Journal of Science Engineering Technology and Management Science
Volume 02, Issue 07, July 2025 *ISSN: 3049-0952*
www.jsetms.com *DOI:10.63590/jsetms.2025.v02.i07.511-516*

INFORMATION SYSTEMS AS A CATALYST FOR ENTREPRENEURIAL SUCCESS: AN EMPIRICAL STUDY

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To Cite this Article

Dr. Leelavathi. K, "Information Systems As A Catalyst For Entrepreneurial Success: An Empirical Study", Journal of Science Engineering Technology and Management Science, Vol. 02, Issue 07, July 2025,pp: 511-516, DOI: http://doi.org/10.63590/jsetms.2025.v02.i07.pp511-516

Submitted: 15-05-2025 *Accepted: 22-06-2025* *Published: 01-07-2025*

ABSTRACT

In this research paper, write-up explores how Information Systems (IS) has acted as an engine of entrepreneurial prosperity among small and medium sized firms (SMEs) of Nagpur region in India. In the descriptive research design, 384 entrepreneurs in different sectors were sampled in collecting data using a structured questionnaire. In the analysis, it was made using descriptive and inferential statistical methods; such as correlation and regression analysis. The conclusion shows that there is a great correlation between IS adoption and entrepreneurial success that is quite significant in the improvement of operation efficiency, innovations, and decision-making processes. The paper finds that IS plays a very seminal role in facilitating business functionality and success with respect to sustainability in novel entrepreneurial ecosystems. Recommendations are made on what should be practiced by entrepreneurs, policymakers and technology providers based on the results to enhance IS integration to nature local business practices.

Keywords: Information Systems, Entrepreneurial Success, SMEs, Operational Efficiency, Innovation, Strategic Decision-Making, Technology Adoption, etc.

1.1 INTRODUCTION

Entrepreneurship has become a major mover of the economy, innovations and job creation especially in emerging economies such as India. In this ecosystem, Information Systems (IS) have played a more significant role in defining the success of an entrepreneur. IS is termed as a well-coordinated set of tools and technologies used to gather, process, store and transmit information in order to facilitate decision making and business operations. IS can serve as a strategic tool that enables entrepreneurs, including those operating within resource constrained settings, to optimise operations, better manage customers and make informed judgments that are based on inference of available data. In metropolitan regions e.g. Nagpur, an emerging city within the state of Maharashtra in India, entrepreneurial ecosystem is growing and flourishing into industries such as manufacturing, information technology,

retail, logistics, and education. Nonetheless, the prosperity of the business activities in the sphere of entrepreneurship is in many cases defined by the degree to which the business in question is able to discover IS to overcome the fluctuations on the market, constraints in terms of resources, and competition.

MIDC zones Start-up India, IIM Nagpur is among the government schemes and establishment that have promoted entrepreneurship in Nagpur. Notwithstanding, it has been observed that there is still a huge latent in the empirical evidence that evaluate the direct influence of IS adoption on the entrepreneurial success in the region. Although anecdotal details indicate that nearby entrepreneurs are turning out to be boundlessly reliant on web-based stages, cloud offerings and business programming architecture, a stringent examination of its presence and character is required. The paper will thus explore how Information Systems can be used as a driver of entrepreneurial success among the startups and small enterprises across Nagpur region.

2.1 LITERATURE REVIEW

There is a lot of literature that identifies the centrality of Information System in business performance and is capable of providing entrepreneurial strength. IS does not only enhance the functions of internal activities like accounting, inventory levels, and dealing with customers but it also has a strategic role of facilitating the innovations and creating competitive advantage (Gupta & Kohli, 2006). Particularly, within context of small and medium enterprises (SMEs), which are predominant component of Nagpur-based entrepreneur society, the match between IS and business strategy has proved to provide patent effects on measures of growth (Raymond & Bergeron, 2008).

As per the resource based view of the firm, then combined with other organizational resources, IT capabilities is capable of producing a better firm performance (Bharadwaj, 2000). This theory is of special concern to business added in the form of entrepreneurs working with uncertain market realities and trying to find agility in terms of flexibility in technology. Melville et al. (2004) also stressed the role of integrated IS in delivering organizational performance through improvements in the flow of information and making of improved decisions, which is essential to the startups and the expanding small business organizations.

Thong et al. (1996) found that in any entrepreneurial enterprise, the top management support and availability of outside expertise are most of the facilitators of successful IS implementation. It is specifically applicable to small firms in Nagpur where the entrepreneur might not have internal technical know because they can avail local technology vendors, or incubating centers. Zhou and Wu (2010) discovered that the product innovation and smartness that is rapidly becoming a requirement in the Nagpur business environment require technology competence and strategic reaction or versatility, which remain to be enhanced with the help of IS.

