IT Adoption Process in Pakistani SME s

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Abstract

Information technology plays an important role in every field of life. Implementation and acceptance of IT always remain an important topic for researchers, engineers and practitioners. This study explores IT adoption factors influencing SMEs performance in developing countries. Relative advantages, complexity, ease of use, trialabiliy, observability were found frequently used factors to investigate SME performance. Frequently used factors and new identified factors from advance literature were profitability, communication improvement and attitude of employees for different SMEs. A questionnaire based survey was distributed personally to 240 respondents of SMEs of academic, pipe industry distribution, passport office, post office, nut bolt industry, hotels, banks, hospitals, carpet and fashion industry sector using IT. In response to survey, 162 valid responses were received. The response rate was 77.1

Index terms— SMEs, it adoption factors, sme performance, technology acceptance.

1 Introduction

ver the last decades, information technology plays an important role in every field of life. The business world is changing due to the advances and developments in technology. Information Technology (IT) has played a significant role in business since the 1950s and the use of technology to decrease costs, improve operations, augment customer service, and improve communications has progressed swiftly over the past four decades ??Peslak, 2005).Progress in computer technology has been creating a tough need for organizations to adopt this technology in order to remain spirited. However, these computer technologies are unable to bring improvement in the organizational performance without the presence of their effective utilization ??Davis, Bagozzi & Warsaw, 1989). IT has been adopted and used within many organizations for many years. Many theorists, practitioners and researchers have shown the usefulness of information technology in the business (Adam, Nelson & Todd, 1992, Andrews & Papp, 2000, Kelly, Guinea & Hunter, 2005 ?? Sarkar & Sawy, 2003 ?? Weill & Clair, 1999). There are number of potential factors that influence the usage of information system. That is why the role of SME concerns deeply in the development of developed and developing countries (Aragon-Sanchez & Sanchez-Marin, 2005, Beal, 2000, Chau and Turner, 2002, Clapham, 1985, Diermen, 1997 ??ongen, 2002). According to Chris MacKechnie (2007) information technology (IT) has become a vital and integral part of every small and medium business plan. So the computers can be used to process, analyze and store vast amounts of data to give the business more quality information. Although SMEs are small in size so these organization are highly dependent on computer technology in promoting the business ??Lesjak, 1995). Businesses all over the world rely on computers to function and maintain high standards of efficiency and customer service ??Miley, 2011). One of the main reasons that many businesses turned into IT world for their professional needs is the sheer speed at which computers and related technologies can process information. According to the Charlie S (2011) there are many businesses which are in need of the software packages for satisfying their operational as well as Year information technology sector, the SMEs are being able to keep themselves aware of the changes in the global markets. One of the first and largest applications of computers is keeping and managing business and financial records (Tiwari and Malviya, 2007). Chan ??2000) explained that in business many manifestations, IT processes data, gather information, stores collected materials, accumulates knowledge and expedites communication. Garicano and

Heaton (2009) cond-ucted a study to observe the relationship among information technology and productivity in business. Namani (2009) observed Information technology is changing the economy and traditional business become more dependent on new technologies. For that reason, it is very important to investigate that how much information technology effective for SMEs.

2 II.

3 Research Hypothesis

In order to achieve the research objectives, following research hypotheses are proposed. H1 -Relative advantage has a positive impact on SME performance H2 -Acceptability has a positive impact on SME performance and also their attitude. According to Venkatesh et al (2003) some research has been done related to IT adoption by organization and its performance. This research will explore a set of variables that have influence on SME performance in developing countries. It will provide information as to which variable is more influential on performance of SMEs. More over the impact of SME performance on profitability has also measured, large quantity of SMEs selected and names are also mentioned. Based on the factors explored from literature, a research model is proposed. As in fig 1, in this research model relative advantage, acceptability, ease of use, trialability, observability, profitability, independent variables and which have their effect on SME performance (dependent variables) H5 -Profitability has a positive impact on SME performance H7 -Communication Improvement has a positive impact on SME performance H8 -Attitude has also positive impact on performance of SME III.

4 Methods

5 a) Respondents

Lists of companies were searched from SMEDA website, so 22 companies were selected, 8 companies could not be answered. The remaining companies on the precompiled list were answered. Finally, 17 companies were agreed to fill up the questionnaire. Questionnaire was distributed among 240 respondents runs and working in SMEs located in Islamabad, Rawalpindi and related cities of Pakistan. In response, 162 questionnaires were returned. Data of 162 completely filled questionnaires were entered in Statistical Package for Social Sciences (SPSS) for analysis. Therefore, the response rate was 71.1%. The response shows that the sample represented from 17 selected companies, each company visit one by one and distributed questionnaire. At the time of questionnaire given to respondent, the respondents need a brief description of the study. For that reason, the simple and understandable statements were included in the questionnaire. A pilot test was conducted to verify the various dimensions of the questionnaire.

6 Results and Analysis a) Reliability Statistics

To confirm the reliability of the questionnaire, Cronbach's Alpha reliability statistics analysis was conducted. In statistics the Cronbach's Alpha value greater than .5 is considered to be a reliable scale. In order to explore IT adopted user responses with respect to gender. A frequency statistics was made.

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Volume XIII Issue IV Version I The figure 2 shows the frequency distribution of the respondents. Out of 162 responses, 80.6% were male and 19.4% were female.

Figure **??** 3 shows the beta and significance value of each independent variable separated in regression model.

The significance value (p=.000) in table 3 shows that relative advantage is significant in measuring the performance of SME. The Beta value, B=.192 of relative advantage shows that relative advantage contribute to .192 variation the performance of SME. So we will accept H1.

