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Assessing the Interplay amongst Enablers and Barriers for Achieving the Sustainable Growth of Textile MSMEs of Gujarat

¹Sunny Mirchandani, ²Dr. Hemal Pandya,

¹Research Scholar, ²Professor,

¹School of Commerce,

¹Gujarat University, Ahmedabad, India

Abstract: Micro, Small and Medium Enterprises (MSMEs) represent the backbone of Gujarat's textile industry, generating employment, contributing to exports, and supporting inclusive industrial development. However, these enterprises continue to face systemic constraints that limit their competitiveness and long-term growth. This paper is based on empirical study of 487 textile MSMEs across 28 districts of Gujarat, identifies key enablers and barriers shaping their sustainability. Six enabler constructs – market penetration, adaptability to change, resource availability, product customization, competency, and financial access - and seven barriers - diseconomies of scale, inefficient supply chain management, inadequate regulation, cultural diversity, lack of IT literacy, deficient MIS, and HR challenges - were identified through factor analysis. Further the sample respondents were classified into homogenous clusters based on their perception regarding enablers and barriers of sustainable growth identified through factor analysis. The findings reveal that while opportunities exist in digital adoption, resource mobilization, and policy support, the persistence of structural inefficiencies threatens their sustainability. The paper concludes with policy recommendations focusing on infrastructure development, financing reforms, and digital transformation pathways, emphasizing the need for region-specific interventions in Gujarat's textile MSMEs ecosystem.

Index Terms - Cluster Analysis, Factor Analysis, Gujarat Textile, MSMEs, Sustainable Growth.

I. INTRODUCTION

1.1 Background

Micro, Small and Medium Enterprises (MSMEs) are widely recognized as the backbone of India's industrial and economic ecosystem, contributing significantly to employment generation, regional development, and innovation. The textile industry has historically been a cornerstone of Gujarat's economy, accounting for nearly one-fourth of India's textile output. Gujarat is home to more than 5.3 lakh MSMEs, with Surat alone contributing around 40% of India's man-made fabric production. These enterprises engage in spinning, weaving, dyeing, printing, and garmenting, making them critical for value addition and supply chain integration. The sector employs millions of workers and contributes substantially to both domestic and export markets.

Despite their critical role, textile MSMEs in Gujarat face multiple challenges that limit sustainable growth. Access to formal credit remains limited, with many enterprises depending on informal sources of finance. Technological backwardness and resistance to digital adoption hinder productivity, while infrastructure constraints, such as poor logistics and outdated facilities, reduce competitiveness in global markets. These challenges persist despite the presence of favourable government policies, including the Gujarat Textile Policy (2019), Textile Upgradation Fund (TUF), and initiatives under Atmanirbhar Bharat and Make In India.

At the same time, opportunities exist for MSMEs to leverage digitization, sustainable practices, and government incentives to strengthen their market position. Understanding the interplay of enablers and barriers is therefore crucial for framing targeted policies and strategies that can unlock the growth potential of Gujarat's textile MSMEs.

1.2 Problem Statement

While MSMEs are acknowledged as engines of economic growth, their long-term sustainability is constrained by structural, operational, and regulatory challenges. In Gujarat, although state policies and cluster-based initiatives aim to support the textile sector, many MSMEs continue to struggle with adoption of sustainable practices, efficient resource utilization, and technological modernization. Understanding the inter-relationship between the barriers and enablers impeding sustainable growth is essential to formulate actionable strategies for policy-makers and enterprise managers.

1.3 Research Objectives

1. To identify key enablers promoting sustainable growth among textile MSMEs in Gujarat.
2. To examine major structural and operational barriers impeding their growth.
3. To categorize MSMEs into distinct clusters based on the benefits availed and the challenges faced by them.
4. To recommend strategies and policy interventions tailored to the specific needs of Gujarat's textile MSMEs.

1.4 Significance of the Study

The study offers both theoretical and practical contributions. Theoretically, it extends existing literature by presenting a comprehensive framework that integrates both barriers and enablers of sustainable growth in the textile MSME sector. Practically, the findings can guide policy-makers in designing effective interventions such as financial reforms, digital transformation initiatives, cluster-based support, and skill development programs. For industry practitioners, the study identifies actionable strategies to enhance productivity, adopt technological solutions, implement sustainable practices, and improve competitiveness in domestic and global markets.

II. LITERATURE REVIEW

Textile MSMEs are vital for employment generation, innovation, and regional economic growth. However, their sustainable growth is shaped by a combination of barriers and enablers, both globally as well as in India.

