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eBusiness in Pakistan: Opportunities and Threats

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Abstract

Several studies of eBusiness in developing countries have emphasized the influence of obstacles related to PCs-penetration, cultural and economical infrastructure, and regulatory environment as major determinants of eBusiness success. IT has revolutionized the way organizations conduct business round the globe. Now business is conducted online (eBusiness) instead of conventional means. In Pakistan, eBusiness is facing both technical and non-technical issues from management perspectives. A huge body of research is going on to unfold the key issues of eBusiness. This paper focuses on the key components of each of the above mentioned issues e.g. cultural issues i.e. language, shopping habits, and use of credit etc.

The primary data collected through structured questionnaires was analyzed and tested through correlation, regressions' analysis and t-test. It has been found that all independent variables: economic, political, business, cultural and marketing is mutually correlated and has significant impact on shaping and reshaping of eBusiness in Pakistan. Moreover, management implications along with possible solutions to the barriers of eBusiness in Pakistan are presented.

Keywords: **eBusiness in Pakistan, PC-penetration, Infrastructure, Economics, Politics, Business, Culture, and Marketing Issues**

INTRODUCTION

The last two decades have witnessed an enormous and explosive growth in the use of internet technologies especially the WWW for business purposes. eBusiness has not only reshaped the existing businesses but also created tremendous opportunities for new businesses. Most of the organizations in the developing countries are conducting business conventionally, yet in the recent past the trend has been changed and they are now doing business via Internet (Davenport, 2000; Travica, 2002; Anandarajan et al., 2002). Business organizations, regardless of their size, have applied internet technological tools in a wide range of their business activities including advertising, online delivery of goods and services etc via online business (Ang et al., 2003). Both public and private sector organizations are spending heavily on digitization in the hope of getting a competitive edge in the market.

Developing a successful eBusiness has become a major issue in the internet age, despite its benefits; studies have indicated that the rate of adoption of eBusiness is slow among the organizations round the globe (Mukti, 2002; Beatty et al., 2001). The main reasons impeding the growth of eBusiness include the lack of financial resources, lack of government and lack of IT know how on the part of management (Poon and Swatiman, 1998; Bakry and Bakry, 2001). There is a scarcity of literature of this innovative technology in Pakistan, though a few studies were conducted in India, Iran and Mauritius (Sharma and Gupta, 2003; Karimi and Baghaei, 2003; Kardaras and Karakostas, 2001). In the past, (Seyal and Rehman, 2003; Seyal, 2004) have conducted studies on eBusiness but they were limited to SMEs only, unfortunately very limited information is available about the impediments in adoption and growth of eBusiness in Pakistan.

eBusiness in Pakistan is facing many challenges to grow as it is still an infant child in the country. The people in Pakistan are economically poor and illiterate that is why the number of users transacting online are limited. The number of organizations offering online business is also limited and few of them are generating sufficient revenues. Moreover, globalization is increasingly dominating the minds of progressive business executives in the country to opt for eBusiness. This paper focuses on eBusiness in Pakistan with reference to opportunities and threats.

The issues to eBusiness in Pakistan are varied enough, a few are likely to be overcome in the near future and others are expected to remain over a much longer period. To help readers understand the nature of barriers to eBusiness in Pakistan. Giving the ongoing importance of eBusiness, it is equally important to study and review how to improve the eBusiness adoption rate in Pakistani organizations. There is, therefore, strong need to conduct more studies of technology adoption especially in the area of public and private sector organizations conducting business online. This study reviews the major issues and focuses specifically on how to solve them? Finally, it will describe some management implications for conducting successful eBusiness in the country.

The rest of the paper is organized as follows: A review of previous research is followed by the theoretical framework to develop a model used in this study along with the justification to include in the study. This is followed by results and discussions. Clearly recognizing the factors that influence eBusiness success or failure in a developing country of South Asia, the paper concludes with suggesting strategies for successful implementation of eBusiness in Pakistan.

Global Perspective of eBusiness

Pakistan is on its way to digital modes of governance. eBusiness is a new concept to the Pakistani psyche and market as compared to other regional countries like India; while in the developed world like USA, 50% of the population is online (Singh et-al., 2001). Despite these statistics, the online population of the world is expected to increase dramatically in the near future; yet, this growth will come primarily in developed countries. The global economy has reached $70 trillion, but less than 2% of that is online. By 2010 the figure may exceed $110 trillion, of which 8 to 10% will be online (Hayden, 2000), likewise, 90% of the organizations in US are planning to buy and sell online (Bingi et-al., 2000). This represents a significant shift not only in size, but also in the nature and magnitude of eBusiness. The political and geographical borders will be less significant to the mobility of capital and time differences for businesses as IT are shrinking the borders and expanding the markets. Researchers seem to agree that in the digital economy, successful eBusinesses will employ a more collaborative business model instead of old mind set; and successful online businesses will likely be those that have both physical stores and web sites “clicks and bricks” (McKinsey 2001).

