E-BUSINESS ENABLERS AND BARRIERS: EMPIRICAL STUDY OF SMES IN JORDANIAN COMMUNICATION SECTOR

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ABSTRACT

The current study aims at investigating the relationship between e-business growth and e-business enablers and barriers by SMEs in Jordanian communication sector. More specifically, the study attempts to identify factors associated with SMEs' adoption of e-business, including barriers and enablers impacting on this adoption. The quantitative approach is employed since it describes and measures the studied phenomenon. Questionnaire is sent to all companies in the sample that was obtained from Jordanian Ministry of Communication. 306 questionnaires were returned with response rate is 86 percent. Correlation analysis is used to identify the strength and direction of relationship between the stages of e-business growth and e-business enablers and barriers. The result reveals that there is a highly significant positive relationship between stages of e-business growth (email exchange, information exchange, and Web presence) and certain enablers and barriers; however our strength of association was highly to moderate.

JEL: L86, M15, M31.

KEYWORDS: SMEs, Electronic business, Growth stages, Communication sector, Jordan.

INTRODUCTION

A growing body of research seeks to examine the impact of e-business on organizations, especially SMEs. Dynamic and vibrant SMEs play a key role in successful national economic growth, irrespective of whether the country concerned is a developed or a developing one (Trumbach et al, 2006; Ramdani et al, 2009; Obafemi, 2009). Given their importance in any economy, it is no surprise that almost every country places special emphasize on supporting and strengthening its SMEs through a variety of institutions and programmes. The Internet and e-business are seen by governments around the world as a technology critical to supporting the development of this sector (Levy et al, 2005; Hourali et al, 2008).

Governments have instigated intervention projects and offered financial incentives to encourage SMEs to adopt the Internet and subsequently to develop e-business systems that will enable them to trade more effectively with business partners. Despite the attempts of government and various support programs, very few SMEs have reached the advantaged stages of e-commerce (Al-Qirim, 2007b; Scupola, 2009; Kapurubandara and Lawson, 2009; Mendo and Fitzgerald, 2009; MacGregar and Kartiwi, 2010). SMEs need this support to overcome the economic and competitive disadvantages that they face, especially when they adopt e-business. In the present study, SMEs are targeted for several reasons. Firstly, as has already been mentioned, they play a major role in the development of any economy, no more so than in Jordan. SMEs are viewed in Jordan as sources of flexibility and innovation and make a significant contribution to economic, both in terms of the number of SMEs and the proportion of the labour force employed by these organizations. For example, Nasco et al. (2008) and Obafemi et al, (2009) pointed out that SMEs make an extremely important contribution to an economy, especially to the rapid growth of developing countries. Secondly, previous studies on e-business have focused on large businesses. SMEs are ignored because, in many cases, it seems that they are perceived to be unsophisticated and therefore of

no interest to researchers investigating IT adoption and implementation (Poon and Swatman, 1998; Nasco, 2008). Thirdly, although studies have looked at e-business adoption by SMEs from various angles, the stages of growth of e-business and the factors involved as two of the main issues involved have remained curiously under researched. Finally, SMEs also have unique characteristics in such respects as size, age, turnover and top management structure (Rao et al., 2003; Bose and Sugumaran, 2009; MacGregor and Vrazalic, 2008; Obafemi et al, 2009; MacGregor and Kartiwi, 2010).

From the comprehensive review of the literature it is evident that there is a scarcity of empirical work attempting to determine those key enablers and barriers in the context of the Middle East. The adoption of e-business by SMEs generally and within Jordan in particular is still a relatively new phenomenon (Al Nsour, 2007; Titi, 2005). Implementation is still very much in its initial stages of growth (Lawson, 2003; Daniel, 2002). Certainly, no empirical work focuses on Jordan to evaluate the maturity of e-business growth. Therefore, it is very important to gain an in-depth understanding of the barriers and enablers regarding E-business adoption Jordan. The paper, first, presents a review of the literature pertaining to the concept of e-business in small businesses environment. More specifically, e-business enablers and barriers will be highlighted. In the light of the literature gap, the study aim and objectives will be defined. Thereafter, the methodology employed for this paper will be considered. The study results will be analysed and interpreted in the light of theoretical evidence reported in extant literature. Finally, a number of conclusions drawn from this investigation will be discussed, along with limitations of the study and avenues of future research.

