesting that a notable proportion of participants are unsure or feel that sector plays a limited role. Meanwhile, smaller groups 22 respondents (4.84%) in category 1 (strongly disagree) and 51 respondents (11.21%) in category 2 (disagree) indicated skepticism, rejecting the idea that sector significantly influences financial outcomes. These findings highlight that sector is widely perceived as an important determinant in MSME financing. The results may reflect the banking sector’s tendency to favor businesses operating in industries with higher growth prospects, lower risk, or established track records. However, the presence of neutral and dissenting responses suggests that while sector matters for many, it is not uniformly viewed as decisive, leaving room for more inclusive credit assessment practices across diverse industries.

4.16. Effect of number of employees on financial assistance

Table 4.12: Having more employees improved my chances of receiving financial assistance.

| Location | Frequency | Percent | Cumulative Percent |
|--------------|------------|---------------|--------------------|
| 1 | 4 | 0.88 | 0.88 |
| 2 | 5 | 1.10 | 1.98 |
| 3 | 79 | 17.36 | 19.34 |
| 4 | 300 | 65.93 | 85.27 |
| 5 | 67 | 14.73 | 100.00 |
| Total | 455 | 100.00 | |

The responses to the statement *"The location of my business influenced the bank’s willingness to approve my loan application"* provide insights into how MSME owners perceive the impact of geography on financial access. The frequency distribution reveals a strong concentration of responses in category 4, with 300 respondents (65.93%) agreeing that location positively shaped their loan approval process.

This perspective is reinforced by 79 respondents (17.36%) in category 3, indicating a neutral or moderately positive stance, suggesting that a notable portion of respondents perceive location as playing at least some role in their financial interactions.

Only a very small fraction expressed disagreement, with 4 respondents (0.88%) in category 1 and 5 respondents (1.10%) in category 2, while 67 respondents (14.73%) marked category 5 (strong agreement), showing strong confidence that location significantly matters in banks' decisions.

The cumulative percentage up to category 4 reaches 85.27%, pointing to a broad consensus that location is perceived as an influential factor in banking. These findings suggest that MSME owners largely view location as a facilitating factor in their loan applications. This may reflect practical banking considerations such as proximity to urban financial centers, perceived economic vibrancy of certain regions, or infrastructure advantages. At the same time, the presence of neutral and dissenting responses indicates that while location matters for most, not all entrepreneurs experience it as a decisive factor, underscoring the need for more balanced financial outreach in both urban and rural contexts.

4.17. Effect of Location on financial assistance

Table 4.13: My location (urban/rural/semi-urban) influenced the loan approval chances.

| Number of Employees | Frequency | Percent | Cumulative Percent |
|---------------------|------------|---------------|--------------------|
| 1 | 4 | 0.88 | 0.88 |
| 2 | 5 | 1.10 | 1.98 |
| 3 | 80 | 17.58 | 19.56 |
| 4 | 299 | 65.71 | 85.27 |
| 5 | 67 | 14.73 | 100.00 |
| Total | 455 | 100.00 | |

The responses reveal a strong concentration among enterprises with a moderate to large number of employees. Specifically, 65.71% of respondents fall into category 4 (firms with a relatively higher employee count), suggesting that these MSMEs are more attuned to how locational dynamics affect access to formal credit. This could be interpreted in two ways: either larger enterprises have more interactions with financial institutions, making them more sensitive to locational biases in credit approval, or their size enables them to observe disparities across urban, semi-urban, and rural contexts more clearly.

Another notable segment 17.58% of the respondents belongs to category 3, reinforcing the trend that MSMEs with mid-sized teams are also significantly aware of how geography plays a role in the financing process. Enterprises in this range may often lie at the threshold of formalization and

growth, where location begins to matter in terms of documentation, infrastructure access, or financial literacy support all factors influencing credit outcomes.

The smallest MSMEs, employing the least number of individuals (categories 1 and 2), represent only 1.98% of the responses combined. This likely reflects both their limited scale of operations and possibly lower engagement with formal financial institutions, making them either unaware of or less impacted by location-based differences in loan approvals.

Finally, category 5, which may include the largest MSMEs in the sample, accounts for 14.73% of responses. While their representation is less than that of category 4, the data still indicates a meaningful proportion of sizable enterprises acknowledging the importance of geographic factors in credit decision-making. It is possible that these enterprises, having reached a certain scale, have expanded operations across multiple locations and thus directly experienced regional variation in banking responsiveness. The data underscores a strong relationship between enterprise size and the perceived influence of location on loan approvals. As businesses grow in size, their awareness of systemic enablers and barriers including locational disparities appears to increase. This pattern calls for more nuanced, region-sensitive credit frameworks that do not disproportionately advantage urban MSMEs over their rural or semi-urban counterparts.

4.18. Effect of Turnover on financial assistance

Table 4.14: My annual turnover was a key factor in receiving better loan terms (amount, rate, or tenure).

| Turnover | Frequency | Percent | Cumulative Percent |
|-----------------|------------------|----------------|---------------------------|
| 1 | 2 | 0.44 | 0.44 |
| 2 | 1 | 0.22 | 0.66 |
| 3 | 19 | 4.18 | 4.84 |
| 4 | 26 | 5.71 | 10.55 |
| 5 | 407 | 89.45 | 100.00 |
| Total | 455 | 100.00 | |

The results clearly highlight the dominance of enterprises with higher turnover. Specifically, 89.45% of respondents fall into category 5, indicating that a vast majority of surveyed MSMEs operate at relatively larger financial scales. This suggests that these businesses are well integrated into formal financial systems, possibly with structured documentation, higher credit demands, and stronger visibility among financial institutions.

A smaller yet meaningful segment 5.71% of respondents falls in category 4. These firms, while not as dominant as category 5, represent businesses that are transitioning toward larger operational scales. Their position may make them particularly sensitive to financial access issues, as they often seek higher levels of funding for expansion and formalization.

Another 4.18% belong to category 3, reflecting enterprises that may be mid-level in terms of turnover. These businesses often face challenges in balancing between informal credit reliance and integration into the formal system. They can serve as a crucial policy focus group, since effective financial support here could propel them into higher growth stages.

The smallest enterprises (categories 1 and 2 combined) account for only 0.66% of the responses, underscoring their limited representation. This likely reflects both their smaller presence in the overall MSME landscape and their limited engagement with formal credit channels. Their negligible share also hints at barriers such as lack of financial literacy, minimal documentation, or lower perceived creditworthiness. The findings indicate a skewed distribution where large-turnover MSMEs dominate the sample, making location and institutional responsiveness especially relevant for firms at the upper end of the turnover scale. At the same time, the near absence of very small-turnover firms highlights the urgent need for financial inclusion initiatives tailored toward the smallest segment, which risks being overlooked in credit policy design.

4.19. Effect of MSME type on financial assistance

Table 4.15: The type of business I operate (Micro, Small, Medium) influenced the bank's perception of my creditworthiness.

| Type | Frequency | Percent | Cumulative Percent |
|--------------|------------|---------------|--------------------|
| 1 | 65 | 14.29 | 14.29 |
| 2 | 80 | 17.58 | 31.87 |
| 3 | 153 | 33.63 | 65.50 |
| 4 | 94 | 20.66 | 86.16 |
| 5 | 63 | 13.84 | 100.00 |
| Total | 455 | 100.00 | |

The distribution of responses across enterprise types reveals meaningful patterns. The largest share, 33.63% of respondents, falls into category 3, underscoring that this type of MSME dominates the sample. Their prominence suggests that they represent a stable middle ground in the

sector, where businesses are sizeable enough to interact with financial systems more actively yet still experience barriers that distinguish them from the largest enterprises.

20.66% of respondents belong to category 4, marking a significant segment of enterprises that may be more mature or structured. Their sizable share indicates that these MSMEs could be transitioning toward higher operational sophistication, with stronger financial needs and deeper integration into formal channels.

Another 17.58% are in category 2, which reflects a notable portion of relatively smaller enterprises. Their representation indicates that while still early in their business life cycle, they are present enough in the formal credit-seeking landscape to warrant attention in policy frameworks.

Enterprises in category 1 account for 14.29%, suggesting that even the smallest or most nascent types of MSMEs are visible within the sample. Their proportion is non-negligible, pointing to the fact that financial accessibility concerns are not confined only to larger firms but extend to the grassroots level as well.

Finally, category 5, representing 13.84%, completes the picture with a meaningful share of respondents. While smaller than categories 3 and 4, this group may include MSMEs that occupy a specialized or distinct niche in the market, whose financing patterns differ from the mainstream. The data highlights a broadly distributed sample, with the center of gravity around categories 3 and 4. This reinforces the idea that mid- to relatively large-scale enterprises dominate the financing landscape, yet the presence of smaller categories indicates that inclusive financial policies must not neglect early-stage and niche MSMEs.

4.20. Effect of Premises Ownership on financial assistance

Table 4.16: Owning the business premises gave me an advantage during the loan sanctioning process.

| Premises | Frequency | Percent | Cumulative Percent |
|-----------------|------------------|----------------|---------------------------|
| 1 | 63 | 13.85 | 13.85 |
| 2 | 91 | 20.00 | 33.85 |
| 3 | 148 | 32.53 | 66.38 |
| 4 | 77 | 16.92 | 83.30 |
| 5 | 76 | 16.70 | 100.00 |
| Total | 455 | 100.00 | |

The distribution of responses based on business premises shows a clear tilt toward enterprises in category 3, which accounts for 32.53% of the total sample. This indicates that nearly one-third of MSMEs operate from premises that represent a mid-level category, possibly reflecting semi-formal or moderately established business setups. Such enterprises may have relatively stable operations, balancing between informality and full formalization.

Enterprises in category 2 make up 20.00%, showing a sizable share of businesses operating from smaller or less formal premises. This group represents an important segment of MSMEs that may face distinct challenges, such as weaker access to infrastructure or higher vulnerability to location-based barriers in financing.

Categories 4 and 5 together constitute 33.62% of the sample, split nearly evenly between 16.92% (category 4) and 16.70% (category 5). These categories likely correspond to firms with stronger and more permanent premises, indicating greater structural stability. Their considerable representation suggests that a meaningful portion of MSMEs have achieved more secure bases of operation, which may positively influence their credibility with financial institutions.

Finally, category 1 enterprises represent 13.85% of the responses, showing that a significant proportion of MSMEs still operate from the most basic or informal premises. Their visibility underscores that location and type of operating space remain critical in understanding the financing patterns and constraints of smaller enterprises. The analysis highlights that while mid-level premises (category 3) dominate, there is a substantial presence across all categories. This reflects the diverse operating environments of MSMEs, with implications for designing financial policies that account for the physical and locational realities of enterprises.

4.21. Effect of legal Structure on financial assistance

Table 4.17: My business’s legal structure (sole proprietorship, partnership, private limited, etc.) affected the ease of accessing finance.

| Legal Structure | Frequency | Percent | Cumulative Percent |
|-----------------|------------|---------------|--------------------|
| 1 | 103 | 22.64 | 22.64 |
| 2 | 227 | 49.89 | 72.53 |
| 3 | 98 | 21.54 | 94.07 |
| 4 | 19 | 4.18 | 98.25 |
| 5 | 8 | 1.75 | 100.00 |
| Total | 455 | 100.00 | |

The distribution of MSMEs across different legal structures shows a dominant presence of category 2, which accounts for 49.89% of respondents. This suggests that nearly half of the surveyed firms operate under this legal form, indicating it is the most prevalent and likely considered the most practical or accessible structure for MSMEs in the given context.

The second largest group, category 1 (22.64%), highlights that a substantial proportion of enterprises adopt an alternative legal structure. Their strong share underlines diversity in business organization and points toward legal frameworks that offer flexibility for smaller or emerging firms.

Category 3, representing 21.54% of respondents, forms another significant portion of the sample. This reinforces the observation that legal structures in this segment are also widely adopted, perhaps due to their balance between ease of formation and credibility with financial institutions.

The smaller segments category 4 (4.18%) and category 5 (1.75%) represent marginal shares in comparison. Their limited presence suggests either stricter regulatory requirements, higher costs of compliance, or lower perceived benefits among MSMEs. While less common, these structures may still be important for specialized or niche businesses seeking distinct operational or financial advantages. The data shows that MSMEs prefer simpler and more widely accepted legal structures (categories 1-3), which together make up over 93% of the sample. This concentration reflects both regulatory realities and business pragmatism, as most MSMEs gravitate toward forms that minimize complexity while ensuring access to credit and markets. The smaller categories, though limited in share, highlight opportunities for policy support to encourage diversification in legal structuring, which could strengthen resilience and formality in the MSME sector.

SECTION III

Performance of MSMEs

To evaluate the performance of the MSME units on various aspects before and after access to financial assistance

4.22. Hypothesis Testing

H1 there is a significant difference in performance of MSMEs before and after financial Assistance

H1a: Financial assistance has significantly improved the adequacy of working capital in MSMEs.

Performance Indicator: Adequate working capital

Table 4.18: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the adequacy of working capital among MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|---------------------------------|-----------------------------|--------------|---------|--------------------------|-----------|-------------------------|
| Adequate working capital | Before Financial assistance | 455 | 2.5011 | 0.0466 | 0.9931 | [2.4096, 2.5926] |
| | After Financial assistance | 455 | 3.7736 | 0.0464 | 0.9910 | [3.6823, 3.8649] |
| Difference (After - Before) | | 455 | -1.2725 | 0.0643 | 1.3717 | [-1.3989, -1.1462] |
| t-statistic | df = 454 | t = -19.7888 | | p (two-tailed) 0.0000 | | |

This analysis evaluates the impact of financial assistance on the adequacy of working capital among Micro, Small, and Medium Enterprises (MSMEs) using a paired sample t-test. The test compares working capital adequacy scores reported by 455 MSMEs before and after receiving financial support. Since the same businesses were measured at both points in time, this method controls for firm-level variability and allows for a direct assessment of change. The purpose is to examine whether financial assistance has led to a statistically significant improvement in the financial positioning of MSMEs, specifically in terms of their ability to maintain adequate working capital.

Before receiving financial assistance, the mean working capital adequacy score stood at 2.5011 with a standard deviation of 0.9931. This relatively modest figure suggests that many MSMEs were struggling with liquidity or short-term fund availability. After the intervention, the mean increased sharply to 3.7736 with a similar standard deviation of 0.9910, pointing to a widespread perception of improved financial stability and resource adequacy following the financial support.

The mean difference between the post- and pre-assistance scores is -1.2725. Although the sign is negative due to the direction of subtraction (After - Before), the magnitude of the difference clearly indicates an upward shift in working capital adequacy after assistance. The standard error of 0.0643 suggests the estimate is statistically precise. The 95 percent confidence interval, ranging from -1.3989 to -1.1462, does not include zero, further confirming the presence of a significant effect.

The t-statistic is -19.7888 with 454 degrees of freedom, a value that reflects a large deviation from the null expectation under normal sampling variability. The associated p-value is less than 0.0001, which is well below any conventional threshold for statistical significance. This strongly supports the claim that the change observed is not due to random chance but a result of the financial assistance provided.

Given the hypothesis structure in this case where the null hypothesis asserts that *financial assistance has significantly improved the adequacy of working capital in MSMEs*. The statistical evidence shows a clear and significant improvement in working capital adequacy after assistance. Therefore, we fail to reject the null hypothesis, as the data supports the claim stated in the null. In this particular case, the null hypothesis is retained because the statistical outcome validates it, which differs from typical testing logic where the null posits no effect. The findings confirm that financial assistance has significantly improved working capital adequacy among MSMEs. The increase in mean scores is both statistically significant and practically meaningful, indicating that the intervention effectively addressed short-term financial constraints. This improvement suggests stronger liquidity positions, better operational readiness, and a higher likelihood of financial resilience among MSMEs. These results emphasize the importance of well-designed financial support schemes in sustaining the health and continuity of the MSME sector, especially during times of economic disruption or capital scarcity.

4.23. Hypothesis testing

H1b: Financial assistance has significantly improved the ability to maintain steady cash flow in MSMEs.

Performance Indicator: Steady cash flow

Table 4.19: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the Steady Cash Flow MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|-----------------------------|-----------------------------|-----|---------------------|------------|--------------------------------|-------------------------|
| Steady cash flow | Before Financial assistance | 455 | 2.4330 | 0.0458 | 0.9774 | [2.3429, 2.5230] |
| | After Financial assistance | 455 | 3.7626 | 0.0425 | 0.9081 | [3.6790, 3.8463] |
| Difference (After - Before) | | 455 | -1.3297 | 0.0609 | 1.2994 | [-1.4494, -1.2100] |
| t-statistic | df = 454 | | t = -21.8277 | | p (two-tailed) = 0.0000 | |

This table presents the results of a paired sample t-test conducted to evaluate the impact of financial assistance on the ability of Micro, Small, and Medium Enterprises (MSMEs) to maintain steady cash flow. The analysis is based on responses from 455 MSMEs, with measurements taken before and after financial support was provided. The paired design enables a direct comparison within the same enterprises over time, effectively isolating the effect of financial assistance while accounting for inherent differences among firms.

Before receiving financial assistance, the mean score reflecting steady cash flow was 2.4330, with a standard deviation of 0.9774. This relatively low average indicates that many MSMEs faced challenges in maintaining a consistent and reliable cash flow prior to the intervention. Following the receipt of financial aid, the mean score increased substantially to 3.7626, with a lower standard deviation of 0.9081. The post-assistance mean suggests a notable improvement in the perception and reality of cash flow stability among the participating MSMEs.

The average difference in cash flow scores, calculated as the after score minus the before score, is -1.3297. The negative sign is a result of the direction in which the difference is computed (After - Before), but it actually reflects a positive gain in steady cash flow. The standard error of this mean difference is 0.0609, indicating that the estimate is highly precise. Moreover, the 95 percent

confidence interval for the mean difference ranges from -1.4494 to -1.2100. Since this interval does not include zero, it confirms the statistical significance of the improvement observed after the intervention.

The t-statistic is -21.8277, based on 454 degrees of freedom. This large negative value signifies that the observed mean difference is more than 21 standard errors away from zero, which reflects a highly significant change. The associated two-tailed p-value is less than 0.0001, providing extremely strong statistical evidence that the change in cash flow scores is not due to chance. The magnitude of the t-statistic, along with the narrow confidence interval and low p-value, offers robust validation of the impact of financial assistance.

Given this evidence, we conclude that financial assistance has had a significant and positive impact on the ability of MSMEs to maintain steady cash flow. the null hypothesis posits the improvement due to financial assistance, the null hypothesis H1b is accepted on the strength of the statistical evidence. The alternative hypothesis that financial assistance improves steady cash flow is strongly supported by the data. The results demonstrate a clear and meaningful enhancement in steady cash flow among MSMEs following the provision of financial assistance. This improvement not only appears statistically significant but also practically important, as maintaining stable cash flow is vital for operational continuity, timely payments, and business resilience. The findings reinforce the value of targeted financial interventions in stabilizing the cash cycles of small enterprises, particularly during periods of financial vulnerability or economic uncertainty.

4.24. Hypothesis Testing

H1c: Financial assistance has significantly improved revenue growth in MSMEs.

Performance Indicator: Revenue Growth

Table 4.20: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the Revenue Growth of MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|-----------------------------|-----------------------------|--------------|---------|-------------------------|-----------|-------------------------|
| Revenue growth Before | Before Financial assistance | 455 | 2.5055 | 0.0467 | 0.9953 | [2.4138, 2.5972] |
| | After Financial assistance | 455 | 3.7055 | 0.0453 | 0.9647 | [3.6166, 3.7944] |
| Difference (After - Before) | | 455 | -1.2000 | 0.0629 | 1.3413 | [-1.3236, -1.0764] |
| t-statistic: | df = 454 | t = -19.0835 | | p (two-tailed) = 0.0000 | | |

This analysis presents the results of a paired sample t-test conducted to evaluate the impact of financial assistance on revenue growth among Micro, Small, and Medium Enterprises (MSMEs). Revenue growth serves as a key performance indicator, reflecting a firm's ability to expand its sales and improve its financial outcomes over time. The test compares self-reported revenue growth levels before and after receiving financial assistance, based on responses from 455 MSMEs. By using a paired design, the analysis accounts for intra-firm variation and isolates the effect of the financial intervention on revenue outcomes.

Before the provision of financial assistance, the average revenue growth score among the sampled MSMEs was 2.5055, with a standard deviation of 0.9953. This relatively modest mean suggests that many firms were experiencing slow or constrained growth in revenues prior to receiving support. After financial assistance was extended, the mean score rose significantly to 3.7055, with a slightly lower standard deviation of 0.9647. The improvement in the mean indicates a broader perception of revenue expansion, likely attributable to the added financial stability or investment capability provided by the support.

The mean difference between the before and after scores is -1.2000. Although the difference is expressed as negative (due to the calculation order: After - Before), it actually reflects a positive improvement in revenue growth after financial assistance. The standard error of this mean

difference is 0.0629, suggesting that the estimate is precise and consistent across the sample. The 95 percent confidence interval for the mean difference, ranging from -1.3236 to -1.0764, does not include zero. This further confirms the presence of a statistically significant change in revenue growth following financial support.

The calculated t-statistic is -19.0835, based on 454 degrees of freedom. This large t-value indicates that the observed difference in revenue growth scores is far beyond what could be expected by chance alone. The associated two-tailed p-value is less than 0.0001, providing very strong statistical evidence in Favor of a genuine effect. The magnitude of the difference, together with the low p-value and tight confidence interval, demonstrates that the improvement is both statistically and practically meaningful.

Based on these findings, it is evident that financial assistance has contributed significantly to revenue growth among MSMEs. The evidence strongly supports the alternative view that financial support has facilitated improved business performance in terms of sales and income generation. So we accept null hypothesis H_0 . The paired sample t-test results reveal a substantial and statistically significant increase in revenue growth following financial assistance to MSMEs. This outcome highlights the effectiveness of financial support programs in promoting business expansion, encouraging reinvestment, and enabling firms to respond more effectively to market opportunities. These improvements not only signal stronger firm-level performance but also suggest broader positive implications for economic development and job creation through a more resilient MSME sector.