An Overview of IT and eBusiness in Pakistan

Pakistan is a developing country of South Asia with a population of 156.77 million growing at 2.7% per annum (ESP, 2007). Pakistan has invested considerably in its

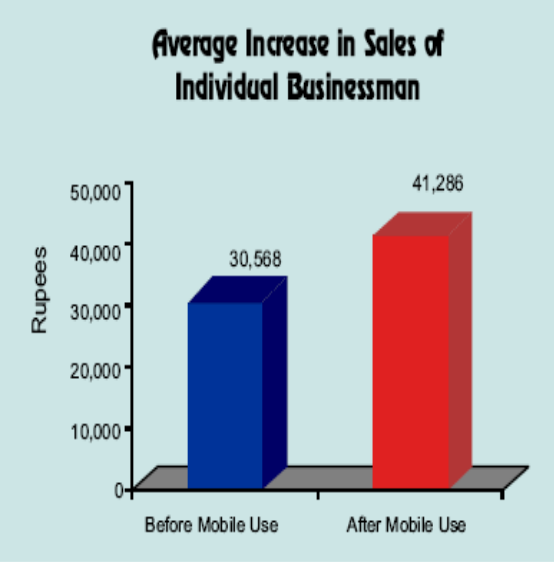
industrial base and has recently pooled up resources to cope with digital world. Government has announced IT policy and action plan-2000 to promote digital opportunity initiatives in the country focusing on attracting the foreign investment in IT sector, establishments of new IT universities and degree awarding institutes like Virtual and IT universities and COMSATS, hiring of IT professionals to impart IT training in universities. Nationwide IT seminars, exhibitions and competitions were arranged and Cyber Cafes were opened to create awareness for IT and Internet use. Several task forces have been established to take care of the multiple areas of the technology and its continuing support to certain areas of the life (Naeem, 2003). IT parks and IT centers were established besides provision of round the clock internet facility and digital library sponsored by Higher Education Commission to all public and private sector universities together economic incentives and tax relief to enhance digital opportunities to accelerate the pace of business and industry growth.

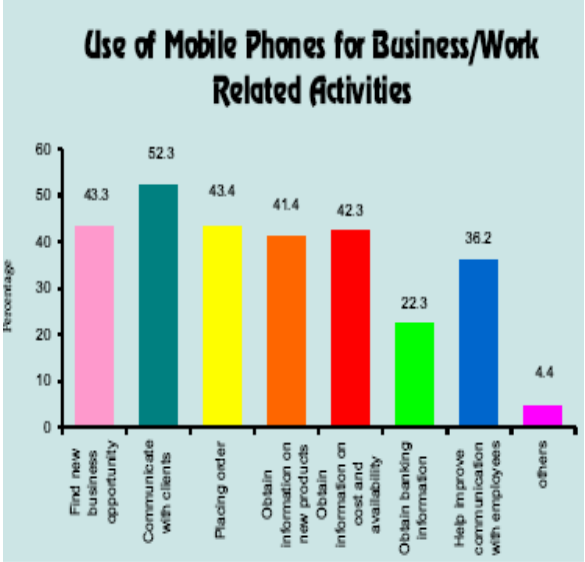
According to a survey of the 54 SMEs conducted by Seyal et al. (2004), 84% of the organizations have internet accounts, 46% have claimed average to above adoption of eBusiness; furthermore, 59% of the organizations have either an in house or vendor supported web servers and 67% organizations have their own home pages. Nizamuddin and Khalid (2001); Ibrahim (2004) report that in Pakistan, eBusiness is growing at annual rate of 50% per annum, where PCs growth rate is 30% per year; similarly, Pakistan imported 350,000 new systems in 2002-2003, out of which 65% were non-branded, where the sale of laptops grew to 35% from 15%. In the same period Pakistan's import of computer hardware and associated devices was around $20 million. The numbers of PCs in the country are between 1.5-1.6 million, currently software exports reached $2.2 billion and expected to cross $10 billion in 2010 (Zarmeene, 2006). Likewise, in 1991, 90% telephone lines were converted to digital; in 1995, Internet Service Providers started providing Internet facility; now in 2007, out of 250 more than 85 ISPs are operational with 7.5 million users. Moreover, government has reduced the bandwidth tariff from $87,000 to $1,400 per mbps to encourage the development of IT culture by providing relief to the end users.

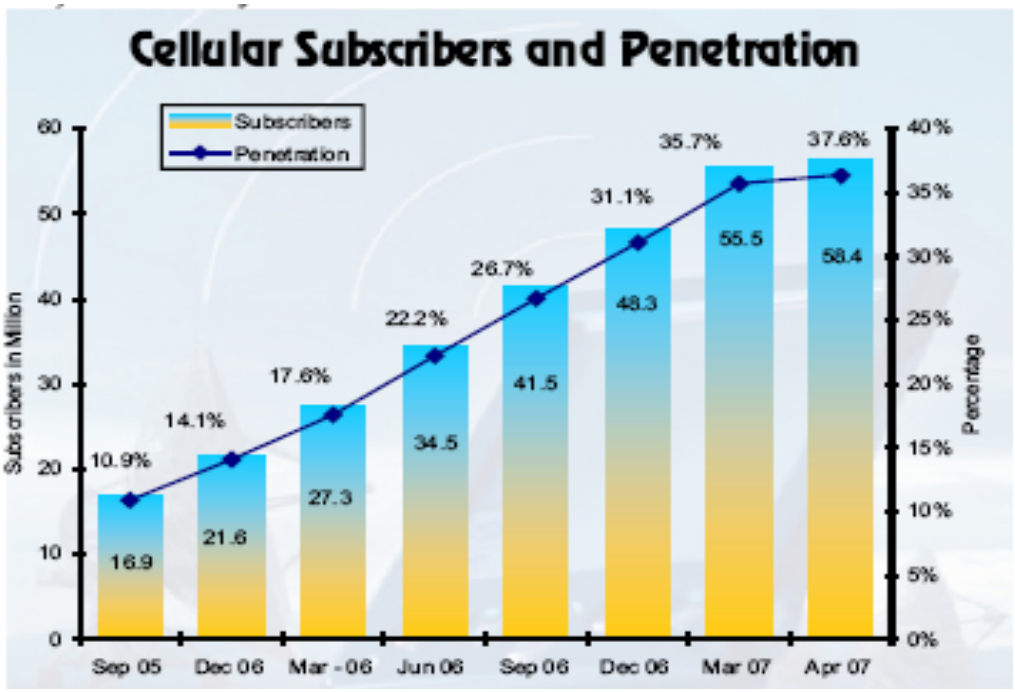
There is an increasing trend of internet users which reached 12 million in 2007 from 0.01 million in 1997-98 with 2389 cities connected to internet. Similarly, development of telecom and internet infrastructure is the prerequisite of eBusiness. In Pakistan, telecom sector is growing at 170.2% CAGR with total teledensity of 45.04 in July 2007 (ESP, 2006-2007; Shabbir, 2004; PTA, 2007). Moreover, government has announced incentives to enhance the telecom sector i.e. Telecom Deregulation Policy-July 2003, Mobile Cellular Policy-January 2004 and Broadband Policy-December 2004 (ESP, 2005-2006). Currently there are more than 60.97 million cellular phone subscribers throughout the country including Azad Jammu & Kashmir with an addition of 1.6 million subscribers each month (PTA, 2007).