LITERATURE REVIEW AND BACKGROUND

According to Arab Advisors Group (2009) survey on ICT usage in SMEs reveals that: Internet penetration in Jordan is 36% which is a high figure for the region. Internet usage more than doubled from 2007 to 2009 with the rapid growth expected to continue. Jordan has more internet start up companies than any other country in the Middle East. The Jordanian government has recently announced that the sales tax on computers and internet connection would be removed in order to further stimulate the ICT industry in Jordan. There by increasing the uptake from 22.3% of Jordanian SMEs who do not have (PCs). Of these companies that have PCs, over a half has a LAN set up in the office and more than two thirds of the companies use the Internet. 58.2% of the companies that use Internet started using it more than 3 years ago. 92% of companies in Amman use the Internet, which is far higher than other cities. More than 74.5% of the companies that use the Internet have Internet dialup accounts, with only 15.2% having Internet leased lines, and 15.2% having Internet ADSL.

A little more than a quarter of Jordanian SMEs have a web page. Start up Arabia report (2008) looked at ICT usage of individuals number of Internet Subscribers in Jordan will be around 50% internet penetration rate, with 35,000 employed in the ICT sector and over $3 billion revenues by 2011. While Asymmetric Digital Subscriber Line (ADSL) at the end of September 2008, there were over 29.000 ADSL subscribers in Jordan. Furthermore, that there are about 1.6 Internet users in the country in 2009, a penetration rate of 25.4 per cent (Internet world Status, 2009).The ICT infrastructure is rapidly expanding in Jordan, the number of landlines reached 629,000 at in 2007, an expansion rate of 11 percent, while the number of mobile phone subscribers reached 3.826 million at an expansion rate of 70 per cent. (UN report 2007). In more recent study conducted by Global Arab Network (2009) showed the ICT sector in Jordan represented 14.3% of GDP in 2008, making it one of the largest single contributors to the economy, with growth more than 80,000 new positions being created between 1999 and 2008. Of these, the report said, 16,650 were direct jobs within the industry, a further 49,852 were indirect jobs and the remaining 15,365 were listed as induced positions. According to Global Information Technology Report (2009) the ranked for Jordan were 44th out of 133 countries on its networked readiness index for ICT development. Also the report ranked Jordan's overall business readiness at 73rd, with staff training coming in at 67th and company spending on research and development at 108th.

Previous studies suggested that SMEs are in early stages of E-business adoption (Taylor et al, 2004; Mendo and Fitzgerald 2005; Pavic et al, 2007; Erikson et al, 2008; Eshun et al, 2009; Hunaiti et al, 2009; Al-Weshah et al. 2011). According to these commentators, in these early stages of implementation SMEs adopt e-commerce mainly for information and communication purposes. For example, Poon (2002) argues that SMEs' adoption of internet commerce is still slow, and that many SMEs are not realizing short-term benefits from this method of transaction. Surveys conducted in the UK and other parts of the world have indicated that e-business uptake among SMEs has been slow (Taylor et al, 2004). Al-Weshah et al. (2011) concluded that e-networks use in Jordanian businesses is still in embryonic stages. Mendo and Fitzgerald (2005) emphasized that the number of SMEs in the advanced stages of e-business is very low compared with larger companies. This finding has been supported by Pavic et al (2007), who found that the adoption of e-business in UK SMEs as the basis for business communication and transaction in SMEs is still sluggish. This slow rate has been attributed to the various barriers or impediments faced by these organizations, which in turn is mainly due to the low level of diffusion if information and communication technology, especially in a developing economy that limits the level of awareness of e-commerce (Molla and Licker., 2005).

