



ENTREPRENEURS' PERCEPTION ON ADOPTION OF INFORMATION TECHNOLOGY IN SMALL BUSINESS: A STUDY ON SYLHET REGION, BANGLADESH

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ABSTRACT

In the present era of e-commerce and economic globalization, adoption of information technology to support business regardless of business size is a crucial prerequisite to success. Owing to the intensified competitive pressure and necessity for entering to international market, small businesses are incrementally deploying information technology to take advantage of its substantial benefits. This paper examines the extent of information technology adoption among the businesses which fall in the category of small business such as Plastic industries, Mushroom production firms, Cane industries, Handicrafts manufacturer, Bakery industries (bread, cookies, cakes, pastries biscuits) etc. The purpose of this paper is to analyze the perception of entrepreneurs regarding IT adoption in small business and to find out the factors that influence IT adoption process. The study is a descriptive research. Data were collected using a structured survey questionnaire of 40 entrepreneurs of small businesses in Sylhet, Bangladesh. The researcher conducted various statistical analyses such as- frequency distribution, descriptive statistics, correlation analysis and chi-square tests to analyze the survey responses and identified a number of key findings. The study reveals various factors including competitive advantage, better quality of services, productivity, IT infrastructure, IT training and cost maximization that affect IT adoption in small businesses.

KEYWORDS: *Adoption process, Competitive advantage, Information technology, Information system, Small business.*

INTRODUCTION

The growth of Small business is a significant variable for economic development of a developing country like Bangladesh. Small business contributes to fulfill the demand of national and international market which is a pre-requisite for globalization. In that situation small business can achieve its goal, get competitive advantage and cope with current modern economic world by adopting information technology. Information technology facilitates the small business through its computerized data processing system, data preparation appliances or various applications. Information system provides assistance to small business for operating accounts, inventory management and supply chain management which enlarges organizational portfolio. Despite of these advantages, IT adoption by small business has remained relatively low. Business world become more challenging day by day. So to get competitive advantage, there has no alternative without

adopting information technology in small business. Companies today must prepare themselves and their employees to function successfully in a knowledge-based economy. IT is an important tool in meeting that challenge.

It is commonly accepted today that IT has significant effects on the productivity of firms. These effects will only be fully realized if and when IT are widely spread and used. There are different reasons which affect the adoption of information technology in small business such as poor infrastructure, poor management policy, lack of training, cost maximization etc. The aim of this research is to better understand the factors which affects IT adoption by the entrepreneurs based on their perceptions. This paper examines the extent of information technology adoption among the businesses which fall in the category of small business as defined by the BSCIC such as Plastic industries, Mushroom production firms, Cane industries, Handicrafts manufacturer, Bakery industries (bread, cookies, cakes, pastries biscuits) etc.

OBJECTIVES OF THE STUDY

- To identify the factors that affects IT adoption by entrepreneurs.
- To determine the influence of both positive & negative factors on IT adoption.
- To establish relationship among a number of factors that positively or negatively affects IT adoption.

LITERATURE REVIEW

Information Technology can be defined as those technologies engaged in the operation, collection, transport, retrieving, storage, access presentation and transformation of information in all its forms (Boar, 1997). Small scale enterprise is a pivotal instrument for economic growth and development. Large organizations have enough resource to adopt information technology while small businesses have limited financial and human resources to adopt information technology. (Brynjolfsson, E and Hitt, L. M 2000). Akanda, Kozak and Kowalski (2005) identified that, In case of financial issue, 80% of the financing of Small firms come from owners, friends and families. Business can take different form including private ownership, limited partnership, cooperatives and associations. Ghobackhloo, Hong, Sabourian and Zulkifli stated (2011) in their paper titled 'Strategies for successful Information Technology adoption in Small and Medium enterprise' that, IT has been critically become an indispensable tool for the daily operations of organization. SMEs now invest significant amounts of financial resources in IT to strengthen their competitive positions.