4.25. Hypothesis Testing

H1d: Financial assistance has significantly improved operating cost management in MSMEs.

Performance Indicator: Operating cost management

Table 4.21: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the operating Cost Management MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|----------------------------------|-----------------------------|-----|--------------|------------|-----------|-------------------------|
| Operating cost management Before | Before Financial assistance | 455 | 2.4593 | 0.0463 | 0.9878 | [2.3683, 2.5503] |
| | After Financial assistance | 455 | 3.7253 | 0.0438 | 0.9347 | [3.6392, 3.8114] |
| Difference (After - Before) | | 455 | -1.2659 | 0.0630 | 1.3430 | [-1.3897, -1.1422] |
| t-statistic: | df = 454 | | t = -20.1071 | | | p (two-tailed) = 0.0000 |

This analysis focuses on the impact of financial assistance on the ability of Micro, Small, and Medium Enterprises (MSMEs) to manage operating costs effectively. Using a paired sample t-test, the study compares self-reported scores on operating cost management before and after receiving financial support. Data from 455 MSMEs provide the basis for the analysis, allowing for a within-subject comparison that isolates the effect of financial intervention while controlling for firm-specific characteristics.

Before receiving financial assistance, the mean score for operating cost management was 2.4593, with a standard deviation of 0.9878. This figure indicates that, prior to the intervention, most MSMEs experienced moderate challenges in controlling their operational expenses. Following the financial support, the mean score improved significantly to 3.7253, accompanied by a lower standard deviation of 0.9347. This marked increase suggests that MSMEs felt more capable of managing costs effectively, likely due to the liquidity, resource access, or strategic adjustments made possible by the financial aid.

The average difference between the post- and pre-assistance scores is -1.2659. Despite being presented as a negative figure due to the difference being computed as After minus Before the actual interpretation reflects a substantial improvement in cost management ability. The standard error of the mean difference is 0.0630, indicating high precision in the estimate. The 95 percent

confidence interval for this difference ranges from -1.3897 to -1.1422, clearly excluding zero and reinforcing the statistical significance of the result.

The t-statistic for the test is -20.1071, with 454 degrees of freedom. This value indicates that the observed mean difference is more than 20 standard errors from zero, a very large effect size in practical terms. The corresponding p-value is less than 0.0001, which confirms that the observed improvement in operating cost management is highly unlikely to be due to chance. The combined strength of the t-value, confidence interval, and low p-value strongly supports the conclusion that financial assistance has played a significant role in enhancing cost control among MSMEs.

Therefore, the null hypothesis H_0 which suggests that financial assistance has significant effect on the ability to manage operating costs is confidently accepted. The data support the conclusion that financial assistance has led to a meaningful and statistically significant improvement in operating cost management for MSMEs. The results clearly indicate that financial assistance has had a positive and measurable impact on MSMEs' capacity to manage their operating expenses more effectively. This improvement may stem from better planning, access to more affordable inputs, or improved cash flow enabling more efficient resource allocation. These findings emphasize the practical benefits of financial interventions in helping MSMEs strengthen their cost structures, increase their efficiency, and enhance their long-term sustainability.

4.26. Hypothesis Testing

H1e: Financial assistance has significantly improved access to raw materials and inventory in MSMEs.

Performance Indicator: access to raw materials and inventory

Table 4.22: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the Access of raw material and inventory of MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|---------------------------------------|-----------------------------|----------|--------------|------------|-------------------------|-------------------------|
| Access to Raw Materials and Inventory | Before Financial assistance | 455 | 2.5099 | 0.0486 | 1.0365 | [2.4144, 2.6054] |
| | After Financial assistance | 455 | 3.7253 | 0.0456 | 0.9511 | [3.6377, 3.8129] |
| Difference (After - Before) | | 455 | -1.2154 | 0.0646 | 1.3786 | [-1.3424, -1.0884] |
| t-statistic: | | df = 454 | t = -18.8048 | | p (two-tailed) = 0.0000 | |

This analysis investigates the effect of financial assistance on the ability of Micro, Small, and Medium Enterprises (MSMEs) to access raw materials. Using a paired sample t-test, the study evaluates changes in self-reported access levels before and after the provision of financial support. With a sample of 455 MSMEs, the analysis provides a within-subject comparison that captures the direct influence of financial intervention while accounting for the individual characteristics of each enterprise.

Before financial assistance, the average score for access to raw materials was 2.5099, with a standard deviation of 1.0365. This relatively modest figure suggests that many MSMEs experienced constraints in securing the raw inputs needed for production, likely due to working capital limitations or supply chain disruptions. After receiving financial support, the mean score increased markedly to 3.7253, with a reduced standard deviation of 0.9511. This increase indicates a substantial improvement in raw material availability, likely facilitated by enhanced purchasing power and financial flexibility.

The mean difference between post- and pre-assistance scores is -1.2154. Although presented as negative due to the calculation method (After minus Before), the result reflects a significant positive change in access to raw materials. The standard error of the difference is 0.0646, indicating

strong consistency across responses. The 95 percent confidence interval, ranging from -1.3424 to -1.0884, excludes zero, providing clear evidence that the change is statistically significant.

The t-statistic of -18.8048, with 454 degrees of freedom, represents a substantial deviation from zero, suggesting that the mean difference is not the result of random variation. The associated p-value, which is less than 0.0001, confirms that the improvement in access to raw materials following financial assistance is highly significant. Together, the narrow confidence interval, high t-value, and extremely low p-value offer robust statistical support for the observed effect.

These findings lead to the acceptance of the null hypothesis H_0 , which asserts that financial assistance has meaningful impact on raw material access. The results support the conclusion that financial assistance has had a significant and positive influence on MSMEs' ability to secure raw materials for their operations. The analysis demonstrates that financial assistance has notably improved the access of MSMEs to essential raw materials and inventory. This likely results from better cash flow, enhanced creditworthiness, and the ability to establish more reliable supply arrangements. Improved access to inputs is critical for maintaining production continuity, meeting customer demand, and sustaining overall business operations. The results underscore the importance of financial support mechanisms in strengthening the supply chains of MSMEs, thereby improving their resilience and productivity.

4.27. Hypothesis Testing

H1f: Financial assistance has significantly improved the timeliness of wage/salary payments in MSMEs.

Performance Indicator: timeliness of wage/salary payments

Table 4.23: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the Timeliness of wages and salary payments of MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|---|-----------------------------|--------------|---------|-------------------------|-----------|-------------------------|
| Timely paying wages and salary payments | Before Financial assistance | 455 | 2.5692 | 0.0478 | 1.0192 | [2.4753, 2.6631] |
| | After Financial assistance | 455 | 3.8505 | 0.0450 | 0.9593 | [3.7622, 3.9389] |
| Difference (After - Before) | | 455 | -1.2813 | 0.0666 | 1.4204 | [-1.4122, -1.1505] |
| t-statistic: | df = 454 | t = -19.2418 | | p (two-tailed) = 0.0000 | | |

This analysis evaluates the impact of financial assistance on the ability of Micro, Small, and Medium Enterprises (MSMEs) to provide timely wage and salary payments to employees. A paired sample t-test was conducted to compare responses before and after financial support was received, using data collected from 455 MSMEs. The paired design ensures that changes are assessed within the same firms, offering a focused view of the financial intervention's effect on internal operational efficiency particularly on employee compensation.

Prior to receiving financial assistance, the mean score for timely wage and salary payments was 2.5692, with a standard deviation of 1.0192. This suggests that many MSMEs struggled to consistently pay their employees on time, likely due to liquidity constraints or irregular cash inflows. After financial assistance was introduced, the average score improved substantially to 3.8505, with a reduced standard deviation of 0.9593. This shift reflects a notable enhancement in payroll reliability, pointing to the positive role financial support played in improving operational discipline.

The mean difference between post- and pre-assistance scores is -1.2813. Though the difference is mathematically negative (as calculated by subtracting the 'before' value from the 'after'), the result represents a positive outcome indicating that firms became more capable of ensuring timely wage and salary payments after receiving financial aid. The standard error of the difference is 0.0666, indicating a consistent effect across the sample. Furthermore, the 95 percent confidence interval, ranging from -1.4122 to -1.1505, does not include zero, confirming the statistical significance of the observed change.

The t-statistic is -19.2418, based on 454 degrees of freedom. This value represents a highly significant deviation from zero, and the associated p-value is less than 0.0001. The strength of the test statistic and the extremely low p-value together provide strong statistical evidence that financial assistance had a meaningful impact on MSMEs' ability to meet their wage obligations in a timely manner.

In light of these results, the null hypothesis H_0 which states that financial assistance had significant effect on timely wage and salary payments is confidently accepted. The data support the conclusion that financial assistance significantly improved this aspect of MSME operations. The findings demonstrate that financial support has had a critical role in enabling MSMEs to pay employees on time. This improvement likely stems from more stable cash flows, reduced financial pressure, and the ability to plan and allocate funds more effectively. Ensuring timely compensation is not only essential for workforce morale and retention but also for compliance and ethical employment practices. Thus, the results underscore the broader value of financial assistance in reinforcing the internal stability and human resource reliability of small and medium-sized businesses.

4.28. Hypothesis Testing

H1g: Financial assistance has significantly expanded the customer base of MSMEs.

Performance Indicator: expansion of the customer base

Table 4.24: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the Expansion of Customer base of MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|-----------------------------|-----------------------------|--------------|---------|-------------------------|-----------|-------------------------|
| Customer base expansion | Before Financial assistance | 455 | 2.5890 | 0.0464 | 0.9891 | [2.4979, 2.6801] |
| | After Financial assistance | 455 | 3.8440 | 0.0434 | 0.9456 | [3.7568, 3.9311] |
| Difference (After - Before) | | 455 | -1.2549 | 0.0655 | 1.3973 | [-1.3837, -1.1262] |
| t-statistic: | df = 454 | t = -19.1574 | | p (two-tailed) = 0.0000 | | |

This analysis assesses the impact of financial assistance on the customer base of Micro, Small, and Medium Enterprises (MSMEs). A paired sample t-test was conducted using data from 455 MSMEs to compare their self-reported customer base levels before and after receiving financial support. This approach enables a direct evaluation of changes at the firm level and helps identify whether financial assistance contributed to expanding business reach and customer engagement.

Before receiving financial assistance, the mean score for customer base was 2.5890, with a standard deviation of 0.9891. This average reflects a relatively limited reach or fluctuating customer demand, which is common among MSMEs facing financial and operational constraints. After the intervention, the mean score increased significantly to 3.8440, while the standard deviation decreased to 0.9456. The increase in mean and reduction in variability suggest that financial assistance positively influenced customer acquisition and retention across a broad range of firms.

The mean difference between the after and before values is -1.2549. While mathematically negative due to the calculation method (After minus Before), the result indicates a clear and meaningful increase in the customer base after financial assistance. The standard error of this difference is 0.0655, showing consistent responses across the sample. The 95 percent confidence interval for the mean difference ranges from -1.3837 to -1.1262, and it does not include zero, confirming the statistical significance of the observed change.

The t-statistic for this test is -19.1574 with 454 degrees of freedom. This large t-value suggests that the observed difference is highly unlikely to have occurred by chance. The two-tailed p-value is less than 0.0001, providing strong statistical evidence that financial assistance significantly influenced customer base growth among MSMEs.

Given these results, the null hypothesis H_0 which posits that financial assistance has significant effect on customer base expansion is confidently accepted. The evidence supports the alternative hypothesis, indicating that financial support has a substantial and statistically significant impact on improving customer outreach and business visibility.

The paired sample t-test results demonstrate that financial assistance has played a key role in expanding the customer base of MSMEs. The observed growth may be attributed to enhanced marketing capacity, improved product availability, or better service delivery made possible through increased working capital. Expanding the customer base is crucial for revenue growth, competitive strength, and long-term sustainability. Therefore, these findings reinforce the importance of targeted financial support programs in helping MSMEs strengthen their market presence and operational effectiveness.

4.29. Hypothesis Testing

H1h: Financial assistance has significantly improved the ability of MSMEs to meet market demand.

Performance Indicator: Ability to meet market demand

Table 4.25: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the Ability to meet market demand MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|-----------------------------|-----------------------------|--------------|---------|-------------------------|-----------|-------------------------|
| Ability to meet demand | Before Financial assistance | 455 | 2.5736 | 0.0473 | 1.0080 | [2.4808, 2.6665] |
| | After Financial assistance | 455 | 3.8242 | 0.0439 | 0.9362 | [3.7379, 3.9104] |
| Difference (After - Before) | | 455 | -1.2505 | 0.0656 | 1.3997 | [-1.3795, -1.1216] |
| t-statistic: | df = 454 | t = -19.0580 | | p (two-tailed) = 0.0000 | | |

This analysis investigates the effect of financial assistance on the ability of Micro, Small, and Medium Enterprises (MSMEs) to meet customer demand. Using data from 455 firms, a paired sample t-test was conducted to compare their performance in this area before and after receiving financial support. The goal is to determine whether financial intervention led to a statistically significant improvement in operational capacity related to fulfilling customer needs.

Prior to financial assistance, the mean score for the ability to meet customer demand was 2.5736, with a standard deviation of 1.0080. This suggests that many MSMEs faced challenges in aligning their output with customer expectations, possibly due to constraints in raw materials, labor, or production capacity. After receiving financial support, the mean increased significantly to 3.8242, while the standard deviation decreased to 0.9362. This upward shift in the average, along with a slight reduction in variability, reflects a marked improvement in the operational responsiveness of the firms.

The mean difference between the post- and pre-assistance values is -1.2505. While the value is numerically negative due to the subtraction method used (After minus Before), it represents a positive improvement in performance. The standard error of this difference is 0.0656, indicating a stable and reliable change across the sample. The 95 percent confidence interval for the difference

ranges from -1.3795 to -1.1216, clearly excluding zero. This confirms that the improvement is statistically significant and not due to random chance.

The t-statistic of -19.0580, with 454 degrees of freedom, indicates a strong deviation from the null hypothesis. The associated two-tailed p-value is less than 0.0000, reinforcing the robustness of the result. These findings clearly demonstrate that financial assistance had a significant impact on MSMEs' ability to meet customer demand.

In light of the evidence, the null hypothesis H_0 which suggests that financial assistance significantly affect the ability of MSMEs to meet the market demand is accepted.

To conclude, the paired sample t-test results show that financial assistance has positively enhanced MSMEs' ability to meet market demand. This improvement is likely attributed to increased working capital, smoother supply chains, better inventory management, and enhanced labor reliability. Meeting customer demand is essential for customer satisfaction, repeat business, and long-term competitiveness. These findings highlight the strategic importance of financial interventions in strengthening the operational readiness and market responsiveness of MSMEs.

4.30. Hypothesis Testing

H1i: Financial assistance has significantly increased investment in product or process innovation in MSMEs

Performance Indicator: Investment in product or process innovation

Table 4.26: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the Investment in product of MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|---|-----------------------------|-----|--------------|------------|--------------------------|-------------------------|
| Investment in product or process innovation | Before Financial assistance | 455 | 2.5802 | 0.0471 | 1.0053 | [2.4876, 2.6728] |
| | After Financial assistance | 455 | 3.8066 | 0.0443 | 0.9447 | [3.7196, 3.8936] |
| Difference (After - Before) | | 455 | -1.2264 | 0.0669 | 1.4264 | [-1.3578, -1.0950] |
| t-statistic: | df = 454 | | t = -18.3398 | | p (two-tailed) = 0.00001 | |

This analysis evaluates the impact of financial assistance on the investment capacity of Micro,

Small, and Medium Enterprises (MSMEs). A paired sample t-test was conducted on data collected from 455 firms, comparing their reported investment ability before and after receiving financial support. The objective is to determine whether financial aid significantly enhanced the firms' capacity to invest in resources critical for growth and operational efficiency.

Before receiving financial assistance, the average investment score was 2.5802, with a standard deviation of 1.0053. This reflects limited or inconsistent investment behavior, likely due to cash flow restrictions, uncertainty in revenues, or lack of access to credit. Following the provision of financial support, the mean score increased significantly to 3.8066, while the standard deviation declined to 0.9447. This change indicates a notable improvement in the ability and willingness of MSMEs to commit resources toward business expansion or operational enhancement.

The mean difference between the after and before values is -1.2264. Despite the negative sign resulting from the subtraction method (After minus Before), the interpretation reveals a positive change. The standard error of this difference is 0.0669, indicating a consistent improvement across the sample. The 95 percent confidence interval ranges from -1.3578 to -1.0950, and it does not include zero. This confirms that the improvement is statistically significant and not attributable to random variation.

The t-statistic of -18.3398 with 454 degrees of freedom, accompanied by a p-value of less than 0.00001, provides strong evidence that the observed difference is highly significant. These results accept the null hypothesis H_0 , which asserts that financial assistance had no effect on investment capacity.

The paired sample t-test results clearly show that financial assistance has significantly strengthened the investment capabilities of MSMEs. This improvement likely enabled firms to upgrade equipment, expand production capacity, adopt new technologies, or invest in workforce development. Such investments are vital for competitiveness, resilience, and sustainable growth. The findings underscore the importance of targeted financial support in empowering MSMEs to pursue strategic investments that contribute to long-term business success.

4.31. Hypothesis Testing

H1j: Financial assistance has significantly enhanced the capacity of MSMEs to accept large orders.

Performance Indicator: Capacity for Large Orders

Table 4.27: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the Capacity of large Orders MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|-----------------------------|-----------------------------|--------------|---------|-------------------------|-----------|-------------------------|
| Capacity for larger Orders | Before Financial assistance | 455 | 2.5648 | 0.0449 | 0.9570 | [2.4767, 2.6530] |
| | After Financial assistance | 455 | 3.8549 | 0.0428 | 0.9129 | [3.7708, 3.9391] |
| Difference (After - Before) | | 455 | -1.2901 | 0.0608 | 1.2970 | [-1.4096, -1.1706] |
| t-statistic: | df = 454 | t = -21.2177 | | p (two-tailed) = 0.0000 | | |

This analysis examines the effect of financial assistance on the capacity of Micro, Small, and Medium Enterprises (MSMEs) to handle large-scale orders. A paired sample t-test was performed using data from 455 MSMEs to compare their operational capacity for managing large orders before and after receiving financial support. The objective is to evaluate whether financial aid has significantly improved the firms' ability to scale up operations in response to increased demand.

Before financial assistance, the mean score for the capacity to manage large orders was 2.5648, with a standard deviation of 0.9570. This suggests that many MSMEs faced limitations in infrastructure, manpower, or resource availability, which likely constrained their ability to accept or fulfill large orders. After receiving financial support, the mean score increased substantially to 3.8549, accompanied by a reduced standard deviation of 0.9129. The increase in the mean and slight decrease in variability indicate a consistent and marked enhancement in operational scalability across the sample.

The mean difference between the post-assistance and pre-assistance values is -1.2901. Although expressed as a negative number due to the subtraction method (After minus Before), the interpretation reflects a significant improvement in performance. The standard error of the difference is 0.0608, showing tight clustering around the mean and reliable change among firms.

The 95 percent confidence interval for the mean difference spans from -1.4096 to -1.1706, which excludes zero, confirming the statistical significance of the observed change.

The t-statistic of -21.2177 with 454 degrees of freedom is exceptionally high in magnitude, reinforcing the strength of the result. The associated two-tailed p-value is less than 0.0000, which strongly supports acceptance of the null hypothesis H_0 that financial assistance had no effect on the capacity to handle large orders.

The findings of this paired sample t-test clearly demonstrate that financial assistance has significantly improved the ability of MSMEs to manage large-volume orders. This improvement likely stems from increased liquidity, better procurement of raw materials, enhanced staffing capabilities, or investments in equipment and logistics. Strengthening the capacity to fulfill larger orders is crucial for entering new markets, securing institutional clients, and achieving economies of scale. Thus, these results affirm the critical role of financial support in enabling MSMEs to grow and meet the demands of a more competitive business environment.

4.32. Hypothesis Testing

H1k: Financial assistance has significantly improved the availability of skilled manpower in MSMEs.

Performance Indicator: Availability of skilled manpower

Table 4.28: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the availability of skilled manpower of MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|----------------------------------|-----------------------------|-----|--------------|------------|--------------------------|-------------------------|
| Availability of skilled manpower | Before Financial assistance | 455 | 2.5011 | 0.0476 | 1.0150 | [2.4076, 2.5946] |
| | After Financial assistance | 455 | 3.7121 | 0.0434 | 0.9260 | [3.6268, 3.7974] |
| Difference (Before After) | | 455 | -1.2110 | 0.0635 | 1.3535 | [-1.3357, -1.0863] |
| t-statistic: | df = 454 | | t = -19.0844 | | p (two-tailed) = 0.00001 | |

This analysis assesses the impact of financial assistance on the availability of resources within Micro, Small, and Medium Enterprises (MSMEs). A paired sample t-test was conducted using responses from 455 MSMEs to compare the availability of resources before and after accessing

financial support. The objective is to evaluate whether financial assistance significantly enhanced the internal resource base of MSMEs.

Before receiving financial assistance, the mean score for the availability of resources was 2.5011, with a standard deviation of 1.0150. This relatively low score indicates that many MSMEs operated under limited resource conditions, which may include constraints in raw materials, manpower, production inputs, or infrastructural facilities. After accessing financial support, the mean score rose significantly to 3.7121, while the standard deviation slightly decreased to 0.9260, suggesting a more consistent and improved level of resource availability across the enterprises.

The mean difference between post- and pre-assistance values was -1.2110. Although the difference is presented as a negative value (due to the subtraction order of post minus pre), the interpretation clearly reflects a significant increase in the availability of resources after financial assistance was availed. The standard error of the difference is 0.0635, indicating that the observed change is statistically reliable and not widely dispersed. The 95% confidence interval, ranging from -1.3357 to -1.0863, does not include zero, reinforcing the significance of the change.

The t-statistic of -19.0844 with 454 degrees of freedom and a two-tailed p-value < 0.00001 strongly supports the null hypothesis H_0 that there is a significant difference in resource availability before and after financial support. The magnitude and statistical significance of the result confirm a robust effect of financial assistance on resource accessibility in MSMEs.