Several studies have been carried out to examine the relationship between SMEs and e-commerce, and the opportunities created by the adoption of e-business by SMEs. SMEs have recognised the positive effect that the Internet and e-business can have on their operations, benefits that include business applications using computer terminals, email and the Internet (Hunaiti et al, 2009; Erikson et al, 2008). Porter (2001) demonstrated that SMEs have been known to adopt new technologies as soon as they are available.

Internet technologies help businesses establish distinctive strategic positions to a much greater extent than allowed by previous technologies. Drew (2003) indicated that early use of e-commerce was mainly driven by a combination of management enthusiasm and the need for improved communication. In spite of the widespread acceptance of e-business adoption in large organizations, the extent of e-business usage varies widely among SMEs. There is evidence showing they are indeed utilizing e-business, but not to its full potential (Kula and Tatoglu, 2003; Eshun and taylor, 2009; Hunaiti et al, 2009, Al-Weshah et al. 2011). E-business in SMEs is currently a real growth area, which is why it makes a real contribution to the economy (Lee and Cheung, 2004). Moreover, MacGregor and Vrazalic, (2006) showed that e-commerce technology has the potential to become a major source of competitive advantage to small business because it is a cost effective way of reaching customers around the world, as well as being a means of competing on equal terms with larger counterparts. Sanchez et al. (2007) stated that e-business has great potential for developing SMEs through more effective use and better integration of e-business processes, Al-Weshah et al (2011) also investigated utilising the e-environment to gain market share in local, regional, and international markets in Jordanian handicrafts sector. They found that SMEs in handicraft have initial attempts to use E-electronic in their activities, however, these attempts are still in embryonic stages and they do not use E-networks effectively to gain market share

E-business has provided a unique opportunity for SMEs to be more competitive and to do business in a global environment (Beheshti and Sangari, 2007, Al-Weshah et al. 2011). It is also suggested that there has been rapid growth in the use and adoption of e-business by SMEs. This new business technology also presents the opportunity for new ways to do business, giving rise to a new, and more flexible type of SME that is more successful in doing business. In developing countries there is, however, a lack of empirical evidence regarding the adoption and use of e-business in organizations, and in particular in SMEs. Neither has previous research sufficiently explained the stages by which e-business matures, nor the factors' influencing it's among SMEs, particularly in the communication sector. E-business impact on SMEs in developing countries is similarly under researched. This study visits and reviews the literature that examines both enablers and barriers associated with the adoption of e-business by SMEs.

E-Business Enablers

The reviewing of literature identified some factors that motivate e-business adoption by SMEs in developed and developing countries (Al-Qirim, 2005; Jennax et al, 2004; Levy et al, 2005; Stockdale and Standing, 2004, Al-Weshah et al. 2011) and also provided evidence of a relationship between e-business enablers with the level of this adoption. Seyal et al. (2004) found that governmental support and incentives are significant in influencing the adoption of e-business by SMEs in Pakistan. For Taiwanese SMEs, Chen's (2004) stated that E-business is used to reduce costs and increase sales, and for New Zealand SMEs.More recently, in a survey conducted in Germany, the US, France and Denmark, Beck et al (2005) pointed out that improved customer service and increased sales, are the main enablers of e-business adoption. Kaynak et al. (2005) suggested that reaching new customers and markets and reducing costs are the most important enablers, while increased sales, time savings and customer satisfaction are of no significant for motivating the adoption of e-business by SMEs in Turkey.

A qualitative study by Stockdale and Standing (2004) which is investigated enablers and barriers found that owner/ manager support and government initiatives are the crucial motivators in this regard. Chong and Pervan's (2007) survey of Australian SMEs showed that competitive pressure and government initiatives are the most significant factors determining the extent and deployment of e-business adoption there, followed by the opening of new markets and the reduction of costs, while organizational factors played no role whatsoever. Chen and McQueen's (2008) investigated the motivators and inhibitors affecting e-business adoption by SMEs in New Zealand, also stated that owner/manager support and external pressure in the form of competitors, trading partners, the improvement of customer relations and efficiency, the expansion of the customer base and time savings, as the most important motivators, while saving communication costs, improving customer satisfaction and coordination with suppliers are of no importance. They also pointed out that owner/managers are the most significant players driving such adoption.Scupola's (2009) survey of SMEs in Denmark and Australia indicates that top management support (including CEOs) is the most significant enabler in both countries; the next most important are employees' IS knowledge and pressure from customers. The survey found that competitor and supplier pressure are not great significance, however. The role of government incentives was the greatest weight for Australian SMEs, but did not feature for Danish ones.