Heenetigala, Armstrong (2010), discussed in the paper titled 'Potential impact of new technology on governance in small business' that cost, lack of time, skill and knowledge, privacy issue are the common factors for not adopting IT in small business. Small business may have the capacity to respond quickly to new innovations but the respondents expressed reservations about the adoption of interactive IT. Cragg and Zinatelli (1995) identified in their paper titled "The evolution of information systems in small firms" that insufficient attention by management to IT is one of the main problem areas for computing in small firms. They argued that top management support and commitment is a key factor contributing to the IT success within small organization. Olusola, Oluwaseun (2013), in the paper titled that 'An appraisal of the impact of Information Technology on small and medium enterprises performance' conclude that information technology positively impact on the performance of SMEs operation and generally firms enter into business to make profit and IT does not only help in increasing productivity but also quality and make the way business operate less complicated, time saving and disclose the new trends of business and how business are suppose to address such change. Malecki (1997) stated in his paper titled "Technology and Economic Development" that Technology is a central ingredient in economic development that is used by many enterprises to improve the performance, productivity and competitiveness in the marketplace.

METHODOLOGY OF THE STUDY

This study is a descriptive research. It followed a quantitative approach to achieve the objectives of the study which were descriptive in nature. The quantitative approach has used to investigate the factors that affects IT adoption in small business via several statistical techniques.

The questionnaire included a five-point likert scale to code the data used by respondents in indicating their response to each of the items asked. The questionnaire was divided into three parts.

Sampling Size

More accurate data can be generated through the sample size but sample size can be different according to different situation. In this study, nearly 75 questionnaires were distributed, 40 were returned representing an effective response rate. However 35 fields were discarded because the respondents have served either inconsistent information or missing data. So this study was based on 40 small business entrepreneurs of Sylhet city includes male, female, different age group, positions, experiences and educational levels. The entrepreneurs are running organizations both from government and private ownerships. Most of the small businesses are includes- grocery shop, food & beverages, clothing & boutiques, beauty & healthcare, poultry & dairy firms, fisheries, library, travel agency etc.

Plan for analysis

The study uses different statistical methods like frequency distribution, descriptive statistics, correlation analysis and chi-square tests. Data analysis was carried out with the use of SPSS 17.0 version software. Frequency distribution has carried out for the demographic information. The descriptive statistics includes mean and standard deviation carried out separately for positive and negative factor that affects IT adoption. Similarly, the correlation describes the internal association for both positive and negative factors separately. The chi-square tests are conducted to find out the statistical significance of the hypotheses.

Hypothesis

The following hypotheses are stated in a null form:

H₀1= There is no significant relationship between IT adoption and cost maximization

H₀2= There is no significant relationship between IT adoption and lack of IT infrastructure

H₀3= There is no significant effect of IT adoption on better quality service

H₀4= There is no significant effect of IT adoption on increase productivity.

THEORITICAL FRAMEWORK

Information Technology

Information Technology is the application of computers and internet to store, retrieve, transmit and manipulate data or information in the context of a business. IT is a driving force behind economic growth and has fundamentally changed the way people live in developed and developing countries.

Small Business

Small businesses are corporations, partnerships or sole proprietorships that have fewer employees or less annual revenue than a regular sized business or corporations. According to BSCIC "Small Industry means an industry in which the value/replacement cost of durable resources other than land and factory buildings is in between (.05 to 15 million) taka and employment generation is not more than 50 persons".

Entrepreneurs:

Entrepreneur is someone who exercises initiative for designing and running a new business. Most of the entrepreneurial ventures start out as a small business. Successful entrepreneurs have the ability to lead a business in

a positive direction by proper planning, to adapt to changing environments and understand their own strengths and weakness. The entrepreneur is commonly seen as a business leader and innovator of new ideas and business processes.

IT adoption

Information technology is used by many small enterprises to improve the performance, productivity and competitiveness in the marketplace. However, the world is increasingly interconnected through high-speed mobile communications. Growing demand for information services, growing infrastructure and falling prices are allowing more and more people across the globe to join the information society. The outcomes of adopting information technology are responsible for development of small businesses. IT adoption is an important determinant of the development of micro-enterprises. Competitive advantages, high productivity, better promotion and distribution, efficiency, customer satisfaction as well as increase profitability enables IT adoption in small business and significantly affects its sustainability. Information systems are relied on to assist growth and development although small businesses often find technology difficult to implement due to resource constraints. Some intervening conditions such as- lack of IT infrastructure/ government support, unskilled employee, unawareness, cost maximization etc. negatively affects information technology adoption by the entrepreneurs.

