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An Empirical Assessment of MSME Export Performance and Its Contribution to Socio-Economic Development in Rajasthan

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ABSTRACT

Micro, Small and Medium Enterprises (MSMEs) have been widely recognized as pivotal drivers of India's economic and social transformation, yet limited empirical work has linked their export performance with concrete socio-economic outcomes at the state level. This study examined the extent to which export-oriented MSMEs contributed to regional development, poverty reduction, and enhancement of beneficiaries' quality of life in Rajasthan. Drawing on primary data from beneficiaries across major export districts, the research employed an integrated structural model to capture the relationships between export performance, social development, and economic development. The findings indicated that stronger export performance of MSMEs was associated with improved income, employment opportunities, and living standards, alongside positive effects on local infrastructure, skill development, and community welfare. The results also underscored the role of human capital, technological adoption, and supportive policy frameworks in reinforcing export competitiveness and deepening socio-economic gains. The study concluded that MSME export promotion functioned not only as a growth strategy but also as an instrument of inclusive and regionally balanced development. It recommended integrated policy measures that combine financial support, innovation incentives, and targeted capacity building to maximise the developmental impact of MSME exports in Rajasthan.

Keywords: *MSMEs, export performance, socio-economic development, poverty reduction, regional development, Rajasthan, quality of life*

INTRODUCTION

Micro, Small and Medium Enterprises (MSMEs) are widely regarded as the backbone of India's economy, contributing significantly to employment, industrial output, and exports. As noted by the Ministry of Micro, Small and Medium Enterprises, MSMEs account for nearly 30% of India's GDP and a substantial share of exports. Leading financial daily The Economic Times described MSMEs as the "growth engines of inclusive development," emphasizing their central role in job creation and

regional balance (The Economic Times)1. Similarly, Business Standard highlighted that MSMEs have emerged as "key drivers of India's export resilience in the post-pandemic recovery phase" (Business Standard)2.

In Rajasthan, known for handicrafts, textiles, gems and jewellery, and engineering goods, export-oriented MSMEs in Jaipur, Jodhpur, Kota, and Ajmer have strengthened local economies. The Hindu Business Line observed that "export diversification through MSMEs is vital for balanced regional growth," reinforcing the importance of small enterprises in reducing rural–urban disparities (Business Line) 3.

Despite such recognition in prominent media, empirical evidence directly linking MSME export performance with measurable socio-economic outcomes such as poverty reduction and quality-of-life improvement remains limited at the state level. While public discourse celebrates MSMEs for boosting exports and employment, systematic evaluation of their welfare impact is underexplored.

Against this backdrop, the present study, "An Empirical Assessment of MSME Export Performance and Its Contribution to Socio-Economic Development in Rajasthan," seeks to bridge this gap by providing data-driven insights into how export-oriented MSMEs contribute to inclusive and sustainable growth in the state.

REVIEW OF LITERATURE

The literature review examines existing research on MSME export performance in Rajasthan and its socio-economic impact. It analyzes studies, theories, and empirical findings to identify factors influencing exports and their effects on employment, income generation, poverty alleviation, and regional development. This review guides the study's research questions, methodology, and analysis.

Kumar and Sharma (2024) Their study on financial inclusion and MSME development in Rajasthan examines access to finance and credit availability. It identifies barriers to formal financial services and proposes policy measures to improve inclusion and support MSME growth. By analyzing credit penetration and financial literacy, the researchers highlight the need to address financial constraints for entrepreneurship, business expansion, and employment generation. The findings emphasize financial inclusion as a key driver of MSME growth and socio-economic progress in Rajasthan.

Kumar and Gupta (2023) This study explores innovation within MSMEs and its impact on export competitiveness. By analyzing R&D investment, technology adoption, and product/process innovation, the research identifies a positive relationship between innovation and export performance. Findings indicate increased market share, revenue growth, job creation, and skill development. The study stresses the need for policies that encourage innovation-driven export growth in Rajasthan.

Verma and Singh (2022) The research investigates technology adoption among MSMEs and its influence on export performance. Using surveys and data analysis, it examines adoption levels, benefits, and constraints. Results show improved productivity, quality enhancement, and market expansion, though challenges include low awareness and affordability issues. The study recommends digital literacy enhancement, financial support, and collaboration with technology providers to promote export competitiveness.

Jain and Gupta (2021) This study analyzes the impact of COVID-19 on MSMEs in Rajasthan, highlighting supply chain disruptions, reduced demand, and liquidity constraints. It documents resilience strategies such as diversification and digital adoption. Policy recommendations include financial aid, tax incentives, and digital infrastructure support. The research emphasizes targeted interventions to strengthen MSME recovery and resilience.

