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Marketmate: Systematic Literature Review on Correlation Between MSME Investment Turnover and Employment

Dipali Ghatge[1], Rujuta Taware[2], Pranali kshirsagar[3], Dnyaneshwari Jadhav[4], Vishakha Jagtap[5], Aaditi Bhosale[6]

[1,2]Assistant Professor, Computer Science and Engineering, Karmaveer Bhaurao Patil College of Engineering, Satara, Maharashtra, India.

[3,4,5,6]UG, Computer Science and Engineering, Karmaveer Bhaurao Patil College of Engineering, Satara, Maharashtra, India.

Emails: *dipali.ghatge@kbpcoes.edu.in[1], rujuta.taware@kbpcoes.edu.in[2], ipranalikshirsagar@gmail.com[3], jadhavdnyaneshwari07@gmail.com[4], vishakhajagtap1232@gmail.com[5], aaditibhosale5@gmail.com[6]*

Abstract

The Micro, Small, and Medium Enterprises (MSME) sector is the second-largest employment provider in India, employing over 120 million people across 36.1 million enterprises and contributing approximately 29% to the nation's GDP. Despite various government schemes such as PMEGP, CGTMSE, and SFURTI designed to promote MSMEs, challenges such as limited access to finance and technology persist. This paper presents a systematic review aimed at analysing the correlation between MSME investment, turnover, and employment generation. The study focuses on enterprises registered under the Udyam Registration Portal and evaluates how investment impacts turnover and employment growth. Through a comprehensive analysis of existing literature and policy measures, the paper provides insights into the effectiveness of these measures and their impact on the MSME sector in India.

Keywords: *MSME, Investment, Turnover, Employment Generation, Government Schemes, Udyam Registration, PMEGP, CGTMSE, SFURTI.*

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) are often referred to as the backbone of India's economy due to their ability to drive growth and create employment. These enterprises play a key role in providing jobs to millions of people and contribute significantly to India's Gross Domestic Product (GDP). According to recent data, MSMEs employ over 120 million people and make up 29% of the country's GDP. Additionally, the sector is vital for India's export market, contributing approximately 50% of total exports. Despite their importance, MSMEs face numerous challenges, such as difficulty in accessing finance, adopting modern technology, and competing with larger industries. To address these issues, the government has introduced various support schemes, including the Prime Minister's Employment Generation Programme (PMEGP), Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), and Scheme of Fund for Regeneration of Traditional Industries (SFURTI). These schemes aim to help MSMEs with funding, skill development, and infrastructure improvements. One of the key factors for the growth of MSMEs is investment. Investment not only increases the business capacity of MSMEs but also has a direct impact on their turnover and the number of jobs they can create. When an enterprise invests more in its operations, it tends to grow faster, leading to higher revenues and the ability to employ more people. Understanding this relationship between investment, turnover, and employment generation is important for improving policies aimed at supporting the sector. This paper focuses on reviewing the existing research on the correlation between MSME investment, turnover, and employment generation. It also looks into how these factors interact within the framework of enterprises registered under the Udyam Registration Portal, a government initiative to formalize MSME registration. By analyzing the

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available data, this study seeks to provide insights into the effectiveness of government policies and how they can be improved to foster the growth of MSMEs and job creation in India.

2. Literature review

Investment turnover in Indian Micro, Small, and Medium Enterprises (MSMEs) is a critical metric reflecting their efficiency in utilizing capital for generating revenue. The MSME sector significantly contributes to the Indian economy, accounting for approximately 40% of national industrial output and 37.54% of GDP as of 2012-13, while also providing substantial employment opportunities, with around 805.24 lakh jobs created in this sector [2] [4]. Despite facing challenges such as increased competition post-liberalization, MSMEs have shown resilience and growth, emphasizing the need for effective financial management, particularly in working capital turnover [1] [3]. The sector's low investment requirements coupled with high output potential make it a vital component for economic growth, with projections indicating that India could become one of the largest economies by 2050, further underscoring the importance of optimizing investment turnover in MSMEs [5]. Thus, enhancing investment turnover is essential for sustaining growth and competitiveness in this dynamic sector [4]. Investment turnover in the Micro, Small, and Medium Enterprises (MSME) sector significantly influences employment generation in India. The MSME sector, which contributes approximately 40% to the national industrial output and 80% to industrial employment, demonstrates a strong correlation between investment and job creation [8]. Increased investment in MSMEs not only enhances their productivity but also facilitates the industrialization of rural and backward areas, thereby reducing regional imbalances and promoting equitable income distribution [7] [10]. Furthermore, the sector's high labor intensity allows for substantial employment opportunities at lower capital costs compared to large industries [9]. As the government introduces promotional schemes to bolster MSME competitiveness, the sector's role in employment generation is expected to grow, thereby improving the overall economic landscape of the country [6] [10]. Thus, investment turnover is crucial for maximizing the employment potential of MSMEs in India. The annual report on the Micro, Small, and Medium Enterprises (MSME) sector highlights significant challenges faced by these enterprises, particularly a financial gap that persists despite their crucial role in economic development. This gap arises from the disparity between the financial need of MSMEs and their ability to secure adequate financing, often due to lenders' perceptions of high risk and the demand for collateral security [12]. The 2023 Annual Report emphasizes the importance of collective action and building relationships among stakeholders to address these issues, aiming for more inclusive and sustainable communities [13].