DATA ANALYSIS & FINDINGS

The findings are based on the survey. As different people provided different opinions regarding the questions so the frequency distribution of respondents in terms of gender, age, education, type of organization and job experience.

Among the small businesses, 87.5% organizations are private ownership and 12.5% organizations are government ownership. The experience level of respondent has been measured in four levels. 40% of the respondents are having experience of 1-5 years, 27.5% are having experience of 6-10 years, 12.5% having experience of 11-15 years and remaining 20% respondents having experience of more than 15 years. Among the respondents, 60% are using information technology in their organization and remaining 40% are not using information technology.

Descriptive statistics: The descriptive statistics of the data including mean and standard deviation for both positive and negative factors are separately given below:

Table-1: Descriptive statistics: Positive factors that lead to IT adoption (N=40).

	Mean	Std. Deviation
Competitive Advantage	3.08	.694
Growth	2.65	.893
High productivity	2.93	.797
Better promotion & distribution	2.75	.809
Save time & cost	2.85	.770
Effectiveness of project	2.88	.648
Customer satisfaction	2.93	.764
Profitability	2.72	.847
Better quality of services	3.10	.685

Source: Calculation through SPSS 17.0

From all the positive factors the highest mean value is 3.10 (Better quality of service) and the lowest mean value is 2.65 (Growth). That is better quality service is the factor which leads more entrepreneurs to adopt information technology in their business. Competitive advantages (3.08), High productivity (2.93), save time & cost (2.85), Customer satisfaction (2.93), Effectiveness (2.88), Profitability (2.72), Better promotion and distribution (2.75) are also showing higher mean values. The standard deviations are showing the appropriateness of the mean values.

Table-2: Descriptive statistics: Negative factors that discourages IT adoption (N=40).

	Mean	Std. Deviation
Troublesome in using	2.52	1.062
Costly	2.15	1.051
Lack of training	2.1	1.172
Time consuming	1.28	0.751
Lack of Government support	1.85	1.369
Lack of IT infrastructure	2.82	0.942
Inadequate Power supply	2.7	1.091
Difficulty in using	1.47	1.037

From all the negative factors the highest mean value is 2.82 (Lack of IT infrastructure) and the lowest mean value is 1.28 (Time consuming). That means Lack of IT infrastructure is the factor for which most of the entrepreneurs are unable to adopt information technology in their business. Troublesome in using (2.52), Costly (2.15), Inadequate power supply (2.70), Lack of training (2.10), Lack of government support (1.85) are also showing higher mean values. The standard deviations are showing the appropriateness of the mean values.

Source: Calculation through SPSS 17.0

Correlation Analysis: The correlations between different positive and negative factors are separately showing in the table below:

	Correlation								
Positive Factors	1	2	3	4	5	6	7	8	9
1 Competitive advantage	1								
2 Growth	0.20	1							
3 High productivity	0.19	0.21	1						
4 Better promotion & distribution	0.12	0.08	0.28	1					
5 Save time & cost	0.26	0.14	0.56	0.39	1				
6 Effectiveness	0.13	0.36	0.13	0.28	0.11	1			
7 Customer satisfaction	0.20	0.22	0.23	0.34	0.21	0.03	1		
8 Profitability	0.31	0.24	0.19	0.20	0.13	0.26	0.20	1	
9 Better quality service	0.19	0.13	0.33	0.35	0.26	0.41	0.54	0.43	1

Table-3: Correlation analysis for positive factors

From the table, the highest positive correlation is existed between high productivity and save time and cost (0.56). That means if productivity increases then organizations can save more time and cost. The internal association between better quality service and customer satisfaction is significantly correlated (0.54). That means customers can be satisfied if

the organization provide better quality service. Profitability is significantly correlated with better quality service (0.43). That means if the organization provides better quality service then it will maximize its profitability. Other factors are also positively correlated .