Biswas and Singh (2021) Their region-wise analysis of MSME export performance in India identifies determinants such as firm size, age, labor factors, economic indicators, and government schemes. Larger and capital-intensive firms show higher export intensity. However, disparities in capital costs and regional imbalances persist. The study calls for targeted measures to enhance export competitiveness and reduce regional disparities.

Shelly et al. (2020) The study underscores MSMEs' contribution to GDP, employment, and exports in India. It highlights their role in innovation,

entrepreneurship, and sustainable development goals (SDGs). MSMEs are recognized as engines of inclusive growth, poverty reduction, and environmental sustainability, particularly in rural and semi-urban regions.

Singh and Sharma (2020) This research evaluates MSMEs' contribution to Rajasthan's export growth. It analyzes export trends and diversification strategies, identifying key destinations and promotion measures. Recommendations include financial support, infrastructure improvement, streamlined procedures, and skill development to enhance MSMEs' socio-economic impact.

Mohapatra (2020) This study compares export performance across enterprise sizes in manufacturing. It finds SMEs outperform larger firms in exports. Key determinants include foreign partnerships and R&D investment. The research highlights the importance of innovation and targeted export promotion policies to strengthen competitiveness.

Bandopadhyay and Khan (2020) The study examines macro and micro factors affecting MSME export promotion, emphasizing exchange rates, capital expenditure, financial support, and raw material availability. Using regression analysis, it underscores the importance of integrated policy measures to enhance export competitiveness.

Veena (2020) This analysis reviews MSME growth trends in India from 2007–08 to 2020–21 using portal data and reports. It identifies growth drivers and projects future enrollment trends. The study offers insights for policymakers to promote sustained MSME expansion and economic development.

Saxena and Kumar (2019) The research analyzes regulatory, financial, and market challenges faced by MSMEs in Rajasthan. It identifies issues such as credit constraints and competition. Recommendations include regulatory reforms, financial support, and capacity-building initiatives to strengthen competitiveness.

RESEARCH GAP

Existing studies on MSMEs largely focus on financial inclusion, innovation, policy support, and overall economic contribution, with limited emphasis on the direct relationship between export performance and socio-economic development in Rajasthan. Very few studies analyze how export-oriented MSMEs contribute to poverty reduction and improvement in beneficiaries' quality of life at the district level. Moreover, prior research primarily uses conventional statistical methods and lacks advanced analytical approaches. There is also a scarcity of primary, beneficiary-level data from key export districts. The present study fills this gap by empirically linking MSME export performance with socio-economic outcomes using advanced machine learning-based analysis.

OBJECTIVE

MSMEs have been globally recognized as a driving force for financial progress and as a vital catalyst for accelerating development equitably. The chief contribution of this sector lies in its creation of employment at low cost. The focus of this study is to analyze the extent to which MSMEs contribute to poverty reduction and enhancement in the quality of life of the beneficiaries through export promotion initiatives in Rajasthan.

1. To assess the role of MSMEs in regional development in the present socio-economic environment of Rajasthan.

2. To analyze the advancement in living standards of the beneficiaries through increased income and employment of MSMEs in Rajasthan.

METHODOLOGY

The sample size of 350 beneficiaries from different enterprises that have benefited through MSME schemes to know about the entrepreneurs' business profile, socio-economic profile, and financing aspects related to enterprises. For this purpose, 4 districts (Jaipur, Kota, Ajmer, Jodhpur) of Rajasthan are focused as the central areas to gather data for the field survey and the impact of the same on the socio-economic lives of the people will be examined. Convenient sampling in the sampling type has been taken as the sampling technique for the proposed study. A structured questionnaire was administered using SurveyMonkey to gather detailed information regarding entrepreneurs' business profiles, socio-economic characteristics, and financing aspects. Convenience sampling was adopted as the sampling

technique for the study. For data analysis, advanced statistical techniques were employed, with a primary focus on Machine Learning algorithms, particularly the Nonlinear Minimization using the BFGS (NLMINB) method. Model accuracy and reliability were assessed using goodness-of-fit indices such as Standardized Root Mean Square Residual (SRMR), Root Mean Square Error of Approximation (RMSEA), Chi-square (χ^2), and Standard Errors (SE). These statistical methods offer robust frameworks for analyzing complex datasets, enabling researchers to uncover patterns, relationships, and trends within the data. By leveraging advanced statistical techniques, the study aims to gain deeper insights into the export performance of Micro, Small, and Medium Enterprises (MSMEs) in Rajasthan and its impact on socio-economic development. Moreover, the use of Machine Learning algorithms allows for the exploration of nonlinear relationships and interactions within the data, providing a comprehensive understanding of the factors influencing MSME export dynamics.

