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An Exploratory Study on factors Impacting Performance of SMEs in Bangalore District

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Abstract

This research focuses on the most important determinants of SME performance in Bangalore, i.e., Entrepreneurial Aspect, Innovativeness, and Human Resource Management. The aim is to evaluate their influence and offer insights on how to improve SME success. A quantitative approach was used, applying multiple regression analysis to data gathered from 200 SMEs. The findings show that Entrepreneurial Aspect exerts the highest positive influence, followed by Innovativeness and Human Resource Management, all of which are statistically significant. The model explains 40.7% of the variance in performance, validating the significance of these determinants. No multicollinearity was found, ensuring the trustworthiness of the findings. The research concludes that the acquisition of entrepreneurial skills, innovation, and successful HR management is particularly important for SME growth. Other external and internal determinants can be explored in future studies.

Keywords: Entrepreneurial Aspect, ME, Performance, Multicollinearity, Multiple regression

1.Introduction

Small and Medium Enterprises (SMEs) are a major driver of economic growth and development in emerging economies, generating significant employment, innovation, and industrial production **(Ayyagari, Demirgüç-Kunt, & Maksimovic, 2014).** In India, SMEs account for almost 40% of the nation's total industrial production and up to 45% of India's exports and hence are a major pillar of the nation's economy (Ministry of Micro, Small and Medium Enterprises [MSME], 2022). Bangalore, or the "Silicon Valley of India," has a vibrant SME sector with industries like information technology, manufacturing, biotechnology, and services (Nadkarni, 2019). Nevertheless, despite their economic importance, SMEs are confronted with a range of challenges that affect their performance, such as financial constraints, regulatory problems, shortage of skilled labor, and technological challenges **(Das & Das, 2020).** It is important for policymakers, industry players, and entrepreneurs to know about these factors so that they can develop strategies to improve SME sustainability and growth.

This study seeks to examine the most important factors affecting SME performance in the Bangalore district, with a focus on financial access, market conditions, infrastructure support, and technology advancement. Previous studies suggest that access to finance is one of the major issues of SMEs, constraining their capacity to expand business operations and invest in innovation **(Beck, 2013).** Regulatory compliance and bureaucratic inefficiencies are also major challenges, discouraging new entrepreneurial activities **(Singh & Wasdani, 2016).** The competitive business environment of Bangalore, with rising competition and fast technological changes, also calls for the investigation of factors affecting SME performance. Through an exploratory study, this study seeks to learn about the prevailing business environment and suggest actions that could make SMEs more competitive in the Bangalore district.

The Small and Medium Enterprises (SMEs) sector is a major driver of economic growth, innovation, and employment in India. While SMEs contribute significantly to GDP, those in Bangalore are confronted with numerous challenges that affect their performance and sustainability. Limited access to finance, intricate regulatory policies, poor infrastructure, and changing market dynamics are major challenges to SME development **(Das & Das, 2020).** While Bangalore boasts a robust entrepreneurial culture, the high competition, increasing operational expenses, and technological changes necessitate SMEs to continuously innovate. The absence of empirical research on the Bangalore district necessitates examining the peculiar challenges and opportunities SMEs encounter in the district. Identifying the determinants of SME performance will offer useful insights for policymakers, entrepreneurs, and support institutions to adopt effective strategies for SME development and resilience.

Furthermore, as India transitions to a digital and innovation-based economy, SMEs need to harness technology, financial support instruments, and government policies to stay competitive **(Beck, 2013).** Past research tends to emphasize national trends, with few studies examining the localized determinants of SMEs in Bangalore. The current study seeks to fill this gap by identifying the determinants of SME performance in the district and proposing policy interventions to improve their competitiveness. By filling these gaps, the study will contribute to the overall SME development discourse, offering stakeholders evidence-based information to create an enabling environment for SME success in Bangalore.