The results of the paired sample t-test conclusively indicate that financial assistance significantly improves the availability of resources in MSMEs. This enhancement likely enables firms to strengthen their procurement processes, hire additional personnel, upgrade operational infrastructure, and ensure better continuity in production cycles. Improved resource availability is a foundational element for business stability and growth, enabling MSMEs to respond effectively to market demand, improve service delivery, and expand their operations. These findings underscore the strategic importance of institutional financial support in addressing resource constraints commonly faced by small and medium enterprises.

4.33. Hypothesis Testing

H11: Financial assistance has significantly improved repayment capability towards debts/loans in MSMEs.

Performance Indicator: Repayment capability towards debts/loans

Table 4.29: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the Repayment capacity of MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|--|-----------------------------|--------------|---------|-------------------------|-----------|-------------------------|
| repayment capability towards debts/loans | Before Financial assistance | 455 | 2.4967 | 0.0456 | 0.9729 | [2.4071, 2.5866] |
| | After Financial assistance | 455 | 3.7165 | 0.0437 | 0.9321 | [3.6306, 3.8024] |
| Difference (Before- After) | | 455 | -1.2198 | 0.0628 | 1.3390 | [-1.3431, -1.0964] |
| t-statistic: | df = 454 | t = -19.4311 | | p (two-tailed) = 0.0000 | | |

This section presents an analysis of the effect of financial assistance on the debt loan repayment capacity of Micro, Small, and Medium Enterprises (MSMEs). A paired sample t-test was conducted using responses from 455 MSMEs to compare their ability to repay debts and loans before and after receiving financial support. The objective is to assess whether access to finance significantly strengthens MSMEs' capacity to manage and service their financial obligations.

Before availing financial support, the mean score for debt loan repayment capacity stood at 2.4967, with a standard deviation of 0.9729. This relatively modest score suggests that many MSMEs faced challenges in meeting debt obligations, likely due to cash flow constraints or limited earnings. After receiving financial assistance, the mean score increased significantly to 3.7165, with a slightly lower standard deviation of 0.9321, indicating both improved repayment capacity and greater consistency among firms in managing their financial liabilities.

The mean difference between post- and pre-assistance scores was -1.2198. While this difference is negative due to the order of subtraction (Before minus After), it clearly reflects a substantial

increase in debt repayment capacity following the receipt of financial support. The standard error of this difference is 0.0628, suggesting a tight distribution around the mean and reliable change. The 95% confidence interval, ranging from -1.3431 to -1.0964, excludes zero, reinforcing the significance of the observed improvement.

The computed t-statistic of -19.4311 (df = 454), coupled with a p-value < 0.0000, provides robust statistical evidence in favor the null hypothesis that financial assistance has significant effect. The magnitude and significance of this result confirm that financial aid has a considerable and consistent impact on the repayment ability of MSMEs. So, we confidently accept null hypothesis h11.

The paired sample t-test findings clearly indicate that financial assistance significantly enhances the debt loan repayment capacity of MSMEs. This improvement likely stems from improved cash flows, optimized financial planning, and reduced dependence on informal credit sources. Strengthening repayment capacity is not only vital for business sustainability but also improves creditworthiness, enabling future access to formal financing channels. These findings highlight the critical role of structured financial support in stabilizing and empowering MSMEs in managing their financial commitments more effectively.

4.34. Hypothesis Testing

H1m: Financial assistance has significantly improved accounting and financial record-keeping in MSMEs.

Performance Indicator: improved accounting and financial record-keeping

Table 4.30: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the Steady Cash Flow MSMEs.

| Variable | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|---------------------|----------|--------------|--------------------------|-----------|-------------------------|
| | 455 | 2.5451 | 0.0465 | 0.9921 | [2.4537, 2.6365] |
| | 455 | 3.7451 | 0.0452 | 0.9640 | [3.6562, 3.8339] |
| Difference (e - d) | 455 | -1.2000 | 0.0667 | 1.4226 | [-1.3311, -1.0689] |
| t-statistic: | df = 454 | t = -17.9930 | p (two-tailed) = 0.00001 | | |

This analysis investigates the effect of financial assistance on the accounting and financial management practices within Micro, Small, and Medium Enterprises (MSMEs). Using data from 455 MSMEs, a paired sample t-test was conducted to compare their accounting and finance-related

capabilities before and after accessing financial support. The aim is to determine whether formal financial aid contributes meaningfully to improvements in financial record-keeping, budgeting, cost tracking, and overall financial discipline.

Prior to receiving financial assistance, the mean score for accounting and financial management practices was 2.5451, with a standard deviation of 0.9921. This score indicates that many MSMEs had limited capacity or systems in place to manage their financial affairs efficiently, possibly due to lack of training, informal operations, or resource constraints. After availing financial assistance, the mean score rose to 3.7451, with a slightly lower standard deviation of 0.9640, suggesting both improvement and more consistency in financial practices across enterprises.

The mean difference between post-assistance and pre-assistance scores is -1.2000. Although the subtraction (e - d) results in a negative value, it clearly reflects a significant increase in the quality of accounting and financial management practices following financial support. The standard error of the difference is 0.0667, indicating a tight and reliable estimate of change. Furthermore, the 95% confidence interval for the mean difference ranges from -1.3311 to -1.0689, which excludes zero and confirms the statistical significance of the result.

The calculated t-statistic of -17.9930 with 454 degrees of freedom, along with a p-value < 0.00001, strongly supports the acceptance of the null hypothesis H_0 , that financial assistance has significant effect on financial management practices. The size and direction of this result highlight a substantial positive shift in the enterprises' financial capabilities post-assistance.

The findings from this paired sample t-test provide compelling evidence that financial assistance significantly improves accounting and financial management practices in MSMEs. These improvements may include better record-keeping, structured financial planning, enhanced cost control, and compliance with financial reporting standards. Such developments not only strengthen internal operations but also build credibility with lenders, investors, and regulatory bodies. Overall, these results emphasize the importance of financial support as a catalyst for fostering sound financial practices within the MSME sector, contributing to long-term business viability and strategic decision-making.

4.35. Hypothesis Testing

H1n: Financial assistance has significantly increased the upgrading of machinery and technology in MSMEs.

Performance Indicator: upgrading of machinery and technology

Table 4.31: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the upgrading the machines of MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|---------------------------------------|-----------------------------|-----|--------------|------------|--------------------------|-------------------------|
| upgrading of machinery and technology | Before Financial assistance | 455 | 2.5121 | 0.04697 | 1.0019 | [2.4198, 2.6044] |
| | After Financial assistance | 455 | 3.7516 | 0.04395 | 0.9380 | [3.6653, 3.8380] |
| Difference (Before- After) | | 455 | -1.2400 | 0.06376 | 1.3593 | [-1.3648, -1.1143] |
| t-statistic: | df = 454 | | t = -19.4513 | | p (two-tailed) = 0.00001 | |

This analysis evaluates the effect of financial assistance on the machinery and technology upgradation practices among Micro, Small, and Medium Enterprises (MSMEs). A paired sample t-test was conducted on data collected from 455 MSMEs to compare their status in terms of technological improvement and machinery enhancement before and after receiving financial support. The primary objective is to determine whether access to finance enables firms to invest in better machinery, adopt newer technologies, and improve production efficiency.

Before accessing financial assistance, the mean score for machinery and technology upgradation was 2.5121, with a standard deviation of 1.0019. This relatively modest average suggests that many MSMEs faced constraints in modernizing their equipment or adopting up-to-date technologies, possibly due to capital limitations. After receiving financial support, the mean score increased markedly to 3.7516, with a reduced standard deviation of 0.9380, indicating a substantial and more uniform improvement across the sample.

The mean difference in scores between post-assistance and pre-assistance conditions was -1.2400. While the difference appears negative due to the calculation method (post minus pre), it reflects a significant enhancement in machinery and technology upgradation following financial intervention. The standard error of the difference is 0.06376, suggesting consistency in the observed change. The 95% confidence interval, ranging from -1.3648 to -1.1143, excludes zero, further confirming the statistical significance of the improvement.

The computed t-statistic of -19.4513 ($df = 454$), accompanied by a p-value < 0.00001 , provides strong evidence to accept the null hypothesis that financial assistance has significant effect on technological advancement. The strength and direction of the result clearly indicate a meaningful and consistent shift in the technological capabilities of MSMEs post-assistance.

The results of the paired sample t-test indicate that financial assistance has a significant and positive impact on machinery and technology upgradation among MSMEs. This improvement likely results from increased capital availability, enabling firms to invest in more advanced machinery, automate production processes, or adopt innovative technologies. Upgrading technology is crucial not only for improving operational efficiency and product quality but also for enhancing competitiveness in both domestic and global markets. These findings underscore the strategic importance of targeted financial support in promoting technological advancement within the MSME sector, thereby driving sustainable growth and modernization.

4.36. Hypothesis Testing

H1o: Financial assistance has significantly improved supply chain stability and management in MSMEs.

Performance Indicator: improved supply chain stability and management

Table 4.32: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the improving supply chain of MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|--|-----------------------------|-----|--------------|------------|-------------------------|-------------------------|
| Improved supply chain stability and management | Before Financial assistance | 455 | 2.5143 | 0.0457 | 0.9751 | [2.4245, 2.6041] |
| | After Financial assistance | 455 | 3.7253 | 0.0450 | 0.9603 | [3.6368, 3.8137] |
| Difference (Before-After) | | 455 | -1.2110 | 0.0641 | 1.3665 | [-1.3369, -1.0851] |
| t-statistic: | df = 454 | | t = -18.9035 | | p (two-tailed) = 0.0000 | |

This analysis investigates the effect of financial assistance on supply chain management practices among Micro, Small, and Medium Enterprises (MSMEs). A paired sample t-test was conducted using responses from 455 MSMEs to assess changes in supply chain efficiency and effectiveness before and after receiving financial support. The core objective is to evaluate whether financial aid contributes to improvements in procurement, logistics, vendor management, and timely delivery processes.

Prior to financial assistance, the mean score for supply chain management was 2.5143, with a standard deviation of 0.9751. This relatively low average indicates that a significant proportion of MSMEs faced operational inefficiencies in managing their supply chains, possibly due to inadequate infrastructure, limited bargaining power with suppliers, or delays in inventory movement. After availing financial support, the mean score increased significantly to 3.7253, with a slightly lower standard deviation of 0.9603, suggesting a considerable and more consistent enhancement across firms.

The mean difference between post- and pre-assistance scores is -1.2110. Despite the negative sign resulting from the subtraction method (post minus pre) this reflects a notable and statistically significant improvement in supply chain management after receiving financial aid. The standard

error of the difference is 0.0641, indicating a tight distribution around the mean difference. The 95% confidence interval ranges from -1.3369 to -1.0851, which does not include zero, thereby confirming the reliability of the observed improvement.

The calculated t-statistic is -18.9035 with 454 degrees of freedom, and the two-tailed p-value is less than 0.0000, providing strong statistical evidence to accept the null hypothesis H_0 . This confirms that the change in supply chain performance following financial support is both statistically significant and practically meaningful.

The results of the paired sample t-test clearly demonstrate that financial assistance has significantly enhanced supply chain management practices in MSMEs. With better access to funds, enterprises are likely to have optimized their procurement processes, strengthened supplier relationships, improved inventory turnover, and streamlined logistics operations. Efficient supply chain management plays a pivotal role in ensuring timely production, cost control, and customer satisfaction. These findings highlight the instrumental role of financial support in enabling MSMEs to address operational bottlenecks and build more agile, resilient supply chains in a competitive market landscape.

4.37. Hypothesis Testing

H1p: Financial assistance has significantly increased overall profitability in MSMEs.

Performance Indicator: increased overall profitability

Table 4.33: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the overall profitability of MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|---------------------------------|-----------------------------|--------------|---------|--------------------------|-----------|-------------------------|
| Increased overall Profitability | Before Financial assistance | 455 | 2.5121 | 0.0443 | 0.9453 | [2.4250, 2.5992] |
| | After Financial assistance | 455 | 3.7780 | 0.0434 | 0.9035 | [3.6948, 3.8613] |
| Difference (Before- After) | | 455 | -1.2659 | 0.0610 | 1.3013 | [-1.3858, -1.1460] |
| t-statistic: | df = 454 | t = -20.7507 | | p (two-tailed) = 0.00001 | | |

This analysis assesses the impact of financial assistance on the overall profitability of Micro, Small, and Medium Enterprises (MSMEs). A paired sample t-test was conducted on responses from 455 MSMEs to evaluate changes in their profitability metrics before and after receiving financial support. The aim is to determine whether access to external finances has tangibly influenced bottom-line outcomes for these enterprises.

Before receiving financial assistance, the mean score for overall profitability stood at 2.5121, with a standard deviation of 0.9453. This relatively modest average reflects the constrained financial performance of many MSMEs, possibly due to high operational costs, limited market reach, or restricted capital availability. Following the receipt of financial support, the mean score increased markedly to 3.7780, while the standard deviation slightly declined to 0.9035, indicating not only an improvement in profitability but also more uniform gains across the sample.

The mean difference between the post-assistance and pre-assistance scores is -1.2659, with a standard error of 0.0610. Although the difference is presented as negative due to the subtraction

order (post minus pre), it represents a substantial increase in profitability. The 95% confidence interval ranges from -1.3858 to -1.1460, clearly excluding zero and confirming the statistical significance of the improvement.

The t-statistic is -20.7507 with 454 degrees of freedom, and the two-tailed p-value is < 0.00001 , offering robust evidence in favor of the null hypothesis H_0 . This demonstrates that the improvement in overall profitability following financial assistance is statistically significant and unlikely to have occurred by chance.

The results of this paired sample t-test provide compelling evidence that financial assistance has significantly enhanced the overall profitability of MSMEs. This improvement may be attributed to better cash flow management, increased production capacity, expansion into new markets, or the ability to take advantage of economies of scale. Enhanced profitability is essential for the long-term sustainability and growth of MSMEs, and these findings underscore the importance of structured financial support in strengthening the financial health of this critical sector in the economy.

4.38. Hypothesis Testing

H1q: Financial assistance has significantly improved confidence in business continuity among MSMEs.

Performance Indicator: improved confidence in business continuity

Table 4.34: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the Business Continuity Confidence MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|--|-----------------------------|-----|--------------|------------|-------------------------|-------------------------|
| improved confidence in business continuity | Before Financial assistance | 455 | 2.5033 | 0.0458 | 0.9774 | [2.4132, 2.5933] |
| | After Financial assistance | 455 | 3.7692 | 0.0438 | 0.9254 | [3.6840, 3.8545] |
| Difference (After - Before) | | 455 | -1.2659 | 0.0626 | 1.3347 | [-1.3889, -1.1430] |
| t-statistic: | df = 454 | | t = -20.2310 | | p (two-tailed) = 0.0000 | |

This analysis evaluates the change in confidence in business operations among Micro, Small, and Medium Enterprises (MSMEs) before and after availing financial assistance. A paired sample t-test was applied to responses from 455 MSMEs to determine whether financial support significantly bolstered their confidence in continuing or expanding business activities.

Prior to receiving financial assistance, the mean score for business confidence was 2.5033, with a standard deviation of 0.9774. These figures suggest a cautious or uncertain outlook among MSMEs, likely due to financial constraints, limited access to markets, or operational challenges. Following financial intervention, the mean confidence score increased considerably to 3.7692, accompanied by a reduced standard deviation of 0.9254. This shift indicates a notable and consistent rise in optimism and stability across the respondent group.

The mean difference in confidence levels before and after financial assistance is -1.2659, with a standard error of 0.0626. While the difference is expressed as negative due to the subtraction order (After minus Before), the interpretation reflects a significant improvement in the business outlook. The 95% confidence interval for the difference lies between -1.3889 and -1.1430, excluding zero and thus affirming the reliability and statistical significance of the observed change.

The t-statistic is -20.2310 with 454 degrees of freedom, and the associated p-value is < 0.0000, strongly indicating that the null hypothesis H_0 of significant change in business confidence is accepted.

The paired sample t-test results confirm that financial assistance has significantly enhanced the confidence of MSMEs in their business activities. This increase in confidence may be attributed to improved financial stability, greater investment in growth initiatives, or a strengthened ability to withstand market uncertainties. Elevated business confidence is crucial for entrepreneurial risk-taking, innovation, and long-term planning elements essential for the sustained development of the MSME sector. These findings emphasize the transformative role of financial support in reinforcing the resilience and future-oriented mindset of small businesses.

4.39. Hypothesis Testing

H1r: Financial assistance has significantly improved access to new domestic and international markets for MSMEs.

Performance Indicator: Access to New Markets

Table 4.35: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the Access to new market MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|--|-----------------------------|-----|--------------|------------|-----------|--------------------------|
| Access to new domestic /international market | Before Financial assistance | 455 | 2.4835 | 0.0465 | 0.9907 | [2.3922, 2.5748] |
| | After Financial assistance | 455 | 3.7736 | 0.0441 | 0.9406 | [3.6870, 3.8603] |
| Difference (Before-After) | | 455 | -1.2901 | 0.0626 | 1.3355 | [-1.4131, -1.1671] |
| t-statistic: | df = 454 | | t = -20.6061 | | | p (two-tailed) = 0.00001 |

The analysis supports the hypothesis H1r: Financial assistance has significantly improved access to new domestic and international markets for MSMEs. Based on responses from 455 participants, the mean score for access to new markets before financial assistance was 2.48 (SE = 0.0465), while the mean after receiving assistance increased significantly to 3.77 (SE = 0.0441). The mean difference of -1.29 (SD = 1.34), with a 95% confidence interval of [-1.4131, -1.1671], indicates a

statistically significant improvement. The paired-sample t-test further confirms this result, with a t-value of -20.61 and a p-value < 0.00001 , clearly rejecting the null hypothesis and affirming that the observed difference is not due to chance.

These results demonstrate that financial assistance has had a substantial positive effect on MSMEs' ability to access new markets, both domestic and international. The significant rise in mean scores post-assistance reflects an enhancement in market reach and business opportunities, thereby validating the stated hypothesis.

4.40. Hypothesis Testing

H1s: Financial assistance has significantly improved business planning and budgeting in MSMEs.

Performance Indicator: improved business planning and budgeting

Table 4.36: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the improved business planning and Budgeting for MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|---------------------------------|-----------------------------|-----|--------------|------------|-----------|-------------------------|
| business planning and budgeting | Before Financial assistance | 455 | 2.4879 | 0.0466 | 0.9930 | [2.3964, 2.5799] |
| | After Financial assistance | 455 | 3.7495 | 0.0446 | 0.9517 | [3.6617, 3.8372] |
| Difference (After - Before) | | 455 | -1.2615 | 0.0642 | 1.3698 | [-1.3877, -1.1353] |
| t-statistic: | df = 454 | | t = -19.6447 | | | p (two-tailed) = 0.0000 |

The analysis presents a comparison of participants' perceptions regarding business planning before and after a specific intervention or change, assessed across 455 respondents. The variable Businessplanning-g (Before) has a mean score of 2.49 (SE = 0.0466), while the variable Businessplanning-t (After) shows a substantially higher mean of 3.75 (SE = 0.0446). This noticeable increase suggests that respondents experienced a significant improvement in business planning practices or understanding following the intervention. The mean difference between the "after" and "before" scores is -1.26, with a standard deviation of 1.37 and a 95% confidence interval ranging from -1.3877 to -1.1353. The confidence interval does not cross zero, indicating

that the change in perception is not due to chance. The negative sign in the difference (After - Before) might seem counterintuitive at first, but it typically reflects the way the data were coded or arranged for statistical analysis. Given that the "after" scores are higher, this confirms a positive shift in business planning perceptions. The result of the paired-sample t-test is highly statistically significant, with a t-value of -19.64 and p-value < 0.00001 (df = 454). This strong statistical evidence reinforces the conclusion that the difference observed is meaningful and not random. The large t-value and the tight confidence interval suggest a consistent and strong effect across the sample. so we confidently accept null hypothesis H_1 s.

These findings demonstrate a significant enhancement in business planning outcomes following the intervention or program. This implies that the change implemented whether a training session, strategic shift, or structural improvement had a substantial and positive impact on how participants engage with or perceive business planning. Such a shift could lead to more structured goal-setting, better resource alignment, and improved decision-making processes within the organization, thereby contributing to its long-term strategic effectiveness.

4.41. Hypothesis Testing

H1t: Financial assistance has significantly improved compliance with statutory and legal obligations in MSMEs.

Performance Indicator: improved compliance with statutory and legal obligations

Table 4.37: This table presents the results of a paired sample t-test conducted to assess the impact of financial assistance on the improved compliance MSMEs.

| Variable | | N | Mean | Std. Error | Std. Dev. | 95% Confidence Interval |
|--|-----------------------------|--------------|---------|------------|-------------------------|-------------------------|
| improved compliance with statutory and legal obligations | Before Financial assistance | 455 | 2.4659 | 0.0468 | 0.9991 | [2.3739, 2.5580] |
| | After Financial assistance | 455 | 3.7692 | 0.0432 | 0.9206 | [3.6844, 3.8540] |
| Difference (After - Before) | | 455 | -1.3033 | 0.0641 | 1.3668 | [-1.4292, -1.1774] |
| t-statistic: | df = 454 | t = -20.3396 | | | p (two-tailed) = 0.0000 | |

The statistical analysis examines the change in compliance behavior or understanding before and after a particular intervention or event, using paired data from 455 participants. The mean score for compliance before the intervention (Compliance With Before) was 2.47 (SE = 0.0468), while the mean after the intervention (Compliance With After) significantly increased to 3.77 (SE = 0.0432). This substantial rise in the mean suggests a clear improvement in perceived or actual compliance following the intervention.

The mean difference between the "after" and "before" scores is -1.30 with a standard deviation of 1.37. The 95% confidence interval for the difference ranges from -1.4292 to -1.1774, which does not cross zero. This confirms that the observed improvement is statistically significant and unlikely due to random variation.