A number of researchers (Grandon and Pearson, 2004; Raymond et al., 2001) divided E-business enablers into four groups: activity enablers, managerial enablers, competitive enablers and organizational enablers. Drew (2003) and Keoy et al. (2006) stated that there are only two enablers, namely, external and internal enablers. Therefore, the present study aims at exploring the motivation for e-business adoption by Jordanian SMEs in the communications sector. In order to group the characteristics of such enablers, the present study proposes different classification which is built on the findings of the literature review and related to the Jordanian context. More specifically, the study proposes three categories of enablers for E-business adoption in SMEs, namely as shown in Table 1, market enablers, external enablers and organizational enablers. The table shows the factors which are chosen for this investigation and provides a rational attempt to identify which of these factors are significant.

E-Business Barriers

By reviewing the literature on e-business barriers, researchers found evidence that there is a relationship between such barriers and the adoption of e-business. For instance, Al-Weshah et al. (2009) concluded that lack of top management support and lack of staff skills were the major barriers for information technology adoption in Jordanian banks. SMEs report a range of barriers that they perceive to be obstacles to their attempts to access e-business markets (Al-Weshah et al., 2011; Chen, 2004). Several researchers also found that e-business adoption by SMEs is still at a low level (Kapurubandara and Lawson, 2006, 2009; Pavic et al, 2007; Al-Qirim, 2007b; Scupola, 2009). Cloete et al. (2002) also

revealed a number of perceived barriers to e-business in African SMEs including security and legal issues and a lack of IT skills are the major factors inhibiting the adoption. Another finding by Lawson et al. (2003) quantitative study to determine the main factors affecting e-business adoption by Australian SMEs found that security issue is the greatest barrier, followed by cost and the lack of government initiatives. This evidence is supported by a more recent study by Asing-Cashman et al. (2004) that investigated the levels of e-business adoption in Malaysian SMEs. They showed that lack of security, high cost of implementation and the lack of expertise staff, in that order, are the major inhibitors.

Table 1: Summary of E-business Enablers of SMEs According to Literature Review

Market Enablers	
Reaching new customers	Kaynak et al, 2005; Chen and McQueen, 2008
Enhancing customer/suppliers relation	Chen and McQueen, 2008
Entering new markets	Levy et al., 2005; Kaynak et al, 2005; Chong and Pervan, 2007, Al-Weshah et al. 2011
Enhancing customer service	Beack et al, 2005
External Enablers	
Customer demand	Scupola, 2009
Supplier request	Pearson and Grandon, 2004
Competitive pressure	Chong and Pervan,2007; Chen and McQueen, 2008
Government incentives	Seyal et al, 2004; Stockdale and Standing, 2004; Chong and Pervan, 2007; Scupola, 2009
Organizational Enablers	
Reducing costs	Chen, 2004; Kaynak et al, 2005; Chong and Pervan, 2007
Management support	Grandon and Pearson, 2004; Al-Qirim , 2005/2007b; Stockdale and Standing, 2004; Chen and McQueen, 2008; Scupola 2009
Enhanced revenue	Chen, 2004; Beck et al, 2005

Chen's (2004) survey of e-business adoption by SMEs of less than 250 employees in Taiwan found a number of barriers, with cost and the lack of IT skills being the two foremost. Wymer and Regan (2005) found that US SMEs in terms of the cost of implementation, security and government rules and regulations to be respectively the three most important barriers. According to Levy et al. (2005), UK SMEs have a concern about the risk of fraud (i.e. security) and the costs of technology are the most significant barriers, while lack of management support and employee expertise has no significant. MacGregor and Vrazalic (2005) found that the greatest barriers among Swedish SMEs are the unsuitability of e-business for a company's products and services, but other factors such as security issues, the high costs of investment and the lack of knowledge did not figure. Kartiwi and MacGregor (2007) similarly found that Swedish and Indonesian SMEs view unsuitability as a barrier, as well as lack of technical knowledge, security and the time to implement such solutions.

