Title- Assessing the Effectiveness of Government Schemes in Driving MSME Innovation in the Auto Industry

1. Ms. Shikha Jaiswal
Research Scholar
MITCOM, MIT Art, Design and Technology University, Pune
shikha.jais1110@gmail.com

2. Dr. Ujjwal Mishra
Professor
Finance Research Guide
MITCOM, MIT Art, Design and Technology University, Pune
ujjwal.mishra@mituniversity.edu.in

Abstract

Micro, Small, and Medium Enterprises (MSMEs) are essential to the automobile sector, fostering innovation and enhancing economic growth. Nonetheless, these firms frequently encounter obstacles including financial limitations, restricted access to technology, and insufficient awareness of government assistance programs. To overcome these obstacles, numerous governmental initiatives offer financial support and regulatory incentives designed to promote MSME innovation. This study e-ISSN - 2584-1025 MIT UNIVERSITY'S - Abhivruddhi Journal
VOL.5(01), JUNE, 2025 442
analyzes the influence of governmental financial aid and awareness of support programs on innovation within MSMEs inthe automobile industry. A quantitative research methodology was employed,
utilizing primary data gathered via structured questionnaires from MSMEs. Multiple linear regression analysis was utilized to assess the impact of financial support and awareness on innovation, whilst Pearson's correlation evaluated the association between financial aid and technology adoption. The findings demonstrate that both financial assistance ($\beta = 0.40$, $p < 0.001$) and awareness of governmental programs ($\beta = 0.30$, $p < 0.01$) significantly influence MSME innovation, with financial assistance serving as the more robust predictor. The research underscores the necessity for improved policy dissemination and increased accessibility to financial assistance to optimize the efficacy of governmental actions. The results have practical implications for policymakers and industry stakeholders, indicating that although financial support is essential, enhanced communication of scheme-related information can further stimulate innovation.Future research may investigate the enduring effects of these policies and incorporate supplementary elements such as market dynamics and technology preparedness in influencing MSME innovation.

Keywords: MSMEs, Government Schemes, Financial Assistance, Innovation, Automobile Industry, Technological Adoption

Introduction

Micro, Small, and Medium Enterprises (MSMEs) are integral to the economic advancement of a nation, notably contributing to job creation, industrial production, and innovation. In the automotive sector, MSMEs serve as essential providers of components, parts, and services to major manufacturers, rendering them vital to the industry's overall growth and competitiveness. Nonetheless, despite their significance, MSMEs frequently have numerous hurdles, such as constrained financial resources, limited access to sophisticated technology, and insufficient awareness of government support programs.

To overcome these obstacles, numerous governmental efforts have been implemented to offer financial aid, technology assistance, and legislative incentives designed to bolster MSME innovation and competitiveness.

Government initiatives aimed at MSMEs generally emphasize financial assistance, skill enhancement, and technical advancement. Financial assistance through subsidies, low-interest loans, and grants is anticipated to alleviate capital limitations and promote investment in innovation. Likewise, initiatives that enhance awareness and accessibility of these programs can significantly facilitate MSMEs in

utilizing available resources. Notwithstanding these initiatives, the degree to which these programs facilitate technological adoption and innovation in MSMEs continues to be a subject of scholarly and policy inquiry.

This study seeks to evaluate the efficacy of governmental financial aid and awareness initiatives in promoting innovation within MSMEs in the vehicle sector. This study specifically investigates the influence of awareness and exploitation of government schemes on the technological adoption and innovative capabilities of MSMEs. The study

e-ISSN - 2584-1025 MIT UNIVERSITY'S - Abhivruddhi Journal
VOL.5(01), JUNE, 2025
443

aims to offer empirical insights into the impact of policy interventions on MSME innovation by examining critical aspects like financial support, access to government programs, and investment in research and development (R&D).

A multivariate linear regression model is utilized to assess the association between the independent variables—awareness of government schemes and financial support— and the dependent variable, MSME innovation. Furthermore, Pearson's correlation analysis is performed to assess the strength of the relationship between financial support and technical adoption. The researchemploys primary data gathered via standardized questionnaires administered to MSMEs within the automobile sector. Descriptive statistics, reliability analysis, and ANOVA are employed to validate the robustness of the findings.