A paired-sample t-test was conducted to determine whether the difference in compliance before and after the intervention was statistically significant. The test produced a t-value of -20.34 with 454 degrees of freedom, and a two-tailed p-value of < 0.00001 . This exceptionally low p-value provides strong evidence against the null hypothesis, indicating that the improvement in compliance is not only statistically significant but also consistent across the sample.

The negative sign in the difference (After - Before) and the t-value reflects the coding direction, where subtraction of "before" from "after" yields a negative number due to higher "after" values. Importantly, this signifies that post-intervention compliance improved substantially. So we confidently accept the null hypothesis H_0 .

In summary, the results point to a marked and statistically significant enhancement in compliance behaviours or perceptions after the intervention. This could be attributed to increased awareness, better training, more effective monitoring mechanisms, or organizational policy changes. Such a shift is likely to contribute positively to regulatory alignment, risk mitigation, and ethical adherence, reinforcing the importance of continued investment in compliance-related initiatives.

SECTION IV

Constraints faced by the MSMEs and Banks

4.42. Estimation technique

The objective of this study is to identify and categorize the major constraints faced by Micro, Small, and Medium Enterprises (MSMEs) and banks in the credit lending and borrowing process. Given the wide range of challenges reported ranging from procedural complexities and collateral requirements to awareness gaps and policy-related concerns there is a need to simplify and group these constraints into underlying dimensions. To achieve this, Exploratory Factor Analysis (EFA) has been employed as a statistical tool. EFA helps uncover the latent structure among the observed variables by reducing them into fewer, interpretable factors that represent broader themes or constructs. This technique is particularly useful in exploratory research where the goal is to understand how different observed issues cluster together to form meaningful categories that can guide future policy or operational improvements.

4.43. Exploratory Factor Analyses

Table 4.38: Pre estimation test for exponential factor analyses

| Test | Statistic | Value | Interpretation |
|-----------------------------------|--------------------|----------|--|
| Kaiser-Meyer-Olkin (KMO) Measure | Overall KMO | 0.898 | Indicates great sampling adequacy for factor analysis (KMO > 0.80). |
| Bartlett's Test of Sphericity | Chi-Square | 5992.438 | Significant test result confirms factorability. |
| | Degrees of Freedom | 276 | |
| | p-value | 0.000 | p < 0.05: Rejects null hypothesis; variables are sufficiently correlated. |
| Determinant of Correlation Matrix | Det | 0.000 | Very small value; multicollinearity present, which supports EFA if expected. |

Before proceeding with Exploratory Factor Analysis (EFA), it is essential to assess whether the data is suitable for factor extraction. Several statistical tests were conducted to evaluate this suitability. Firstly, the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy yielded a value of 0.898, which falls within the range (KMO > 0.80), indicating that the sample is adequate for conducting factor analysis and that the variables share common factors. Secondly, the Bartlett's Test of Sphericity produced a Chi-square value of 5992.438 with 276 degrees of freedom and a p-

value of 0.000, which is highly significant ($p < 0.05$). This allows us to reject the null hypothesis that the correlation matrix is an identity matrix, thereby confirming that the variables are sufficiently interrelated and suitable for factor extraction. Lastly, the Determinant of the Correlation Matrix was found to be 0.000, a very small value that suggests the presence of multicollinearity a condition that supports the use of factor analysis when expected. Together, these tests confirm that the data meets the necessary assumptions for EFA and can be meaningfully analyzed to uncover underlying factor structures.

4.44. Factor analyses for MSME Respondents

Table 4.39: Eigenvalue Table values

| Factor | Eigenvalue | Difference | Proportion | Cumulative |
|--------------------|-------------------|-------------------|-------------------|-------------------|
| Factor1 | 3.62968 | 0.27480 | 0.5717 | 0.5717 |
| Factor2 | 3.35488 | 3.32233 | 0.5284 | 1.1000 |
| Factor3 | 0.03256 | 0.03208 | 0.0051 | 1.1052 |
| Factor4 | 0.00048 | 0.01615 | 0.0001 | 1.1052 |
| Factor5 | -0.01567 | 0.03038 | -0.0025 | 1.1028 |
| Factor6 | -0.04605 | 0.02371 | -0.0073 | 1.0955 |
| Factor7 | -0.06988 | 0.00171 | -0.0110 | 1.0845 |
| Factor8 | -0.07197 | 0.02431 | -0.0113 | 1.0732 |
| Factor9 | -0.09568 | 0.01123 | -0.0151 | 1.0581 |
| Factor10 | -0.10691 | 0.01774 | -0.0177 | 1.0404 |
| Factor11 | -0.12304 | 0.01048 | -0.0194 | 1.0210 |
| Factor12 | -0.13352 | | -0.0210 | 1.0000 |
| NO of Observations | | | | 455 |
| Prob | | | | 0.000 |

The eigenvalue table is a critical output in Exploratory Factor Analysis (EFA), helping determine the optimal number of factors to retain for meaningful interpretation. In this analysis, a total of 12 variables were examined, as reflected in the 12 factors extracted. Among these, Factor 1 and Factor 2 stand out prominently, with eigenvalues of 3.63 and 3.35 respectively. These two values are substantially greater than 1.0, a conventional threshold known as Kaiser's criterion which suggests that only factors with eigenvalues > 1 should be retained, as they explain more variance than an individual variable.

Together, Factor 1 and Factor 2 account for approximately 1.10 (or 110% due to cumulative scaling in proportion) of the standardized total variance. More precisely, Factor 1 explains 57.17%

and Factor 2 explains 52.84% of the total variance when standardized. This dominance of the first two factors indicates a strong latent structure within the data, where the majority of variation is captured by just these two underlying dimensions. The steep drop in eigenvalues after Factor 2 (with Factor 3 having an eigenvalue of just 0.03) and the presence of negative eigenvalues thereafter suggests that additional factors do not contribute meaningfully and may represent random error or noise.

The differences in eigenvalues also support the retention of only the first two factors. The sharp fall from Factor 2 to Factor 3 (from 3.35 to 0.03) marks an elbow point, which can be visually confirmed using a scree plot, reinforcing that the optimal factor solution lies in two components. This eigenvalue structure justifies proceeding with a two-factor solution for further interpretation. The next step, therefore, is to examine the factor loadings matrix to understand how the original observed variables group under these two factors thus revealing the key dimensions of constraints experienced by MSMEs and banks in the lending process.

Table 4.40: Factor Loading

| Variable | Factor1 | Factor2 | Factor3 | Factor4 | Uniqueness |
|---|---------|---------|---------|---------|------------|
| 1. Complexity of Procedures | 0.7218 | -0.2841 | 0.0923 | 0.0022 | 0.3898 |
| 2. Collateral Requirements | 0.7206 | -0.2908 | 0.0268 | 0.0059 | 0.3954 |
| 3. Documentation Burden | 0.7424 | -0.2275 | -0.0281 | 0.0009 | 0.3963 |
| 4. Processing Time/Delays | 0.7291 | -0.3131 | -0.0515 | -0.0058 | 0.3677 |
| 5. Staff Responsiveness | 0.7148 | -0.2828 | -0.0848 | 0.0058 | 0.4018 |
| 6. Loan Amount Adequacy | 0.6967 | -0.2748 | 0.0475 | -0.0086 | 0.4368 |
| 7. Interest Rates | 0.2825 | 0.6537 | 0.0872 | 0.0045 | 0.4853 |
| 8. Awareness of Schemes | 0.2258 | 0.7032 | 0.0026 | 0.0035 | 0.4545 |
| 9. Technology & Digitization | 0.3012 | 0.7090 | -0.0487 | 0.0032 | 0.4043 |
| 10. Credit Assessment Fairness | 0.3062 | 0.6822 | -0.0177 | 0.0078 | 0.4404 |
| 11. Monitoring & Follow-ups | 0.2958 | 0.7174 | -0.0082 | -0.0058 | 0.3977 |
| 12. Policy & NPA Concerns | 0.3280 | 0.6927 | -0.0083 | -0.0127 | 0.4124 |

The factor loading matrix derived from the Exploratory Factor Analysis (EFA) presents a clear and insightful classification of the key underlying dimensions influencing constraints in the MSME lending process. The two factors extracted through principal factor extraction, based on eigenvalues greater than one and the cumulative proportion of variance explained, capture the majority of the shared variance among the twelve observed variables. These factors offer a coherent latent structure, helping to distill complex issues into interpretable thematic categories.

Factor 1: Procedural and Operational Constraints in Lending Processes

Factor 1 exhibits substantial loadings on a group of variables that are inherently linked to the structural and procedural difficulties faced by MSMEs in their interaction with formal banking institutions. Notably, the following items show strong and consistent loadings on this factor:

- *Complexity of Procedures* (0.7218)
- *Collateral Requirements* (0.7206)
- *Documentation Burden* (0.7424)
- *Processing Time/Delays* (0.7291)
- *Staff Responsiveness* (0.7148)
- *Loan Amount Adequacy* (0.6967)

These items collectively reflect a recurring theme: MSMEs often encounter institutional rigidity, cumbersome documentation demands, prolonged approval timelines, and unaccommodating service personnel. The factor, therefore, can be aptly conceptualized as capturing “Procedural and Operational Constraints.” The relatively low uniqueness values (ranging between 0.36 and 0.43) further affirm that a substantial portion of the variance in these variables is successfully explained by this latent dimension. This implies that for a large number of enterprises, internal inefficiencies within the banking process not external financial limitations serve as the primary impediments to securing finance.

The clarity of factor loading patterns here underscores the homogeneity of responses regarding procedural challenges, suggesting that addressing this dimension could significantly streamline credit access for MSMEs.

Factor 2: Barriers to Financial Accessibility and Knowledge

The second factor demonstrates high loadings on another cluster of variables that are more conceptual and informational in nature, pointing to deeper systemic and perceptual issues:

- Interest Rates (0.6537)
- Awareness of Schemes (0.7032)
- Technology & Digitization (0.7090)
- Credit Assessment Fairness (0.6822)
- Monitoring & Follow-ups (0.7174)
- Policy & NPA Concerns (0.6927)

Unlike the first factor, which relates primarily to administrative bottlenecks, this set of variables represents a distinct dimension of challenges revolving around cost structures, policy perceptions, awareness deficits, and systemic transparency. For example, inadequate understanding of available financial schemes, digital interface barriers, and anxiety regarding monitoring or loan classification as NPAs form a cluster of deterrents that are largely non-procedural but equally impactful. These elements signify that beyond just inefficiencies, MSMEs are also navigating an ecosystem where information asymmetry, perceived risk, and trust in institutional mechanisms greatly influence borrowing behavior.

The moderate to low uniqueness scores in this factor again suggest that these latent constructs are strongly explanatory of observed responses, reinforcing the validity of the two-factor solution.

A key strength of this analysis is the clean factor structure, as indicated by the minimal cross-loadings across the two dominant factors. Variables cluster distinctly under one factor, enhancing interpretability and ensuring internal consistency. This separation affirms that the procedural and

perceptual dimensions are not only conceptually distinct but also empirically validated through the data.

While two minor factors (Factor 3 and 4) appear in the output, their negligible eigenvalues and lack of significant loadings confirm their statistical irrelevance, justifying the retention of a parsimonious two-factor model. The factor loading structure offers critical insights for both academic exploration and policy formulation. The first factor clearly highlights the need for banking institutions to re-engineer their lending architecture to be more responsive, less bureaucratic, and attuned to MSME needs. Meanwhile, the second factor points toward the necessity of enhancing financial literacy, improving transparency in loan evaluations, and expanding the visibility of support schemes, especially among smaller and informal enterprises.

Together, these two factors reveal that MSME lending constraints are not monolithic but rather stem from a duality of operational inefficiency and perceptual inaccessibility. Addressing both will require coordinated efforts between regulatory bodies, financial institutions, and policy stakeholders to ensure inclusive, equitable, and growth-oriented financial access for micro, small, and medium enterprises.

4.45. Factor analyses for banks respondents

Table 4.41; Eigenvalue Table Values

| Factor | Eigenvalue | Difference | Proportion | Cumulative |
|---------------|-------------------|-------------------|-------------------|-------------------|
| Factor1 | 3.77046 | 0.31846 | 0.5687 | 0.5687 |
| Factor2 | 3.45200 | 3.40669 | 0.5207 | 1.0894 |
| Factor3 | 0.04531 | 0.03689 | 0.0068 | 1.0963 |
| Factor4 | 0.00842 | 0.02795 | 0.0013 | 1.0975 |
| Factor5 | -0.01953 | 0.02438 | -0.0029 | 1.0946 |
| Factor6 | -0.04391 | 0.01618 | -0.0066 | 1.0880 |
| Factor7 | -0.06009 | 0.00984 | -0.0091 | 1.0789 |
| Factor8 | -0.06993 | 0.02090 | -0.0105 | 1.0684 |
| Factor9 | -0.09083 | 0.01037 | -0.0137 | 1.0547 |
| Factor10 | -0.10053 | 0.01710 | -0.0152 | 1.0395 |
| Factor11 | -0.11762 | 0.02657 | -0.0177 | 1.0218 |
| Factor12 | -0.14419 | | -0.0218 | 1.0000 |
| Observations | | | | 455 |
| Pvalue | | | | 0.000 |

Based on the provided eigenvalue table derived from the exploratory factor analysis (EFA) of bank respondents' data, a meaningful interpretation reveals how underlying latent constructs emerge from their response patterns. This stage of analysis helps to determine the number of factors to retain for further factor extraction and interpretation. The table includes eigenvalues, differences, and the proportion of variance explained by each factor, which are critical in guiding the factor retention decision.

The initial eigenvalue for Factor 1 is 3.77, which is significantly higher than the standard Kaiser criterion threshold of 1.0. This suggests that Factor 1 captures a substantial amount of variance in the dataset. In fact, Factor 1 alone explains approximately 56.87% of the total variance, which is a strong indicator of a dominant latent construct influencing a large portion of the variables in the analysis. The difference between Factor 1 and Factor 2 is 0.318, indicating a relatively small drop in eigenvalue magnitude between the first and second components.

Factor 2 has an eigenvalue of 3.45, which also exceeds the Kaiser threshold and accounts for an additional 52.07% of the variance. Together, the first two factors explain a cumulative 108.94% of the standardized total variance (noting that cumulative values exceed 1 due to Stata's method of calculating proportions based on standardized data). This cumulative value emphasizes the dominant contribution of the first two factors in capturing the shared variance in the dataset, reinforcing their significance in subsequent analysis.

Beyond the second factor, a steep decline is observed. Factor 3 drops dramatically to an eigenvalue of 0.045, and the subsequent factors all have eigenvalues well below 1.0 several even turning negative (e.g., Factor 5: -0.0195, Factor 6: -0.0439, Factor 7: -0.0601). This sharp drop-off signifies that additional factors explain only negligible or spurious variance and therefore lack empirical justification for retention. Moreover, negative eigenvalues suggest over-extraction or the presence of error variance, both of which further affirm that only the first two factors are worth considering.

The Kaiser criterion (eigenvalue > 1) and a likely scree plot inspection would both support the retention of only the first two factors, since they are the only components with meaningful eigenvalues. The large gap between Factor 2 and Factor 3 also visually reinforces this through the “elbow” often observed in scree plots, which is indicative of a natural point to stop factor retention.

The p-value of 0.000 reported from Bartlett's Test of Sphericity further validates the appropriateness of factor analysis for this dataset. It indicates that the correlation matrix is significantly different from an identity matrix, affirming that the variables do indeed share common variance suitable for factor extraction.

In sum, the eigenvalue table from the bank respondents' factor analysis justifies the extraction of two dominant factors, which together account for the vast majority of the variance. This sets a strong foundation for the next analytical stage interpreting the rotated factor loading matrix where the conceptual meaning and thematic composition of these two latent constructs will be explored in detail. These findings not only highlight the robust internal structure within the bank responses but also provide a critical basis for comparing how similar or divergent these latent factors are when compared to those derived from MSME respondents in subsequent Mann-Whitney U tests.

Table 4.42; Factor loading

| Variable | Factor1 | Factor2 | Factor3 | Factor4 | Uniqueness |
|---|---------|---------|---------|---------|------------|
| 1. Complexity of Procedures | 0.0236 | 0.7297 | 0.1256 | 0.0052 | 0.4511 |
| 2. Collateral Requirements | -0.0140 | 0.7860 | -0.0375 | -0.0479 | 0.3783 |
| 3. Documentation Burden | -0.0608 | 0.7813 | -0.0308 | 0.0212 | 0.3844 |
| 4. Processing Time/Delays | -0.0067 | 0.7367 | 0.0860 | 0.0150 | 0.4496 |
| 5. Staff Responsiveness | -0.0079 | 0.7327 | -0.0918 | 0.0122 | 0.4545 |
| 6. Loan Amount Adequacy | -0.0190 | 0.7902 | -0.0417 | -0.0002 | 0.3922 |
| 7. Interest Rates | 0.7723 | -0.0202 | -0.0283 | 0.0449 | 0.4008 |
| 8. Awareness of Schemes | 0.8027 | 0.0586 | -0.0166 | -0.0071 | 0.3519 |
| 9. Technology & Digitization | 0.7975 | -0.0098 | 0.0738 | 0.0103 | 0.3583 |
| 10. Credit Assessment Fairness | 0.7787 | 0.0139 | 0.0157 | -0.0520 | 0.3906 |
| 11. Monitoring & Follow-ups | 0.8245 | 0.0468 | -0.0007 | -0.0107 | 0.3179 |
| 12. Policy & NPA Concerns | 0.7763 | -0.0008 | -0.0536 | 0.0164 | 0.3942 |

Based on the rotated factor loading matrix for the bank respondents, a clear and well-structured two-factor solution emerges, aligning with the eigenvalue-based decision previously discussed. The factor loadings represent the strength and direction of each variable's association with the underlying latent factors. In this case, variables are grouped based on their loadings those exceeding ± 0.6 are generally considered strong indicators of the underlying factor. The interpretation of these factors yields meaningful insights into how banks perceive and structure key dimensions of credit delivery and operational mechanisms.

◆ Factor 1: Financial and Institutional Efficiency

Variables that load strongly on Factor 1 include:

- Interest Rates (0.7723)
- Awareness of Schemes (0.8027)
- Technology & Digitization (0.7975)
- Credit Assessment Fairness (0.7787)
- Monitoring & Follow-ups (0.8245)
- Policy & NPA Concerns (0.7763)

This factor captures elements that reflect banks' internal capabilities and systemic responsiveness to borrower needs. High loadings on awareness of government schemes, digitization, fair credit assessment, and follow-ups suggest that banks associate these attributes under a shared domain of institutional efficiency and service delivery quality. Moreover, the inclusion of interest rate structure and policy-related NPA concerns shows an alignment between operational flexibility and broader regulatory constraints or policy implications.

Thus, Factor 1 can be interpreted as representing "Financial and Institutional Efficiency", a construct highlighting how banks organize internal processes, apply policy knowledge, and utilize digital tools to manage credit flow and monitor borrower behavior.

◆ Factor 2: Procedural Complexity and Administrative Rigor

The following variables load highly on Factor 2:

- Complexity of Procedures (0.7297)
- Collateral Requirements (0.7860)
- Documentation Burden (0.7813)
- Processing Time/Delays (0.7367)
- Staff Responsiveness (0.7327)
- Loan Amount Adequacy (0.7902)

This cluster reflects concerns tied to procedural and administrative aspects of credit processing. These variables collectively underscore how structural requirements such as extensive documentation, collateral rigidity, and perceived delays can shape banks' perceptions of operational hurdles. The high loading of loan amount adequacy within this factor also suggests that the sufficiency of sanctioned credit is viewed as a procedural outcome, influenced by internal approval guidelines and institutional assessment frameworks.

We can therefore label Factor 2 as “Procedural Complexity and Administrative Stringency”, which consolidates the bureaucratic and regulatory layers within banking credit delivery.

◆ Factor 3 & Factor 4: Insignificant Contributions

Factors 3 and 4 exhibit low or negligible loadings across all variables, with no loading exceeding 0.13. This aligns with the eigenvalue analysis, which suggested that only the first two factors had meaningful explanatory power. The minimal values here reaffirm that the third and fourth factors do not contribute meaningfully to the construct structure and should be disregarded in further interpretation.

The uniqueness values derived from the factor analysis offer critical insights into the adequacy of the two-factor solution in capturing the variance present in the dataset. These values indicate the proportion of each item's variance that is not explained by the retained factors. In the present analysis, most variables exhibit uniqueness scores between 0.31 and 0.45, which falls within the acceptable range for exploratory factor analysis (typically <0.5), thereby affirming that the extracted factors sufficiently account for the shared variance across variables. Specifically, Monitoring & Follow-ups (0.3179) and Awareness of Schemes (0.3519) are among the best

explained by the model, as evidenced by their low uniqueness scores. On the other hand, variables such as Staff Responsiveness (0.4545) and Complexity of Procedures (0.4511) display relatively higher uniqueness values, yet these too remain within the threshold that supports model adequacy. Collectively, these values lend confidence to the robustness, internal consistency, and interpretive coherence of the factor structure extracted from the bank respondents' data.

Overall, the rotated factor loading matrix reveals a coherent two-dimensional structure in the way banking institutions internally assess their credit delivery mechanisms and interactions with MSMEs. The first factor, labeled Financial and Institutional Efficiency, captures a cluster of variables associated with awareness of government schemes, technological integration, fair credit assessment practices, and responsiveness to policy and regulatory concerns. These elements reflect a systemic readiness and institutional adaptability aimed at enhancing credit flow and client servicing. Conversely, the second factor, interpreted as Procedural Complexity and Administrative Stringency, comprises variables linked to bureaucratic rigidity such as collateral demands, documentation burdens, processing delays, and adequacy of sanctioned loan amounts. This factor encapsulates the persistent structural frictions that characterize traditional banking procedures.

Together, these two factors encapsulate a dual reality: while banks are evidently investing in efficiency and modernization, traditional procedural challenges continue to impose constraints. This dichotomy presents a compelling framework for comparative analysis, particularly when contrasted with the perceptions of MSME respondents who operate on the receiving end of these institutional practices. By applying inferential techniques such as the Mann-Whitney U test, future analysis can uncover perceptual mismatches or alignments between banks and MSMEs, offering nuanced insights for refining both policy and operational models in the financial inclusion landscape.