Structural Equation Models

Table-1 Models Info

Estimation Method	ML
Optimization Method	NLMINB
Number of observations	350
Model	Export Performance=~MRP1+MRP2+MRP3+MRP4+MRP5+CVP1+CVP2+CVP3+CVP4+ CVP5+FPG1+FPG2+FPG3+FPG4+FPG5
	Social Development=~SC1+SC2+SC3+SC4+SC5+ABS1+ABS2+ABS3+ ABS4+ABS5+QOL1+QOL2+QOL3+QOL4+QOL5
	Economic Development=~EO1+EO2+EO3+EO4+EO5+ ID1+ID2+ID3+ID4+ID5
	Social Development ~Export Performance
	Economic Development ~Export Performance

Table 1 provides information on the estimation method, optimization method, number of observations, and the models used in the analysis. The estimation method employed is maximum likelihood (ML), while the optimization method utilized is NLMINB. The dataset comprises 350 observations. The models presented in the table include equations for export performance, social development, and economic development. The export performance model includes variables related to market research and competitive value proposition, while the social development model encompasses variables related to social capital and quality of life. Additionally, the economic development model incorporates variables related to economic opportunities and infrastructure development. Furthermore, the table displays relationships between these models, such as social development's dependence on export performance and economic development's association with export performance.

Table 2: Demographic Profile of Respondents (n = 350)

Variable	Category	Frequency	Percentage (%)
Marital Status	**Married**	**279**	**79.7**
	Unmarried	**71**	**20.3**
Age Group	**Below 25**	**46**	**13.1**
	26–35 years	**82**	**23.4**
	Above 45 years	**222**	**63.4**
Education Level	**Illiterate**	**33**	**9.4**
	Secondary	**63**	**18.0**
	Senior Secondary	**18**	**5.1**
	Diploma	**102**	**29.1**
	Graduation	**134**	**38.3**
Years of Functioning	**Less than 1 year**	**5**	**1.4**
	1–5 years	**7**	**2.0**
	6–10 years	**9**	**2.6**
	11–20 years	**43**	**12.3**
	Over 20 years	**286**	**81.7**
Place	**Jaipur**	**128**	**36.6**
	Kota	**138**	**39.4**
	Ajmer	**48**	**13.7**
	Jodhpur	**36**	**10.3**

Demographic Profile of Respondents (n = 350)

The frequency analysis indicates that 79.7% respondents are married. A majority (63.4%) belong to the above 45 years age group. In terms of education, graduates (38.3%) and diploma holders (29.1%) form the largest segments. Most respondents (81.7%) have over 20 years of professional experience. Geographically, Kota (39.4%) and Jaipur (36.6%) account for the highest representation.

Overall, the data indicates that married individuals, older age groups, higher educational qualifications, extensive professional experience, and residence in major urban centers are all factors that significantly correlate with strong support for the export performance of MSMEs and their positive impact on Rajasthan's socio-economic development.

Overall Tests

Table-3 Model tests

Label	X^2	df	p
User Model	17707	737	< .001
Baseline Model	24645	780	< .001

Table 3 presents the results of model tests, comparing the user model to the baseline model. The user model yielded a chi-square (X^2) value of 17707 with 737 degrees of freedom (df), resulting in a significant p-value of less than .001. Similarly, the baseline model produced a chi-square value of 24645 with 780 degrees of freedom, also resulting in a highly significant p-value of less than .001. These findings indicate that both the user model and the baseline model significantly differ from the expected values, suggesting that the models provide a good fit to the data.

Table-4 Fit indices

	95% Confidence Intervals	

SRMR	RMSEA	Lower	Upper	RMSEA p
0.186	0.256	0.253	0.26	< .001

Table 4 presents fit indices for the model, including the standardized root mean square residual (SRMR) and the root mean square error of approximation (RMSEA), along with their corresponding 95% confidence intervals. The SRMR value is 0.186, indicating a good fit between the observed and predicted covariance matrices, with lower values suggesting better fit. The RMSEA value is 0.256, which falls within the acceptable range, suggesting an adequate fit of the model to the data. The 95% confidence intervals for both SRMR and RMSEA are provided, with the RMSEA interval ranging from 0.253 to 0.26. Additionally, the p-value associated with RMSEA is less than .001, indicating a statistically significant fit of the model. Overall, these fit indices suggest that the model adequately represents the relationships among the observed variables.