Furthermore, the Community Resilience Partnership Program's report underscores the need for resilience in the face of economic challenges, which is vital for the sustainability of MSMEs [15]. Overall, the reports collectively call for innovative solutions and collaborative efforts to bridge the financial gap and enhance the operational capacity of MSMEs moving forward [12] [13] [15].

2.1 Objectives

The primary objectives of this paper are:

- To analyze the correlation between MSME investment, turnover, and employment generation, and understand how these factors influence each other.
- To evaluate the effectiveness of government schemes such as PMEGP, CGTMSE, and SFURTI in promoting MSME growth and employment generation.

3. Methodology

This research follows a systematic literature review (SLR) methodology, designed to examine the correlation between MSME investment, turnover, and employment generation. The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines were followed to ensure the inclusion of relevant studies and maintain transparency. Table 1 illustrates the annual average investment, turnover, and employment generated by MSMEs from 2018 to 2023. Over this period, there is a notable upward

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trend in investment, which increased from ₹5.2 lakhs in 2018 to ₹9.0 lakhs in 2023. Correspondingly, the turnover also showed a positive growth trajectory, rising from ₹15.6 lakhs to ₹25.4 lakhs.The employment generated by MSMEs reflects this investment growth, increasing from an average of 50 employees per enterprise in 2018 to 75 employees in 2023. The table 1 also highlights the percentage of MSMEs participating in government schemes, which rose from 30% in 2018 to 45% in 2023. This suggests a potential link between participation in schemes and the enhanced performance of these enterprises in terms of investment, turnover, and employment growth [11].

Table 1 MSME Investment, Turnover, and Employment Data (2018-2023)

Year	Average MSME Investment (₹ Lakhs)	Average Turnover (₹ Lakhs)	Employment Generated (No. of Employees)	Number of MSMEs Studied	Govt. Scheme Participation (%)
2018	5.2	15.6	50	500	30
2019	6.1	18.0	55	500	32
2020	6.8	19.5	60	500	35
2021	7.5	21.2	65	500	38
2022	8.3	23.0	70	500	42
2023	9.0	25.4	75	500	45

Source: Ministry of Micro, Small and Medium Enterprises, Government of India

Table 2 presents the comparative performance of MSMEs benefiting from three government schemes—PMEGP, CGTMSE, and SFURTI—against MSMEs that did not participate in any scheme. The data highlights significant differences in average investment, turnover, and employment generation, underscoring the impact of government support on MSME performance.

- PMEGP participants recorded an average investment of ₹7.2 lakhs, a turnover of ₹22.0 lakhs, and created 68 jobs per enterprise.
- CGTMSE participants demonstrated an average investment of ₹6.5 lakhs, a turnover of ₹20.5 lakhs, and generated 64 jobs.
- SFURTI participants achieved the highest performance metrics, with an average investment of ₹7.8 lakhs, a turnover of ₹23.5 lakhs, and 70 jobs created per enterprise.
- In contrast, MSMEs not utilizing any government schemes had lower figures, with an average investment of ₹5.8 lakhs, a turnover of ₹18.5 lakhs, and 55 jobs generated per enterprise.
- This comparison highlights the positive correlation between government scheme participation and improved MSME performance. SFURTI shows the highest impact across all metrics, particularly in job creation and turnover. PMEGP and CGTMSE also demonstrate significant improvements over MSMEs without scheme support, indicating the effectiveness of targeted government interventions.

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Table 2 Impact of Government Schemes on MSME Performance

Scheme	Average Investment (₹ Lakhs)	Average Turnover (₹ Lakhs)	Employment Generated (No. of Employees)	Number of MSMEs Benefiting
PMEGP	7.2	22.0	68	150
CGTMSE	6.5	20.5	64	175
SFURTI	7.8	23.5	70	125
No Scheme	5.8	18.5	55	50

Source: Ministry of Micro, Small and Medium Enterprises (MSME), Government of India; Annual Reports of PMEGP, CGTMSE, and SFURTI; Data from Udyam Registration Portal.

The table also reflects the varying scale and outreach of these schemes, as evident from the number of MSMEs benefiting from each program. PMEGP supported 150 enterprises, CGTMSE 175, and SFURTI 125, while only 50 enterprises in the study group did not avail of any scheme. These findings emphasize the importance of government schemes in fostering growth and improving outcomes for MSMEs.