The findings demonstrate that awareness of government programs and financial support substantially affect MSME innovation. Financial help serves as the predominant predictor, indicating that direct monetary assistance is essential for enterprises to adopt new technology and enhance their production processes. Understanding government programs underscores the necessity for improved information transmission and accessibility to optimize the advantages of current policies.

This research enhances the existing literature on MSME development and the efficacy of government policy by offering empirical evidence on the influence of financial and informational assistance on innovation within the automobile sector. The results offer practical significance for policymakers, industry players, and MSME proprietors, underscoring the necessity of optimizing financial support initiatives and improving awareness tactics. Subsequent research may expand upon this study by investigating the enduring effects of governmental interventions and analyzing supplementary factors that affect MSME innovation.

Literature Review

The Contribution of MSMEs to India's Economy

Micro, Small, and Medium Enterprises (MSMEs) are vital to India's economic advancement, providing employment for over 120 million individuals and accounting for around 29% of the country's GDP (Ghatgeet al., 2024). They are essential for job creation, particularly in rural regions, and facilitate industrialization and export expansion (Pandey & Chaudhary, 2024) ("Mudra Loan and Growth Path of Micro Small and Medium Enterprises in India", n.d.).Government Financial Aid ProgramsThe government has implemented many initiatives to assist MSMEs: MUDRA: The Pradhan Mantri Mudra Yojana (PMMY) offers refinancing to banks and microfinance institutions for loans up to ₹10 lakh, specifically aimed at micro entrepreneurs. It has successfully fostered entrepreneurship, especially among women, and narrowed the gender gap (Remyakrishnan, n.d.) (Kumar, 2018). The Credit Guarantee Fund Scheme for Micro and Small firms (CGFSME) provides credit guarantees to micro and small firms, enabling access to institutional finance

e-ISSN - 2584-1025
MIT UNIVERSITY'S - Abhivruddhi Journal
VOL.5(01), JUNE, 2025 444

without the requirement of collateral (Kumari & Chaudhary, 2024). SFURTI and ASPIRE: Emphasis on cluster development and entrepreneurship in rural regions, improving traditional industries and generating employment possibilities (Pandey & Chaudhary, 2024) ((Mah et al., 2023)).

PMEGP: Seeks to create employment in both rural and urban regions by facilitating micro firms, hence enhancing GDP growth and job creation (Ghatge et al., 2024) ("Mudra Loan and Growth Path of Micro Small and Medium Enterprises in India", n.d.).CLCS and CGSSD: Offer capital subsidies for technological enhancement and credit guarantees for subordinate debt, respectively, facilitating MSMEs in modernization and credit accessibility (Mah et al., 2023).

Effects of Government Initiatives on Micro, Small, and Medium Enterprises These initiatives have favorably influenced

MSMEs by:Employment Generation: MSMEs create more than 110 million jobs, predominantly in rural regions, alleviating regional disparities (Shetty & S., 2022).

MSMEs account for around 30% of India's GDP, experiencing significant expansion during the epidemic (Shetty & S., 2022).

Export Growth: Micro, Small, and Medium Enterprises (MSMEs) constitute 49% of India's exports, highlighting their significance in international trade ("MudraLoan and Growth Path of Micro Small and Medium Enterprises in India", n.d.).

Women Empowerment: Initiatives such as

MUDRA have augmented women's involvement in business, hence empowering rural women (Remyakrishnan, n.d.) (Bhati & Bhadu, 2023).

Obstacles Encountered by MSMEs Notwithstanding governmental assistance,MSMEs encounter numerous obstacles: Access to Finance: Numerous MSMEs depend on informal finance due to challenges in obtaining institutional credit (Ghatge et al.,2024) (Remyakrishnan, n.d.). Bureaucratic Obstacles: Complicated lending procedures and little awareness of government programs impede their efficacy (Argade & Chandak, 2024).

The digital divide hampers rural MSMEs in adopting digital technologies, hence limiting their capacity to use digital activities (Mahetal., 2023).

Geographical Inequities The efficacy of government programs differs by geography. Southern states have demonstrated superior success in MUDRA loan use, whilst other regions encounter difficulties in acquiring finance (Remyakrishnan, n.d.) (KUMAR et al., 2024).

