

# Impact of Internal Financial Sources and Investment in Information Technology on Performance of Firms in Urban Areas

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## Abstract

Information technology is playing a key role in the rising economies of the world. Today, in the era of information technology, the world is witnessing tremendous advancements in technology every day. So, the main aim of the study is to know the impact of internal financial sources and investment in information technology on performance of firms in urban areas. A sample of 500 respondent firms from Punjab, Haryana, and Himachal Pradesh in the healthcare services and hospitality sector have been considered. To reach the target population, judgmental sampling technique has been used. Multiple regression technique has been applied to analyse the results. The study found that the independent variable investment in information technology has a positive impact on the operational performance. So, it is suggested that more and more investments in operational performance will enhance entrepreneurial performance and also help in survival and generating profits. In future, more studies can be carried out on human capital and financial performance of a firm.

**Keywords:** Information Technology, Internal Financing, Micro and Small Firms, Operational Performance, Punjab, Haryana, Himachal Pradesh

## Introduction

Information technology is playing a major role in the growing economies of the world. Today, in the era of information technology, the world is witnessing tremendous advancements in technology every day (Khatri, 2019). It can be viewed in terms of sophistication,

which has changed the entire world. It has made everyone's life easy, fast, and full of challenges. It has impacted all segments of society. According to Harindranath, Dyerson and Barnes (2008), Information Technology can increase micro and small enterprises' efficiency and effectiveness in various ways, including making technical improvements, dropping transaction costs, enabling them to improve performance, and maximising firm benefits. Kambil, Brynjolfsson and Gurbaxani (1994) defined it as a technology that facilitates society to collect, create, merge, manage, communicate, and process information in multimedia and a variety of digital formats for different purposes. Technologies like personal computers, cable TV, mobile phones, the Internet, and so on, are all a part of information technology. Governments are also adopting IT to provide superior services to their citizens. Entrepreneurs now realise that information technology can be used as an engine to speed up processes, eliminate or reduce paperwork, increase the quality of output and service delivery, decrease storage costs, and enhance information sharing and communication. The rich diversity of different perspectives towards factors that affect the IT adoption process are available in a huge body of literature. The review of previous research has identified several influencing factors. There is a vital need for micro and small-scale firms in rural areas to employ information technology to take advantage of substantial economic benefits (Charles & Frank, 2012). Therefore, internal financing sources are essential to survive and flourish during and after the COVID-19 pandemic. A study by Gill et al. (2016) specified that most of the firms operate with a greater level of internal financing sources, with family members' financial contributions. The greater level of internal financing sources enhances

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bank financing chances and decreases the cost of debt by dropping bankruptcy chances.

- Does an internal financial source increase performance?
- Does an internal financial source decrease performance?
- Does information technology investment increase performance?
- Does information technology investment decrease performance?

Most of the studies researched on information technology investment are in the manufacturing sector and in medium and multinational companies. A very limited number of studies have emphasised the relationship between investment in information technology and the performance of micro and small enterprises in the service sector, which will form the centrifugal point of the current study. Most studies discussed only operational performance of urban area firms; however, this study will discuss the operational performance of rural areas.

## Literature Review

An earlier study by Heizer (2008) concentrated on operational performance capacity of a company in reducing management costs, order time, lead-time, getting better the effectiveness of using raw material and distribution capacity. Operational performance is highly significant because it affects the commercial success of a business. Bhimani (1993) investigated the various internal and external factors that affect the operational performance of a firm: product quality, customer satisfaction, employee morale, efficiency, and utilisation. Information technology is an important element in making better the firms' operational performance, so that the firm's goals can be achieved at the highest level. With the adoption of information technology, accounting records can be kept accurately and the problem of duplication can be eliminated. Information technology helps firms advertise their product at the global level. With the help of online retailing, firms can enter the new market easily. Firms can take competitive advantages by using websites. Good customer relationship is the key to the success of every firm. Through e-mails or any other online modes firms can manage customer complaints and can build long-term relationships with customers and improve

customer satisfaction and loyalty. According to Qi (2009), technology can be a driver of long-term competitive advantage and competitive conditions can be change with quick responses. A study by Peng and Lou (2000) and Lee et al. (2009) reveal that the significant factors of operational performance are: deducting duplicate processes, improving processing speed, increasing in new customers, retaining existing customers, ease of customer data management, ties with other managers, ties with government officials, effective advertisement, entering a new market quickly, buying new products in the market faster than the competitors, and increasing the quality of information output.