2.Literature Review

Cardon and Stevens (2004) evaluated the impact of HR practices on SME growth and the retention of employees. Qualitative research, such as interviews with SME owners and HR managers, was used in the study. Effective HR practices, such as training employees, motivating employees, and developing leaders, were observed to increase productivity and organizational commitment. It is difficult for SMEs to retain skilled employees because of limited finances.

Beck and Demirgüç-Kunt (2006) analyzed the effect of financial constraints on SME growth and performance, with credit access as the key driver. Cross-country evidence from the World Bank Enterprise Surveys was employed to analyze the link between financial access and SME productivity. The research established that restricted access to formal sources of credit significantly retards SME growth, especially in developing economies where alternative sources of funding are limited. The authors stressed the importance of policy interventions to enhance SME financial inclusion.

Tambunan (2008) discussed the impact of government support schemes in the development of SMEs, particularly the effectiveness of policies in developing economies. Secondary data analysis was used to analyse numerous policy schemes and their impact. The study concluded that well-designed government policies, such as financial support, training schemes, and market access schemes, play an important role in SME viability. Bureaucratic inefficiencies will, nevertheless, tend to constrain their effectiveness.

Ayyagari, Demirgüç-Kunt, and Maksimovic (2011) analyzed the effect of poor infrastructure on SME efficiency and competitiveness. The research compared SME survey information from different developing economies, focusing on infrastructure issues. Poor infrastructure, such as unreliable power, poor transport connections, and poor online connectivity, has a significant effect on SME performance. The research suggested focused investment in infrastructure to aid SME development.

Kotler and Keller (2012) examined the effect of marketing activity on SME performance, such as branding, consumer relationships, and internet marketing. A case study methodology was employed, examining successful SME marketing strategies across various industries. The research found that SMEs that focused on customer-focused marketing strategies, social media presence, and brand positioning were more profitable and had greater market share. Small marketing budgets were identified as a widespread issue.

Nguyen et al. (2015) examined the effect of digital technology adoption on the competitiveness of SMEs in emerging markets. A mixed-methods research method involving surveys and qualitative interviews with SME owners in different industries was employed. The research indicated that SMEs that embraced digital technologies witnessed increased efficiency, enhanced customer interaction, and greater market coverage. The high implementation cost and insufficient technical skills were cited as significant hindrances.

3.Theoretical Framework and Hypothesis Development

Small and Medium Enterprises (SMEs) play a critical role in driving economic development, creating jobs, and promoting innovation. Their operational performance is influenced by factors like innovativeness, human resource management, entrepreneurial orientation, and sustainability. This conceptual framework discusses how these factors lead to SME success.

Innovativeness and SME Performance

Innovativeness involves the ability of SMEs to develop new products, services, processes, and business models that enhance their competitive position **(Schumpeter, 1934).** The innovation process enhances adaptability, operational effectiveness, and customer satisfaction, hence increasing market share and profitability. SMEs that pursue technological innovation and innovative solutions are likely to experience higher growth and competitiveness in competitive markets **(OECD, 2017).**

Key Theoretical Perspectives:

Schumpeter's Theory of Innovation: Suggests that innovation is the key driver of business success and economic development.

Resource-Based View (RBV): Argues that innovation gives firms unique competitive advantages **(Barney, 1991).**

Human Resource Management and SME Performance

Effective human resource management (HRM) leads to high productivity, improved staff satisfaction, and organizational effectiveness. SMEs that adopt formal HR policies gain advantages in talent acquisition, training, and retention, which in turn lead to better performance **(Wright & McMahan, 1992).** Additionally, employee motivation and leadership development are key determinants of SME success.

Key Theoretical Perspectives:

Human Capital Theory: Stresses the importance of investing in employee knowledge and skills for positive business results **(Becker, 1964).**

Motivation-Hygiene Theory (Herzberg, 1959): Suggests that both motivational and hygiene factors influence employee performance.

Entrepreneurial Aspects and SME Performance

Entrepreneurial orientation, which involves risk-taking, proactiveness, and opportunity identification, is a key determinant of SME performance. Entrepreneurs with strong leadership skills and market knowledge can manage uncertainties and expand their businesses **(Miller, 1983).** Entrepreneurial firms often outperform their rivals by leveraging innovation and strategic decision-making.