Financial Constraints vs. Financial Support

In India, MSMEs face limited access to credit and working capital, which restricts expansion and adoption of sustainable practices (Chatterjee, 2015; Panigrahi & Rao, 2018). Globally, similar trends are seen in Bangladesh and China, where financial limitations hinder competitiveness (Singh & Malhotra, 2021; Chen, 2020). Conversely, targeted financial support, subsidies, and government schemes act as key enablers, enabling modernization and sustainability initiatives (Gautam, 2022).

Technological Limitations vs. Technological Adoption

Outdated machinery and low digitalization impede productivity and sustainable practices in Gujarat's MSMEs (Dixit, 2015; Kumar, 2018). Globally SMEs that invest in automation and digital tools gain competitive advantage and operational efficiency (Chen, 2020). Technological adoption, including digitized supply chains and circular economy practices, thus serves as a major enabler for sustainable growth (Das, 2024).

Regulatory Challenges vs. Policy Awareness

Indian MSMEs often struggle with complex regulations, weak implementation, and low awareness of government schemes (Dave & Bhati, 2019; Jaiswal, 2023; Khan et al., 2024). Similarly, regulatory burdens in developing countries constrain SME growth (Chen, 2020). Enhancing awareness and simplifying policies acts as an enabler, encouraging compliance and adoption of sustainable practices (Gautam, 2022).

Supply Chain & Infrastructure vs. Sustainable Practices

Inefficient supply chains, logistical issues, and raw material shortages limit growth in Indian textile MSMEs (Panigrahi & Rao, 2018; Das, 2024). Internationally, SMEs adopting modern supply chain management and sustainable sourcing achieve higher efficiency and resilience (Chen, 2020). Collaboration with suppliers and integration of circular practices enable operational sustainability.

Labour & Skill Gaps vs. Human Capital Development

Labour shortages and inadequate skills hinder MSME performance in India (Dave & Bharti, 2019). Globally, workforce training is recognized as crucial for adopting innovative and sustainable practices (Chen, 2020). Skill development programs thus function as an important enabler.

Synthesis

Both Indian and global studies indicate that MSMEs face similar structural, financial, technological, and regulatory barriers. At the same time, financial support, technological adoption, policy awareness, skill development, and sustainable supply chain integration emerge as key enablers. Future research can quantitatively assess these factors to guide policies and strategies that enhance the sustainable growth of textile MSMEs in Gujarat.

Research Gap

Existing studies on textile MSMEs largely focus on global competitiveness or individual challenges such as financial constraints, technological limitations, supply chain inefficiencies, and regulatory hurdles. Few studies examine the combined influence of barriers and enablers, particularly in the context of Gujarat's textile MSMEs and their sustainable growth. Moreover, most prior research lacks quantitative validation and does not segment MSMEs into clusters based on the challenges they face or the benefits they derive, limiting actionable insights. Therefore, there is a need for a structured, data-driven investigation that identifies critical enablers, evaluates key barriers, and provides policy and strategic recommendations tailored to promote the sustainable growth of Gujarat's textile MSMEs.

III. RESEARCH METHODOLOGY

The study adopts an exploratory and descriptive research design to evaluate the barriers and enablers influencing the sustainable growth of textile MSMEs of Gujarat. A purposive sample of 487 MSMEs registered on the Udyam portal across 28 districts was selected to ensure representation of diverse enterprise sizes and product types. Primary data were collected through structured questionnaires administered to enterprise owners and managers, supplemented by in-depth interviews to capture qualitative insights. The questionnaire demonstrated high reliability with Cronbach's Alpha = 0.88, exceeding the acceptable threshold of 0.6. Data analysis was performed using SPSS v26, employing descriptive statistics to summarize characteristics, factor analysis to identify underlying dimensions of barriers and enablers, Non-Hierarchical and K-means clustering to segment the sample respondents of selected MSMEs, Chi-square tests to examine associations. This methodology ensures a systematic and rigorous assessment of the factors affecting sustainable growth in Gujarat's textile MSMEs.

IV. DATA ANALYSIS AND FINDINGS

4.1 Factor Analysis

To identify the major factors affecting sustainable growth of textile MSMEs of Gujarat, factor analysis was carried out on the following statements:

| Sr. No. | Enablers |
|---------|--|
| B1 | Less capital intensive |
| B2 | Availability of adequate financial services |
| B3 | Access to subsidies and other incentives |
| B4 | Ease in procurement of machinery and raw material |
| B5 | Capacity to operate in rural areas |
| B6 | Easy adoption of changing environment |
| B7 | Advantage of trade fares and exhibitions |
| B8 | Faster response to changing customer demands |
| B9 | Flexibility in product customization |
| B10 | Employment generating sector |
| B11 | Competent pool of human resources |
| B12 | High contribution in exports |
| B13 | Positive impact of globalization |
| Sr. No. | Barriers |
| C1 | Lack of informal financial support from friends, relatives, etc. |
| C2 | Lack of awareness about various sources of finance |
| C3 | Language problems |
| C4 | Cultural understanding limitations |
| C5 | Lengthy and complicated processes of government initiatives |
| C6 | High cost of credit |
| C7 | High investment and less return on investment |
| C8 | Lack of product and process quality control measures |
| C9 | Difficulty in transportation and supply chain |
| C10 | Lack of health and safety measures for employees |
| C11 | Hazardous management approaches |
| C12 | Lack of IT literacy at managerial and technical levels |
| C13 | High and improper export tax structure |
| C14 | High level of competition |
| C15 | Lack of accessibility to information and modern technology |
| C16 | Limited scope of innovation and new product designs |
| C17 | Limited communication networks |
| C18 | Absence of economies of scale |
| C19 | Lack of proper technical skills |
| C20 | Technical changes lead to mismanagement |
| C21 | Lack of distribution marketing channels |
| C22 | Insufficient knowledge of market |
| C23 | Lack of customer satisfaction |
| C24 | Lack of employment stability |
| C25 | Inadequate infrastructure development for export |

Statistical Validity Tests for Factor Analysis

- KMO and Bartlett's Test (Enablers): KMO = 0.551 (moderate adequacy); Bartlett's Test of Sphericity $\chi^2 = 904.336$, df = 78, $p < 0.001$, confirming suitability for factor analysis.
- Six components (enablers) with Eigen values greater than 1 were extracted. Together they explain 68.095 percent of the total variance which is a satisfactory level of explanation in social science research
- KMO and Bartlett's Test (Barriers): KMO = 0.566; Bartlett's Test of Sphericity $\chi^2 = 2718.283$, df = 300, $p < 0.001$, validating factor analysis.
- Eight components (barriers) with Eigen values greater than 1 were extracted. Together they explain 58.162 percent of the total variance.

4.2 Enablers of growth

Factor analysis revealed key positive components that support the growth and competitiveness of textile MSMEs. These enablers and their associated statement numbers are listed below.

| Sr. No. | Factors | Statement Numbers |
|---------|--|-------------------|
| 1 | Market Penetration Table with statement Number | B1, B7, B13 |
| 2 | Financial Access | B6, B11 |
| 3 | Adaptability & Competency | B4, B10 |
| 4 | Product Customization | B3, B5, B9 |
| 5 | Resource Availability | B8, B12 |
| 6 | Technology Orientation | B2 |

4.3 Barriers to growth

Factor analysis also identified major constraints that hinder the growth of textile MSMEs. These barriers and their corresponding statement numbers are presented in the table below.

| Sr. No. | Factors | Statement Numbers |
|---------|---|----------------------------------|
| 1 | Diseconomies of Scale | C7, C14, C15, C16, C17, C18, C25 |
| 2 | Disaster Management | C10, C11, C12, C24 |
| 3 | Inadequate Regulatory System | C6, C13, C20 |
| 4 | Cultural Diversity | C4, C23 |
| 5 | Inefficient Management Information System | C3, C22 |
| 6 | Inefficient Supply Chain Management | C8, C9 |
| 7 | Incompetence Human Resource Management | C2, C19, C21 |
| 8 | Deficiencies of Financial Support System | C1, C5 |

4.4 Cluster Insights

Enablers

Cluster analysis of the enablers/benefits revealed distinct patterns among textile MSMEs in Gujarat.

Demographic Composition of Clusters (n = 487)

| Characteristics | Cluster 1 | Cluster 2 | Cluster 3 | Cluster 4 |
|------------------------|---------------|---------------|----------------|---------------|
| Membership | 125 | 211 | 92 | 59 |
| Business Age | 5 to 10 years | 0 to 5 years | 5 to 10 years | 5 to 10 years |
| Legal Status | Proprietary | Proprietary | Proprietary | Proprietary |
| Textile Activity | Manufacturing | Manufacturing | Service | Service |
| Male | 86% | 84% | 84% | 90% |
| Female | 14% | 16% | 16% | 10% |
| Education | Bachelors | Bachelors | Bachelors | Bachelors |
| Experience | 6 to 9 years | 9 to 12 years | 6 to 9 years | 6 to 9 years |
| Annual Business Income | 1 – 3 crores | 1 – 3 crores | Below 3 crores | 1 – 3 crores |
| Type of MSME | Micro | Micro | Micro | Micro |