Kapurubandara's and Lawson (2006) survey of Sri Lankan SMEs classified political barriers and lack of skills at the top of the list, while Chen and McQueen's (2008) qualitative study of New Zealand SMEs highlighted the inhibitory aspects of security issues, costs of implementation and insufficiency of customer access to the Internet as acting to curb the growth of e-business uptake more than other factors such as lack of skills and compatibility. To classify the characteristics of barriers, the present study proposes different classificatory techniques. Based on the literature review, a model that modifies those of Kuan and Chau (2001), Zhu et al (2003), Wymer and Regan (2005), Del-Aguila and Melendez (2006) and Kapurubandara and Lawson (2006) has been developed. The three categories of technological, organizational and external barriers have been proposed. Technological barriers are subcategorized into security issues, costs of implementation and network quality. Organizational barriers are classified into unsuitability, lack of expert staff and lack of time for implementation, while external barriers comprise low use by customers and suppliers, the stability of government policy, a concern for the cultural environment, and legal and regulatory barriers. The results of the literature review regarding business barriers are shown in Table 2. By reviewing the literature, key E-business barriers are categorized under

the headings of "technological barriers", "organizational barriers" and external barriers", as explained in subsequent sections

Table 2: Summary of E-business Barriers of SMEs According to Literature Review

Technological Barriers	
Security issues	Lawson et al 2003 ; Levy et al, 2005; Wymer and Regan 2005; Kapurubandara and Lawson, 2006; Kartiwi and Macgregor 2007; Chen and McQueen 2008
Cost of implementation	Levy et al, 2005; Wymer and Regan 2005; Kartiwi and Macgregor 2007; Chen and McQueen 2008
Network quality	Kapurubandara and Lawson 2006
Organizational Barriers	
Unsuitability for business	OECD 2004; MacGregor and Vrazalic, 2005; Kapurubandara and Lawson 2006 ; Kartiwi and MacGregor 2007
Lack of expert staff	Cloete et al 2002; OECD 2004; Chen 2004; Asing- Cashman et al 2004; Kapurubandara and Lawson 2006; Kartiwi and MacGregor 2007, Al-Weshah et al. 2011.
Lack of time for implementation	Kartiwi and MacGregor 2007, Al-Weshah et al. 2011
External Barriers	
Low use by customers	Chen and McQueen 2008,
Stability of Government policy	Lawson et al 2003; Wymer and Regan 2005; Kapurubandara and Lawson 2006
Concern for the cultural environment	Kapurubandara and Lawson 2006
Legal and regulatory environment	Cloete et al 2002; Wymer and Regan 2005; Kapurubandara and Lawson 2006

The Study Aim and Objectives

The current study aims at investigating relationships between e-business growth and e-business enablers and barriers of SMEs in Jordanian communication sector. More specifically, the study objectives are to (1) identify the significant enablers of e-business growth by SMEs in Jordanian communication sector; (2) identify the significant barrier of e-business growth by SMEs in Jordanian communication sector; (3) propose recommendations to decision makers in Jordanian communication sector to enhance e-business growth.

DATA AND METHODOLOGY

The aim of this study is to investigate the relationship between the stages of e-business growth and e-business enablers and barriers. This relationship will be determined by the key enablers and barriers seen from the managerial viewpoint, and by evaluating the stages of e-business growth in order to discover the stages of growth of e-business in the Jordanian context especially communication sector. To achieve this aim, the study must obtain the various perceptions of the key Jordanian managers engaged in this activity in communication SMEs. The present study attempts to identify factors associated with SMEs' adoption of e-business, including barriers and enablers impacting on this adoption. As a result, the quantitative approach is employed since it describes and measures phenomena (Collis and Hussy, 2003). Naoum (2007) agreed that quantitative research focuses on objective fact finding based on evidence and records, in order to test theories and concepts of research with hard, reliable data.