Key Theoretical Perspectives:

Entrepreneurial Orientation (EO) Theory: Suggests that businesses with high risk-taking, innovativeness, and proactiveness perform better **(Lumpkin & Dess, 1996).**

Effectuation Theory (Sarasvathy, 2001): Explains how entrepreneurs use available resources and networks to create business success.

3.1 Hypotheses on Factors Affecting SME Performance

Based on the available theoretical framework, the following hypotheses have been formulated to examine the relationships between innovativeness, human resource management, entrepreneurial traits, and sustainability in relation to the performance of Small and Medium Enterprises (SMEs).

Companies that emphasize innovation in their products, services, and business processes are likely to experience increased competitiveness, market expansion, and financial progress. Organizations that continuously emphasize innovation are better placed to adapt to changes in the market and achieve sustainable profitability.

H1: Innovativeness has a significant positive effect on SME performance.

The application of efficient human resource management practices—ranging from employee development to talent acquisition and motivational programs—leads to higher productivity and organizational performance. SMEs that invest in their human capital generally witness improved employee morale, reduced turnover, and overall better performance.

H2: Human resource management practices have a positive effect on SME performance.

Entrepreneurial traits—defined by risk-taking, proactiveness, and the ability to identify opportunities—allow SMEs to navigate uncertainties effectively, exploit market opportunities, and develop businesses. Entrepreneurial leadership facilitates strategic decision-making and innovation.

H3: Entrepreneurial traits have a significant effect on SME performance.

4.Research Methodology

This research uses an exploratory research design to investigate the influence of innovativeness, human resource management, entrepreneurial dimensions, and sustainability on the performance of 200 SMEs in Bangalore District. Data were gathered through structured questionnaires with a five-point Likert scale to quantify perceptions of SME owners and managers. The questionnaire included product/process innovation, employee training, risk-taking, sustainability practices, and business performance. Multiple Regression Analysis was used with SPSS to analyse the data, allowing significant relationships between independent variables and SME performance to be determined. This method provides information on the drivers of SME success, adding to academic research as well as practical policy advice.

5.Data Analysis and Interpretation

The table of descriptive statistics shows the mean and standard deviation of four factors affecting the performance of SMEs in Bangalore District based on a sample of 200 respondents. The factor "Performance" has the lowest mean (2.930) with a standard deviation of 0.9538, reflecting moderate performance with some variation. "Innovativeness" has a slightly higher mean (3.085) and a lower standard deviation (0.8784), reflecting a relatively stable level of innovation among SMEs. "Human Resource" has the highest mean (3.245) with a standard deviation of 0.9848, reflecting a strong focus on HR practices but with significant variation. Finally, "Entrepreneurial Aspect" has a mean of 3.150 and a standard deviation of 0.9283, reflecting a moderate entrepreneurial orientation. These results reflect that SMEs in Bangalore are giving relatively more importance to human resources and entrepreneurial aspects while innovation and performance reflect slightly lower

Table 1: Descriptive Statistics of dimension of Performance of SMEs

	Mean	Std. Deviation	N
Performance	2.930	0.9538	200
Innovativeness	3.085	0.8784	200
Human Resource	3.245	0.9848	200
Entrepreneurs	3.150	0.9283	200

The multicollinearity statistics indicate that all three independent variables—Innovativeness, Human Resource, and Entrepreneurs—possess Variance Inflation Factor (VIF) values less than 10, indicating no major multicollinearity problems. Innovativeness and Entrepreneurs possess VIF values of 1.287 and 1.297, respectively, indicating low correlation with other predictors. Human Resource possesses the lowest VIF (1.019) and highest tolerance (0.981), indicating negligible multicollinearity. Overall, these findings indicate that the independent variables are appropriate for regression analysis with no serious multicollinearity problems.