Table Showing Priority Order of Key Benefits Factors Availed among Clusters

| Factor \ Cluster | 1 st | 2 nd | 3 rd | 4 th | 5 th | 6 th |
|------------------|-----------------------|--------------------------|--------------------------|------------------------|--------------------------|-----------------------|
| Cluster 1 | Market Penetration | Resource Availability | Customization Strategies | Adaptability to Change | Funding Opportunities | Competency |
| Cluster 2 | Resource Availability | Adaptability to Change | Market Penetration | Competency | Customization Strategies | Funding Opportunities |
| Cluster 3 | Resource Availability | Adaptability to Change | Customization Strategies | Funding Opportunities | Competency | Market Penetration |
| Cluster 4 | Competency | Customization Strategies | Adaptability to Change | Funding Opportunities | Market Penetration | Resource Availability |

- **Cluster 1 (125 respondents):** Identified Market Penetration as the dominant factor, with the Advantage of Trade Fairs and Exhibitions being the most significant variable.
- **Cluster 2 (211 respondents) and Cluster 3 (92 respondents):** Highlighted Resource Availability as the key benefit, particularly Vital Role in Job Creation and ease in procurement of machinery and raw materials. Although both Cluster 2 and Cluster 3 prioritize Resource Availability and Adaptability to Change, they differ in growth perception. Cluster 2 reflects a more optimistic outlook with confidence in market penetration and competency, whereas Cluster 3 shows a cautious approach, driven by funding challenges and limited market access, relying more on customization for survival.
- **Cluster 4 (59 respondents):** Focused on Competency, with Faster Response to Changing Customer Demands emerging as the major enabler for sustainable growth.

Overall Insight: Across all clusters, Resource Availability emerged as the most significant benefit, indicating that access to resources and employment generation are critical drivers for the future prospects of textile MSMEs in Gujarat. The second most important benefit for the majority of the respondents is adaptability to change, indicating their strong focus on remaining flexible and responsive to evolving market and competitive conditions.

Barriers

Cluster analysis of the barriers revealed two major groups.

Demographic Composition of Clusters (n = 487)

| Characteristics | Cluster 1 | Cluster 2 |
|------------------------|---------------|---------------|
| Membership | 290 | 197 |
| Business Age | 5 to 10 years | 5 to 10 years |
| Legal Status | Proprietary | Proprietary |
| Textile Activity | Services | Manufacturing |
| Male | 85% | 86% |
| Female | 15% | 14% |
| Education | Bachelors | Bachelors |
| Experience | 6 to 9 years | 6 to 9 years |
| Annual Business Income | 1 – 3 crores | 1 – 3 crores |
| Type of MSME | Micro | Micro |

Table Showing Priority Order of Key Challenge Factors Faced among Clusters

| Cluster | Cluster 1 | Cluster 2 |
|-----------------|---|---|
| Factor | | |
| 1 st | Inadequate Regulatory System | Diseconomies of Scale |
| 2 nd | Diseconomies of Scale | Inefficient Supply Chain Management |
| 3 rd | Deficiencies of Financial Support System | Incompetence in HRM |
| 4 th | Inefficient Supply Chain Management | Inadequate Regulatory System |
| 5 th | Disaster Management | Disaster Management |
| 6 th | Incompetence in HRM | Deficiencies of Financial Support System |
| 7 th | Inefficient Management Information System | Inefficient Management Information System |
| 8 th | Cultural Diversity | Cultural Diversity |

- **Cluster 1 (290 respondents):** Considered Inadequate Regulatory System as the most serious barrier, with High Cost of Credit being the dominant issue.
- **Cluster 2 (197 respondents):** Identified Diseconomies of scale and Inefficient Supply Chain Management as the key hindrances, including high competition, lack of access to modern technology, limited innovation, inadequate infrastructure for export, and poor-quality control.

Overall Insight: The most critical barrier affecting textile MSMEs' sustainable growth is diseconomies of scale, which combines structural, operational, and infrastructural limitations. Additionally, inefficient supply chain management emerges as the next most serious challenge, indicating persistent issues in coordination, logistics efficiency, and timely material flow. Addressing these challenges through competitive strategies, technology and R&D investment, enhanced market connectivity, shared resources, and policy support can significantly improve MSME competitiveness and sustainability.

V. CONCLUSION

The findings highlight a dual reality. On one side, Gujarat's textile MSMEs benefit from abundant raw materials, policy support, and entrepreneurial determination. On the other, persistent challenges such as informal financing reliance, limited exports, and bureaucratic hurdles constraint growth. Insights from entrepreneurs revealed difficulties in accessing timely loans, adopting digital systems, and advancing subsidies. These insights emphasize regionally targeted support systems that address the distinct need for business cluster for which various policies and strategic implications related to financial accessibility, strengthening digital capabilities and investing in human resource development can help textile enterprises progress toward global competitiveness and sustainable growth.

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