According to Shamshad (2006) 3,424 branches are providing real-time online banking facility to the account holders in Pakistan as against 7,406 branches of 41 banks which mean that 47.27% branches are working online. The commercial banks have registered a growth of 45% in opening new online branches in the 2nd quarter of 2006 (Shakaib, 2006); however, pace of digitization is still slow due to several factors. Similarly, mobile banking is introduced officially in 2006 is also in its initial stages as its services have limited advantage due to mini-statements retrieval facility (Zarmeene, 2006). Recent survey (Bakhtiar, 2005) conducted in Peshawar, Mardan and DIKhan has found that only

5% of the customers know about the ATM, while 95% have no knowledge of ATM. Moreover, only 8% are aware of the online account facility and 92% know nothing. Likewise, 12% customers were aware of the debit and credit cards facility where 88% customers' response was negative.







The above figures point that cellular phones are penetrating the market which is an indicator of alternate to landline for businesses which positively increased the business from 30.56% to 41.28% after its usage in business.

REVIEW OF THE EXISTING LITERATURE

Success of eBusiness depends on the critical threshold of online users i.e. the sellers and buyers. This critical threshold has been reached in the developed countries, however like other developing countries Pakistan is moving ahead gradually. While it is not a precisely defined phenomenon, this can be likened to Metcalfe's Law, which explains that the value of a network increases with the square of the number of participants (Naeem, 2003). This means that as more people go online the value of the whole network and the opportunities for eBusiness increase tremendously. Clearly, if only a few people are online, the opportunities for exchange are limited, but if many are online the opportunities increase dramatically. It is important to have many people online in the country for eBusiness to work successfully.

What will it take to increase the online community in Pakistan? Examining the eBusiness situation in the country may give us a picture of the present state of eBusiness in the country. The effective eBusiness requires a number of factors, not all of which exist in the country. Researchers suggest examining the major obstacles of PCs penetration, infrastructure political/economic, cultural and marketing issues in some detail (Shani and Sena, 1994; Joseph, 1995; Keil, 1995; Morrison, 2000; Abbasi and Zubair, 2001; Hussain, 2001; Molla and Licker, 2002; Turban et-al, 2004; Elizabeth et al., 2004).

Personal computer (PC) penetration is the important indicator of readiness for eBusiness. There is a direct relationship between PC penetration and eBusiness (Joseph, 1995; Singh et-al., 2001; Heeks, 2002); they further point that PC ownership is also related to income. This is clearly a major consideration for developing countries and especially to Pakistan. A low-end PC in Pakistan may cost only Rs. 30,000, a bargain by our standards, but that represents more than two months wages for the average Internet user (Nizamuddin and Khalid, 2001). Even within a region, PC penetration is highly variable. For example, in Philippines there are about 20 PCs per thousand people, compared to 510 in Singapore. In China, with a population of 1.3 billion, only 20 million own PCs. This relationship between income and PC ownership is complicated by many other factors including the inadequate infrastructure to support Internet (Joseph, 1995). Compared to other regional countries the PCs growth rate in Pakistan is very low i.e. 30% per year; and the total number of PCs in the country is between 1.5-1.6 million for the 156.77 million population (ESP, 2006-2007).

Even as PC costs have declined, access to an Internet eludes most users in Pakistan. Inadequate infrastructure plays a key role in impeding the eBusiness. Issues such as access to Internet services, including the hardware and software, as well as the communications infrastructures, remain serious obstacles to eBusiness in the developing countries (Han and Noh, 1999; Pauline, 2001; Boudreau et al., 2001; Heeks, 2002). In Pakistan, for example, the infrastructure is not much developed and will take years for the average citizen to benefit from online business (Zarmeene, 2006).

The cost of being connected, typically through telephone lines, is another important aspect of infrastructure (Furqan, 2004). Sultan (2003) indicates that government policies can severely hinder eBusiness. In Pakistan for example, all long distance telephone and Internet connections pass through the Pakistan Telecommunication Company Limited, a

monopoly resulting in limited choices, high cost, and poor service (Naeem, 2003), while the internet charges mbps are very high and bandwidth is very low. In addition, many telephone systems charge a toll per unit of usage. The combination of connection charges and use charges tend to inhibit the usage of the Internet in Pakistan and by extension reduces eBusiness activities in the country (Furqan, 2004).

In Pakistan, much of the consumers still pay by cash, rather than credit cards. The lack of ability or interest to execute credit transactions is one of the obstacles to eBusiness in Pakistan. There have been a number of innovative approaches to solving this problem, but until credit cards become ubiquitous or new payment methods emerge, eBusiness transactions remain low in the country (Abbasi and Zubair, 2001).