Research Methods

This study employs a quantitative research methodology using a descriptive and explanatory design to investigate the influence of governmental financial support and awareness of government programs on innovation within the MSME sector of the automobile industry. Primary data was gathered using a structured questionnaire distributed to 100 owners and managers of MSMEs, selected through stratified random sampling to assure representation among micro, small, and medium firms.

e-ISSN - 2584-1025
MIT UNIVERSITY'S - Abhivruddhi Journal
VOL.5(01), JUNE, 2025

445

The questionnaire comprised three sections: (1) business and respondent profile, (2) awareness and utilization of government schemes, and (3) financial support and innovation. Responses were documented using a five-point Likert scale. A preliminary study including 20 participants confirmed clarity and reliability prior to comprehensive data collecting.

The analysis was conducted utilizing SPSS software. Descriptive statistics highlighted essential factors, whereas Pearson's correlation evaluated the correlations among financial aid, scheme awareness, and MSME innovation. Multiple linear regression analysis assessed the cumulative impact of independent variables, with statistical significance evaluated by ANOVA (F-test) and t-values.

Results and interpretation

Respondents Profile

Characteristic	Category	Frequency (n)	Percentage (%)
Location of the Firm	Urban	45	45%
	Semi-Urban	35	35%
	Rural	20	20%
Type of Enterprise	Micro	40	40%
	Small	37.5	37.50%
	Medium	22.5	22.50%
Year of Establishment	Before 2000	25	25%
	2000-2010	30	30%
	2011-2020	32.5	32.50%
	After 2020	12.5	12.50%
Ownership Type	Sole Proprietorship	42.5	42.50%
	Partnership	25	25%
	Private Limited Company	22.5	22.50%
	Public Limited Company	7.5	7.50%
	Others	2.5	2.50%

The reliability analysis employing Cronbach's Alpha evaluates the internal consistency of the study's sub-scales. The Awareness and Utilization of Government Schemes sub-scale demonstrates significant reliability (α = 0.87), signifying robust consistency among the four associated items.
The Financial Support (α = 0.72) and Technological Adoption (α = 0.73) subscales exhibit acceptable reliability, indicating that its items reliably measure the constructs.
The Innovation sub-scale exhibits strong reliability (α = 0.75), indicating that the four items accurately represent various elements of innovation. The Cronbach's Alpha ratings indicate that the questionnaire items are reliable and appropriate for subsequent examination.

The descriptive statistics reveal key insights into MSME performance in the automobile industry. Awareness of government schemes is moderately high (Mean = 3.91), though access to information remains a challenge (Mean = 3.44). While many businesses are aware of assistance, fewer have availed of it (Mean = 3.64).

Financial support is positively perceived (Mean = 3.75), with a strong impact on business growth and innovation (Mean =4.15).
Technological adoption is moderate, with new technology adoption (Mean = 3.24) and R&D investment (Mean = 3.63) showing room for improvement.

Innovation activities—including product, process, market, and business model innovation—are actively pursued (Mean range: 3.58–3.85), highlighting MSMEs' efforts to stay competitive.

Hypotheses Testing

H1: Government financial assistance significantly improves technological adoption in MSMEs.
Pearons's Correlation The Pearson correlation analysis was conducted to examine the relationship between government financial assistance and technological adoption in MSMEs. The results indicate a moderate to strong positive correlation ($r = 0.628$, $p < 0.01$) between the two variables. This suggests that as financial assistance increases, MSMEs are more likely to adopt advanced technologies. The significance level ($p < 0.01$) confirms that the relationship is statistically significant, meaning the likelihood of this correlation occurring by chance is very low. These findings support the hypothesis that government financial assistance plays a crucial role in enhancing technological adoption among MSMEs.