SECTION V

Remedies for MSMEs & Banks for efficiency

To suggest the suitable remedies for various constraints identified for MSME units and banks, during the course of financial assistance

4.46. Major Constrains Faced by MSMEs and Banks

In India's contemporary economic landscape, Micro, Small and Medium Enterprises (MSMEs) hold an indispensable position, not merely as ancillary contributors to large-scale industries but as foundational pillars for inclusive growth, regional development, and mass employment generation. Despite their enormous potential, MSMEs often operate under significant financial constraints that impair their ability to grow, innovate, and contribute effectively to the national economy. The constraints identified in this study ranging from procedural bottlenecks to information asymmetries present systemic challenges that, if unresolved, continue to throttle the flow of formal credit to this sector. Addressing these constraints is not simply a technical adjustment within the banking ecosystem; it is a strategic economic imperative. Improving credit accessibility for MSMEs is directly linked to national goals of reducing non-performing assets (NPAs), enhancing financial inclusion, boosting domestic production capacities, and accelerating job creation. Therefore, a nuanced and data-informed understanding of these issues, such as the one provided by this study's factor analysis, is essential in constructing remedial pathways that are both sustainable and transformational.

The need to resolve MSME lending constraints becomes even more critical when examined in the context of India's developmental priorities. As of recent estimates, the MSME sector contributes approximately 30% to India's GDP, accounts for about 45% of manufacturing output, and is responsible for 40% of exports. More importantly, it employs over 110 million people, making it the second-largest employment provider in the country after agriculture. This demographic impact positions the MSME sector as a vital driver of socioeconomic balance, especially in semi-urban and rural areas where large-scale industrial operations are absent. When such a strategic sector is hampered by avoidable credit access hurdles, the resulting economic distortion affects not just businesses but entire value chains, employment cycles, and local development trajectories. Procedural inefficiencies such as complex documentation, rigid collateral requirements, and poor staff responsiveness identified in Factor 1 of the study become more than administrative irritants;

they represent systemic friction that stifles productivity, investment, and growth. Thus, their resolution is central to unlocking the sector's full economic potential.

Furthermore, the dual burden of financial exclusion and heightened perceived risk leads to a paradox where banks hesitate to lend to MSMEs despite government incentives, while MSMEs increasingly depend on informal and often exploitative sources of credit. This mismatch contributes significantly to India's persistent NPA problem. When credit is provided without adequate risk alignment mechanisms whether due to inadequate credit assessment frameworks, limited borrower education, or opaque monitoring systems the risk of default increases. This phenomenon was clearly captured under Factor 2 in the EFA for both MSMEs and banks, where variables like unfair credit assessment practices, lack of awareness of financial schemes, and policy-related anxiety about NPAs emerged as key deterrents. Rectifying these constraints not only improves the chances of loan repayment but also enhances trust between lenders and borrowers. By increasing transparency, educating borrowers, and modernizing assessment mechanisms, financial institutions can improve the quality of their loan portfolios, thereby reducing the rate of defaults and improving overall asset health. In turn, this lowers provisioning requirements for banks and enables greater resource allocation to credit expansion.

The relevance of resolving these MSME constraints is also closely tied to India's global aspirations, especially in light of the 'Make in India', 'Digital India', and 'Aatmanirbhar Bharat' (Self-Reliant India) initiatives. Each of these flagship programs hinges on robust participation from MSMEs. For instance, 'Make in India' aims to boost domestic manufacturing and reduce reliance on imports, and MSMEs are expected to play a central role by contributing affordable, decentralized, and diversified production capacities. However, without the financial capacity to invest in modern technologies, upgrade infrastructure, or expand market access, MSMEs cannot fulfill this expectation. Similarly, the 'Digital India' campaign's success is contingent upon MSMEs embracing digital transformation in areas like supply chain management, e-commerce, and digital payments. The EFA findings demonstrate that digital readiness remains a major barrier, as reflected in low technological adoption and poor awareness highlighting that addressing such constraints is essential not only for economic inclusion but also for aligning national development programs with ground realities.

The implications for employment generation are especially profound. India faces a chronic employment challenge, with youth unemployment consistently above global averages. The MSME sector is uniquely positioned to absorb semi-skilled and unskilled labor, particularly in Tier-II and Tier-III cities and rural areas. When MSMEs are deprived of timely, adequate, and affordable credit, their hiring capacity is directly compromised. Instead of scaling up, they focus on survival. The ripple effects are felt in wage stagnation, underemployment, and a proliferation of informal labour practices all of which undermine national efforts toward decent work and economic equity. By resolving identified credit constraints, policymakers and financial institutions can empower MSMEs to undertake expansionary employment strategies, diversify into new markets, and adopt more efficient production systems. This, in turn, would lead to a virtuous cycle of higher labor absorption, enhanced purchasing power, and increased aggregate demand critical levers for sustained economic growth.

Moreover, improving credit flow to MSMEs has a strong multiplier effect across economic sectors. Many large corporations depend on MSMEs for inputs, components, and logistics services. A financially healthy MSME sector ensures more stable supply chains, faster turnaround times, and greater innovation across the manufacturing and service ecosystems. The constraints experienced by banks themselves as highlighted in the study's factor analysis such as procedural rigidity, outdated assessment models, and monitoring challenges, hinder their ability to serve this sector efficiently. Thus, remedies must also target internal reforms within the banking sector, encouraging the adoption of fintech solutions, agile credit risk models, and decentralized decision-making processes. These innovations can significantly improve the customer experience for MSMEs, reduce processing times, and create a more dynamic credit delivery system.

From a policy standpoint, the persistence of these constraints also undermines the effectiveness of numerous government interventions. Programs like the Emergency Credit Line Guarantee Scheme (ECLGS), MUDRA loans, Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), and SIDBI initiatives are designed to address capital access barriers. However, ground-level realities often diverge from policy intentions due to poor implementation, limited awareness, and inconsistent follow-up. For instance, MSMEs often remain unaware of these schemes or are discouraged by procedural hurdles even when eligible. The presence of such gaps identified empirically through high loadings on "Awareness of Schemes" and "Policy Concerns"

variables in the study calls for a rethinking of communication and outreach strategies. Streamlined portals, multilingual helplines, local facilitation centers, and capacity-building workshops can ensure better scheme uptake and policy success. Thus, resolving these constraints also serves to increase the return on investment for public policy and enhances the overall efficiency of government expenditure.

In the larger macroeconomic context, easing the financial constraints of MSMEs can substantially contribute to India's resilience against global economic shocks. The COVID-19 pandemic exposed vulnerabilities in global supply chains and emphasized the importance of self-sufficient domestic ecosystems. MSMEs can play a pivotal role in building such resilience, but only if they are financially robust and operationally agile. Ensuring their credit access is not obstructed by systemic frictions is a prerequisite for this role. Moreover, as India aspires to become a \$5 trillion economy, the role of MSMEs must be recalibrated from peripheral contributors to central actors. Unlocking credit constraints is the gateway to this transition.

Resolving the multifaceted constraints faced by MSMEs and banking institutions in the credit lifecycle is not a narrow operational goal but a broad developmental necessity. These constraints, as identified through rigorous empirical methods, represent more than logistical inefficiencies they are symptomatic of deeper structural gaps in India's financial ecosystem. Their resolution can lead to enhanced credit flow, improved asset quality for banks, wider employment generation, and more inclusive GDP growth. As such, a coordinated response involving policy realignment, institutional reform, and capacity building is required. By targeting the roots of procedural and perceptual frictions in lending, India can unlock the latent power of its MSME sector catalyzing an era of decentralized, equitable, and resilient economic growth.

4.47. MSME RELATED CONSTRAINS

4.47.1. Procedural and Operational Constraints in Lending Processes Faced by MSMEs

Based on the empirical findings from MSMEs across Haryana, Punjab, Himachal Pradesh, and Chandigarh the core sample regions of this study it is evident that procedural and operational constraints in the credit lifecycle continue to hinder access to formal finance, despite a range of policy interventions. Each of these states hosts a vibrant yet structurally distinct MSME sector. Haryana's concentration in iron and steel, plastic goods, paper-based products, hosiery, and apparels; Punjab's strength in automobile components, textiles, and engineering goods; Himachal Pradesh's pharmaceutical manufacturing base; and Chandigarh's mix of sectors all face varying shades of procedural bottlenecks in their interactions with the formal credit system. Despite their industrial diversity, a common thread emerges, the mismatch between banking procedures and sector-specific credit needs.

A critical procedural concern, deeply felt across all four regions, is the complexity and non-alignment of documentation requirements. The hosiery units in Panipat and plastic recyclers in Sonipat often operating with seasonal labor and informal records struggle to meet rigid documentation demands that do not account for the fluid nature of their business cycles. Similarly, engineering MSMEs in Ludhiana and auto-part manufacturers in Ludhiana expressed concern over inconsistent eligibility norms across banks. In Himachal's pharma clusters around Baddi, businesses cited delays in approvals despite maintaining strong GST and compliance records, largely due to the lack of digitally enabled documentation systems in bank branches. These findings strongly support the proposed remedies like GST/ITR autofill mechanisms, Digi Locker integrations, and CA-MSMEs partnerships for subsidized document preparation, while also emphasizing the need for their localized rollout and staff training.

The collateral requirement gap was especially pronounced in service-intensive and asset-light industries. This validates the study's suggestion to adopt movable asset frameworks, such as warehouse receipts or machinery invoices, a reform already recognized by RBI guidelines but inconsistently practiced across bank branches. The issue is compounded by a lack of awareness and training among bank officers, particularly in rural and semi-urban pockets of Haryana and Himachal.

Furthermore, processing delays and poor responsiveness of staff emerged as institutional issues cutting across all regions. MSMEs reported long waiting periods with no clarity on loan status, forcing many to abandon formal channels or turn to NBFCs and informal lenders. Despite RBI mandates on timely decisions, bank grievance mechanisms were often under-utilized or non-functional. Entrepreneurs from Ludhiana and Ambala recounted the absence of dedicated MSME counters or staff sensitization, confirming the study’s advocacy for performance-linked incentives, monthly grievance meets, and digital pre-check alerts to ensure accountability.

The concerns regarding the adequacy and suitability of sanctioned loan amounts were common. Textile units in Punjab and apparel manufacturers in Haryana shared that sanctioned loans often did not match operational needs, even with a strong compliance track record. The push for GST-linked loan sizing and top-up incentives based on repayment behavior finds direct resonance here, as many firms voiced a willingness to adopt digital compliance if linked to tangible credit benefits.

Though these findings are rooted in four northern states, they reflect structural issues familiar to MSMEs across India, especially in Tier II and Tier III towns. The constraints are not merely procedural inefficiencies but systemic mismatches between borrower realities and lender practices. Rectifying them requires more than policy intent it demands regional execution, staff accountability, and context-sensitive reforms to make formal finance accessible, timely, and empowering for India’s entrepreneurial backbone.

Table 4.43: Remedies suggested as per the findings and literature

| Constrain 1 | | Procedural and Operational Constraints in Lending Processes Faced by MSMEs | | |
|------------------------------------|----------------------------|--|---|---|
| <i>A. Complexity of Procedures</i> | | | | |
| S. NO | Remedy Suggested | Detailed Description | Policy Support/ Literature | Outcome |
| 1. | Integrated Digital Portals | Merge Udyam Registration with RBI’s ULI (Unified Lending Interface) Portal for single- | Policy Basis: RBI’s 2025 push for digitizing MSME lending | Faster and uniform application processing by removing redundant interfaces; MSMEs file loans via a single window, reducing confusion and duplication. This increases application success rate by ~20- |

| Constrain 1 | | Procedural and Operational Constraints in Lending Processes Faced by MSMEs | | |
|-------------|----------------------------|--|---|---|
| | | point loan applications. | | 30% (as per fintech adoption studies). |
| 2. | Sector-Specific Checklists | Publish checklists for manufacturing, services, and trade sectors (e.g., “5 documents for Pharma MSME loans) | Study by Muruthiah (2015) on procedural bottlenecks in Tamil Nadu | MSMEs experience fewer rejections due to mismatched documentation. For example, a pharma MSME in Baddi knows the exact 5 documents required, leading to faster file preparation and fewer follow-up queries by banks. |

B. Collateral Requirements

| S.NO | Remedy Suggested | Detailed Description | Policy Support/ Literature | Outcome |
|------|--|---|--|---|
| 1. | CGTMSE Expansion | Extend collateral-free coverage for focused MSMEs. (Low NPA/Export Based) | CGTMSE’s 85% guarantee for micro-units | Higher loan approvals for qualifying MSMEs without property collateral. Reduces credit denial rate in compliant MSMEs by ~25%, especially those in Haryana's garment export units. |
| 2. | Movable Asset Collateral | Accept machinery invoices (RBI’s 2024 guidelines) and warehouse receipts | 30% of MSMEs in Gujarat use movable assets post-SLBC reforms | Expands credit access for machinery-reliant sectors (e.g., auto parts in Ludhiana, pharma in Baddi). Enables asset-light firms to secure formal finance using machinery invoices or warehouse receipts. |
| 3. | GST-Linked Collateral Reduction | Reduce collateral by 25% for MSMEs with | RBI’s TReDS invoice financing model | Encourages tax compliance. MSMEs with clean GST records over 3 years receive lower collateral asks, boosting |

| Constrain 1 | | Procedural and Operational Constraints in Lending Processes Faced by MSMEs | | |
|--------------------------------|-------------------------------|--|---|---|
| | | 3+ years of GST compliance. | | transparency and reducing informal lending dependence by 10-15%. |
| C. Documentation Burden | | | | |
| 1. | GST/ITR Autofill | Pre-fill 70% of loan forms via GSTN APIs. | General | Cuts form-filling time by 70%. Reduces clerical errors and makes the process user-friendly for MSMEs lacking financial advisors, especially in rural Haryana and Himachal. |
| 2. | DigiLocker Integration | Fetch PAN, Aadhaar, and licenses directly from DigiLocker. | PMMY's paperless lending initiative | Eliminates the need for physical ID/registration proofs. Enhances bank verification speed, leading to application decision within 7-10 days. |
| 3. | CA Partnerships | Banks to tie up with ICAI for subsidized documentation support. | General | Boosts compliance readiness for micro-entrepreneurs. Subsidized services help unorganized MSMEs formalize their books, making them eligible for formal finance. Improves formal loan readiness. |
| D. Processing Delays | | | | |
| 1. | Immediate Decision | Rejections must be communicated within stipulated time with reasons. | RBI's 2023 MSME lending mandate | Builds MSME trust in formal lenders. Prompt rejections allow applicants to rectify errors or seek alternatives, rather than waiting indefinitely. |
| 2. | AI Pre-Checks | Flag incomplete applications (e.g., missing | World Bank's fintech adoption push 2023 | Saves time for both bank staff and applicants. Incomplete forms are flagged before submission, reducing rejection due to technicalities by ~25%. |

| Constrain 1 | | Procedural and Operational Constraints in Lending Processes Faced by MSMEs | | |
|--------------------------------|--------------------------------------|--|--|---|
| | | ITR) before submission. | | |
| 3. | Fast-Track Committees | Resolve disputes in 10 days via RBI's MSME Samahan. | 95% on-time approvals in compliant banks (BIS) | Institutionalizes dispute resolution within 10 days. Reduces grievance pendency and improves on-time disbursal rate, especially in Punjab's engineering clusters. |
| E. Staff Responsiveness | | | | |
| 1 | NAMCAPS Training | Train staff on digital tools (e.g., PSB Loans In 59 Minutes). | RBI's capacity-building program (BIS) & Indian Institute of Banking and finance 2018 | Improves frontline bank staff's digital literacy and reduces manual processing errors. Enhances MSME experience in submitting digital applications in semi-urban branches. |
| 2 | Performance-Linked Incentives | Issue bonuses per staff for 95%+ timely approvals. | Indian Institute of Banking and finance 2018. A Study on Issues and Challenges in MSME Financing in the State of Bihar | Encourages accountability and proactive MSME servicing. Improves loan processing turnaround time by incentivizing timely handling. Creates a 15-20% increase in timely approvals in well-performing branches. |
| 3 | Monthly Grievance Meetings | Dedicate every first Friday to MSME queries. | Suriyan (2015) on DIC-bank coordination gaps. | Builds regular feedback loops. Helps branch managers and MSMEs co-resolve issues in a scheduled, structured manner. Increases resolution rate of common bottlenecks. |
| F. Loan Amount Adequacy | | | | |
| 1. | GST-Linked Loan Limits | Offer loans up to Appropriate level of average GST turnover | 2% credit growth in FY2024 linked to GST compliance (Financial Express 2025). | Aligns loan size to business size. For example, a ₹1 crore turnover textile unit in Ludhiana may automatically qualify for ₹20-25 lakh |

| Constrain 1 | | Procedural and Operational Constraints in Lending Processes Faced by MSMEs | | |
|-------------|-------------------------------|--|--|--|
| | | | | working capital, improving credit adequacy. |
| 2. | Top-Up Loans | Auto-sanction 25% extra funds after 6 months of timely repayments | PMMY's ₹10 lakh overdraft facility (SLBC Gujrat) | Encourages repayment discipline. MSMEs that repay on time get 25% more funds without reapplying helpful for scaling operations without re-entering the credit cycle. |
| 3. | Revolving Credit Lines | Allow drawing up to appropriate level during peak seasons. | RBI's TReDS for invoice-based liquidity | Enhances cash flow efficiency and reduces over-borrowing. Studies show such credit lines can improve working capital turnover by 15-20%. |

4.47.2. Barriers to Financial Accessibility and Knowledge

Micro, Small, and Medium Enterprises (MSMEs) in India, particularly in states like Haryana, Punjab, Himachal Pradesh, and the Union Territory of Chandigarh, encounter deeply embedded barriers when it comes to financial accessibility and knowledge. These barriers stem from a combination of structural shortcomings, institutional limitations, and behavioral gaps resulting in an ecosystem where credit remains available in theory but elusive in practice. The problem is not merely one of supply constraints; it reflects a deeper disconnect between what MSMEs need and what financial institutions are prepared or equipped to deliver.

One of the key issues that emerged across the study regions is the widespread perception of unaffordable interest rates. While banks argue that lending rates reflect risk premiums, MSMEs especially those with consistent operations and moderate turnover often find the terms arbitrary or misaligned with their repayment capacity. This disconnect is particularly acute in manufacturing sectors such as textiles in Punjab or plastics in Haryana, where cash flow cycles are predictable, yet the cost of credit remains steep. In the absence of tailored credit products or risk-based pricing

mechanisms, MSMEs are compelled either to scale down their borrowing or to turn to informal credit markets, which further disconnects them from formal financial inclusion.

Another critical barrier is the lack of awareness about government schemes and financial instruments meant specifically for MSMEs. This gap persists not because schemes are unavailable, but because outreach mechanisms are weak or poorly targeted. Many MSME owners especially in semi-urban Himachal Pradesh or peri-urban Chandigarh lack the informational channels or professional networks that would help them learn about credit guarantee schemes, interest subvention, or emergency credit facilities. The absence of localized handholding support or multilingual information platforms means that even eligible businesses often remain excluded. Bridging this knowledge gap is not merely a communications issue; it is central to unlocking latent demand for formal finance and ensuring that public schemes translate into measurable outcomes.

Digital readiness is another systemic concern. Despite the growing push for fintech integration, MSMEs in many parts of Haryana and Himachal Pradesh still operate with limited digital infrastructure and minimal exposure to online credit tools. Many entrepreneurs, particularly first-generation ones, view digital systems as complex, time-consuming, or error-prone. This hesitation is often reinforced by inconsistent experiences with online portals, lack of training, or fear of technical rejection. The broader push for digital lending must therefore be accompanied by localized capacity-building, simplification of interfaces, and active demonstration of benefits to build confidence among hesitant users.

Equally pressing is the perception of unfair credit assessment processes. Many MSMEs feel they are evaluated on parameters that do not reflect the realities of their business models such as informal revenues, seasonal operations, or non-traditional asset structures. This mismatch leads to arbitrary rejections and fosters mistrust. Even after securing loans, MSMEs often face weak engagement from lenders in terms of follow-ups or business advisory, leading to poor utilization and higher repayment stress. Uncertainty around government policy, especially related to NPAs, has created a culture of excessive caution both among lenders and borrowers. While financial institutions avoid even moderately risky proposals for fear of future scrutiny, borrowers hesitate to expand or innovate, fearing any misstep could result in long-term exclusion from formal credit. This regulatory overhang stifles the entrepreneurial risk-taking that is essential for growth. Barriers to financial accessibility and knowledge are not isolated policy gaps; they are manifestations of

deeper structural, educational, and institutional inadequacies. Addressing these issues is not just about improving credit flow it is about transforming the financial ecosystem into one that recognizes, adapts to, and supports the diversity of India’s MSME landscape.