The issues of security of eTransactions and privacy protection are of critical importance and serious concern to the online community. In a developed country like France, 3 out of 40 purchase a product or service online, while remaining 37 found reluctant due to security and privacy as threats to online transactions. Not only do industries have a role in providing security, but also governments, with suitable regulations, must assure it (Abbasi and Zubair, 2001). Though government of Pakistan announced ETO-2000 and ECA-2007 to ensure security and build confidence of the online community, yet the digital signatures and other authentication procedures are still shaking the confidence of the online users; while Hussain (2001) believes that besides legislation the education is also important.

Keil (1995) is of the view that globalization is shrinking the social and cultural diversity round the globe and a new global and universal culture is emerging from the use of IT, while sensitivity to cultural differences plays significant role in success/failure of eBusiness. The understanding of how the web fits into a country's culture is necessary for establishing successful customer relations. The websites targeting online consumers should be friendly with national and local language instead of English (Robey et al., 1990; Morrison, 2000). Currently 90% of web content in Pakistan is in English, while most of the population in Pakistan cannot understand English due to illiteracy (Hussain, 2001). As more non-English speakers go online, translating sites into local languages becomes increasingly important for the success of eBusiness in the country.

Jiang et-al (2000) argues that different languages and cultural platforms increased complexity of doing eBusiness, but a bigger challenge may well be the attitude and culture of business and government entities, which must lead consumers to learn what to expect of eBusiness. For example, many of the people in Pakistan understand the benefits of the Internet, but fail to fully exploit it. They see it as a tool for enjoyment rather than a revolutionary gadget requiring a completely different mindset. This attitude to some extent may partially account for the uneven acceptance and use of the Internet in the country. Moreover, Singh et-al (2001) points that cultural behavior such as risk aversion and lifestyle differences may impact success of business on the www. The use of cultural dimensions can help eBusinesses better understand their customers, for example, cultures rating high on uncertainty avoidance and low on individualism are likely to be difficult markets for introducing consumer eBusiness (B2C) in the country.
There are many marketing issues confronting eBusiness in Pakistan, which include relevant content for the market, kinds of business (B2B/B2C), fulfillment and ethical issues (Naeem, 2003: Zarmeene, 2006). This upholds that for Pakistani market the language must be consistent with that spoken locally, it is also important to assure that

the content is appropriate and relevant (Wang and Tang, 2001; Rabe 2001). Likewise, the kind of the eBusiness is crucial to success. Though, in Pakistan, business-to-consumer (B2C) websites are common but business-to-business (B2B) are less common in Pakistani market, yet expected to grow at a rate of 35% by 2010 (Ibrahim, 2004). This is due to a number of factors including low purchasing power, fragmented markets, many different languages, undeveloped payment systems and logistical problems (Aasiya and Rana, 2000). Several studies indicate that these obstacles make it much more difficult for eBusiness to grow rapidly (see Powell and Dent-Micallef, 1997; Teo and Tan, 2000; Jennex and Amoroso, 2002; Mukti, 2002; Frederick and Elliot, 2004).

The businesses interested in B2B are required to have partnership with co-business firms to help in their expansion (Bushra, 2002). This may offer several advantages i.e. speed and understanding of market culture, business practices and consumer behavior however; it also can complicate matters, so screening of the potential co-business partners is of much significance. Likewise the logistics issues, tariffs, business regulations and language are also the market barriers of eBusiness in Pakistan (Ahmad, 1994).

In Pakistan, the most overlooked issue is that of eBusiness ethics. In this new eBusiness environment, management is required to adapt to a more collaborative, open and flexible business models, which can help overcome the conventional business practices and old habits. In the "conventional" model of business, firms were often considered isolated, competing with every other firm in a hostile business environment. This seemed to be justified for conventional modes of business operations to encourage maximization of short-term advantage. But today, organizations conducting business online often partner with co-business organizations, which require opening themselves to various types of scrutiny and sharing sensitive information. In modern business ethics, the network relationship is highly valued and trust becomes a critical value, without which organizations may be deliberately excluded from eBusiness opportunities. Going online discloses strategic and valuable information to co-partners that could be inadvertently passed on to competitors in the market. Establishment of security systems around the strategic information can ensure maximum security and avoidance of risks in conducting the eBusiness.

RESEARCH MODEL OF THE STUDY AND INCLUSION OF RESEARCH VARIABLES

The existing literature review and previous studies on the usage of technology in business provide enough background to develop a research model on the basis of which a one-stage normative model is developed, which provides basis for the research objectives This model, shown in Figure-2, is a one-stage model which relates the independent and dependent variables without any intervening variables. The relationship as indicated in the model is associative and casual in nature. In this study, eBusiness is dependent variables and there are seven independent variables grouped into five categories. The seven independent variables emerged from literature are 'pc-penetration', infrastructure', 'economic', 'political', 'business', 'cultural', 'marketing issues' and the dependent variable is 'eBusiness'. The schematic diagram of the theoretical framework of this research is illustrated and detailed justification for the inclusion of each

independent variable in the model is given below:

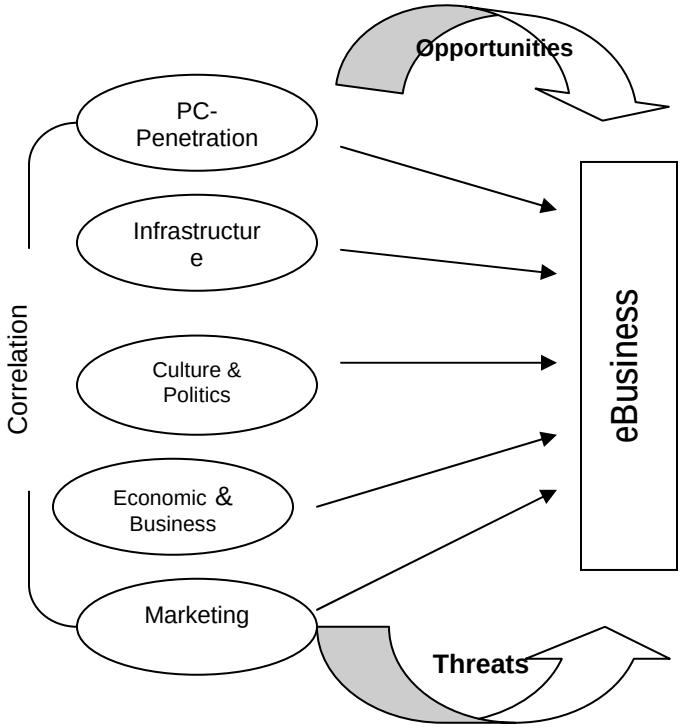


Figure: 2. Schematic Diagram of the Theoretical Framework

PC-Penetration

The rate and growth of internet and eBusiness depend on the number of computers and digitization of the organizational structures and availability PC per user. This is supported by the studies for example Joseph (1995) Singh et-al. (2001) Nizamuddin and Khalid (2001) considered PC penetration as an important predictor for the growth and development of eBusiness. Based upon the review of previous studies, following hypothesis is proposed:

H_1: Public sector perceives that the rate of PCs penetration is satisfactory than the views of private sector

Infrastructure

Physical and legal infrastructure is very commonly studied factor in IS research (King et al., 1994; Zwass, 1998; Wolcott et al., 2001). Zarmeene (2006) Furqan (2004) Sultan (2003) Naeem (2003) Seyal et al. (2004) and Ibrahim (2004) concludes that provision of infrastructure could be important for the success of IS within a country. Moreover, Pauline (2001) has measured availability of sufficient infrastructure and found it a significant predictor of eBusiness success or otherwise failure.

Availability of physical and legal infrastructure is measured in this study by a construct used by Han and Noh (1999); and Heeks (2002) for their study on critical failure factors that discourage the growth of electronic commerce and information systems and

developing countries: failure, success, and local improvisations. Based upon this we therefore prose the following hypothesis:

H_2: Public sector is of the view that infrastructure is sufficiently available than the view of the private sector.
H_3: Private sector views that Internet connection is not accessible than the view of public sector.
H_4: Private sector says that the cost of being connected is not affordable than the view of the public sector.
H_5: Banking sector opines that users are able to execute credit transactions than the view of the telecom sector.
H_6: Telecom sector says that eTransactions are not secure for eBusiness than the view of the banking sector.
H_7: Telecom sector claims that regulatory environment is suitably developed than the view of the banking sector.
H_8: End users are of the view that IT and management education is adequate for eBusiness than the view of the developers.

Economic, Political and Business Issues

Abbasi and Zubair (2001) point that availability of sufficient financial resources is the prerequisite for the adoption of computer based business while Jenster (1987) and Palvia et-al. (1990) argue that stability of political environment and peaceful law and order encourage investment in all sector including the IT. Anandarajan et al. (2002) and Scupola (2003) shared the same view and point that governmental intervention both in terms of influence and regulation plays significant role in the development of an environment conducive for implementation of eBusiness both in private and public sector organizations. Based upon this we propose the following hypotheses:

$H_{9:}$ Private sector perceives political instability as threat to eBusiness than the view of public sector.
$H_{10:}$ PC ownership is not directly related to income.
$H_{11:}$ Private sector holds that government and business entities attitude is not cooperative than the views expressed by public sector.

Cultural Issues

Cultural sensitivity to cultural differences is considered by Schein (1990), Keil (1995), Morrison (2000) and (Hussain (2001) as the breeding ground for user and developer gaps and politics in IT projects. The significance of cultural issues i.e. language, shopping habits, and use of credit etc (Terpsta and David, 1991) is the vital predictor which if not fine tuned, may cause failure in technology adoption. Studies of Straub et al. (1997), Jiang et-al (2000, 2001) and Gefen et al. (2005) measured these constructs for their role in the promotion or hindrance of online business. Based on this construct we propose the following hypotheses:

$H_{12:}$ Cultural differences have no significant impacts on eBusiness
$H_{13:}$ Banking sector is of the claim that the content and language of websites is

relevant and understandable than the view of telecom sector.

Marketing Issues

Issues concerning the marketing of the web and the products and services are also very important factor supported by Powell and Dent-Micallef (1997) and Churchill (1979) in his work on competitive advantage of IT. likewise, Jennex and Amoroso (2002) study on eBusiness and technology issues, in Teo and Tan (2000) barriers to putting businesses on Internet in Malaysia measured the marketing issues including the relevant content for the market, kinds of business (B2B/B2C), fulfillment and ethical issues and language besides the appropriate content. Rabe (2001) share the same views. Moreover, with reference to Pakistan Ahmad (1994) Aasiya and Rana (2000) Bushra (2002) Naeem (2003) Ibrahim (2004) and Zarmeene (2006) considered it as a significant factor that may cause serious bottlenecks if not addressed carefully. Churchill (1979), Romulo et al., (2001) and Hussain (2001) emphasized on addressing the marketing issues to successfully launch eBusiness in the country. Based upon these, we therefore propose the following the hypotheses:

$H_{14:}$ Private sector view low purchasing power as impediment to buy online than the view of the public sector.

$H_{15:}$ Private sector perceives high fragmentation of market as cause of slow growth of eBusiness than the view of the public sector.

$H_{16:}$ The use of multiple languages has no significant impacts on the growth of eBusiness.

$H_{17:}$ Banking sector is of the view that payment systems are developed enough than the telecom sector.

$H_{18:}$ The logistical problems are not inhibiting the eBusiness in Pakistan.

$H_{19:}$ There is no association among the independent variables i.e. PC penetration, infrastructure, economic, political, business, cultural and marketing issues.