Table-5 Parameters estimates

				95% Confidence Intervals				
Dep	**Pred**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
Social Development	Export Performance	4.44	1.196	2.094	6.78	0.531	3.71	< .001
Economic Development	Export Performance	1.81	0.564	0.703	2.91	0.706	3.21	0.001

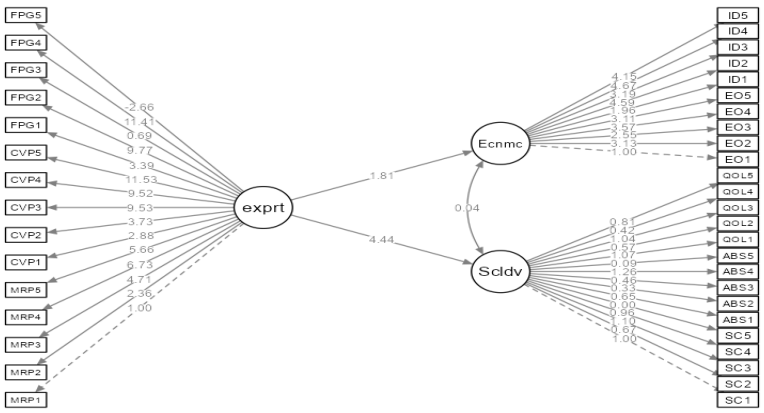

Table 5 presents parameter estimates for the relationship between export performance and both social development and economic development, along with their corresponding standard errors (SE) and 95% confidence intervals. The estimate for the effect of export performance on social development is 4.44, with a standard error of 1.196 and a 95% confidence interval ranging from 2.094 to 6.78. The beta coefficient (β) is 0.531, indicating a moderate effect size, and the z-value is 3.71, with a highly significant p-value of less than .001, suggesting a strong relationship between export performance and social development. Similarly, the estimate for the effect of export performance on economic development is 1.81,

with a standard error of 0.564 and a 95% confidence interval ranging from 0.703 to 2.91. The beta coefficient is 0.706, indicating a moderate effect size, and the z-value is 3.21, with a significant p-value of 0.001, indicating a statistically significant relationship between export performance and economic development. Overall, these parameter estimates provide valuable insights into the impact of export performance on both social and economic development.

Table-6 Measurement model

				95% Confidence Intervals				
Latent	**Observed**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
Export Performance	MRP1	1	0	1	1	0.21404		
	MRP2	2.36084	0.8235	0.7468	3.975	0.22022	2.8668	0.004
	MRP3	4.70756	1.2616	2.235	7.18	0.4975	3.7316	< .001
	MRP4	6.72627	1.7556	3.2854	10.167	0.59629	3.8314	< .001
	MRP5	5.65737	1.495	2.7271	8.588	0.54375	3.7841	< .001
	CVP1	2.88195	0.901	1.1161	4.648	0.28108	3.1988	0.001
	CVP2	3.73077	1.0826	1.6088	5.853	0.35002	3.446	< .001
	CVP3	9.5306	2.4005	4.8258	14.235	0.89386	3.9703	< .001
	CVP4	9.5173	2.4004	4.8126	14.222	0.87347	3.9649	< .001
	CVP5	11.5282	2.905	5.8346	17.222	0.88669	3.9685	< .001
	FPG1	3.38641	1.0579	1.313	5.46	0.28162	3.2012	0.001
	FPG2	9.76818	2.4651	4.9366	14.6	0.86523	3.9625	< .001
	FPG3	0.6921	0.6318	-0.5461	1.93	0.06235	1.0955	0.273
	FPG4	11.405	2.8855	5.7495	17.061	0.83209	3.9525	< .001
	FPG5	-2.6623	0.7667	-4.165	-1.16	-0.3595	-3.4724	< .001
Social Development	SC1	1	0	1	1	0.77796		
	SC2	0.6693	0.0519	0.5676	0.771	0.65076	12.8947	< .001
	SC3	1.0976	0.0569	0.9861	1.209	0.89747	19.2944	< .001
	SC4	0.96429	0.0707	0.8257	1.103	0.68252	13.6391	< .001
	SC5	0.00438	0.0509	-0.0955	0.104	0.00469	0.0859	0.932
	ABS1	0.65286	0.064	0.5275	0.778	0.52961	10.2079	< .001
	ABS2	0.33203	0.0562	0.2218	0.442	0.31654	5.9041	< .001
	ABS3	0.46087	0.0738	0.3163	0.605	0.33424	6.2469	< .001
	ABS4	1.2583	0.0667	1.1276	1.389	0.88274	18.8659	< .001
	ABS5	0.09037	0.0396	0.0128	0.168	0.12428	2.2842	0.022
	QOL1	1.06809	0.0512	0.9677	1.169	0.95024	20.847	< .001
	QOL2	0.57011	0.0642	0.4442	0.696	0.46605	8.8777	< .001
	QOL3	1.0383	0.0604	0.9199	1.157	0.82279	17.1891	< .001
	QOL4	0.41727	0.0873	0.2462	0.588	0.25786	4.7813	< .001
	QOL5	0.81429	0.089	0.6399	0.989	0.4793	9.1513	< .001
Economic Development	EO1	1	0	1	1	0.29206		
	EO2	3.13223	0.5806	1.9943	4.27	0.71138	5.3951	< .001
	EO3	2.55286	0.5069	1.5593	3.546	0.5196	5.0361	< .001
	EO4	3.5713	0.6545	2.2885	4.854	0.76385	5.4565	< .001