Table 4.44: Remedies suggested as per the findings and literature

| Constrain 1 | | Barriers to Financial Accessibility and Knowledge | | |
|--------------------------------|--|--|---|--|
| A. Interest Rates | | | | |
| S. NO | REMEDY | Detailed Description | Policy Support/ Literature | Outcome |
| 2. | Interest Subvention | Offer a 2-3% interest subsidy to MSMEs on loans. Subsidy disbursed directly to lenders to reduce borrower burden. | RBI’s Interest Subvention Scheme (2018) for GST-registered MSMEs Budget 2025 expectations for sectoral subvention | Reduction in effective interest rates for eligible MSMEs will result into rise in MSME loan uptake |
| 3. | Interest Rate Negotiation Platforms | Develop RBI-monitored digital platforms allowing MSMEs to bid for loans, compare real-time rates, and negotiate terms with multiple lenders. | RBI’s ULI pilot (2023) for tailored credit access . TradeBrains on MSME rate negotiation (2024) | Lower rates through competitive bidding, ca faster loan disbursal due to transparent pricing |
| 4. | Credit Rating-Linked Tiered Pricing | Mandate banks to offer lower rates to MSMEs with high credit scores (e.g., A or B ratings) under NSIC’s Performance and Credit Rating Scheme. | NSIC’s Rating Scheme (2005) endorsed by RBI SIDBI’s risk-based pricing guidelines | Rated MSMEs access loans can bring improvement in credit discipline among small units |
| 5. | 4. Regional Refinancing Agencies | Establish state-level refinancing bodies (e.g., Punjab MSRI) to pool funds and offer loans at 4-6% below market rates, prioritizing underserved districts. | - MUDRA Bank’s refinancing model for micro-units - SIDBI’s sectoral reports on regional credit gaps | 3-4% interest cost reduction in Himachal/Punjab; 25% rise in lending to hill-state MSMEs |
| B. Awareness of Schemes | | | | |

| Constrain 1 | | Barriers to Financial Accessibility and Knowledge | | |
|---|---|--|---|---|
| S.NO | MSME Scheme Ambassadors | Train local entrepreneurs (e.g., successful MSME owners) as ambassadors to conduct workshops in industrial clusters, sharing firsthand experiences of accessing schemes. | MyGov's "Champions of Change" initiative CII's industry-led outreach programs (2023) | Will increase in scheme registrations among MSMEs |
| 4. | Vernacular Chatbots | Deploy AI chatbots on state government portals (e.g., Haryana MSME) to answer scheme-related queries in Punjabi, Hindi, and Pahari dialects. | Digital India's Bhashini project NITI Aayog's 2024 report on vernacular tech adoption | It will result into reduction in scheme inquiry resolution time in rural Himachal |
| 5. | Scheme Integration with UPI Apps | Add a "MSME Schemes" tab on popular UPI apps to notify users about eligibility and deadlines. | RBI's Payments Vision 2025 NPCI's UPI for governance initiatives | Increase higher awareness among tech-savvy MSMEs in Chandigarh and Gurugram. |
| 6. | Gamified Learning Modules | Develop mobile games (e.g., "Scheme Quest") where MSMEs earn rewards for learning about subsidies and grants. | MeitY's Digital India Gaming Alliance YourStory's case study on gamified skilling (2024) | Engagement boost among youth-led MSMEs in Punjab |
| C. Technology & Digitization | | | | |
| 4. | MSME Tech Toolkits | Distribute subsidized "Digital Starter Kits" with pre-loaded accounting, inventory, and e-commerce software to rural MSMEs. | MeitY's Digital Saksharata Abhiyan- NASSCOM's 2024 report on SME tech adoption | Faster digital onboarding for Himachal's handicraft units . |
| 5. | Blockchain for Transparency | Use blockchain to track MSME loan disbursements and subsidies, reducing delays and fraud. | RBI's 2025 blockchain whitepaper- NITI Aayog's IndiaChain proposal | Fewer transactional disputes in Chandigarh's tech MSMEs . |
| 6. | AI-Driven Market Analysis | Offer free AI tools to MSMEs for predicting demand, optimizing | NITI Aayog's National AI Strategy - CII's AI for MSMEs report (2023) | Revenue growth for Punjab's textile exporters using predictive analytics. |

| | | | | |
|---------------------------------------|--|--|--|---|
| Constrain 1 | | Barriers to Financial Accessibility and Knowledge | | |
| | | pricing, and identifying export markets. | | |
| 7. | IoT Subsidies for Manufacturing | Provide 50% subsidies on IoT sensors to MSMEs for real-time machinery monitoring. | MeitY's IoT Innovation Hub-Make in India's Smart Manufacturing Guidelines | Reduction in equipment downtime in Haryana's auto ancillary units . |
| D. Credit Assessment Fairness | | | | |
| 4. | Alternative Data Scoring | Use utility bills, social media traction, and GSTN turnover to assess creditworthiness beyond traditional metrics. | RBI's 2024 guidelines on alternative credit data TransUnion CIBIL's MSME insights report | More MSMEs qualify for loans . |
| 5. | Peer Comparison Portals | Allow MSMEs to anonymously compare their credit terms with similar businesses to identify disparities. | SEBI's fairness guidelines for credit ratings MCA's transparency mandates | Reduction in perceived bias in Himachal's tourism sector |
| 6. | Collaborative Scoring Models | Develop credit scores jointly with industry associations (e.g., PHD Chamber) to reflect sector-specific risks. | IBA's MSME lending framework-FICCI's sectoral risk assessment models | Tailored scores increase loan approvals by 25% for Punjab's agro-MSMEs. |
| 7. | Bias Audits by NGOs | Engage NGOs like PRATHAM to audit bank credit decisions for fairness across gender, caste, and region. | RBI's inclusive finance guidelines-Oxfam India's 2023 report on credit access | Improvement in loan access for women-led MSMEs in rural Haryana. |
| E. Monitoring & Follow-ups | | | | |
| 4. | Predictive Compliance Alerts | Send automated SMS/email alerts for upcoming repayments, audits, or documentation renewals. | RBI's regulatory tech guidelines - SIDBI's 2024 study on proactive compliance | May Result into fewer defaults in MSMEs due to timely reminders. |
| 5. | MSME Health Dashboards | Provide lenders and borrowers with shared dashboards tracking loan utilization, revenue trends, and risk indicators. | CGTMSE's loan monitoring framework - CRISIL's MSME health index | Faster corrective actions in Small and micro Units |

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|-------------------------------------|--|---|--|--|
| Constrain 1 | | Barriers to Financial Accessibility and Knowledge | | |
| 6. | Community Mentorship Platforms | Create online forums where experienced MSMEs guide newcomers on post-loan management. | MSME Ministry's Samadhan Portal - NASSCOM's peer-learning initiatives | Will result into improvement in loan utilization efficiency |
| 7. | Third-Party Impact Audits | Mandate annual social audits by firms like KPMG/Deloitte to assess how loans impacted MSME growth. | CSR mandates under Companies Act - CAG's outcome-based auditing framework | Higher accountability in MSMEs lender-borrower relationships. |
| F. Policy & NPA Concerns | | | | |
| 4. | NPA Grace & Counseling Window | Establish a mandatory 90-day "NPA Counseling Window" for Udyam-registered MSMEs after the first default. During this period, banks must provide written notice, offer one-on-one counseling, and propose restructuring options (e.g., rescheduling, temporary moratorium) before NPA tagging. This leverages MSME's formal status and digital trail to justify forbearance. | RBI's Revival & Rehabilitation Framework for MSME Loans up to ₹25 crore (2024) - Udyam's digital records support structured interventions | Reduces panic closures and stigma, more MSMEs avoid premature NPA status and maintain business continuity. |
| 5. | Enforced Timely Payment Mechanism | Mandate all government and large corporate buyers to pay Udyam-registered MSMEs within 45 days, as per MSMED Act, 2006. Use TReDS and blockchain e-invoicing to auto-track invoices; delayed payments trigger automatic interest credits to MSME accounts (3x bank rate). | MSMED Act, 2006 (Section 15-16) RBI's TReDS platform for MSME PIB on digital invoice tracking | Improves cash flow reliability, fewer working capital crunches and NPA triggers for Udyam MSMEs. |

| Constrain 1 | | Barriers to Financial Accessibility and Knowledge | | |
|--------------------|---|---|--|---|
| 6. | Simplified, MSME-Specific Insolvency Process | Launch a fast-track, low-cost insolvency process for Udyam-registered MSMEs: cap professional fees, restrict process to 90 days, and allow online filing using Udyam credentials. Remove requirement for Committee of Creditors for small units. | IBC Pre-Packaged Insolvency for MSMEs (2021 Amendment) Udyam's digital verification for process eligibility | Faster, affordable resolution, more viable MSMEs revived instead of liquidated. |
| 7. | Post-Resolution Credit Re-entry | Allow Udyam-registered MSMEs that clear 75% of restructured dues to regain access to fresh credit lines with no "wilful defaulter" tag for defaults below ₹50 lakh. Banks must update CIBIL/CRIF within 15 days of settlement, restoring MSME's creditworthiness. | RBI Prudential Norms for MSME Restructuring (2019/2024) Udyam's real-time compliance verification | Will result into more MSMEs regain formal credit access post-recovery, reducing shift to informal lenders. |
| 8. | District MSME Revival Boards | Set up District-level MSME Revival Boards (DMRBs), comprising bankers, Udyam officials, and industry experts. These boards proactively review stressed Udyam-registered MSMEs, offer turnaround advice, and mediate with lenders for viable restructuring leveraging Udyam data for targeted support. | RBI's Revival & Rehabilitation Framework - MSME Ministry's local grievance redressal model | Will Result into higher success in MSME turnaround; more tailored, region-specific solutions for Udyam MSMEs. |
| 9. | Transparent Write-Off & Recovery Reporting | Mandate banks to publish annual, region-wise data on MSME loan write-offs and recoveries, distinguishing between genuine business stress | RBI's transparency and public accountability guidelines Udyam's unique enterprise identification | Builds MSME trust in the system; helps identify systemic risks and policy gaps for future reforms. |

| | | | | |
|--------------------|---|---|--|--|
| Constrain 1 | Barriers to Financial Accessibility and Knowledge | | | |
| | | and fraud. Udyam registration numbers must be cited for all cases, ensuring accountability and sectoral learning. | | |

4.48. Banks Related Constrains

4.48.1. Financial and Institutional Efficiency Constrains Faced by Banks

The second phase of the study shifts focus to the structural and institutional bottlenecks experienced by banks in delivering credit to MSMEs. While the constraints of MSMEs are more visible in terms of access and knowledge, the challenges banks face are deeply embedded in the operational, policy, and regulatory architecture that governs credit delivery. These constraints affect the banks' ability to efficiently assess, sanction, monitor, and recover MSME loans, limiting both the volume and quality of financial support extended to this critical sector. The findings reveal that banking institutions, despite policy support and targeted schemes, are often caught between regulatory obligations and institutional limitations, which dilute the effectiveness of their outreach and lending efforts.

One of the most significant institutional constraints arises from the pressure of maintaining interest margins while extending credit to inherently risk-sensitive MSME units. Banks are under constant scrutiny to ensure asset quality, which makes them conservative in pricing MSME loans. The absence of reliable and real-time credit performance data from many MSMEs intensifies the risk-averse approach. As a result, banks struggle to strike a balance between offering affordable interest rates and maintaining profitability under regulatory frameworks. This leads to limited flexibility in pricing and reduces the willingness to innovate around interest structures tailored for different segments within the MSME sector.

Lack of internal awareness regarding the range, scope, and application of government schemes designed for MSMEs is another recurring limitation. While numerous schemes exist to de-risk MSME lending, bank staff, especially at the operational level, often lack comprehensive

understanding of the eligibility criteria, procedural workflow, and compliance norms. This leads to underutilization of institutional mechanisms like credit guarantees, interest subvention, and emergency credit lines. The gap is not only informational but also procedural, as bank officials are hesitant to promote schemes they are not confident navigating themselves. This creates a bottleneck in the transmission of policy benefits to the MSME borrower, resulting in a sub-optimal credit ecosystem.

The inability to fully leverage technology and digitization further weakens the operational efficiency of banks. While digital platforms have been introduced for MSME loan applications and monitoring, their integration into legacy banking systems remains incomplete. Many bank branches continue to rely on manual processing or outdated digital tools that are not intuitive for either staff or MSME applicants. The lack of robust, centralized, and real-time data systems impairs the efficiency of credit appraisal and decision-making, increasing turnaround time and operational workload. This also affects monitoring, as banks find it difficult to track the dynamic financial status of MSME accounts on an ongoing basis.

Concerns over fairness in credit assessment continue to dominate internal discussions within banks. Credit officers often express discomfort with standardized appraisal models that fail to accommodate the sector-specific and informal nature of many MSME enterprises. This leads to either over-rejection of viable applications or under-evaluation of risk, contributing to eventual loan stress. The absence of flexible risk assessment frameworks tailored to MSMEs adds complexity to loan processing and impacts the credibility of bank decisions.

The monitoring and follow-up of MSME accounts is another area of concern. Banks face human resource limitations in conducting timely post-disbursal follow-ups, especially in cases where MSMEs lack digital footprints. Weak follow-up practices reduce early detection of repayment stress and limit banks' ability to provide corrective support. Policy-related apprehensions around rising NPAs further compound these constraints. The fear of regulatory penalties and reputational risk leads to excessive caution, discouraging banks from extending credit to new or marginal MSMEs. This undermines the risk appetite of institutions and constrains the growth of inclusive lending practices. These institutional inefficiencies, if unaddressed, threaten to erode the core policy objective of broad-based financial inclusion through MSME support.

Table 4.45: Remedies suggested as per the findings and literature

| Constrain 1 | | Financial and Institutional Efficiency | | | |
|------------------------------|-------------------------------------|---|--|---|---|
| A. Interest Rates | | | | | |
| S. No. | Remedy | Detailed Description | Policy Support / Literature | Current Practices | Outcome |
| 1 | Interest Rate Risk Management Tools | Implement portfolio-level interest rate risk management (e.g., dynamic repricing, interest rate swaps, hedging with derivatives) for MSME loans. This allows banks to better absorb repo rate fluctuations and maintain competitive rates for MSMEs without eroding margins. | RBI's guidelines on Interest Rate Risk in Banking Book (IRRBB); Times of India on repo rate impact on MSME lending | Most banks use basic ALM (Asset-Liability Management) for overall portfolio, but do not have MSME-specific dynamic repricing or real-time hedging for MSME loans. MSME portfolios are often managed with traditional rate pass-throughs rather than active hedging. | Greater stability in MSME lending rates, improved profitability for banks, and less pressure to pass on rate hikes. |
| B. Awareness of Schemes | | | | | |
| S. No. | Remedy | Detailed Description | Policy Support / Literature | Current Practices | Outcome |
| 2 | Tiered, Risk-Based Pricing | Adopt a transparent, risk-based pricing model using MSME credit ratings, digital transaction history, and sectoral risk. This enables banks to offer lower rates to low-risk MSMEs while maintaining margins on higher-risk portfolios, balancing accessibility with risk management. | NSIC's Performance and Credit Rating Scheme; SIDBI's risk-based pricing guidelines; RBI's Fair Practices Code | Some large banks have begun piloting risk-based pricing for MSMEs, but most still rely on traditional collateral and turnover-based pricing. New digital credit models are being rolled out but are not yet standard practice, especially for smaller banks. | More accurate risk pricing, higher approval rates for creditworthy MSMEs, and improved loan portfolio performance. |
| C. Technology & Digitization | | | | | |
| S. No. | Remedy | Detailed Description | Policy Support / Literature | Current Practices | Outcome |

| | | | | | |
|-------------------------------|---------------------------------------|--|--|--|---|
| Constrain 1 | | Financial and Institutional Efficiency | | | |
| 3 | Digital Lending Marketplaces | Participate in RBI-regulated digital lending platforms (e.g., ULI, TReDS) that allow MSMEs to compare and bid for loan offers. This increases loan origination efficiency, reduces customer acquisition costs, and enables banks to compete on pricing transparently. | RBI's Unified Lending Interface (ULI) pilot (2023); TReDS platform registration and guidelines | About 18% of MSMEs use digital lending platforms; most banks are present on TReDS, but adoption is not universal and many MSME loans are still processed offline. Digital origination is growing but not yet the norm. | Lower cost of loan origination, increased MSME loan volumes, and more competitive pricing for both banks and clients. |
| D. Credit Assessment Fairness | | | | | |
| 4 | State-Level MSME Refinancing | Collaborate with state governments and SIDBI to set up regional refinancing agencies (e.g., Punjab MSRI) that provide banks with access to cheaper, pooled capital for MSME lending, especially in underserved districts. Banks can then pass on lower rates to MSMEs while maintaining spreads. | MUDRA Bank's refinancing model for micro-units; SIDBI sectoral reports on regional credit gaps; Budget 2025-26 outlay for MSME lending | MUDRA and SIDBI refinancing exist, but state-level MSME refinancing agencies are rare and not widely used; most banks rely on central refinancing or internal funds. | 3-4% reduction in cost of funds for banks in targeted regions, higher MSME lending in hill states and rural areas. |
| E. Monitoring & Follow-ups | | | | | |
| 5 | Interest Subvention Claims Automation | Integrate automated claim submission and reconciliation systems for government interest subvention schemes, reducing manual errors and delays. This ensures banks receive timely reimbursement, making it more viable to offer subsidized rates to MSMEs. | SIDBI's implementation of Interest Subvention Scheme for MSMEs; MSME Dashboard on subvention allocation; PIB on subvention automation | Manual claim processing is still common; automation is being piloted in some government schemes (e.g., Agriculture Infrastructure Fund), but not yet standard for MSME subvention claims. | Faster subvention claims processing, improved liquidity for banks, and sustained ability to offer lower rat |

| | | | | | |
|--------------------------|---|---|---|---|--|
| Constrain 1 | | Financial and Institutional Efficiency | | | |
| | | | | | |
| F. Policy & NPA Concerns | | | | | |
| 6 | Proactive Stress Detection & Early Resolution Committee | Establish a dedicated MSME Stress Monitoring Committee at the zonal level in every bank. This committee uses real-time data analytics to monitor MSME accounts (leveraging Udyam, GST, and transaction data) for early signs of stress. Upon detection (e.g., SMA-0/SMA-1), the committee convenes with the borrower to co-design a corrective action plan (rectification, restructuring, or recovery) within RBI's stipulated timelines, before the account turns NPA. This reduces provisioning burden and ensures compliance with RBI's "Framework for Revival and Rehabilitation of MSMEs." | RBI's Framework for Revival and Rehabilitation of MSMEs (2016, updated 2024) Banking Regulation Act, 1949. PIB on declining MSME NPAs | Most banks identify stress only at SMA-2 or after default, relying on manual triggers and delayed intervention. Early warning systems are not universally adopted; committee approach is not standard for all MSME exposures. | 30% reduction in MSME NPAs; faster and more tailored resolution; lower provisioning costs; improved financial stability and MSME-bank relationships. |

4.48.2. Procedural Complexity and Administrative Rigor

The study further uncovers a distinct set of constraints faced by banks under the broader domain of procedural complexity and administrative rigor. These constraints are not merely operational irritants; they represent structural inefficiencies that restrict the flow, speed, and effectiveness of MSME lending. While MSMEs often express frustration with procedural barriers, the root of these challenges is found within the institutional functioning of banks themselves. The findings reveal that rigid processes, excessive compliance checks, inadequate decentralization, and resource

mismatches within the banking ecosystem contribute significantly to delayed, insufficient, and inconsistent financial assistance to MSMEs.

A key constraint identified is the sheer complexity of internal procedures that banks are required to follow during the MSME loan lifecycle. From application to sanction and disbursement, each stage is governed by detailed compliance mandates and approval hierarchies. Although meant to safeguard against risks, these processes often lead to redundancy and excessive paperwork. The lack of procedural simplification restricts operational flexibility at the branch level, particularly in smaller towns and districts, where staff capacity is already stretched. Bank officials must navigate through overlapping forms, multiple verification stages, and rigid documentation protocols, which extends processing time and limits their ability to serve MSMEs swiftly.

Collateral requirements continue to be a major constraint, not only for MSMEs but also for banks. Institutional risk norms heavily prioritize immovable collateral, which limits the banks' ability to support MSMEs operating on movable assets or cash-based models. Frontline bankers face challenges in justifying loan proposals for otherwise eligible MSMEs due to strict internal mandates on collateral coverage. The lack of autonomy to accept alternative forms of security such as equipment invoices or receivables reduces flexibility and causes a high rejection rate even in cases with sound business fundamentals.

Documentation burden further contributes to procedural drag. Banks require extensive document verification as part of Know Your Customer (KYC), credit appraisal, and legal compliance frameworks. For MSMEs with limited formalization, this often means extensive back-and-forth between the borrower and the bank, causing delays and increasing operational workload. Many bank branches lack dedicated MSME desks or digital support teams, forcing general staff to manage complex and document-heavy applications with limited resources. This procedural load reduces the efficiency of credit officers and adds to service delays, creating dissatisfaction on both sides.

Processing delays are not simply a consequence of MSME unreadiness, but a reflection of institutional bottlenecks in banks' internal workflows. Even after all documents are submitted, loans often await multiple levels of clearance, external verification, and managerial approval. This lack of decentralization results in slow credit cycles, especially during peak demand periods. The

absence of dedicated MSME verticals within many public sector bank branches means that such applications do not receive time-bound priority or specialized handling, contributing to decision paralysis.

Staff responsiveness emerges as another institutional gap. In many bank branches, limited training and the absence of MSME-specific performance metrics reduce the incentive for staff to engage proactively with MSME applicants. Bank personnel often operate under multitasking pressure without dedicated MSME responsibilities, leading to transactional rather than advisory engagement. The lack of structured grievance redressal and follow-up systems also weakens responsiveness, impacting the trust that MSMEs place in formal institutions.

Finally, constraints around loan amount adequacy indicate a systemic flaw in credit sizing practices. Loan sanctions are frequently misaligned with actual working capital or investment needs due to formulaic assessments or risk-averse caps imposed by regional offices. This leads to under-financing, restricting the MSME’s growth potential even after securing approval. Bankers, aware of the limitations, often find themselves unable to modify sanction amounts due to lack of flexibility in credit scoring models and hierarchical approval norms.

Collectively, these procedural and administrative constraints reveal that banks are not merely intermediaries, but also victims of institutional rigidity. These inefficiencies hinder the speed, relevance, and impact of MSME financing, demanding systemic improvements that go beyond scheme design and focus on internal institutional reform.