$H_{20:}$ Independent variables: Economic, political, businesses, cultural and marketing have no significant impacts on the eBusiness in Pakistan.

RESEARCH DESIGN

Design of Instrument

From the review of the literature, an instrument was developed with the aim of covering the basic research objectives. The questionnaire based on nominal and Likert scale was developed. Part 1 captured data about the demographic profile covering organizational characteristics such as, name, nature, type, sector, IT experience, types of machine and software-used, users, developers, level usage and size of the organizations, while part 2 consists of the questions measuring the major variables on Likert scale.

Instrument Reliability and Validity

Several techniques were used to assess the Cronbach's (1971) coefficient reliability (face construct and convergent validity). In order to assert face validity, an initial questionnaire was passed through routine editing, after that it was handed over to the

experts panel (academicians, practitioners and business managers). They were asked to respond to the questionnaire and, based upon their comments the questionnaire was reordered to enhance clarity, thereafter, a pilot study was undertaken to further test the instrument. Table 1 shows the reliability coefficients and convergent validity for various constructs.

Table 1. Reliability and Validity Analysis

Constructs	*No of Items*	*Alpha value (.60 & above)*	*Mean*	*Variance explained (0.50 & above)*
PC Penetration	5	0.81	4.23	0.59
Infrastructure	4	0.68	3.78	0.75
Economic	5	0.84	3.59	0.71
Political	2	0.74	3.41	0.67
Business	4	0.82	3.55	0.70
Culture	4	0.83	4.15	0.82
Marketing	2	0.63	3.12	0.71

The closer the reliability coefficients get to 1.0, the better, however, the generally agreed upon lower limit for Cronbach's alpha is 0.7 (Robinson, et al., 1991), although it may decrease to 0.6 in an exploratory research (Robinson et. al., 1991; Hair et al., 1998). Nunally (1967) suggested that the score for each construct should be greater than 0.6 for it to be reliable. Hence, a score of 0.63 and above were accepted in this study.

In general, validity refers to the degree to which an instrument truly measures the constructs that are intended to be measured. There are several types of validity; however, Campbell and Fiske (1959) propose two types of validity: convergent and discriminating validity. Convergent validity is measured by average extracted for each construct during the reliability analysis that should be 0.5 or 50% of better (Igbaria and Iivari, 1995). Table 6 shows that all the constructs do have a considerable validity support. To further analyze for discriminating validity of these seven constructs, the principal component method with varimax rotation was used to assess the variance explained. Testing discriminant validity required checking the cross loading of items on multiple factors. Table 2 shows all items loaded highly on their associated constructs but not other thus showing sufficient discriminant validity.

Table 2. Rotated Component Matrix of All Constructs (Varimax factor loadings)

Items	*Factor1*	*Factor2*	*Factor3*	*Factor4*	*Factor5*	*Fcator6*	*Fcator7*
PCP1	0.83						
PCP2	0.94						
PCP3	0.62						
PCP4	0.82						
PCP5	0.91						
INST1		0.66					
INST2		0.74					
INST3		0.69					
INST3		0.72					
ECO1			0.83				
ECO2			0.77				
ECO3			0.69				
ECO4			0.77				
ECO5			0.81				

POL1	0.85			
POL2	0.62			
BIZ1		0.83		
BIZ2		0.67		
BIZ3		0.81		
BIZ4		0.74		
CUL1			0.86	
CUL2			0.82	
CUL3			0.64	
CUL4			0.72	
MKG1				0.86
MKG2				0.73

Sample Population

The sample population of this study was the organizations that are practicing B2B, B2C from banking and telecommunication sectors. The technical distribution of the total population is given in the table 3 which shows the total number of each population category (N) along with its percentage in the total population:

S No.	Strata	N	%
1	Banking Sector	3,424	37.73
2	Telecommunication Sector	5651	62.26
	Total	**9075**	**100**

Table: 3. Classification of the Sample Population

Sampling Procedure

The sampling unit of this study was the organizations using eBusiness to run their organizations at any level, pilot study was conducted. A random sampling procedure in sample selection was used. Finite population formula was used to compute the sample size for each population category. 95% significance level is allowed in social sciences thus z-value at 95% confidence level = 1.96 was used in determining the sample size. Sample size for finite population is given in the table 4. the figure 397.37, which was rounded into 398.

	SD	SE	N	Sampling Procedure	N
Banking Sector	0.46	0.085	3,424	$[SD^2/((E^2/Z^2)+(SD^2/N))]$	112.51
Telecom Sector	0.62	0.072	5651		284.86
Total (N) =			**9075**	**Total (n) =**	**397.37**

Table: 4. Determination of Sample Size through formula for Finite Population.

Which was further divided into:

Sector	Nature	Business Type	
		Online	**Conventional**
Banking	Public	46	22
	Private	44	0
Telecom	Public	43	100
	Private	86	59

Table: 5. Sub-division of the samples.

Data Collection

The literature survey and questionnaire were used for secondary and primary data collection. A pilot study as conducted, which helped in optimizing the 'constructs' used to measure the variables. It also assisted to develop a structured questionnaire as the main instrument for collecting primary data. The response rate was above 67% while in IS studies 54% response rate is acceptable as considered by Bourque and Fiedler (1995).

Data Analysis Tools

Given the nature of data for this study, both descriptive and inferential statistical tools were applied for data analysis, exploration of the findings, hypothesis testing etc. In particular, correlation and regression analysis and tests of significance (t-test.) were used to test hypothesis. Descriptive statistics for the computed variables were calculated shown in table 6.