## Development of Sampling Frame

The survey research is valuable to study sensitive opinions, attitudes, preferences, and behaviours of MSEs. This study applied survey research (a non-experimental field study design) to collect data from 500 owners of MSEs in Punjab, Haryana, and Himachal Pradesh. According to the Companies Act, 2013, in the case of manufacturing enterprises, the investment is up to 25 lakhs in micro-enterprises and the investment in plant and machinery is greater than 25 lakhs, but up to 5 crores, in small enterprises; and in service enterprises, it is up to 10 lakhs in micro-enterprises and greater than 10 lakhs, but up to 2 crores, in small enterprises. Broadly, two service sectors are used for this study: healthcare services and the hospitality sector. These two sectors are the crucial sectors that contribute enormously to the progress of the Indian economy.

## Empirical Model and Analysis of Operational Performance

Operational performance is used as the dependent variable. To measure operational performance of a firm, the variables used are: deduction of duplicate processes; increase in new customers; ease of customer data management; fast new market entry; and effective advertisement. The independent variables used to investigate the impact on the dependent variables are: investment in IT (INVIT); assets (ASSETS); industry (IND); internal financing sources (IFS); gender (GENDER); age (AGE); owner education (EDUCATION); owner experience (EXPERIENCE); and number of employees (EMPLOYEES). A regression

equation is used to test the hypothesis. Multiple regression is used to conduct the analysis. The following regression model is estimated for empirical analysis.

$$OP = \alpha + \beta_1 INVIT + \beta_2 ASSETS + \beta_3 IND + \beta_4 IFS + \beta_5 GENDER + \beta_6 AGE + \beta_7 EDUCATION + \beta_8 EXPERIENCE + \beta_9 EMPLOYEES + \epsilon_i$$

In the above model, I refers to the micro and small enterprises; OP represents the operational performance

of a firm;  $X_i$  represents individual control variables corresponding to micro and small enterprise; and  $\epsilon_i$  is a normally distributed disturbance term. In the estimated model,  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8,$  and  $\beta_9$  measure the magnitude at which independent variables change the dependent variables of micro and small enterprises. The result of the regression analysis for measuring the operational performance is as follows:

**Table 1: Regression Analysis for Operational Performance in Urban Areas**

VARIABLES	DDP ( $Y_1$ )	INC ( $Y_2$ )	ECDM ( $Y_3$ )	FNME ( $Y_4$ )	EA ( $Y_5$ )
INVIT ( $X_1$ )	0.623*	0.602*	0.662*	0.636*	0.613*
ASSETS ( $X_2$ )	0.132**	0.120	0.133**	0.123**	0.120
IND ( $X_3$ )	0.242*	0.273*	0.264*	0.232*	0.243*
IFS ( $X_4$ )	0.244*	0.276*	0.346*	0.316*	0.326*
GENDER ( $X_5$ )	0.124	0.225*	0.122	0.263*	0.253*
AGE ( $X_6$ )	0.225*	0.234*	0.257*	0.268*	0.243*
EDUCATION ( $X_7$ )	0.264*	0.254*	0.237*	0.254*	0.243*
EXPERIENCE ( $X_8$ )	0.232*	0.264*	0.264*	0.245*	0.242*
EMPLOYEES ( $X_9$ )	0.162**	0.174*	0.174*	0.163**	0.164*
CONSTANT	1.352	1.314	1.428	1.316	1.434
N	300	300	300	300	300
R2	0.626	0.668	0.602	0.684	0.616

Notes: \*\*p < 0.05 and \*p < 0.01; Dependent variables include: deduction of duplicate processes (DDP), increase in new customers (INC), ease of customer data management (ECDM), fast new market entry (FNME), and effective advertisement (EA). Independent variables are: investment in IT (INVIT), assets (ASSETS), industry (IND), internal financing sources (IFS), gender (GENDER), age (AGE), education (EDUCATION), experience (EXPERIENCE), and number of employees (EMPLOYEES).

EF represents effective advertisement and indicates that change in one unit of investment in information technology ( $X_1$ ) shows a 62.4 per cent change in the advertisement of a firm. This shows that with more and more investment in information technology, the firm can effectively advertise its products and services. The other regression coefficient shows that more investment in assets ( $X_2$ ), type of industry ( $X_3$ ), and internal financing sources ( $X_4$ ), with one unit change in the age ( $X_6$ ) of the respondent, with more years of owner education ( $X_7$ ), owner experience ( $X_8$ ), and more employees in the firm ( $X_9$ ), a 12.8 per cent, 25.2 per cent, 27.6 per cent, 25.1 per cent, 23.7 per cent, 24.1 per cent, and 15.7 per cent change in the advertisement of a firm, respectively, is revealed. The control variable change in gender is statistically insignificant.

Table 1 shows that the coefficient of the determination ( $R^2$ ) of the model is 0.626. It explains that a 62.6 per cent variation in a deduction in a duplicate process is attributed

to the variations in all explanatory variables. These variations are known as random variations. A variation of 66.8 per cent, 60.2 per cent, 68.4 per cent, and 61.6 per cent are explained by increase in new customers, ease of customer data management, fast new market entry, and effective advertisement, respectively.