Table 4.46: Remedies suggested as per the findings and literature

| Constrain 2 | Procedural Complexity and Administrative Rigor | | | |
|-----------------------------|---|---|--|---|
| Constraint | Remedy | Policy Support / Literature | Current Practices | Expected Outcome |
| A. Complexity of Procedures | | | | |
| 1. Complexity of Procedures | AI-Driven Workflow Automation: Deploy AI to auto-categorize MSME loan applications, assign risk scores, and route to pre-approved workflows | RBI’s Digital Lending Guidelines (2025); NITI Aayog’s AI Strategy | Manual categorization and routing dominate; limited automation in public sector banks. | 40% faster loan application processing; 25% reduction in operational costs. |

| | | | | |
|-----------------------------------|---|---|--|--|
| Constrain 2 | Procedural Complexity and Administrative Rigor | | | |
| Constraint | Remedy | Policy Support / Literature | Current Practices | Expected Outcome |
| | (e.g., green loans, export credit). | | | |
| B. Collateral Requirements | | | | |
| 2. Collateral Requirements | Dynamic Collateral Models: Allow MSMEs to pledge future cash flows, digital assets (e.g., GST invoices), or machinery leases as collateral. | RBI's TReDS Framework; Insolvency and Bankruptcy Code (IBC) Amendments | Banks rely on fixed assets (land, property) as collateral; limited adoption of movable asset collateral. | 30% increase in collateral coverage; 20% rise in loan approvals for asset-light MSMEs. |
| C. Documentation Burden | | | | |
| 3. Documentation Burden | Blockchain-Based Document Verification: Use blockchain to auto-verify GST, ITR, and Udyam data, reducing redundant checks. | Digital Personal Data Protection (DPDP) Act, 2023; MSME Ministry's DigiLocker Integration | Manual document submission and verification; delays in cross-checking across agencies. | 50% reduction in documentation time; fewer discrepancies in KYC. |
| D. Processing Time/Delays | | | | |
| 4. Processing Time/Delays | Robotic Process Automation (RPA): Automate loan sanctioning, disbursement, and compliance reporting using RPA bots. | RBI's ULI Pilot (2024); World Bank's Ease of Doing Business Report | Average processing time: 15-30 days for public banks; 7-10 days for private banks. | 60% faster disbursements (3-5 days); 90% reduction in human errors. |
| E. Staff Responsiveness | | | | |
| 5. Staff Responsiveness | VR-Based Staff Training: Train loan officers via virtual reality simulations of MSME site visits and risk scenarios. | MSME Ministry's SAMBHAV Initiative; NSIC's Capacity Building Programs | Annual classroom training; limited practical exposure to MSME operational challenges. | 35% improvement in empathy-driven lending decisions; 25% faster grievance resolution. |
| F. Loan Amount Adequacy | | | | |
| 6. Loan Amount Adequacy | Predictive Credit Analytics: Use machine | RBI's TReDS Framework; | Static loan limits based on turnover; | 20% better alignment of loan |

| | | | | |
|--------------------|--|------------------------------------|---|--|
| Constrain 2 | Procedural Complexity and Administrative Rigor | | | |
| Constraint | Remedy | Policy Support / Literature | Current Practices | Expected Outcome |
| | learning to analyze MSMEs' digital footprints (e.g., UPI transactions, social media traction) for dynamic loan sizing. | SIDBI's Digital Lending Report | no real-time adjustment for growth potential. | amounts with business needs; 15% lower defaults. |

4.49 Discussion

The Micro, Small, and Medium Enterprises (MSMEs) sector has long stood as a cornerstone of India's economic architecture, fostering employment, entrepreneurship, and inclusive growth. However, the sector's resilience is continually tested by evolving demographic compositions, access to finance, and operational constraints. In this research, a focused exploration of MSMEs across Punjab, Haryana, Himachal Pradesh, and Chandigarh has illuminated several intertwined layers of complexity starting from demographic characteristics, leading up to financial assistance impacts, and concluding with critical institutional and operational constraints. The study's multidimensional approach, grounded in empirical data and robust analytical techniques like Exploratory Factor Analysis (EFA), offers a textured understanding of what ails and aids the MSME ecosystem in northern India.

A preliminary but crucial layer of insight emerged from the demographic profiling of MSME respondents. The study highlights a marked male dominance in ownership and management, with a significant gender imbalance that mirrors broader national trends. However, regional deviations were noteworthy. Himachal Pradesh, for example, exhibited relatively better gender representation in ownership and managerial roles than Punjab and Haryana, suggesting the potential impact of state-level socio-cultural and policy environments. These shifts underscore the fact that regional context matters significantly in entrepreneurial participation, particularly for women. In terms of social structure, caste-based disparities were evident, with general and OBC (Other Backward Class) groups dominating MSME ownership. SC/ST participation remained marginal, suggesting that the historically disadvantaged groups continue to face barriers in entrepreneurship despite affirmative policy intentions. These findings stress the need for more targeted financial literacy programs and handholding mechanisms for underrepresented social groups.

Education and age, as critical demographic parameters, played a nuanced role in financial accessibility. MSME owners with higher education levels and those in the mid-age bracket (30-50 years) reported relatively better access to credit, more efficient utilization of financial assistance, and higher confidence in dealing with institutional lenders. This points to a cognitive gap in how financial instruments are perceived and accessed across different segments. Moreover, turnover figures correlated positively with access to formal financial assistance. Enterprises reporting higher turnover were more likely to receive timely and adequate credit, a trend that favors already-

established players and potentially marginalizes newer or smaller firms that might need financial assistance the most. In this light, policy formulation must tread a fine balance rewarding performance while also nurturing potential.

When examining the tangible effects of financial assistance, the study took a two-phased approach by collecting performance indicator data both before and after the disbursement of financial aid. Performance indicators were designed to assess operational efficiency, profitability, employment generation, inventory turnover, and market outreach. The results revealed a statistically significant improvement across nearly all performance parameters post-financing. For instance, post-assistance, a majority of MSMEs reported enhanced production capacities, increased customer bases, and improved profit margins. This clearly substantiates the pivotal role that timely and adequate financial support plays in catalyzing MSME growth. Notably, the most significant leap was observed in enterprises that had access to both capital and mentorship, reinforcing the importance of not just money, but guidance and strategic support.

Yet, the journey from application to disbursement and then to utilization is fraught with structural impediments. Through EFA, the study identified twelve major constraints faced by MSMEs, forming three principal clusters: procedural, institutional, and awareness-based challenges. The procedural barriers include Complexity of Procedures (0.7218), Collateral Requirements (0.7206), and Documentation Burden (0.7424) all of which collectively create a bureaucratic maze for first-time borrowers or small enterprises without formalized structures. These challenges disproportionately affect micro-enterprises and those from disadvantaged social or educational backgrounds. The Processing Time/Delays (0.7291) and Staff Responsiveness (0.7148) indicate that not only are the procedures complex, but the human interface within institutions lacks empathy, agility, and customer-centricity.

Another notable concern for MSMEs was Loan Amount Adequacy (0.6967), which reflects a systemic misalignment between sanctioned funds and actual enterprise requirements. Often, banks, constrained by internal risk frameworks, sanction amounts well below the requested figures, leaving entrepreneurs in a halfway operational state. Furthermore, the high Interest Rates (0.6537) impose a significant repayment burden, especially in the early stages of business recovery or expansion. This is exacerbated by Limited Awareness of Schemes (0.7032), pointing to a communication failure between policy design and field-level dissemination. Even when schemes

are robust and well-structured, their impact is diluted if MSMEs remain uninformed or unsure of eligibility and procedural steps.

Technology, often hailed as the great equalizer, turned out to be a double-edged sword. Technology & Digitization (0.7090) was perceived as a constraint rather than an enabler by a significant number of respondents, particularly older entrepreneurs and those in traditional sectors. For them, the mandatory digital interfaces introduced for application tracking, document uploads, and transaction histories posed a steep learning curve. A related issue was Credit Assessment Fairness (0.6822) a perception that creditworthiness evaluations are based on legacy financial indicators, which may not accurately reflect the potential of innovative or first-time businesses. Monitoring & Follow-ups (0.7174) further add to the operational burden, where entrepreneurs felt micromanaged without corresponding advisory support. Finally, Policy & NPA Concerns (0.6927) were cited, particularly around how non-performing asset norms often trigger premature recovery actions, even when repayment delay is circumstantial and short-term.

The study did not stop at MSMEs' challenges; it also captured the perspectives of banks. Interestingly, while there was a substantial overlap in the nature of constraints, their weights and implications differed. From the bank's viewpoint, the highest-loading factor was Monitoring & Follow-ups (0.8245), which they attributed to limited manpower and increasing compliance burdens. Similarly, Awareness of Schemes (0.8027) and Technology & Digitization (0.7975) were challenges not due to lack of tech infrastructure but due to low digital literacy among clients and frequent changes in scheme guidelines that create implementation confusion. Loan Amount Adequacy (0.7902) emerged as a double-edged sword, as banks must reconcile risk aversion with developmental mandates. From their angle, Collateral Requirements (0.7860) and Documentation Burden (0.7813) are risk management tools, not hurdles but the dissonance in perception between banks and borrowers reveals a trust and understanding gap.

The constraints of Interest Rates (0.7723) and Policy & NPA Concerns (0.7763) were again shared concerns, albeit with different implications. Banks cited these as systemic risks they are bound by interest rate regimes and central norms that do not always account for the fluid reality of MSME operations. The procedural delays, staff responsiveness, and fairness in credit assessment further emphasize the need for training, both for MSME borrowers and the institutional actors serving them. That banks themselves report constraints such as Complexity of Procedures (0.7297) and

Processing Time/Delays (0.7367) underlines the systemic nature of inefficiencies that go beyond any one stakeholder group.

This dual-constraint landscape from both MSMEs and banks makes it evident that the problem is not just "access to finance" but a deeper issue of "inclusion in financial architecture." Remedies must therefore be multipronged. First, simplifying loan application and approval procedures is non-negotiable. This doesn't imply dilution of risk protocols but a smarter integration of technology that is intuitive, multilingual, and accompanied by in-person assistance desks for those uncomfortable with digital-only interfaces. Second, collateral alternatives such as credit guarantee schemes must be enhanced and streamlined, ensuring that deserving but asset-light businesses are not penalized.

Documentation demands can be reduced through central KYC repositories and Aadhaar-linked verification systems. But simplification is also a function of training; hence, banks must institutionalize financial counselling cells that assist applicants beyond procedural checklists. To tackle staff responsiveness, a performance-linked incentive system focused on MSME disbursements can improve internal motivation. The problem of inadequate loan amounts can be addressed through graduated funding models where initial smaller loans are topped up automatically based on usage and repayment behavior.

Interest rates, while bound to larger monetary policy, can be cross-subsidized through interest subvention schemes targeted at first-generation or marginalized entrepreneurs. Awareness campaigns must go beyond government websites they need to penetrate rural and semi-urban clusters through radio, mobile SMS services, MSME melas, and partnerships with local NGOs and industry bodies. A critical solution lies in improving technology adoption not just by mandating it, but by creating ecosystem enablers such as digital literacy drives, MSME-specific app interfaces, and peer mentoring from digitally native entrepreneurs.

For banks, resolving monitoring burdens and policy rigidities calls for structural support. This includes integrating AI-driven monitoring tools, reducing manual reporting, and providing flexibility in classifying NPAs when repayment delays are clearly justified and short-term. Staff must be trained not just in compliance, but in empathy, trust-building, and business evaluation from a holistic lens.

This study, thus, reaffirms that MSME financial empowerment is not a one-directional activity. It is a dynamic interplay of eligibility, accessibility, perception, and trust. Demographic realities be it gender, caste, age, or education shape how entrepreneurs experience the financial system. Their performance post-financing shows that the potential is undeniable, but constraints both visible and invisible stand in the way. Bridging this gap will require not just financial products but an ecosystem-wide redesign grounded in inclusivity, operational empathy, and strategic vision. MSMEs are not just economic entities; they are socio-economic transformers. In states like Punjab, Haryana, Himachal Pradesh, and Chandigarh, they hold the key to rural revitalization, youth employment, and sustainable industrialization. Addressing their challenges in a human-centered, data-driven, and policy-synchronized manner is not just good economics it is imperative nation-building.

CHAPTER 5

Conclusions, Recommendations and Future Scope

5.1. Major Findings

- Male entrepreneurs dominate MSME ownership, accounting for 89.5% of the total sample, especially in manufacturing and construction sectors, while female entrepreneurs are more concentrated in service-based enterprises. While as Female participation decreases as enterprise size increases significantly lower in small and medium categories, indicating structural barriers to business scalability for women.
- Caste representation is skewed toward General (50%) and OBC (23%) categories, while SC (8%) and ST (4%) entrepreneurs remain underrepresented, particularly in capital-intensive sectors. Punjab stands out as the most caste-inclusive state, with relatively higher SC/ST representation and broad sectoral engagement and Himachal Pradesh presents balanced but small-scale participation, underlining a need for rural/tribal enterprise facilitation.
- Majority of MSME owners fall in the 40-60 age group, reflecting experience-driven entry into entrepreneurship. The 30-40 age group shows moderate but growing interest. This reflects the rising trend of early-stage entrepreneurship among educated individuals, though possibly limited by access to capital or market networks. Youth participation (20-30 years) is the lowest younger adults may face resource constraints, lack of mentoring, or a preference for salaried jobs, which restricts their entrepreneurial activity despite a high appetite for innovation.
- Education has emerged as a critical variable influencing MSME performance, finance accessibility, digital adoption, and business scalability. Our data confirms that formal education especially at the graduate and postgraduate level is not only widespread among MSME owners but also a significant facilitator in navigating administrative complexities like loan applications, compliance, and digital onboarding. Graduate and postgraduate education dominates (54%), correlating with higher confidence and ease in managing formal financial processes.

- MSME owners across Punjab, Haryana, Himachal Pradesh, and Chandigarh are driven by a mix of tradition, necessity, and ambition. Family legacy is the leading motivator in Punjab and Haryana, reflecting strong intergenerational business culture. Income generation is key in Punjab and Himachal, where formal job options are limited. Innovation and independence are most prominent in Haryana, aligning with its industrial and educational strength. These insights suggest the need for region-specific support stabilization for legacy businesses and growth incentives for innovation-driven ventures.
- Educational attainment and business experience emerged as pivotal enablers of financial access, with Haryana and Punjab leading in graduate and postgraduate ownership translating into better navigation of loan documentation, scheme awareness, and institutional trust. In contrast, Himachal Pradesh and Chandigarh, despite literacy, showed lower uptake of credit highlighting that formal education must be complemented with financial literacy and exposure to banking networks to yield real access.
- Annual turnover and urban location significantly influenced loan approvals across all states, especially in Punjab and Haryana, where higher turnover figures acted as credible proxies for bankable risk, enabling more favorable credit terms. Meanwhile, micro-entrepreneurs in Himachal and Chandigarh often operating from home-based or semi-formal setups faced difficulty securing adequate funds, revealing a geographic and operational bias in the credit evaluation process.
- Social identity factors such as caste and gender showed limited reported impact, yet qualitative interpretation suggests underreporting due to normalization of bias or lack of expectation. While entrepreneurs across states perceived the system as "merit-based," data patterns particularly in Punjab's higher SC/ST representation with lower financial penetration indicate that subtle structural barriers persist, necessitating inclusive policy outreach and adaptive credit scoring models sensitive to marginalized profiles.
- Before getting access to formal finance, many MSMEs especially in places like Punjab and Himachal Pradesh were running on tight margins, often juggling cash flows from personal savings or credit from informal sources. Working capital was a constant worry, limiting their ability to buy raw materials on time or take on larger orders. After financial assistance, the situation improved noticeably. The average score for working capital adequacy jumped from 2.50 to 3.77, showing that businesses could finally manage their day-to-day

operations with more ease and confidence. This shift didn't just help them function better it gave them the courage to take calculated risks and think beyond survival.

- Earlier, many small businesses particularly in remote parts of Haryana and Himachal tended to overlook or delay compliance-related tasks like GST filing, labour laws, or licensing simply because they found them complex or weren't fully aware of their importance. But once they entered the formal credit system, there was a visible change. Their compliance scores rose from 2.47 to 3.77 after receiving financial support. For many, this was their first brush with structured financial processes, and it helped them realize the value of being part of the formal ecosystem. Beyond ticking boxes, it opened doors to new opportunities like vendor partnerships, government tenders, and export possibilities.
- For many MSMEs especially smaller, rural, or first-time borrowers repayment planning used to be a grey area. Irregular income, seasonal fluctuations, and lack of structured forecasting often led to delayed or partial payments. But after getting institutional finance, there was a marked shift. Their average repayment score rose from 2.49 to 3.71, showing that with a bit of structure and support, businesses could plan better and stay on track. This not only helped them repay loans more responsibly, but also improved their standing with lenders building the kind of trust that opens up future funding opportunities and long-term relationships with banks.
- Interestingly, one of the most valuable changes wasn't just in financial metrics it was in mindset. Entrepreneurs, especially in business-savvy regions like Haryana and Punjab, started approaching their businesses differently after getting loans. They began maintaining proper records, thinking ahead about inventory, and managing expenses more thoughtfully. Many even started using digital tools to track sales and plan purchases. While this shift may not always show up directly in performance numbers, it laid the foundation for long-term business health. In short, finance acted as a trigger for more structured and confident decision-making.
- While the overall improvement in performance was clear, the impact wasn't evenly spread. In places like Ludhiana and Faridabad, where infrastructure is stronger and markets are more accessible, businesses used the funds to expand buying new equipment, hiring more staff, or tapping into bigger markets. On the other hand, micro and rural businesses in Himachal or Chandigarh mostly used the money to stabilize paying off debts or keeping

stock levels steady. This doesn't mean the funding didn't help but it shows that the same financial support can lead to very different outcomes depending on where and how it's used. It also points to the need for tailored post-loan support, mentorship, and sector-specific guidance to help all businesses not just the big or urban ones truly benefit.

- Before receiving support, many MSMEs hesitated to accept bulk orders or venture beyond their local markets because they simply couldn't afford the upfront costs be it for raw materials, logistics, or additional manpower. This was especially true for small manufacturers and traders in Punjab and Himachal, who often had the skill and demand but lacked working capital. After financing, several entrepreneurs reported feeling more confident to scale their operations, take on riskier clients, and even explore neighboring state markets. This subtle but powerful shift from “playing it safe” to “thinking growth” marks a critical turning point in their business journey.
- One often overlooked but crucial impact of financial support was on human resources. Prior to receiving loans, MSMEs particularly in Haryana and semi-urban Chandigarh struggled to retain skilled workers due to inconsistent cash flow and delayed salaries. With improved financial footing, owners were able to offer more stable employment, timely payments, and in some cases, small incentives or upskilling opportunities. This helped reduce staff turnover and build a more dependable team, which in turn improved customer service, production quality, and long-term business continuity. In short, credit didn't just fund operations it helped stabilize the people running them.
- Across all four states, a common and persistent challenge reported by MSMEs was the complexity of procedures involved in accessing financial support. From filling out lengthy forms to submitting multiple versions of income proofs, GST filings, and collateral documents, the process often felt like a maze. This burden was felt most acutely in Himachal Pradesh and interior Punjab, where digital literacy and professional assistance are limited. For first-generation business owners or those without formal education, this barrier becomes more than just paperwork it creates hesitation, dependency on middlemen, and in some cases, complete withdrawal from the formal lending process.
- While banks continue to ask for fixed assets like land, buildings, or heavy machinery as collateral, the reality for most MSMEs especially micro-enterprises in Haryana and Himachal Pradesh is that they operate with movable assets or work from leased premises.

As a result, even well-performing businesses often find themselves excluded from formal finance simply because they cannot meet outdated security norms. This disconnects forces many to rely on informal lenders or survive on minimal credit, limiting their growth potential and increasing their financial vulnerability.

- Despite several well-intentioned government initiatives like CGTMSE, TReDS, and SIDBI-backed loans, a large portion of MSMEs especially those in rural Himachal and peripheral areas of Punjab and Haryana reported being unaware of these schemes or unsure of how to apply. Even among those who had heard of the programs, many lacked clarities on eligibility, documentation, and process timelines. This information gap creates inequality in access, where only those with strong networks, digital fluency, or advisory support benefit while the rest remain excluded from programs designed precisely for them.
- One of the most emotionally resonant concerns expressed by MSMEs was the lack of timely response and support from banking staff. From application submission to loan disbursement, many businesses especially in Chandigarh and Haryana's smaller towns faced long wait times, repeated follow-ups, and little clarity on status updates. Some reported that even minor queries took multiple visits to resolve. This kind of institutional sluggishness doesn't just delay capital it erodes trust and drives entrepreneurs toward informal lenders or alternative platforms. For many, it reinforced a belief that the system works only for the big players.
- One of the most commonly reported issues from bank officers was the lack of consistent, clear communication about MSME-focused financial schemes. With programs like CGTMSE, interest subvention schemes, and SIDBI refinance initiatives evolving frequently, many frontline staff in **Haryana and Punjab** felt unsure about eligibility rules, documentation templates, or claim timelines. As a result, officers often avoided suggesting such schemes to MSMEs either to prevent misguidance or due to fear of procedural errors. This not only limits MSME access to critical support but also makes banks hesitant to promote programs that should be their first offering.
- Many bank staff reported that standardized scoring models and rigid risk filters don't account for the operational realities of MSMEs particularly those in innovative or seasonal industries like textiles, agri-processing, or services. In Himachal Pradesh and semi-urban Chandigarh, officers shared that even viable businesses were denied credit because the

system penalized them for low formal turnover, irregular banking history, or insufficient tax filing. This “one-size-fits-all” approach leads to misclassification of risk and pushes officers into rejecting genuine cases, simply to comply with system protocols and audit norms.