Table 6. Descriptive Statistics for the Computed Variables

Items	*Mean*	*Std. Dev*
PC Penetration	4.23	.56
Infrastructure	3.78	.43
Economic	3.59	.50
Political	3.41	.33
Business	3.55	.62
Culture	4.15	.55
Marketing	3.12	.21
eBusiness	3.43	.34

Results of the Hypothesis Testing

Based on the problem statement, literature survey and theoretical model, 20 hypotheses were developed and tested. To test the significance of mean differences, t-test was applied. Correlation and regressions analysis were used to carve-out relations between the research variables. Out of 20 hypotheses, 5 H_0 were accepted while in rest of the tests Null hypotheses were rejected. All differences described are significant at the $p<0.05$ level unless otherwise indicated.

Table 7. T-test comparisons to PC-penetration, Infrastructure, Political, Economic, Cultural, Business and Marketing Issues for eBusiness in Pakistan with Group-1(Public) and Group-2 (Private) and Group-1 (Banking) and Group-2 (Telecom).

Hypothesis	***Group***	***Group 1 Mean***	***Group 2 Mean***	***T-Score***	***Results***
H_1:	Public/Private	1.61	2.29	3.07	Rejected
H_2:	Public/Private	3.30	2.78	2.14	Rejected
H_3:	Public/Private	1.35	1.65	1.38	Accepted
H_4:	Public/Private	2.17	3.03	-1.56	Accepted
H_5:	Banking/Telecom	3.43	3.22	2.56	Rejected
H_6:	Banking/Telecom	2.33	1.72	1.72	Accepted
H_7:	Banking/Telecom	2.55	2.09	2.03	Rejected
H_8:	Users/Developers	2.31	3.44	2.33	Rejected
H_9:	Public/Private	3.19	3.21	3.21	Rejected
H_{11}:	Public/Private	3.20	2.56	1.08	Accepted
H_{13}:	Banking/Telecom	2.43	2.11	2.77	Rejected
H_{14}:	Public/Private	2.01	3.10	2.93	Rejected
H_{15}:	Public/Private	2.53	2.16	1.70	Accepted
H_{17}:	Banking/Telecom	3.01	2.44	3.29	Rejected

($p < 0.05$)=1.96

Scale: 1=Strongly agree, 2=Agree, 3=Neutral, 4=Disagree, 5=Strongly Disagree

Table: 8. Correlation and regression results for independent variables "PC-penetration, Infrastructure, Political, Economic, Cultural, Business and Marketing Issues", and dependent variable "eBusiness in Pakistan."

Hypothesis	***Pearson Correlation***	***Results***
H_{10}:	Correlation coefficient for PC ownership and income was .822** at .000 level	Rejected
H_{19}	Mutual correlation was found between the independent variables (.732**, .753**, .422, .613*, .818**, .700** & .315 significant at .001 levels)	Rejected
	Linear Regressions	
H_{12}:	Cultural differences have significant impacts on the growth of eBusiness in Pakistan, Beta .511 on 5 point scale is significant at .001 levels.	Rejected
H_{16}:	The multiplication of languages slower the growth of eBusiness, Beta 528 is significant at .000 levels.	Rejected
H_{18}:	The logistical problems are restraining eBusiness in Pakistan, Beta .392 is significant on 5 point scale at .000 levels.	Rejected
	Multiple Regressions	
H_{20}:	PC-penetration, infrastructure, political, economical, business, cultural and marketing issues have significant impacts on eBusiness in Pakistan, Beta score .401, .563, .535, .356, .312, .511, .359 on 5 point scale are significant at .000 levels.	Rejected

FINDINGS OF THE STUDY

Literature review provided the theoretical model, which was used to get readings from the real-world situation (eBusiness in Pakistan). Primary data collected through questionnaires and interview provided enough material about the problem-situation in the background of ideal theoretical model extracted from the documented knowledge. The analysis and logical reasoning of the primary and secondary data provides good base for findings, following are the major findings of this study:

The data portrays that 28% organizations surveyed were from public and 72% belonged to private sector, out of which 52.75% operated online and 47.25% conventionally. 28% respondents represented banking sector, including 16.96 % development, 8.92% investment and 74.10% commercial banks, similarly 72% of the respondents belonged to telecom sector, out of which 52.08% represented plain and 47.91% belonged to cellular firms. Moreover, 28% of the organizations were using Pentium 3 computers while 72% were found with Pentium 4. Similarly, 51.5% of the organizations were using home-made, 23.75% off-the-shelf and 24.75% other software. Furthermore, respondents in these organizations included 51.25% developers and 48.75% end-users, data showed that 47.75% of the organizations were using IT at TPS, 29% at MIS and only 23.25% used IT as strategic tool at SIS levels.

High correlation was found between all the independent variables, PC ownership is highly correlated with income (.822** at .000 level). The results of the regression reveal that eBusiness in Pakistan is highly dependent on the PC-penetration, infrastructure, political and cultural factors with Beta score .401, .563, .535 and .511 respectively; which indicate that theses are more influential and determining factors than the other variables of the study.

DISCUSSION AND ANALYSIS OF RESULTS

Results from the t-tests based on survey indicate that PC-penetration is slow in the country i.e. 30% per annum while results in table 7 portray that the rate of PCs penetration in Pakistan is not satisfactory. Besides low PC penetration the political environment is not conducive to eBusiness as obvious from table 7 while political stability and peaceful law and order are the prerequisite of any business activity. Moreover, 40% of Pakistani population lives below the poverty line and they simply can not afford the education, then computer and internet usage becomes a luxury which is unaffordable to the most while PC ownership is directly related to the income of the people. Likewise, cultural differences are significantly affecting the pace and growth of eBusiness in the country. Pakistan is one of the populous countries with large territory and much ethnical and lingual background. Diversity of local groups and languages from a unique culture in different regions from purely religious in mountaineering tribal areas of north and south waziristan and most of the NWFP to moderate and liberals in the urban Punjab and Sindh province. The cultural and language diversity need development of web contents in local languages as people in the tribal and rural areas are unable to understand the Urdu then how web contents in English could be easy to educate them. Results from table supports that there are significant cultural differences

in the market which are barriers to eBusiness in Pakistan, likewise, the content and language of the web sites of eBusinesses are irrelevant and understandable. Furthermore, the attitude and culture of the government and different business entities is non cooperative, the procedures are cumbersome and policies are not friendly for eBusiness.