The aim of this research can be achieved through survey questionnaires distributed to participants with the aim of revealing their individual understandings, the meanings behind the stages of growth of e-business and the factors associated with them. Five Likert scale was used to score the responses. After designing an early draft of the questionnaire and to ensure validity, the questionnaire was piloted twice in order to ensure that the questions were easily understood. Questionnaire pre-testing was undertaken by sending the questionnaire to 15 pilot respondents, composed of academics and managers from Jordan. To test the questionnaire reliability, the Cronbach Alpha was used as the most common measure of reliability (Field, 2009). The calculated cronbach alpha was 94.7 percent which is accepted value for reliability.

For the main survey, the target population was SMEs in the Jordanian communications sector. The definition of SMEs adopted by this study was based on that of small and medium-sized firms used by the

Jordanian MICT of "10-250 employees". The sample was obtained from Jordanian Ministry of Communication. All companies in the sampling were surveyed. The personal delivery and collection method of questionnaires was used. The response rate to the survey was 86 per cent (306 returns, of which 301 were usable). For data analysis, the Pearson correlation coefficient will be used to identify the strength and direction of relationship between the stages of e-business growth and e-business enablers and barriers

THE STUDY RESULTS

The study identifies major sources of motivation for e-business adoption in Jordanian communication sector. The results show that there are various sources of motivation for e-business adoption. However, top management is the most important motivation source for e-business adoption in Jordanian communication sector. The motivation sources for e-business adoption are shown in Table 3. This finding supports the previous study by Al-Qirim (2007b) and Besheshti and Sangari (2007), who found that the top management is clearly the most influential motivator for e-business..

Table 3: Source of Motivation for E-business Adoption

Main Motivator	Percentage
54.5	Top Management/ CEO
3.3	Employees
9.0	Customer
6.3	Supplier
26.9	Business partner
100	Total

Table 3 shows that more than half (54.5 per cent) of the responding SMEs agree that top management is the main source for motivation, whilst a very small percentage thought that employees could be a source of motivation. About a third of SMEs stated that their business partners are the main source for motivating e-business adoption. This previous discussion presents the analysis of SMEs' responses. The results are that the significant majority, over 90 per cent, of the respondents SMEs were medium-sized (between 50-250 employees), and four fifths of them had more than JD250, 000 turnover; more than two third had been operating between one and ten years. Interestingly, top management was found to be the main motivator of adoption of e-business in SMEs. This implies that the majority of SMEs are motivated by top management to adopt new technology. This finding echoes previous studies conducted by Gilmore et al (2001), Kapurubandara and Lawson (2009), Scupola (2009) and Ramdani et al (2009), all of whom found that decisions adopt are usually made by managers or owners.

The results show that there are high levels of significance for e-business enablers (market, external and organizational enablers) with the three growth stages of e-business (email exchange, information exchange and Web presence); the strength of association ranges from high to moderate. The respondents' attitudes suggest that different enablers have different effects on the various categories of e-business stages. Interestingly, the information stage was found to be of the greatest significance for e-business enablers out of all the stages. The need for e-business enablers is particularly prevalent for the organizations in the selected stages of e-business growth, and there may be a strong emphasize on the need for motivators in order to progress through these stages. One possible explanation is that organizations' advertising of their products or services on their websites allows more customers to find out about them; this could be a motivation for adoption. Correlation matrix between the e-business stages of growth and its enablers is shown in table 4 below

Table 4: Correlation between the E-business Stages of Growth and Its Enablers

Email Exchange Pearson correlation Sig. (2-tailed)	0.368**	0.366**	0.346**
Information exchange Pearson correlation Sig. (2-tailed)	0.494**	0.496**	0.480**
Web presence Pearson correlation Sig. (2-tailed)	0.410**	0.392**	0.388**

***Correlation is significant at 0.01 (2-tailed)*

Table 4 shows that respondents' attitudes at the stage of information exchange focuses more on motivation from external enablers (0.496**), such as support from government or competitive pressures. One possible explanation is that organizations at the different stages may have different goals they want to achieve or benefits they want to attain, and may expect more support from government and more training to encourage them to adopt e-business. However, E-mail exchange and Web presence focus more on motivation from market enablers (0.368**) and (0.410**) respectively.