DDP represents the deduction in the duplication process and reveals that change in one unit of investment in information technology ( $X_1$ ) leads to a 62.3 per cent decrease in the duplication process. This shows that when micro and small-scale enterprises increase investment in information technology, it decreases the duplication process in the working of a firm. Likewise, the regression coefficients  $X_2, X_3,$  and  $X_4$  reveal that investment in assets, type of industry, and internal financing sources lead to 13.2 per cent, 24.2 per cent, and 24.4 per cent decrease in the duplication process. One unit of change in the age ( $X_6$ ) of the respondent leads to a 22.5 per cent change in the duplication process. More years of owner education

( $X_7$ ), owner experience ( $X_8$ ), and more employees in a firm ( $X_9$ ) lead to a 26.4 per cent, 23.2 per cent, and 16.2 per cent reduction in the duplication process.

INC signifies the increase in new customers and indicates that a change in one unit of investment in information technology ( $X_1$ ) shows a 60.2 per cent increase in new customers. This shows that with more and more investment in information technology, the number of customers in a firm also increases. The other regression coefficient shows that type of industry ( $X_3$ ), internal financing sources ( $X_4$ ), and change in gender ( $X_5$ ) of respondents, with one unit change in the age ( $X_6$ ) of the respondent, with more years of owner education ( $X_7$ ), owner experience ( $X_8$ ), and more employees in the firm ( $X_9$ ), a 27.3 per cent, 27.6 per cent, 22.5 per cent, 23.4 per cent, 25.4 per cent, 26.4 per cent, and 17.4 per cent increase in number of customers. The control variable investment in assets is statistically insignificant.

ECDM indicates ease in customer data management and indicates that a change in one unit of investment in information technology ( $X_1$ ) shows a 66.2 per cent easing in customer data management. This shows that with more and more investment in information technology, customer data management becomes easy for a firm. The other regression coefficient shows that more investment in assets ( $X_2$ ), type of industry ( $X_3$ ), internal financing sources ( $X_4$ ), with one unit change in the age ( $X_6$ ) of the respondent, with more years of owner education ( $X_7$ ), owner experience ( $X_8$ ), and more employees in the firm ( $X_9$ ), a 13.3 per cent, 26.4 per cent, 34.6 per cent, 25.7 per cent, 23.7 per cent, 26.4 per cent, and 17.4 per cent easing in customer data management. The control variable change in gender is statistically insignificant.

FNME shows fast new market entry and indicates that a change in one unit of investment in information technology ( $X_1$ ) shows a 63.6 per cent change in a new market entry. This shows that with more and more investment in information technology, the firm can fast enter a new market. The other regression coefficient shows that more investment in assets ( $X_2$ ), type of industry ( $X_3$ ), internal financing sources ( $X_4$ ), change in gender ( $X_5$ ) of respondents, with one unit change in the age ( $X_6$ ) of the respondent, with more years of owner education ( $X_7$ ), owner experience ( $X_8$ ), and more employees in the firm ( $X_9$ ), a 12.3 per cent, 23.2 per cent, 31.6 per cent, 26.3 per cent, 26.8 per cent, 25.4 per cent, 24.5 per cent, and 16.3 per cent change in a new market entry.

EA represents effective advertisement and indicates that change in one unit of investment in information technology ( $X_1$ ) shows a 61.3 per cent change in the advertisement of a firm. This shows that with more and more investment in information technology, the firm can effectively advertise its products and services. The other regression coefficient shows that type of industry ( $X_3$ ), internal financing sources ( $X_4$ ), change in gender ( $X_5$ ) of the respondents, with one unit change in the age ( $X_6$ ) of the respondent, with more years of owner education ( $X_7$ ), owner experience ( $X_8$ ), and more employees in the firm ( $X_9$ ), a 24.3 per cent, 32.6 per cent, 25.3 per cent, 24.3 per cent, 24.3 per cent, 24.2 per cent, and 16.4 per cent change in the advertisement of a firm. The control variable investment in assets is statistically insignificant.

## Conclusion

In the context of urban areas, independent variables, investment in IT, change in industry, a unit of change in internal financing sources, a unit of change in age, level of education, year of experience, and number of employees, have shown a statistical association with all dependent variables, and are significant at 1 per cent and 5 per cent level. The other independent variable, investment in assets, is not significantly related to effective advertisement. The independent variable change in gender is also not statistically associated with ease of customer data management.

## Future Research

The study is restrained to the context of micro and small enterprises; thus, the findings are confined to this context only. Further studies are required in medium and large enterprises to gain a better understanding of the effect of information technology on firm's performance.

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