Another requirement of the successful eBusiness operations is the development and availability of the sound, physical and legal infrastructure; yet in Pakistan infrastructure is not sufficiently developed to meet the eBusiness requirements. The internet connections are not accessible and cost of connection is not affordable in the country due to high bandwidth rates and per unit telephone charges. Moreover, results in table 7 indicate that much of the consumers still pay by cash rather than credit due to poor computer and information literacy and insecurity of online transactions, so the lack of ability or interest to execute credit transactions is an enormous barrier to eBusiness in Pakistan, while insecurity of online transaction disclosure of privacy is discouraging users from online business. Likewise, in Pakistan, at least IT and management education is inadequate for eBusiness. Though government is trying to make proper legislation and development of the suitable regulatory framework to facilitate and protect online transaction, yet results in table 7 show that it is still not fully developed to support eBusiness operations.

Consumer and market behavior is another significant indicator through which one can measure the possible threats and opportunities for eBusiness. With reference to Pakistan eBusiness is facing several challenges in the market. People in Pakistan are economically backward and have low purchasing power while market is highly fragmented besides the multiplicity of languages, which also responsible for the slow growth of eBusiness in Pakistan. Similarly, eBusiness requires development of Electronic Funds Transfer Systems (EFT) and ATMs besides online payment web systems yet, results in table 7 shows that payment systems are still underdeveloped in the country which need the development of logical mechanism as currently logistical problems are inhibiting the eBusiness in Pakistan.

CONCLUSIONS

Information Technology has brought revolution in the business world and organizational life. The rate of IT diffusion and PC penetration is faster than any of the previous technologies, yet digital divide demonstrates that these changes are not uniform round the globe as developing countries are lagging behind in this race. This research suggests that a scientific approach to examining the national and international environment for eBusiness is required.

Success of eBusiness strategy like any strategy in Pakistan requires: setting the objectives; developing knowledge and training; enabling technology; redesigning business processes and regulations; identifying security issues; staffing; movement from conventional to eBusiness; cooperating with co-business organizations; continuous management development programs to keep on updating the eBusiness systems; and integration of these plans with the business objectives. Moreover, understanding the diffusion and adoption rate of IT is a prerequisite for the success of eBusiness, the model given below can be used for this purpose:

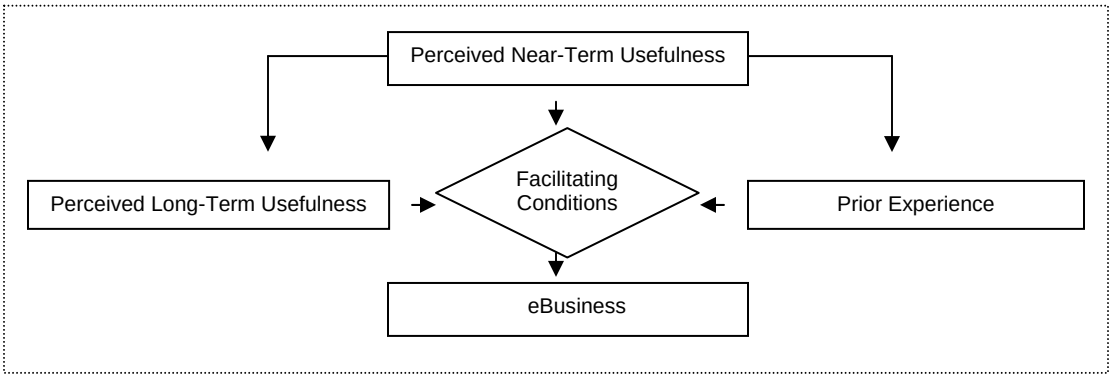


Figure: 3. Schematic Diagram of Technology Acceptance Model

This model suggests that utilization of the technology is positively related to these four important factors illustrated above. Experience is a powerful force that seems to relate back to our understanding of the value of the technology. As more and more people in Pakistan are going online, they need more facilitation to experience more online business practices. Besides, PC penetration and inadequate infrastructure is a significant challenge to eBusiness in Pakistan, yet overcoming these issues may enable more people to go online.

Though due to poverty and illiteracy, the growth of eBusiness is slow in Pakistan at the moment, new technologies may well facilitate the online experience, especially mobile communications. Moreover, mobile telephony is also getting momentum in Pakistan, which is well positioned for mCommerce; 10% of the population in Asia's emerging economies uses mobile telephones, while in Pakistan the mobile phone subscribers have reached 60.97 million including AJ&K with an addition of 1.6 million subscribers each month. The transfer rates of today's mobile telephones are slow; however, implementation of the third generation (3G) systems will facilitate eBusiness more in the times to come.

MANAGERIAL IMPLICATIONS FOR THE FUTURE

The continuously improving conditions for eBusiness in Pakistan bring to the fore that future of eBusiness is bright. In this paper, an attempt is made to identify the critical issues for successful eBusiness in Pakistan and to help managers understand the threats; and how to approach and overcome them.

This study suggests that management is required to scan the environment for threats and opportunities consistently, as conditions (context of eBusiness) are changing rapidly in the digital economy, especially when the incentives and pressure to do so are so great. Future researchers have been proposed to concentrate more on the security and humanization aspects of the computer-based technology so that an IT culture may be developed and eBusiness may more progressively be promoted in the country.

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