These findings are consistent with previous research by Qualye (2002), Levy et al, (2005), Keoy et al (2006), Powell et al, (2006), Chong and Pervan (2007), Ashrafi and Murtaza (2008) Harindranth (2008), Scupola (2009) and Alam (2009), all of whom found that these enablers motivate the adoption of e-business SMEs, and that SMEs still tend to use e-business before receiving its benefits such as reduced costs, enhanced revenues and improved customer services. The results also reveal that these enablers influence the level of adoption and use of e-business. For example, Daniel et al (2002) found that a significant factor in e-business is organizations' desire to minimise costs, which leads to them increasing their access to the global marketplace by developing e-business services to a greater extent so that they can benefit from a wider customer base. Pavic et al (2007) suggest that there is a synergy between e-business growth within SMEs and the creation of competitive advantage. Many SMEs invest heavily in e-business to meet customer demand and improve customer relations (Chibelushi and Costello, 2009). As with enablers, stages of e-business growth show high levels of significance as relates to all three barriers. The respondents' attitudes show high levels of significance for e-business barriers (technological, external and organizational barriers) with the three stages of e-business growth (email exchange, information exchange, and web presence). Correlation matrix between the e-business stages of growth and its barriers is shown in table 5 below

Table 5: Correlation between the Stages of E-business Growth and Its Barriers

Email Exchange Pearson Correlation Sig. (2-tailed)		0.449**	0.244**	0.372**
Information exchange Sig. (2-tailed)	Pearson correlation	0.498**	0.449**	0.405**
Web Presence Sig. (2-tailed)	Pearson correlation	0.458**	0.475**	0.467**

***Correlation is significant at 0.01 (2-tailed)*

Table 5 shows that the strength of association ranges from high to moderate. The respondents' attitudes suggest that the different barriers have different effects on the various stages of e-business growth. Interestingly, a relationship of low significance was found between email exchange and organizational barriers (0.244**). This is perhaps an anomaly. One possible explanation is that organizations are at this

level still in the initial stages of using e-business activities such as email, and their staff is familiar with these activities. The most important barriers for e-business growth are technological issues. Respondents' attitudes provide empirical evidence that organizations in the three stages of e-business adoption found technological barriers such as security issues, quality of the Internet and cost of implementation to be the most prominent.Unfortunately, organizations at these levels cannot develop e-business without contact with these barriers. This hinders them from moving to the next stages of growth.

The lack of secure websites and the costs of initial implementation make them even more reluctant to develop e-business to the next level. The present results also reveal that the organizations which have reached the Web presence stage view organizational barriers such as lack of expert staff and lack of time for implementation to be the most prominent barriers to the adoption of e-business. It may be noted that the higher stages need highly skilled IT staff to develop from the simpler to the more complex e-business processes, and that the lack of expert staff, lack of time for implementation and a perceived lack of fit between higher levels of technology and an organization's offerings affects decisions as to whether or not to move to next stages of e-business. Organizations at the third stage (Web presence) find that all barriers are of the highest significance, which inhibits organizations at stage three from moving on.

However, Jordanian SMEs are still at the lower stages of adopting e-business because Jordan is a developing country that only started using the Internet a few years ago. These findings are consistent with previous research by Jones et al (2003), Cloete et al (2002), Lawson et al (2003), Chen (2004), Wymer and Regan (2005), Levy et al (2005), MacGregor and Vrazalic (2005), Kapurubandara and lawson (2006,2009), Kartiwi and macGregor, (2007) Chen and McQueen (2008), and Al-Weshah et al. (2011). They all found that there are significant relationships between the levels of e-business adoption by SMEs with the e-business barriers that hamper such adoption.