	Correlation							
Negative Factors	1	2	3	4	5	6	7	8
1. Troublesome in using	1							
2. Costly	0.24	1						
3. Lack of IT training	0.30	0.27	1					
4. Time consuming	0.16	0.10	0.43	1				
5. Lack of Govt. support	0.14	0.02	0.24	0.26	1			
6. Lack of IT infrastructure	0.38	0.20	0.38	0.32	0.16	1		
7. Inadequate power supply	0.16	-0.02	0.08	0.22	0.21	0.15	1	
8. Difficulty in use	-0.06	0.30	0.42	0.35	0.05	0.36	0.05	1

Table-4: Correlation analysis for negative factors

From the table, the highest correlation exist between Lack of IT training and time consuming (0.43). That means if the employees do not have proper IT training then it will take more time to complete the work. The internal association between lack of training and difficulty in use is also significantly correlated (0.42). That means it will difficult for employees to use IT without proper training. Lack of IT training and Lack of IT infrastructure is highly correlated

(0.38). As there is lack of IT infrastructure so the entrepreneurs lacks IT training. Other factors are also correlated with one another.

Chi-Square tests: Chi-square tests are conducted to find out the statistical significance of the hypotheses is given below:

$$H_0 = \text{There is no significant relationship between IT adoption and cost maximization}$$

Table-5: Use of IT * Cost maximization Cross tabulation

		Cost maximization					Total
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Use of IT	Yes	1	9	8	3	3	24
	No	0	3	6	5	2	16
		1	12	14	8	5	40
Chi-Square Tests							
		Value		df		Asymp.Sig (2 sided)	
Pearson Chi-Square		14.142 ^a		3		.003	
N of Valid Cases		40					

Source: Calculation through SPSS 17.0.

Table 6 shows chi-square test result, where P value is .003 which is significant at 5% level of significance. So we can reject the null hypotheses (H_01) and can conclude that there

is a significant relationship between IT adoption and cost maximization.

H_02 = There is no significant relationship between IT adoption and lack of IT infrastructure

Table-6: Use of IT * Lack of IT infrastructure Cross tabulation

		Lack of IT infrastructure					Total
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Use of IT	Yes	0	2	6	14	2	24
	No	2	1	0	7	6	16
		2	3	6	21	8	40
Chi-Square Tests							
		Value		df		Asymp.Sig (2 sided)	
Pearson Chi-Square		11.258*		4		.029	
N of Valid Cases		40					

Source: Calculation through SPSS 17.0

Table 7 shows, chi-square test result where P value is .029 which is significant at 5% level of significance. So we can reject the null hypothesis (H_02) and can conclude that there is a significant relationship between IT adoption and lack of IT infrastructure.

H_03 = There is no significant effect of IT adoption on better quality service

chi-square test result where P value is .023 which is significant at 5% level of significance. So we can reject the null hypothesis (H_03) and can conclude that there is a significant relationship between IT adoption and better quality service.

H_04 = There is no significant effect of IT adoption on increase productivity

chi-square test result where P value is .034 which is significant at 5% level of significance. So we can reject the null hypothesis (H_04) and can conclude that there is a significant relationship between IT adoption and increase productivity.

SUGGESTIONS

From the results and discussion, it is revealed that both positive and negative factors are influencing IT adoption by entrepreneurs. As positive factors competitive advantage, better quality of service, project's effectiveness are showing the significant values so as to ensure the better output the entrepreneurs should adopt information technology in small business. It is also recommended to minimize the negative effect caused by the factors negatively related. As maximum entrepreneurs are interviewed from private sector and for being small organization there capital base is not so strong here it is recommended to ensure the intervention of government and relevant authorities to build an IT infrastructure. Though The negative factors should be removed to encourage the entrepreneurs to adopt IT in their businesses. The government and other relevant authorities may help to build a proper IT infrastructure and make IT cost effective that motivates our entrepreneurs. The training facilities can enhance the competencies of the young entrepreneurs.

CONCLUSION

This research has investigated the factors that affect the adoption of IT by small businesses in Sylhet, Bangladesh. IT adoption affects the development and growth of small businesses. But the entrepreneurs are realizing that the advantages of IT adoption are greater than its disadvantages and that is the reason for which IT adoption has increased now days.

LIMITATIONS AND SCOPE FOR FURTHER RESEARCH

The sample size was only 40 and this research identified the key factors that affect IT adoption by small businesses in Sylhet, Bangladesh. So, this study deals with the entrepreneurs of Sylhet region. The further study can consider for multiple region. Several studies can be undertaken to find out the factors related to the adoption of IT on Small business which reflects entrepreneurs perception based the outcomes of the entire country. This study has not considered any specific field of business and there is an opportunity of conducting study on the specific field such as manufacturing, feeder, serving and ancillary industries.

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