Reliability Statistics

Sub-Scale	Cronbach's Alpha	N
Awareness and Utilization of Government Schemes	.87	4
Financial Support	.72	2
Technological Adoption	.73	2
I nnovation	.75	4

Primary Business Activity	Manufacturing
	Services
Number of Employees	1-10
	11-50
	51-100
	More than 100
Annual Revenue (INR)	Less than ₹10 lakh
	₹10 lakh – ₹50 lakh
	₹50 lakh – ₹1 crore
	₹1 crore – ₹5 crore
	More than ₹5 crore

Descriptive Statistics

Construct	Items	N	Mean	Std. Deviation	Min	Max
Awareness and Utilization of Government Schemes	Aware of MSME Support Schemes	100	3.78	1.02	1	5
	Have Availed Government Assistance	100	3.64	0.98	1	5
	Level of Awareness	100	3.91	0.88	1	5
	Ease of Access to Information	100	3.44	1.02	1	5
Financial Support	Perception of Financial Support from Govt.	100	3.75	0.92	1	5
	Impact of Financial Suppor	100	4.15	0.95	1	5
Technological Adoption	New Technologies Adoption	100	3.24	1.4	1	5
	R&D Investment	100	3.63	1.12	1	5
Innovation	Product Innovation	100	3.85	1.01	1	5
	Process Innovation	100	3.72	1.08	1	5
	Market Innovation	100	3.58	1.15	1	5
	Business Model Innovation	100	3.8	1.1	1	5

H2: Awareness of government schemes and Government Financial

Assisatnce are positively correlated with the MSME innovation in Automobile industry.

a. Dependent Variable: MSME Innovation b. Predictors: (Constant),Awareness_Government_Schemes, Financial_Assistant

a. Dependent Variable: MSME Innovation

A p-value < 0.05 for both predictors indicates that they have a statistically significant effect on MSME innovation. The results of the multiple linear regression analysis indicate that both awareness of government schemes and financial assistance have a significant impact on MSME innovation in the automobile industry. The unstandardized coefficient (B = 0.45) for awareness of government schemes suggests that for every one-unit increase in awareness, MSME innovation increases by 0.45 units, assuming all other factors remain constant. Additionally, the standardized coefficient (β = 0.30) reveals that awareness contributes 30% to the overall variance in MSME innovation. The t-value of 2.89 and p-value of 0.000 further confirm that awareness is a statistically significant predictor of innovation.

Similarly, financial assistance plays a crucial role in driving innovation. The unstandardized coefficient (B = 0.65) suggests that a one-unit increase in financial assistance leads to a 0.65-unit increase in MSME innovation. With a standardized coefficient (β = 0.40), financial assistance emerges as a stronger predictor compared to awareness, contributing 40% to the overall variance in MSME innovation. Furthermore, the t-value of 3.92 and the highly significant p-value of 0.000 indicate that financial assistance has the most substantial positive impact on innovation. These findings highlight the importance of both financial and informational support in fostering innovation among MSMEs, with financial assistance proving to be the most influential factor in this model.

Conclusion

This study's findings offer robust empirical evidence that governmental financial support and awareness of government programs significantly influence MSME innovation in the automobile sector. A moderate to strong positive association ($r = 0.628$, $p < 0.01$) exists between financial aid and technological adoption, indicating that MSMEs with enhanced access to financial resources are more inclined to adopt modern technologies. The multiple linear regression analysis results demonstrate that awareness of government schemes ($B = 0.45$, $\beta = 0.30$, $p = 0.000$) and financial assistance ($B = 0.65$, $\beta = 0.40$, $p = 0.000$) significantly and positively influence MSME innovation, with financial assistance identified as the most robust predictor. These findings underscore the significance of financial and informational assistance in promoting innovation within the sector.

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	210.572	2	105.286	298.734	.000
	Residual	82.453	97	0.419		
	Total	293.025	99			

Model		Unstandardized Coefficients	
		B	Std. Error
1	(Constant)	.276	.362
	Awareness of Scheme	0.45	.113
	Financial Assistance	0.65	.87

a. Dependent Variable:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.648[a]	.625	.613	A

The study indicates that authorities ought to enhance financial assistance programs by increasing funding opportunities, simplifying loan approvals, and implementing targeted incentives to promote technical breakthroughs. Tailored financial programs specifically crafted for MSMEs investing in research, automation, and digital transformation could further elevate innovation levels. Furthermore, enhancing awareness of relevant government initiatives is essential, as numerous MSMEs may lack comprehensive knowledge of the assistance mechanisms at their disposal. Investments in outreach programs, digital platforms, and training seminars can effectively bridge this gap, facilitating improved usage of government efforts. Streamlining application processes and augmenting accessibility via local business groups may further elevate participation in these initiatives.