CONCLUDING COMMENTS

The current study aims at investigating relationships between e-business growth and e-business enablers and barriers by SMEs in Jordanian communication sector. These relationships were determined by the key enablers and barriers seen from the managerial viewpoint, As a result, the quantitative approach was employed in this study. More specifically, correlation coefficients were used to identify the strengths of relationships between e-business growth and e-business enablers and barriers.

The result reveals that there is a highly significant positive relationship between stages of e-business growth (email exchange, information exchange, and Web presence) and certain enablers and barriers; however our strength of association was highly to moderate. The study reveals many gaps in the current state of knowledge and understanding of the factors influencing e-business adoption, and in particular a lack of attention to the contextual aspect of such adoption by SMEs in developing countries, in contrast to the advanced state of research for the developed world. The present study attempts to reduce this gap by conducting an empirical study examining the stages of growth of e-business adoption and the factors influencing the decisions of SMEs.

A number of previous studies indicated that the factors influencing the decision to adopt and to develop e-business is one of the most important issues facing many SMEs. The literature review reveals, however, that despite e-business importance, there are few studies in developing countries, as well as a lack of empirical evidence to validate the adoption of e-business by SMEs. The research in this field is still in its early stages in most developing, in particular in Jordan. Such research as has been carried out on Jordan has tended to focus on adoption generally, at the expense of investigating the level of e-business use and the factors influencing decisions to adopt. This trend is consistent with the researcher's focus in other developing countries, as is the wealth of studies on developed nations. This study focuses exclusively on Jordanian SMEs' decisions to adopt and develop e-business, as well as the e-business applications they

choose to use. The contribution of this paper can be judged from a number of perspectives. It presents a broad picture of how SMEs currently use e-business and comprehensively examines the factors influencing SMEs' decisions to adopt. The study explains the stages of e-business growth within Jordanian SMEs, particularly in the communications sector. The empirical work is validated for the Jordanian context by the findings that the survey respondents report these stages actually to exist. The study findings make a significant contribution to reaching an understanding of the growth of e-business and the factors influencing decisions to adopt and use it. The finding of this study determine the relationship between the stages of growth of e-business and its enablers and barriers in Jordanian SMEs, particularly those in the communications sector.

The empirical research also examines the stages of growth of e-business in Jordanian SMEs and the associated factors, research that would benefit policymakers and top management by the insight and information it provides by developing their strategies in relation to adoption and developing of e-business. The Jordanian government should plan strategies to achieve a new, high quality Internet infrastructure and raise national awareness of the Internet and e-business by increasing investment in the ICT infrastructure. Secondly, because most studies on e-business adoption within SMEs deal with SMEs in developed countries, these findings can help understand whether SMEs in developing countries and in particular in Middle East and Jordan engage with e-business in a similar manner. Significantly, this study provides rich data for these under-researched areas through its pioneering investigation of e-business enablers and barriers in Jordan and how they are seen by SMEs. It informs researchers and business planners about the growth and development of e-business in Jordan and allows them to compare and contrast developments there with the growth of e-business in other developing countries.

The Study Limitations

Like any research, this study has some limitations. Firstly, it was limited to the communications sector in a specific, small, country, so caution must be exercised when generalising the findings. In order to clarify the comprehensiveness picture of e-business adoption, future research could be conducted in several sectors and in other developing countries, both in the Middle East and elsewhere. This empirical study provides a comprehensive view of business factors, but there are potentially other enablers and barriers that could influence the adoption and development of e-business. Although the study provides a wide-ranging view of factors influencing the adoption of e-business, SMEs have several characteristics that could influence that process. Secondly, the study is also limited to B2C e-business from the viewpoint of the provider. The impacts of all enablers and barriers are seen from this perspective, and it might therefore be seen as a limitation that no user input was provided. This issue could be addressed by further research. Finally, the study has some methodological limitations. The quantitative approach, applied in particular in the form of a questionnaire, does indeed provide a wide scope for investigation, but perhaps less so for detailed explanation, whereas a qualitative focus would be narrower but more exhaustive. Consequently, further research could examine qualitatively relevant new applications which could be included as part of the adoption framework.

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