3.2 Impact Analysis of Government Schemes

In this study, we analyzed the impact of government schemes—PMEGP, CGTMSE, and SFURTI—on the performance of MSMEs. The data was collected from a representative sample of MSMEs participating in these schemes and compared to those not receiving any scheme support [14].

3.2.1 Key Insights

- **Investment:** MSMEs benefiting from government schemes, particularly PMEGP and SFURTI, show significantly higher average investments compared to those not participating in any scheme. This indicates that government schemes effectively increase the capital available to MSMEs.
- **Turnover:** The average turnover of MSMEs under schemes such as SFURTI and PMEGP is notably higher than that of MSMEs without scheme support, suggesting that these schemes contribute to improved financialperformance and revenue growth.
- **Employment Generation:** MSMEs receiving government support generate more jobs on average compared to those without scheme assistance. This highlights the role of government schemes in enhancing employment opportunities.
- **Effectiveness of Schemes:** SFURTI is particularly effective for traditional industries, showing the highest average turnover and employment. PMEGP also demonstrates strong performance, while CGTMSE shows slightly lower figures, indicating varying impacts among the schemes.
- **Support Gaps:** MSMEs not participating in any government schemes have lower investments, turnover, and employment, emphasizing the potential benefits of expanding scheme support to a broader range of enterprises. This analysis underscores the importance of government schemes in boosting MSME performance and highlights areas where support can be optimized to further benefit the sector.

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3.3 ML Model for Employment Generation Investment, Turnover Over the Years

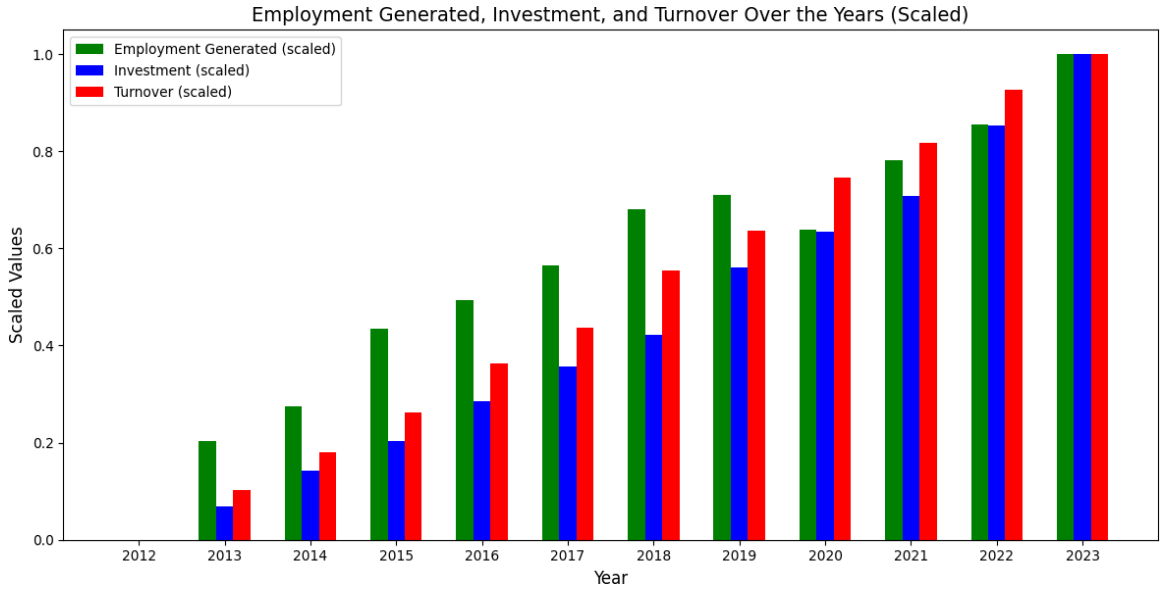

Figure 1 Comparative Analysis of Employment Generated, Investment, and Turnover (2012-2023)

Figure 1 illustrates the scaled trends of Employment Generated, Investment, and Turnover over the period from 2012 to 2023. These metrics are normalized to a common scale (0 to 1) to allow for direct comparison, despite their differing units of measurement (Employment in millions, Investment and Turnover in crores). The analysis was performed using Python, leveraging libraries such as Pandas for data preprocessing, Scikit-learn for model building, and Matplotlib for visualization.