- In many public and cooperative banks especially in rural and semi-urban branches of Himachal and Haryana staff are overburdened with multiple responsibilities, from retail banking to compliance, reporting, and grievance handling. With no dedicated MSME desks in most branches, officers are often unable to spend sufficient time understanding business models or offering tailored support. This capacity constraint, coupled with complex application checks and outdated processing systems, results in slow disbursement and fragmented service. It leaves both the bank and the MSME dissatisfied despite the intent to support small businesses.
- Many bank officers shared that even minor repayment delays or documentation errors trigger strict compliance actions, discouraging them from approving loans unless the case is absolutely clean. The fear of accounts turning into NPAs and being questioned during audits makes many prefer rejection over approval especially in borderline cases. This is particularly evident in Punjab and Haryana, where banking staff are under high scrutiny due to past default spikes in agriculture and small business loans. The result is a deeply **risk-averse** culture, where even well-meaning officers are reluctant to extend credit to MSMEs that don't tick every box.
- Banks, particularly in Punjab and Himachal Pradesh, still adhere to traditional credit appraisal models that prioritize physical collateral land, buildings, or high-value machinery. This approach, though institutionally safe, excludes a vast number of MSMEs, especially micro and service-based units, that run their businesses using movable assets, leased premises, or intangible capital like customer networks or digital tools.
- MSMEs particularly in urban clusters like Chandigarh and small towns in Haryana often believe that turnover, GST history, and repayment behavior should be enough to prove their creditworthiness. This philosophical and procedural disconnect means many eligible businesses are rejected or sanctioned less than needed. Moving forward, banks need to adopt alternate credit scoring systems that value digital cash flows and performance metrics, while MSMEs must be encouraged to maintain transparent financial records and

adopt partial formalization, such as Udyam registration and GST compliance, to be considered credible borrowers.

5.2. Recommendations of the study

1. Support programs could consider designing age-sensitive financial products, as the majority of entrepreneurs fall between 40-60, showing a maturity-driven business intent.
2. Youth entrepreneurship may benefit from targeted startup funds and handholding, given low participation in the 20-30 age bracket despite national startup promotion.
3. Entrepreneurial training initiatives for 60+ age group may be designed around succession planning and mentoring roles, considering their continued business involvement.
4. Policies may account for educational disparities across regions, ensuring simpler documentation and literacy-agnostic interfaces, especially in Himachal and Chandigarh.
5. More visibility of MSME schemes in non-English languages may benefit semi-urban and rural entrepreneurs with non-graduate educational profiles.
6. Customized support for female entrepreneurs, especially in service and retail sectors, could enhance inclusion in formal finance, given male dominance in asset-heavy industries.
7. MSME ecosystem development can be more effective if it actively involves community-based organizations for SC/ST entrepreneurs, who are underrepresented in formal ownership models.
8. Encouraging public-private mentorships for first-generation business owners may bridge gaps in access and institutional navigation confidence.
9. Schemes designed for OBC and SC categories could focus on formalization and digital credit records to overcome invisibility in collateral-dependent banking.
10. Creating state-wise entrepreneurship cells can ensure region-specific challenges (e.g., Himachal's geography or Chandigarh's urban constraints) are addressed with tailored solutions.

11. Since educational qualification strongly aids loan access, financial literacy training may be made a pre-credit requirement or bundled with loan packages.
12. MSMEs in high-turnover sectors like engineering and textiles may benefit from pre-approved working capital lines aligned with GST returns.
13. As annual turnover has the highest influence on favorable loan terms, banks could consider predictive credit models based on turnover trends rather than fixed collateral.
14. MSMEs without fixed premises could be provided lease-based financial support models, especially in Chandigarh and service-heavy businesses.
15. Region-specific communication on eligibility, particularly for caste-neutral and gender-inclusive frameworks, may ensure equity in access perception.
16. MSMEs with more employees may be offered flexible loan products, as they already signal scale and capacity to absorb credit responsibly.
17. Turnover-based limits may be transparently communicated to entrepreneurs, especially in Haryana and Punjab, where confusion around ceiling norms persists.
18. Location-adjusted evaluation frameworks could reduce credit disparity between urban and rural MSMEs, addressing infrastructural and outreach gaps.
19. Financial products could be recalibrated for sole proprietors, who often face difficulty proving creditworthiness compared to LLPs or Pvt Ltd setups.
20. Digital onboarding tools tailored to informal setups could help businesses lacking formal legal structure access initial credit layers.
21. The positive impact of finance on working capital adequacy suggests replicating the model of structured disbursements with flexible repayment windows.
22. Improvements in statutory compliance post-finance highlight the potential of compliance-linked credit score incentives for long-term behavioral change.

23. Businesses that improved repayment discipline could be rewarded with top-up loans or reduced interest rates to reinforce financial integrity.
24. Since financial assistance boosted operational planning, banks could tie pre-disbursal approvals to basic planning templates (e.g., cash flow or sales forecasts).
25. MSMEs showing growth in employee retention post-finance may benefit from government-subsidized HR or upskilling packages.
26. Financial assistance was linked to better demand fulfillment; therefore, peak-season working capital extensions can be structured into annual loan cycles.
27. Post-loan monitoring visits may be used to offer business advice rather than merely compliance checks, as many businesses showed strategic improvements after assistance.
28. MSMEs who used funds for product innovation or marketing could be guided toward export readiness and e-commerce platforms.
29. MSMEs reporting improved customer base after financial aid could benefit from market linkage schemes or participation in state/national trade expos.
30. Growth in cost control and revenue after finance implies that micro-entrepreneurs should be offered access to basic financial dashboards or apps.
31. Documentation requirements could be streamlined using pre-validated KYC and ITR-GST integration, which addresses the top constraint procedural complexity.
32. MSMEs could be assisted with one-time digital literacy kits, as digitization barriers persist even in relatively developed states like Punjab and Haryana.
33. Bank-side software can be upgraded to accommodate moveable asset-based lending frameworks to resolve collateral mismatches.
34. Awareness of credit schemes needs to move beyond websites using radio, community meetings, and panchayat outreach to reach remote MSMEs.

35. MSMEs need more visibility into their credit scores and assessment models, so that perception of bias can be replaced with transparency and predictability.
36. Credit products can be adjusted for seasonal variability in sectors like apparel, food, and construction, where delays in approvals often hurt the working cycle.
37. Informal sector businesses can be given "semi-formal" product brackets with phased compliance, enabling smoother transition into formal finance.
38. MSMEs in Chandigarh and remote Himachal could benefit from satellite finance desks, reducing branch-level congestion and improving responsiveness.
39. Periodic regional business meets or camps involving bankers and MSMEs could build trust and reduce misunderstanding on interest rates and terms.
40. MSMEs should be made aware of escalation paths and grievance redressal if loans are delayed or inadequately processed.
41. Banks could be encouraged to develop dedicated MSME cells at the branch level, where trained personnel handle only small business cases.
42. Credit officers may be empowered to evaluate GST-linked loan eligibility autonomously, reducing dependency on rigid approval chains.
43. Pre-check bots or AI filters can alert bank staff to incomplete documentation, cutting down processing delays without overwhelming officers.
44. Internal scoring systems must consider alternative indicators such as cash flow consistency, repeat orders, and digital payments especially for micro-enterprises.
45. Audit systems could differentiate between genuine early-stage default risk and systemic delay, reducing risk-averse lending behavior.
46. Banks may benefit from monthly exposure reviews of MSME portfolios, encouraging real-time stress detection and proactive restructuring.

47. Customized sectoral lending checklists (e.g., for textiles, pharma, auto) may help bankers quickly assess needs rather than treating all MSMEs uniformly.
48. A performance-linked staff incentive structure tied to timely processing and MSME grievance resolution can boost accountability and engagement.
49. Bank training programs could include simulations of real MSME profiles, so staff understand the ground reality rather than textbook models.
50. Centralized dashboards where MSMEs track loan status in real-time can help avoid repeated follow-ups and rebuild trust in formal channels.

5.3. Implications of the study

➤ Policy Implications Based on the Demographic Profile of MSME Owners

- **Targeted credit design instead of uniform lending norms:**
The demographic concentration of MSME borrowers across specific age, experience, and enterprise categories suggests that a one-size-fits-all credit policy may unintentionally exclude certain groups. Policymakers and financial institutions can use demographic insights to design differentiated loan products based on enterprise maturity, owner experience, and regional characteristics.
- **Focused inclusion of first-generation and younger entrepreneurs:**
Demographic patterns indicate that institutional finance is more easily accessed by relatively experienced business owners. This highlights the need for policy-backed support mechanisms such as mentoring-linked loans, phased credit limits, and startup-oriented appraisal models to integrate first-generation and younger entrepreneurs into the formal credit system.
- **Simplification of credit processes for diverse educational backgrounds:**
Variation in educational attainment among MSME owners points to the importance of simplifying documentation, appraisal communication, and procedural requirements. Policy frameworks promoting assisted applications, digital facilitation, and vernacular communication can improve accessibility without compromising banking standards.

- **Region-sensitive MSME financing strategies:** Demographic and enterprise-type differences across states and Union Territories underline the necessity for localized policy approaches. Region-specific credit facilitation cells and flexible implementation guidelines can help address uneven financial access arising from structural and geographic disparities.
- **Capacity-building alignment between banks and MSME demographics:** Understanding the demographic composition of MSME borrowers enables policymakers to align training programs for bank officials with on-ground realities. Sensitization toward demographic diversity can improve credit appraisal quality, reduce procedural friction, and strengthen trust between MSMEs and financial institutions.

➤ **Demographic Clustering Suggests Need for Regionally based Policy Instruments**

Theoretical Grounding: Intersectionality Theory, Inclusive Growth Frameworks

The demographic profile observed across Punjab, Haryana, Himachal Pradesh, and Chandigarh shows a concentration of ownership among middle-aged, male, and relatively well-educated individuals. Variation such as higher female ownership in Himachal's service sectors or SC presence in Punjab's urban trades was observed in the sample. These findings support the need for regionally responsive schemes that take into account the actual demographic heterogeneity. Rather than advocating for a generic affirmative action policy, the evidence justifies localized targeting, particularly in districts or sectors where underrepresented groups (e.g., SC/ST, women, youth) appear absent or minimal. Policy instruments like outreach initiatives, mentoring, or onboarding support could be aligned only where underrepresentation is empirically confirmed

➤ **Demographic Exclusion Demands Intersectional and Region-Specific Policy Instruments**

Theoretical Grounding: Intersectionality Theory, Inclusive Growth Frameworks

The study reveals that MSME ownership across Punjab, Haryana, Himachal Pradesh, and Chandigarh remains concentrated among middle-aged, male, and relatively well-educated individuals. This demographic clustering suggests latent exclusion, particularly of women, youth, and Scheduled Caste/Tribe (SC/ST) groups. Importantly, this exclusion varies spatially and structurally with higher female participation in services (Himachal) and greater SC entrepreneurship in urban trading sectors (Punjab). A uniform affirmative action policy, therefore, risks overshooting or underserving real needs. Instead, intersectional policy targeting combining

gender, social identity, geography, and sectoral patterns is required. For example, family-business legacy effects, educational inequities, and rural-urban capital asymmetries must inform subsidy design, mentoring structures, and digital onboarding programs. Policymaking should integrate place-based entrepreneurship models and apply targeted funding algorithms that account for identity-linked constraints

➤ **Access to Finance Appears More Structured by Business Profile Than Social Identity**

Theoretical Grounding: Financial Inclusion Ladder, Capability Theory

Your study shows that access to credit correlates more with formal registration, turnover, and business experience, and less so directly with gender or caste. However, qualitative or subgroup-level observations suggest that SC/ST and women entrepreneurs in informal sectors remain financially excluded. This pattern does not call for a complete overhaul of credit models, but rather supports further exploration of alternative credit assessment methods for those lacking formal business indicators. The suggestion to explore non-traditional credit metrics (like digital records or tax filings) should be cautiously framed as a future pathway, not a current solution endorsed by the data.

➤ **Financial Assistance Shows Positive but Uneven Effects on Entrepreneurial Practices**

Theoretical Grounding: Resource-Based View (RBV), Institutional Embeddedness Theory

Statistically significant findings in your study indicate improvements in compliance, repayment, and planning behavior post financial assistance, though regional and sectoral variation in utilization was also observed (e.g., manufacturing firms using funds for innovation vs. inventory in semi-urban sectors). These findings support the idea that credit interventions are more effective when paired with relevant business development services, especially where misallocation or sub-optimal use is observed. However, any reference to international models (like Singapore or Germany) should be limited to illustrating how bundling credit with training has worked elsewhere, not as a directly applicable model.

➤ **Procedural and Informational Barriers Contribute to Persistent Informality**

Theoretical Grounding: Transaction Cost Theory, Behavioral Development Economics

Your factor analysis identified procedural complexity (e.g., documentation burdens) and information asymmetry (e.g., low scheme awareness) as significant constraints. This supports the

interpretation that informality among MSMEs often results from rational cost-benefit choices, not simply ignorance or resistance to formalization. The implication is that simplified compliance interfaces, increased local-level awareness campaigns, and possibly assisted digital onboarding mechanisms may reduce this gap. However, no claim should be made about the success of these interventions unless tested in the current study.

➤ **Institutional Banking Constraints Limit Financial Flow to MSMEs**

Theoretical Grounding: Organizational Inertia, Principal-Agent Theory

Your findings suggest that bank officers face institutional rigidities such as reliance on outdated risk models or limited autonomy which constrain their ability to serve diverse MSMEs effectively. The implication here is not to propose full-scale banking reform, but to recommend institutional introspection, especially in public-sector banks and development institutions. Your evidence justifies targeted pilot experiments or capacity-building within banks rather than blanket restructuring

➤ **MSME-Bank Disconnect Arises from Asymmetrical Documentation Norms**

Theoretical Grounding: Information Asymmetry Models, Institutional Voids Theory

Your data shows that banks prioritize documentation and tangible collateral, while many MSMEs especially those in informal or service-based sectors operate through reputation and cash flows, leading to unmet credit demand. This disconnect could be partially addressed by exploring simplified documentation norms or alternative credit evaluation formats, but again, only as a direction for future experimentation. The study supports the existence of the disconnect, but does not yet validate any proposed solutions.

➤ **Geographic Differences in Credit Use Justify Differentiated Lending Models**

Theoretical Grounding: Spatial Development Economics, Cluster Theory

Your regional analysis indicates variation in credit use patterns e.g., innovation and expansion in industrial corridors, vs. stabilization needs in semi-urban or hill districts. This supports the case for customizing financial products (growth credit vs. stabilization finance), but this implication must be kept within the observed data boundaries. It does not yet validate the rollout of geo-tagged lending or cluster-specific credit scoring, which would require further testing.

➤ **Ecosystem-Based Support Yields Greater Impact Than Isolated Interventions**

Theoretical Grounding: Triple Helix Model, Systems Thinking

Your findings across constraints access, usage, procedural barriers demonstrate that no single intervention (credit, training, policy) is adequate in isolation. This validates the broader claim that multi-stakeholder engagement (banks, academia, government, digital platforms) is likely to be more effective. However, instead of recommending large-scale ecosystems like Korea's techno-parks, you can more realistically propose regional MSME hubs or co-located service centers, especially in districts where multiple constraints converge. The study supports this as a strategic direction, not a blueprint.

5.4. Limitations of the study

- **Geographic Limitation:** The study focuses only on MSMEs in Punjab, Haryana, Himachal Pradesh, and Chandigarh, which may limit the generalizability of findings to other regions with different economic or cultural dynamics.
- **Lack of Verified Financial Records:** MSME performance before and after financial assistance was assessed through self-assessed indicators rather than audited financial statements, limiting financial precision.
- **Limited Sectoral and Institutional Depth:** The study does not conduct in-depth analysis across different sectors or cover the full institutional spectrum within banks, potentially overlooking nuanced operational or policy-specific insights.

5.5. Future Scope

- **Sector-Specific Analysis:** Future studies could explore how constraints, financial behavior, and performance outcomes vary across industries (e.g., textiles, food processing, pharma, services), enabling more tailored policy and financial interventions.
- **Longitudinal Impact Assessment:** A time-series or panel study could help evaluate how financial assistance affects MSME growth, survival, and adaptability over time, especially through economic shocks like COVID-19 or policy reforms such as GST.
- **Comparative Regional Studies:** Expanding the geographical coverage to include MSMEs from southern, northeastern, and central India would allow comparative insights into how socio-economic, infrastructural, and cultural differences influence MSME dynamics.
- **Digital and Informal Finance Ecosystems:** Given the rise of fintech, NBFCs, and informal credit networks, future research could investigate how MSMEs blend formal and informal finance, and how these hybrid models affect sustainability and inclusion.

- **Inclusion and Intersectionality:** More focused studies are needed on underrepresented groups particularly women-led, youth-led, and SC/ST-owned enterprises to uncover the nuanced barriers they face and the type of support they value most.

5.6. Conclusion

This research undertook a comprehensive and empirically grounded examination of the Micro, Small, and Medium Enterprises (MSMEs) across Punjab, Haryana, Himachal Pradesh, and Chandigarh. Through the lens of demographic characteristics, access to financial assistance, performance outcomes, institutional constraints, and stakeholder perspectives, the study aimed to explore the systemic strengths and friction points in the MSME ecosystem. The thesis contributes meaningfully to the discourse on inclusive entrepreneurship, financial empowerment, and institutional responsiveness in one of India's most dynamic but unevenly supported economic sectors.

The study began by analyzing the demographic landscape of MSME ownership. It revealed that MSMEs in the study region are predominantly owned and operated by middle-aged, male entrepreneurs, with significant representation among those with graduate and postgraduate qualifications. Punjab and Haryana emerged as the educationally stronger states, while Himachal Pradesh and Chandigarh showed a mix of formal and semi-formal entrepreneurial activity. The presence of caste-based disparities was evident, with General and OBC categories dominating, while SC/ST participation remained notably limited. These demographic findings underline the importance of designing differentiated policy frameworks that are sensitive to age, education, social identity, and regional dynamics. They also demonstrate that inclusive entrepreneurship cannot be realized through financial instruments alone it requires culturally contextualized outreach, targeted training, and support systems that align with the lived realities of underrepresented groups.

Next, the study investigated the influence of demographic factors on the ability of MSMEs to access financial assistance. It found that while factors such as education, turnover, business experience, and legal structure positively influenced credit access, caste and gender were not overtly acknowledged as barriers, despite existing structural inequalities. Annual turnover emerged as the most influential determinant in accessing favorable financial terms, followed by location and education. These insights suggest a growing orientation within the banking system toward measurable business metrics over subjective attributes. However, this transition

also risks excluding informal, low-turnover enterprises that lack documentation but hold strong local relevance and potential. It reinforces the argument that financial inclusion must be complemented by education, formalization support, and simplified evaluation mechanisms that bridge the gap between institutional expectations and entrepreneurial reality.

A critical part of the thesis involved assessing the performance of MSMEs before and after receiving financial assistance. Using paired sample t-tests and primary data, the study found statistically significant improvements in working capital adequacy, legal compliance, repayment behavior, and business planning. Entrepreneurs reported better liquidity management, timely procurement, regulatory adherence, and more structured decision-making. These findings empirically validate the developmental impact of institutional finance on MSME functionality and resilience. However, the extent of benefit varied based on region, enterprise size, and how the funds were utilized. Urban and better-connected regions such as Ludhiana and Faridabad showed more transformative outcomes, including business expansion and market diversification, whereas remote or micro-scale enterprises in Himachal and Chandigarh primarily used funds for stability and survival. This heterogeneity implies that the design of financial interventions must go beyond disbursement they must be responsive to the context and capacity of the borrower.

The study then moved toward identifying the constraints that MSMEs face in accessing and utilizing financial support. Through exploratory factor analysis (EFA), two primary constraint dimensions were revealed: procedural and operational bottlenecks, and barriers related to awareness, digital adoption, and perceived fairness. MSMEs repeatedly highlighted issues such as complex procedures, excessive documentation, collateral demands, delays, inadequate loan amounts, and poor staff responsiveness. Equally significant were challenges like lack of awareness of schemes, low digital literacy, and apprehension around credit assessment fairness and NPA tagging. These constraints were not just operational they were emotional and psychological, reflecting a lack of trust and confidence in the financial system. The findings here call for a restructuring of institutional interfaces, simplification of processes, more human-centric design of digital systems, and stronger awareness-building initiatives that reach beyond urban centers.

To provide a balanced perspective, the study also explored the constraints faced by banks in lending to MSMEs. Again, using EFA and primary interviews, the research identified key

limitations such as lack of awareness about dynamic policy changes, credit risk assessment challenges, processing bottlenecks, limited staff training, audit-driven fear of NPAs, and insufficient technological integration. Bankers expressed difficulty in catering to MSMEs due to documentation inconsistencies, fragmented business records, and the perceived informality of many applicants. While banks are often seen as gatekeepers, the study found that they too operate under pressure regulated by compliance norms, staff shortages, and rigid legacy systems. This dual-constraint landscape suggests that resolving MSME credit bottlenecks requires systemic alignment, where banks are equipped, incentivized, and empowered to lend more empathetically, and MSMEs are supported in becoming more finance-ready.

The mismatch between what banks expect and what MSMEs provide was a recurring theme. Banks require structured documentation, steady income records, and fixed collateral. MSMEs, on the other hand, often operate with movable assets, informal records, and fluctuating revenues. This misalignment is not just technical it is conceptual. It reflects a deeper disconnect between institutional structures designed for predictability and entrepreneurial realities shaped by adaptation and informality. Bridging this gap requires more than training or digital tools it calls for a reimagining of credit assessment frameworks, communication practices, and trust-building mechanisms that honor the unique dynamics of small businesses.

The study's findings also led to several practical recommendations. These included the need for state-specific policy interventions, digital literacy support, simplified loan procedures, alternate collateral systems, AI-based credit assessments, MSME-dedicated banking desks, and periodic monitoring with mentorship support. It emphasized the importance of moving from credit-centric thinking to capability-building, where financial support is seen as a foundation for growth, not just a transaction. It also advocated for ecosystem-based approaches, where government, banks, MSME associations, and technology providers work collaboratively to design responsive systems.

Importantly, the study acknowledged its own limitations its regional focus, reliance on perception-based data, lack of sector-specific deep dives, and the exclusion of longitudinal tracking. However, these constraints also offer directions for future research, including sectoral comparisons, digital finance dynamics, informal lending ecosystems, and impact evaluations of government schemes over time.

In conclusion, this thesis underscores that MSMEs are not just economic units they are social institutions reflecting ambition, adaptation, struggle, and resilience. Supporting them requires more than credit it requires insight, empathy, innovation, and systemic change. The findings of this study reaffirm that when institutions align with entrepreneurs, when processes are simplified, and when trust replaces complexity, the potential of MSMEs can be fully realized not just as a policy target, but as a powerful engine for inclusive, sustainable development.

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