Table 2: Multicollinearity

	Collinearity Statistics	
	Tolerance	VIF
Innovativeness	0.777	1.287
Human Resource	0.981	1.019
Entrepreneurs	0.771	1.297

The R Square of 0.407 indicates that the independent variables (Innovativeness, Human Resource, and Entrepreneurs) account for about 40.7% of the variation in the dependent variable (Performance). The Adjusted R Square (0.398) corrects for the number of predictors and indicates slightly lower but still moderate explanatory power. This indicates that although the model accounts for a large proportion of the variation in performance, other variables not in the model might also be playing a role. The standard error of 0.7402 indicates the average difference between observed and predicted values.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.638	0.407	0.398	0.7402

The F-value (44.792) in the ANOVA table measures the overall significance of the regression model, indicating the degree to which the independent variables (Innovativeness, Human Resource, and Entrepreneurs) explain the variance in Performance. The degrees of freedom (df) assigned to regression is 3 (equivalent to the number of predictors), and for the residuals, it is 196 (total observations minus the number of predictors and one). The p-value (Sig. = 0.000) is less than the 0.05 threshold, thus confirming the statistical significance of the model, indicating that at least one independent variable has a significant contribution to explaining Performance.

Table 4: Model fit using ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	73.627	3	24.542	44.792	.000
	Residual	107.393	196	0.548		
	Total	181.020	199			

The regression coefficients table outlines the impact of Innovativeness, Human Resource, and Entrepreneurial Aspect on Performance. The Beta coefficients show that the Entrepreneurial Aspect (β = 0.494, p = 0.000) has the strongest positive impact, followed by Innovativeness (β = 0.172, p = 0.006) and Human Resource (β = 0.162, p = 0.004). The t-values also support the statistical significance of the three predictors, with the Entrepreneurial Aspect (t = 7.888) having the strongest effect. The constant term is not significant (p = 0.353), which means that the model's predictability of Performance is not reliable without these variables.

Table 5: Coefficient Table

			Standardized Coefficients	t	Sig.
			Beta		
(Constant)	0.244	0.262		0.931	0.353
Innovativeness	0.187	0.068	0.172	2.760	0.006
Human Resource	0.157	0.054	0.162	2.916	0.004
Entrepreneurs Aspect	0.508	0.064	0.494	7.888	0.000

The regression output shows that the Entrepreneurial Aspect has the greatest significant positive impact on the performance of SMEs, which suggests that strong entrepreneurial abilities and an entrepreneurial attitude are key to success. Moreover, Innovativeness and Human Resource Management are also significant determinants, which mean that SMEs benefit from promoting creativity and efficiently managing their people. The large p-values related to these variables confirm their significance, which indicates that firms with a focus on innovation, effective human capital, and entrepreneurial capabilities are more likely to display high performance. However, the lack of significance of the constant term implies that performance is largely explained by these particular factors rather than by extraneous, unexplained factors.

6.Conclusion

The results of the regression analysis indicate that Entrepreneurial Aspect, Innovativeness, and Human Resource Management have significant impacts on the performance of SMEs in Bangalore. Among these, Entrepreneurial Aspect is the strongest, indicating that SMEs with effective leadership, risk-taking capacity, and business skills perform better. Innovativeness is also significant, indicating that firms investing in new ideas, technology, and innovative solutions gain a competitive edge. Human Resource Management is also significant, indicating that well-trained and well-managed employees add to the efficiency and success of SMEs. The statistical significance of these variables validates their strong predictive power in explaining SME performance.

The model accounts for 40.7% of the variance in performance overall, indicating that although these factors are significant, there are other external and internal factors as well that contribute to SME success. The lack of multicollinearity validates the robustness of the findings, and the ANOVA test validates the statistical significance of the model. This study indicates the importance of SMEs adopting entrepreneurial strategies, innovation, and workforce management to improve their growth and sustainability. Future research can investigate other determinants such as market conditions, access to finance, and digitalization to build a more complete picture of SME performance determinants.

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