Levy, Powell, and Yetton (2001) also indicated that successful uptake of IS by SMEs is in most cases accompanied by strategic alignment and this leads to better adaptation to the market needs and customer preferences. Alavi and Leidner (2001) went on and further explained that knowledge management system, a sub category of IS, enhances learning and innovating capabilities of the organization thereby allowing the entrepreneurs to address the dynamic customer requirements and technological changes.

A research study by Moghavvemi, Hakimian and Feissal (2012) carried out in Malaysia revealed that the positive effects of adopting IS among SMEs comprised of improvements in communication, cost cutting and quality customer service albeit social-cultural and infrastructure issues moderated this. Since several contextual aspects like digital literacy, infrastructure and regulations are prevalent in Nagpur, the proposed study would help in expanding the literature by analyzing IS effectiveness in a similar emerging city economy.

Although IS in entrepreneurship has global and national applicability there has been limited research and thus what applies in larger metropolitan centers may not be applicable in smaller cities and towns such as Nagpur with local market forces, resource availability and maturity being quite different. This absence is also a way to take a look at the direction of IS adoption in influencing the performance of an entrepreneur in such environment and lessons can be learnt that can be applied by the policy makers, entrepreneurs as well as the providers of the technology.

3.1 OBJECTIVE OF THE STUDY:

The purpose of the present study is to determine how Information Systems may facilitate the entrepreneurial success of small and medium businesses in Nagpur area, paying attention to how the process of adopting IS may affect the efficiency of their functioning, their decision-making capabilities, the rate of innovation, and the overall business performance, and which technological enablers can help the businesses achieve sustained growth.

3.2 Methodology:

The study uses a descriptive research design to conduct the study on how Information Systems affect entrepreneurial success in the samples of small and medium enterprises located in the region of Nagpur. The information was obtained through a built up inquiry that helped in recording the perception of the entrepreneurs about IS utilization and its effects. The number of respondents selected was 384 respondents based on Cochran formula of infinite populations at 95 percent confidence level and 5 percent margin of error. The researchers used a stratified random sampling method, which provided the data with a close representation of industries in different segments in the economy including manufacturing, services, retail and information technology units, which contributed to the status of the study as reliable and capable of being generalized.

4.1 DATA ANALYSIS:

An aggregate number of 384 responses were examined. SMEs involved in this survey were of different industries namely manufacturing (30%), retail (25%), IT services (20%), logistics (15%), and others (10%). The designed Questionnaire questions were structured in elements of Likert-scales (1 = Strongly Disagree to 5 = Strongly Agree) to the extent of measuring the impact of Information Systems in various aspects of the business.

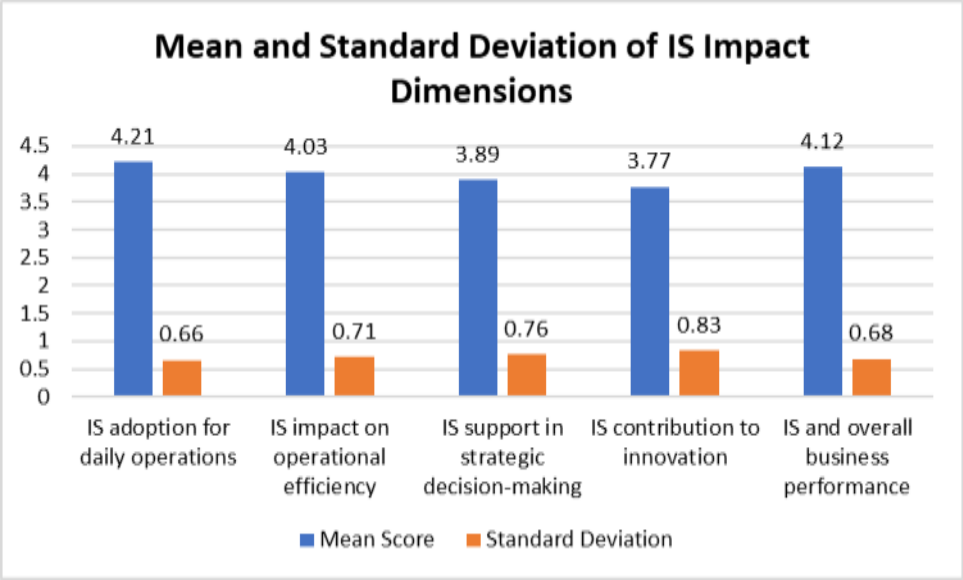

Fig. 1 Mean and S.D. of IS Impact Dimension

The descriptive findings provide the findings that the majority of the entrepreneurs surveyed reported that IS plays a very significant role in their operations (M = 4.21), their business performance (M = 4.12) and in operational efficiency (M = 4.03). The high-mean indicates very good perceived IS value towards entrepreneurial success.