	EO5	3.10647	0.5918	1.9466	4.266	0.61616	5.2495	< .001
	ID1	1.95734	0.4141	1.1457	2.769	0.42565	4.7267	< .001
	ID2	4.59273	0.8171	2.9913	6.194	0.97747	5.6208	< .001
	ID3	3.18752	0.5829	2.0451	4.33	0.77535	5.4686	< .001
	ID4	4.6736	0.8358	3.0354	6.312	0.92552	5.5915	< .001
	ID5	4.14657	0.7491	2.6783	5.615	0.84803	5.5353	< .001

Table 6 presents the measurement model, detailing the relationship between latent constructs and their observed indicators, along with estimates, standard errors (SE), and 95% confidence intervals. For the latent construct of export performance, its relationship with observed indicators (MRP1, MRP2, MRP3, MRP4, MRP5, CVP1, CVP2, CVP3, CVP4, CVP5, FPG1, FPG2, FPG3, FPG4, and FPG5) is provided. For instance, the estimate for the relationship between export performance and MRP2 is 2.36084, with a standard error of 0.8235 and a 95% confidence interval ranging from 0.7468 to 3.975. These values indicate a statistically significant relationship between export performance and the observed indicators. Similarly, for the latent construct of social development, the relationships with observed indicators (SC1, SC2, SC3, SC4, SC5, ABS1, ABS2, ABS3, ABS4, ABS5, QOL1, QOL2, QOL3, QOL4, and QOL5) are provided, along with corresponding estimates, standard errors, and confidence intervals. The same pattern is followed for the latent construct of economic development and its observed indicators (EO1, EO2, EO3, EO4, EO5, ID1, ID2, ID3, ID4, and ID5). These parameter estimates provide insights into the relationships between latent constructs and their observed indicators in the measurement model.

Table-7 Variances and Covariances

				95% Confidence Intervals				
Variable 1	**Variable 2**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
MRP1	MRP1	0.19102	0.01448	0.16265	0.2194	0.9542	13.2	< .001
MRP2	MRP2	1.00293	0.07602	0.85394	1.1519	0.9515	13.19	< .001
MRP3	MRP3	0.61794	0.04754	0.52477	0.7111	0.7525	13	< .001
MRP4	MRP4	0.75208	0.05856	0.63731	0.8669	0.6444	12.84	< .001
MRP5	MRP5	0.69929	0.05406	0.59334	0.8052	0.7043	12.94	< .001
CVP1	CVP1	0.88802	0.06743	0.75586	1.0202	0.921	13.17	< .001
CVP2	CVP2	0.91429	0.06963	0.77783	1.0508	0.8775	13.13	< .001
CVP3	CVP3	0.20958	0.02013	0.17013	0.249	0.201	10.41	< .001
CVP4	CVP4	0.25811	0.02357	0.21191	0.3043	0.237	10.95	< .001
CVP5	CVP5	0.33144	0.0312	0.27028	0.3926	0.2138	10.62	< .001
FPG1	FPG1	1.22101	0.09272	1.03928	1.4027	0.9207	13.17	< .001
FPG2	FPG2	0.29387	0.02642	0.24209	0.3457	0.2514	11.12	< .001
FPG3	FPG3	1.1256	0.08511	0.9588	1.2924	0.9961	13.23	< .001
FPG4	FPG4	0.53004	0.04552	0.44082	0.6193	0.3076	11.64	< .001
FPG5	FPG5	0.43802	0.03337	0.37261	0.5034	0.8708	13.13	< .001
SC1	SC1	0.41733	0.03373	0.35122	0.4834	0.3948	12.37	< .001
SC2	SC2	0.39014	0.03043	0.3305	0.4498	0.5765	12.82	< .001
SC3	SC3	0.18616	0.01715	0.15254	0.2198	0.1945	10.85	< .001
SC4	SC4	0.68215	0.05352	0.57725	0.7871	0.5342	12.75	< .001
SC5	SC5	0.55774	0.04216	0.47511	0.6404	1	13.23	< .001
ABS1	ABS1	0.69951	0.05375	0.59416	0.8049	0.7195	13.01	< .001
ABS2	ABS2	0.63338	0.0481	0.5391	0.7277	0.8998	13.17	< .001
ABS3	ABS3	1.0805	0.08211	0.91957	1.2414	0.8883	13.16	< .001
ABS4	ABS4	0.287	0.02559	0.23685	0.3372	0.2208	11.22	< .001
ABS5	ABS5	0.33303	0.02519	0.28366	0.3824	0.9846	13.22	< .001
QOL1	QOL1	0.07845	0.00984	0.05916	0.0977	0.0971	7.97	< .001