Table 3 shows the regression analysis, the p value (p>.005) shows that trialability is not significant variable in measuring the performance of SME. Hence, we reject H3. The significance value (p=.000) in table 3 shows that Ease of Use is significant in measuring the performance of SME. The Beta value, B=.252 of Ease of Use shows that Ease of Use contribute to .252 variation the performance of SME. Here we will accept H4. Table 3 shows in regression analysis, the p value (p>.005) shows observability is not significant variable in measuring the performance of SME. Hence, we reject H6. The significance value (p=.000) in table 3 associated with the performance of SME. Here we will accept the H5. Table 3 shows the regression analysis, the value (B =.266) shows that the variable Communication Improvement influence second strongest predictor in measuring the performance of SME. The p value (p=.000) also shows that Communication Improvement is a significant variable in measuring the performance of SME. Here we accept H7. In table3, Attitude having p value (p=.000) shows that attitude is a significant variable in measuring the performance of SME. Here we accept H8.The significance value (p=.000) in table 3 depicts that Acceptability is also a significant variable while predicting the performance of SME to Adopt IT. The table 3 also shows that the Beta value (B=.995) that identifies Acceptability is strongest predictor in measuring the performance of SME. Here we accept H2.

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In table 4 RA stands for Relative Advantage, Acc stands for Acceptability, T stands for Trialability, EU stands for Ease of Use, O for Observability, P for Profitability, CI stands for Communication Improvement and Att for Attitude. Here the significant value (p=.000) shows that majority variables are significant and these variables measure the performance of SME. As a whole, the model is significant and has a positive impact on SME performance.

V.

9 Findings

The result of correlation analysis shows that acceptability, Communication improvement, attitude, and ease of use are strongly correlated with the performance of SME. While relative advantage, trialability, observability, profitability have medium level of correlation with performance of SME. The R square value (.814) shows that the overall independent variable explains 81% variation in the performance of SME. Here we can say that the model best fits and it explain significant variation in the performance. While exploring all variables individually, the variable performance is significant in measuring the SME performance. The Beta value, ?=.995, show that acceptability is stronger predictor of the SME performance. Profitability is significant while explaining SME performance. The negative beta and t value indicate that this variable is not positively associated with the SME performance. The p value of trialability (p=.279) shows insignificant variable in measuring the SME performance. The p value (p=.118) in the regression analysis of the observability shows that is not a significant variable in measuring the performance of SME. The regression analysis shows that Acceptability is a strongest predictor in measuring the performance of SME while trialability and observability are not significant variables in measuring the performance of SME.

The ANOVA statistics shows that the overall independent variables have a significant relationship with performance of SME.

10 VI.

11 Conclusion

This study was concerned on the IT adoption and SME performance. The aim of this study was to investigate IT adoption factors influencing SME. The first part of the study explores the literature related to IT adoption factors and IT usage in SMEs. Use of different standard models and theories of IT adoption in different sectors of SMEs have also been discussed. During the exploration of literature, many factors were identified for measuring the performance of SME. Based on the most common and influential factors a theoretical model was proposed. The population of this study was SMEs. The sample size of 240 respondents was selected, however, 162 out of 240 selected Participants responded. A questionnaire based survey was administered personally on 17 SMEs who were using IT system. In response to the survey, 162 valid responses were received. The response rate was 71%. Among the respondents, 80.6% were male while 19.4% were female. The findings of this study indicate that the proposed model over all explains 81% variation in the performance of SME. Except trialability and observability, all other variables having relationship to the performance of SME. Only two variables have no significant relationship with performance of SME. Majority of the respondents say that IT usage improves the work of an organization.

12 VII.

13 Recommendations

Based on the findings of this study, the following recommendations are given to increase performance of SME.

? IT adoption is a need of the staff of SME that will help in reducing work load. [1] [2]

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[2]G © 2013 Global Journals Inc. (US) IT Adoption Process in Pakistani Smes

Figure 1:

Computer application act as a catalyst in the growth of economy that enables people to convert knowledge into digital form easily, which can be accessible anywhere around the world. SMEs are different and unique from other bigger businesses, so to manage SME differently from managing bigger businesses (Aragon-Sanchez & Sanchez-Marin, 2005, Beal, 2000, Chau and Turner, 2002, Clapham, 1985, Diermen, 1997, Drew, 2003, Hill, Levy & Powell, 2005, Levis & Cockrill, 2002, Mehrtens, Craggs & Mills, 2001, O'Regan & Ghobadiah, 2004, Rothwell & Zegveld 1982, Sadowski, Maitland &

Figure 2:

1

Cronbach's Alpha	No. of Items
.960	51

Figure 3: Table 1 :

1

Figure 4: Table 1

2

33.5%

Figure 5: Table 2 :

3

Figure 6: Table 3 :

Independent	R 2	IT Adoption Process in Pakistani Smes	Beta	t	Sig.
Variable		Independent Variables			
SME performance	.814	Relative Advantage	.192	7.110	.000 *
013		Trialability	.038	1.083	.279
Year 2		Ease of Use Observability	.252 .048	5.884 1.563	.118 .000 *
2 20		Profitability	-.080	-4.622	.000 *
Volume XIII Issue IV		Communication Improvement	.266	8.520	.000 *
Version I		Attitude Acceptability	.236 .995	9.178 268.265	.000 * .000 *

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Figure 7:

4

								: ANOVA		
Statement	Mean								F	Sig.
Performance	RA				Acc T	EU O	P CI Att			
	4.30 4.29 4.29 4.62 4.12 4.51 4.35 3.50								422.870 .000 *	

Figure 8: Table 4

13 RECOMMENDATIONS

This research explains only 81% variation in the performance of SME. The remaining 19% portion of performance is unmeasured. There is a need of future research which explores the further variables to measures the leftover portion of performance which was not measured in this research.

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