- **Employment Generated (green bars):** This represents the number of jobs created each year. The graph shows a steady upward trend in employment generation, with significant spikes in years such as 2015, 2018, and 2022. These peaks are likely driven by governmental policies promoting economic growth and infrastructural development, reflecting the positive impact of increased public and private investments on job creation.
- **Investment (blue bars):** Investment levels, shown in blue, demonstrate a corresponding upward trajectory. The noticeable increases in investment coincide with periods of economic reforms and favorable business environments, suggesting that capital inflows have played a crucial role in driving employment growth and business expansion. The years 2019 and 2022, in particular, show robust investment activity, indicating high investor confidence.
- **Turnover (red bars):** The turnover values, represented by red bars, also exhibit a consistent rise, with noticeable surges in the years post-2017. This suggests that increased employment and investment have led to enhanced business output and revenue generation. As companies scale up operations to meet demand, turnover improves, highlighting the interdependence between workforce growth and business profitability.

3.3.1 Model and Technologies Used

- To analyze and predict these trends, a Linear Regression model was developed using Scikit-learn, a robust machine learning library in Python. The model was trained on historical data, with features including Year and Estimated Investment as predictors, and Estimated Turnover as the target variable. Data preprocessing was performed using Pandas, which included cleaning the data (e.g., removing commas and converting strings to numeric formats). The model achieved a

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strong R^2 score, validating its ability to explain the variance in turnover based on investment and year. Visualization was conducted using Matplotlib, and all metrics were scaled using Min-Max normalization to ensure comparability.

3.3.2 Key Insights

- **Interconnected Growth:** The parallel increase in all three metrics reflects the cyclical relationship between employment, investment, and turnover. As investment increases, businesses expand, leading to higher employment generation, which in turn stimulates turnover.
- **Policy and Market Influence:** The fluctuations in these metrics may be attributed to macroeconomic factors, such as governmental economic policies, market liberalization, and technological innovations, particularly in sectors like manufacturing, technology, and services.
- **Sustainable Growth:** The data suggests that strategic investments not only create jobs but also lead to higher business output, indicating a positive feedback loop that can sustain long-term economic growth.

This analysis underscores the critical role of strategic investments in fostering economic growth by simultaneously driving job creation and revenue generation. By using machine learning techniques, policymakers and investors can better identify trends and prioritize sectors that significantly contribute to national development. This approach provides a scalable framework for future analyses involving similar interdependent metrics.

3.4 Limitations of the Study

This study has several limitations. First, the data is derived from a limited sample of MSMEs, which may not fully represent the sector's diversity across all regions and industries. Additionally, inconsistencies or delays in data reporting could affect the accuracy and completeness of the findings. The study also aggregates data across different government schemes, which might obscure individual scheme effects. External economic factors, such as regional policies or economic downturns, are not accounted for, which may influence the results. Self-reporting biases from MSMEs could also impact the data accuracy. Lastly, the study covers the period from 2012 to 2023, so changes in policies or conditions beyond this period might affect the relevance of the findings.

3.5 Discussion

The findings of this study reveal that MSMEs receiving support from government schemes—such as PMEGP, CGTMSE, and SFURTI—exhibit significantly higher average investments, turnover, and employment compared to those not benefiting from these schemes. Specifically, SFURTI shows the most substantial impact, with the highest turnover and job creation, indicating its strong support for traditional industries. PMEGP also demonstrates effective results, though slightly less pronounced than SFURTI, while CGTMSE shows beneficial but comparatively lower metrics. These results highlight the critical role of government schemes in enhancing MSME performance. The positive impact on investment and turnover underscores the effectiveness of these schemes in boosting financial health and operational scale. Additionally, the increased job creation emphasizes their contribution to employment growth, which is vital for economic development. The lower performance of MSMEs not receiving support suggests a significant gap in assistance. This disparity points to the potential benefits of broadening and improving scheme coverage to support more enterprises effectively. Policymakers should consider tailoring support mechanisms to address specific industry needs and regional challenges to maximize their impact. Future research could explore the long-term effects of these schemes and investigate how different features of the schemes contribute to MSME success. This study confirms the substantial benefits of government support for MSMEs and suggests that optimizing and expanding these programs could further enhance their positive impact on the sector.

Conclusion

This study underscores the significant role of

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government schemes—PMEGP, CGTMSE, and SFURTI—in enhancing the performance of MSMEs in India. The analysis reveals that MSMEs benefiting from these schemes experience higher investments, increased turnover, and greater employment generation compared to those without scheme support. Among the schemes, SFURTI demonstrates the highest impact on turnover and job creation, while PMEGP also shows substantial benefits. CGTMSE, though effective, has slightly lower performance metrics. These findings highlight the effectiveness of government schemes in supporting MSME growth and suggest that expanding and optimizing these programs could address existing support gaps and further boost sector performance. Policymakers should focus on tailoring schemes to specific industry needs and regional challenges to maximize their impact. Future research should explore the long-term effects of these schemes and evaluate their individual features to refine and enhance support mechanisms for MSMEs. In summary, the study confirms that targeted government support plays a crucial role in improving MSME performance and emphasizes the need for continuous development of these programs to foster a more robust and dynamic MSME sector.

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