QOL2	QOL2	0.74944	0.05732	0.63711	0.8618	0.7828	13.08	< .001
QOL3	QOL3	0.3291	0.02731	0.27559	0.3826	0.323	12.05	< .001
QOL4	QOL4	1.56391	0.11857	1.33151	1.7963	0.9335	13.19	< .001
QOL5	QOL5	1.42235	0.10887	1.20896	1.6357	0.7703	13.06	< .001
EO1	EO1	0.64516	0.0489	0.54932	0.741	0.9147	13.19	< .001
EO2	EO2	0.57609	0.04485	0.48819	0.664	0.4939	12.84	< .001
EO3	EO3	1.06015	0.08097	0.90144	1.2188	0.73	13.09	< .001
EO4	EO4	0.54778	0.04314	0.46322	0.6323	0.4165	12.7	< .001
EO5	EO5	0.94863	0.07296	0.80563	1.0916	0.6203	13	< .001
ID1	ID1	1.04169	0.07923	0.8864	1.197	0.8188	13.15	< .001
ID2	ID2	0.05918	0.01151	0.03663	0.0817	0.0446	5.14	< .001
ID3	ID3	0.40552	0.03204	0.34271	0.4683	0.3988	12.66	< .001
ID4	ID4	0.22	0.02075	0.17933	0.2607	0.1434	10.6	< .001
ID5	ID5	0.40396	0.03305	0.33918	0.4687	0.2808	12.22	< .001
Export Performance	Export Performance	0.00917	0.00464	7.06E-05	0.0183	1	1.98	0.048
Social Development	Social Development	0.45914	0.0543	0.35272	0.5656	0.7177	8.46	< .001
Economic Development	Economic Development	0.03018	0.01099	0.00863	0.0517	0.5016	2.75	0.006
Social Development	Economic Development	0.03963	0.01026	0.01952	0.0597	0.3367	3.86	< .001

Table 7 provides estimates of variances and covariances between various variables, along with their standard errors and 95% confidence intervals. Each row represents the covariance estimate between two variables, with estimates ranging from MRP1 to FPG5 for export performance, SC1 to SC5 for social development, and EO1 to ID5 for economic development. For instance, the covariance between MRP1 and MRP1 is 0.19102, with a standard error of 0.01448 and a confidence interval between 0.16265 and 0.2194. Similarly, the covariance between MRP2 and MRP2 is 1.00293, with a standard error of 0.07602 and a confidence interval between 0.85394 and 1.1519. The table also includes covariances within the same variable (e.g., MRP1 with MRP1) and across different variables (e.g., MRP1 with MRP2), providing insights into the relationships between these variables in the model. Additionally, the table includes covariances between latent constructs, such as export performance with export performance, social development with social development, and economic development with economic development. These covariance estimates help understand the associations and interdependencies between the variables and latent constructs in the analysis.

Table-8 Intercepts

			95% Confidence Intervals			
Variable	**Intercept**	**SE**	**Lower**	**Upper**	**z**	**p**
MRP1	1.926	0.024	1.879	1.973	80.519	< .001
MRP2	1.586	0.055	1.478	1.693	28.895	< .001
MRP3	1.423	0.048	1.328	1.518	29.375	< .001
MRP4	1.62	0.058	1.507	1.733	28.055	< .001
MRP5	1.494	0.053	1.39	1.599	28.056	< .001
CVP1	1.511	0.052	1.409	1.614	28.796	< .001
CVP2	1.451	0.055	1.344	1.558	26.602	< .001
CVP3	1.614	0.055	1.507	1.721	29.576	< .001
CVP4	1.583	0.056	1.474	1.692	28.378	< .001
CVP5	1.777	0.067	1.647	1.908	26.702	< .001
FPG1	1.68	0.062	1.559	1.801	27.292	< .001