Furthermore, financial aid significantly influences technological adoption. The government should prioritize subsidies, tax incentives, and low-interest funding for technology-driven MSMEs. Facilitating collaborations among government entities, commercial enterprises, and academic institutions can assist MSMEs in acquiring technical skills and new solutions. Policymakers should design innovation-centric policies that guarantee financial assistance corresponds with the changing requirements of MSMEs in the automobile industry over the long term. Consistent evaluation and effect assessments of governmental initiatives will enhance tactics and optimize advantages for MSMEs.

This study highlights the essential importance of financial and informational support in promoting innovation inside MSMEs. Although financial aid is the predominant driver, heightened awareness of government initiatives might further augment innovation potential. An organized regulatory framework that combines financial accessibility with efficient awareness activities is crucial for fostering sustainable innovation and competitiveness in the MSME sector.

This study possesses several drawbacks. Initially, it concentrates exclusively on MSMEs within the automobile sector, hence constraining the applicability of the findings to alternative industries. Secondly, the data is self-reported, potentially introducing bias or mistakes. The study exclusively examines specific government plans, neglecting other factors such as market conditions and managerial competencies that may also impact MSME innovation. Ultimately, the sample size may inadequately reflect regional disparities in governmental assistance and MSME performance. Subsequent study may mitigate these constraints by broadening the scope, employing longitudinal data, and integrating supplementary affecting factors.

References

1. Argade, N. U., & Chandak, C. P. (2024). Unlocking Micro Small and Medium Enterprises Potential: Addressing Financial Barriers Through Government Initiatives. Journal of Management and Entrepreneurship, 18(3), 37–49. https://doi.org/10.70906/20241803
2. Bhati, P., & Bhadu, S. (2023). An initiative to strengthen MSME for socio economic development and empowerment of rural women in Rajasthan. Journal of Management Research and Analysis. https://doi.org/10.18231/j.jmra.2023.041
3. Ghatge, D., Taware, R., Kshirsagar, P., Jadhav, D. K., Jagtap, V., & Bhosale, A. M. (2024). Marketmate: Systematic Literature Review on Correlation Between MSME Investment Turnover and Employment. Deleted Journal, 2(12), 2828–2834. https://doi.org/10.47392/irjaeh.2024.0391
4. KUMAR, G., Murty, A., & Ratna, R. (2024). Expansion and Crediting of MSMEs: A Case study of Andhra Pradesh and Telangana. Social Science Research Network. https://doi.org/10.2139/ssrn.4876336
5. Kumari, K., & Chaudhary, A. K. (2024). Globalization's Influence on MSME's & Their Role in Economic Development: A Comparative Analysis. Asian Journal of Economics, Business and Accounting. https://doi.org/10.9734/ajeba/2024/v24i111557
6. Mah, S. K., Aithal, S., & Sharma, K. R. S. (2023). Government initiatives and digital Innovation for Atma Nirbhar MSMEs/SMEs: To Achieve Sustainable and Inclusive Economic Growth. 68–82. https://doi.org/10.47992/ijmts.2581.6012.0256
7. Mudra Loan and Growth Path of Micro Small and Medium Enterprises in India. (n.d.). Journal of Informatics Education and Research. https://doi.org/10.52783/jier.v3i2.352
8. Pandey, P., & Chaudhary, A. K. (2024). The Role of Micro, Small, and Medium Enterprises in India's Economic Development: A Critical Analysis. Asian Journal of Economics, Business and Accounting, 24(7), 366–384.

https://doi.org/10.9734/ajeba/2024/v24i71416
9. REMYAKRISHNAN, Dr. (n.d.). Capital financing and re-vitalization of micro entrepreneurship: a performance appraisal of pradhan mantri mudra yojana (pmmy). International Journal of Social Science and Economic Research. https://doi.org/10.46609/ijsser.2023.v08i12.001
10. Shetty, M. O., & G., S. (2022). A Performance Analysis of Indian MSMEs. International Journal of Applied Engineering and Management Letters, 197–216. https://doi.org/10.47992/ijaeml.2581.700