A Pearson correlation analysis and a regression analysis were performed to test the 3rd research question which suggests the relationship between the adoption of the IS and the success of the entrepreneurs.

Table 1 Correlation between IS adoption and entrepreneurial success

Variable	IS Adoption	Entrepreneurial Success
IS Adoption	1	0.67**
Entrepreneurial Success	0.67**	1

The strong, positive and statistically significant relationship is in place between IS adoption and entrepreneurial success or rather IS adoption and entrepreneurial success is correlated to the extent which is represented by the correlation coefficient of ($r = 0.67$, $p < 0.01$). This implies that the greater use of IS, the better are the business results.

Linear regression value was used to find out the ability of the IS adoption to predict the entrepreneurial success.

Table 2 Regression

Model	R	R^2	Adjusted R^2	Std. Error of Estimate
1	0.67	0.45	0.44	0.52

Table 2 gives the summary of the regression model determining the relationship between Information Systems (IS) adoption and entrepreneurial success. This is strong evidence provided by the R value 0.67 that depicts a good and positive correlation between the predictor (IS adoption) and entrepreneurial success as the outcome variable. R 2 of 0.45 indicates that 45 percent of this variance in success could be represented by the role of IS adoption with entrepreneurship. The adjusted R 2 value of 0.44 proves that the model is stable and precise even when generalized towards the entire population. The standard error of estimate (0.52) indicates that there will be a relatively low mean between the values observed and the regression line indicating that the data fits well.

Table 3 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	73.51	1	73.51	271.43	.000
Residual	90.23	382	0.24		
Total	163.74	383			

ANOVA (Analysis of Variance) results are in Table 3 and they inquire into the overall significance of regression model. F-statistic value indicates the model is statistically significant with the value of 271.43 and the significance level (p-value is .000). That is, the overall model of regression predicts well entrepreneurial success, and the relationship being described is not likely to happen by chance. The fact that the residual sum of squares (90.23) is significantly smaller than regression sum of squares (73.51) also demonstrates that IS adoption explains a significant part of the entire variation of entrepreneurial success.

Through this analysis it has been confirmed that there is a strong relationship between the Information Systems adoption and entrepreneurial success in the Nagpur region and this is statistically significant. Entrepreneurs who make successful use of IS provide reports of efficiency in their operations, decision-making, innovation and general business results. These results show that the hypothesis is true that IS is a driver of business success in developing entrepreneurial ecosystems.

Its results also emphasize on the need of digital literacy, integration of systems and supporting infrastructure in maximizing the use of IS. The performance and growth path of SMEs in Nagpur can also be boosted to an even higher level by adopting policy initiatives and capacity-building programs that enable the deployment of IS tools at cheap rates and make them easy to use on an everyday basis.

5.1 CONCLUSIONS

The researcher comes up with a conclusion that, Information Systems (IS) have been found to have a positive and significant impact in entrepreneurial success of SMEs in Nagpur region. The analysis results indicate that there is significant positive relationship between IS adoption and increased operational efficiency, enhanced decision making, enhanced innovation and business performance. The regression analysis shows the IS adoption accounts a significant percentage of the variability in the area of entrepreneurial success, therefore, making it a growth and competitive driver. Active use of IS tools in the work by the entrepreneurs allows proving the greater adaptibility and strategic ability which are of major importance in the world of business in the rapidly changing world of tier-2 cities as Nagpur. These findings affirm that IS does not only act as a support unit but is a strategic resource that has a direct impact in terms of sustainability and scale of the entrepreneurial ventures.

5.2 Recommendations:

Having arrived at the findings, the study will recommend that the entrepreneurs in the Nagpur region should consider the strategic nature of incorporating Information Systems in their business models. Access to affordable technologies, digital literacy programs, and IS training workshops should be funded by local business incubators, trade associations and academic institutions. Government agencies or policymakers are supposed to provide IS incentives, infrastructure support, and subsidies to ensure the adoption of IS by the SMEs, particularly in the areas with a high growth prospect. Furthermore, when collaborated with IT service providers, the entrepreneur can tailor the solutions to his or her business peculiarities. Last, but not least, entrepreneurs are being advised to think beyond the cost of IS as an investment to the future growth and become proactive in technological driven innovation.

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