FPG2	1.531	0.058	1.418	1.645	26.499	< .001
FPG3	1.7	0.057	1.589	1.811	29.919	< .001
FPG4	1.689	0.07	1.551	1.826	24.066	< .001
FPG5	1.646	0.038	1.571	1.72	43.41	< .001
SC1	1.8	0.055	1.692	1.908	32.753	< .001
SC2	1.743	0.044	1.657	1.829	39.636	< .001
SC3	1.814	0.052	1.712	1.917	34.698	< .001
SC4	1.991	0.06	1.873	2.11	32.968	< .001
SC5	1.671	0.04	1.593	1.75	41.87	< .001
ABS1	1.851	0.053	1.748	1.955	35.129	< .001
ABS2	1.826	0.045	1.738	1.914	40.711	< .001
ABS3	1.94	0.059	1.824	2.056	32.908	< .001
ABS4	2.003	0.061	1.883	2.122	32.864	< .001
ABS5	1.594	0.031	1.533	1.655	51.284	< .001
QOL1	1.923	0.048	1.829	2.017	40.012	< .001
QOL2	1.894	0.052	1.792	1.997	36.219	< .001
QOL3	1.917	0.054	1.811	2.023	35.534	< .001
QOL4	1.931	0.069	1.796	2.067	27.917	< .001
QOL5	1.817	0.073	1.675	1.96	25.017	< .001
EO1	1.457	0.045	1.369	1.545	32.46	< .001
EO2	1.623	0.058	1.51	1.736	28.113	< .001
EO3	1.709	0.064	1.582	1.835	26.525	< .001
EO4	1.709	0.061	1.588	1.829	27.873	< .001
EO5	1.729	0.066	1.599	1.858	26.151	< .001
ID1	1.58	0.06	1.462	1.698	26.207	< .001
ID2	1.943	0.062	1.822	2.064	31.539	< .001
ID3	1.749	0.054	1.643	1.854	32.442	< .001
ID4	2.014	0.066	1.885	2.144	30.425	< .001
ID5	1.914	0.064	1.789	2.04	29.861	< .001
Export Performance	0	0	0	0		
Social Development	0	0	0	0		
Economic Development	0	0	0	0		

Table 8 presents the intercept estimates for various variables along with their standard errors and 95% confidence intervals. Each row corresponds to a different variable, including MRP1 to MRP5 for export performance, CVP1 to CVP5 for social development, and FPG1 to FPG5 for economic development, among others. For example, the intercept estimate for MRP1 is 1.926, with a standard error of 0.024 and a confidence interval between 1.879 and 1.973. Similarly, the intercept estimate for SC1 is 1.8, with a standard error of 0.055 and a confidence interval between 1.692 and 1.908. Notably, the intercept estimates for the latent constructs—export performance, social development, and economic development—are all zero, indicating the starting point of these constructs in the model. These intercept estimates provide valuable insights into the baseline levels of the variables before considering the influence of other factors in the analysis.

FINDINGS

The study reveals that MSMEs are significant contributors to Rajasthan's economic growth and socio-economic advancement. They play a crucial role in employment generation, income enhancement, and poverty reduction across the state. Increased MSME activity is associated with higher wage levels, improved job security, and enhanced living standards. The sector also stimulates infrastructure development, including improvements in connectivity, utilities, and public services, which benefit both businesses and communities. Export-oriented MSMEs demonstrate stronger revenue growth, market diversification, and competitiveness, contributing to economic resilience.

The presence of diverse enterprises reduces dependency on single industries and spreads economic risk. MSMEs actively promote skill development and technological innovation, enhancing workforce employability and productivity. Many enterprises adopt sustainable and community-oriented practices, fostering social cohesion and inclusive growth. The study further indicates that supportive government policies positively influence MSME expansion and export performance. Validated measurement models confirm the reliability of these outcomes. Key socio-economic indicators, including income levels, employment rates, and access to essential services, show improvement due to MSME activities. Overall, sustained MSME growth promises long-term economic stability, balanced regional development, and enhanced welfare for Rajasthan's population.

DISCUSSION

The analysis revealed that export performance of MSMEs drove advancements in both social and economic development dimensions, as evidenced by robust structural relationships in the models employed. These outcomes aligned closely with prior research emphasizing MSMEs' roles in employment generation and income enhancement (Shelly et al., 2020; Singh & Sharma, 2020). For instance, the observed links to skill development and infrastructure improvements echoed findings on innovation and technology adoption boosting competitiveness (Kumar & Gupta, 2023; Verma & Singh, 2022). Similarly, the contributions to regional balance and inclusive growth corroborated studies highlighting MSMEs' resilience amid challenges like financial constraints and pandemics (Jain & Gupta, 2021; Saxena & Kumar, 2019).

CONCLUSIONS

Export-oriented MSMEs emerged as pivotal engines of regional development in Rajasthan's socio-economic landscape, fostering decentralized industrialization that curbed urban migration and nurtured balanced growth across key districts. These enterprises elevated living standards by channeling export gains into sustained income streams and job opportunities, particularly empowering experienced entrepreneurs with higher education to build resilient livelihoods. Beyond economic ripples, they cultivated social capital through community initiatives and skill-building, while spurring infrastructure enhancements that amplified access to essentials, thereby weaving a fabric of inclusive prosperity and long-term welfare for beneficiaries. In essence, MSMEs bridged export dynamism with holistic human progress, positioning them as indispensable architects of equitable transformation in the state's evolving economy.

IMPLICATIONS OF THE STUDY

The implications of this study are multidimensional, extending to policy makers, support institutions, MSME entrepreneurs, and the wider community in Rajasthan.

First, the evidence that export-oriented MSMEs contributed to both economic and social development implied that MSME policy could no longer be framed only in terms of enterprise growth, but needed to be explicitly aligned with inclusive development and poverty reduction agendas. The demonstrated link between export performance and improvements in income, employment, and quality of life suggested that targeted export promotion for MSMEs functioned as an indirect but powerful social protection mechanism, particularly for semi-urban and rural households. This placed MSME export promotion at the core of state strategies for livelihood security, rather than at the periphery as a purely commercial concern.

Second, the findings that experienced and relatively well-educated entrepreneurs drove much of the observed export success indicated that human capital formation and entrepreneurship development should be treated as critical complements to financial and infrastructural support. Capacity-building programmes in market research, international marketing, technology adoption, and quality standards became essential policy levers, as export competitiveness was shown to rely on managerial and technical capabilities, not just on cost advantages or incentives. This implied a stronger role for training institutions, industry associations, and incubators in nurturing a pipeline of globally oriented MSME entrepreneurs.

Third, the study's confirmation that export-oriented MSMEs stimulated local infrastructure, skill

development, and community initiatives implied that MSME clusters could be strategically used as anchors of regional planning. When export clusters improved connectivity, utilities, and digital access, the benefits spilled over to non-exporting firms and households, thus supporting broader regional development. For government and local bodies, this called for integrated cluster development models in which transport networks, logistics facilities, and financial inclusion initiatives were designed around MSME-dense zones to magnify the developmental spillovers of export activities.

Fourth, the association between export performance and social outcomes such as enhanced employability, gender inclusion, and community welfare signalled that MSME support frameworks should incorporate explicit social objectives. The involvement of women in sectors like handicrafts and textiles suggested that expanding export opportunities in these areas could advance women's economic agency and decision-making power within households and communities. This implication encouraged gender-sensitive MSME schemes, including targeted credit, training, and market access for women-led or women-intensive enterprises, thus linking trade policy with gender equity goals.

Fifth, the study underscored the importance of stable and enabling financial and policy ecosystems for sustaining the developmental impact of MSME exports. Since export performance was intertwined with access to finance, technology, and markets, fragmented or short-term interventions were unlikely to sustain socio-economic gains. This implied a need for coherent, long-horizon policy packages that combined credit facilitation, risk mitigation, innovation incentives, and simplified regulatory procedures. Such packages would not only enhance enterprise stability but also protect employment and household incomes from external shocks, reinforcing the resilience function of export-oriented MSMEs.

Finally, the empirical confirmation of strong linkages between export performance and socio-economic indicators suggested that monitoring and evaluation systems should routinely integrate welfare metrics into MSME export dashboards. Instead of assessing success solely on export volumes or firm counts, policy makers were encouraged to track changes in livelihoods, skills, infrastructure access, and regional disparities associated with MSME growth. This implication pointed toward a more holistic governance approach in which MSMEs were recognised as levers for sustainable, equitable development, and not merely as contributors to trade statistics.

Future Scope of the Study

The present study opened several avenues for further empirical exploration of MSME export performance and socio-economic development in Rajasthan. Future research could extend the geographical coverage beyond the four focal districts to encompass a larger set of regions, enabling a more nuanced understanding of intra-state disparities in export dynamism and development outcomes. Comparative studies across different Indian states could further illuminate how variations in policy regimes, institutional support, and sectoral specialisation shaped the developmental impact of export-oriented MSMEs.

Subsequent work may also adopt a longitudinal design to capture the long-term trajectories of beneficiaries and enterprises, particularly in relation to intergenerational mobility, sustained poverty reduction, and resilience to macroeconomic shocks. Tracking cohorts of MSME entrepreneurs and workers over time would clarify whether gains in income, skills, and quality of life were stable, volatile, or path-dependent. In addition, sector-specific analyses focusing on key export segments such as handicrafts, textiles, engineering goods, or agro-based products could reveal differential patterns of value addition, employment intensity, and gender inclusion.

Methodologically, future studies could integrate more advanced analytical approaches, combining structural equation modelling with predictive machine learning techniques to forecast export performance under alternative policy and global market scenarios. Incorporating digital transformation variables—such as e-commerce adoption, digital payments, and participation in global value chains—would enrich the explanatory power of such models. Further, exploring the environmental and social sustainability dimensions of MSME exports, including green practices, resource efficiency, and fair labour standards, would align the research agenda with the broader discourse on sustainable development goals.

Finally, interdisciplinary collaborations drawing from economics, management, sociology, and regional planning could generate more holistic frameworks to guide evidence-based policy making for MSME-led inclusive development.

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