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# **BARRIERS IN THE DEVELOPMENT OF ELECTRONIC COMMERCE:**

**A STUDY OF PAKISTANI ENVIORNMENT**

Master thesis within Business Administration

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## **Abstract**

E-commerce has flourished in the developed world and is playing an important role in the everyday lives of the people and national economies. The developing nations are far behind in this regard even though their governments have made considerable efforts to encourage e-commerce. This thesis is a study of the environmental factors that act as barriers to the development of e-commerce in Pakistan. It shows the nature and the level of hindrance these environmental factors have caused and their relation to one another. In order to make a national analysis, environmental factors have been stretched to include the government, businesses, consumers, physical infrastructures, social and cultural factors. A qualitative study was conducted via telephonic and written interviews from academic and professional experts, users and non users of e-commerce in Pakistan. The analysis of these interviews revealed that not all of the factors considered as e-commerce barriers for developing nations were present in Pakistan. The relation between different e-commerce barriers was studied and further, additional barriers were also identified. Low literacy rate, traditional economic sector, failure of government to successfully implement e-commerce initiatives and regulations, shortage of electrical supply and low demand for online businesses and the consumer purchasing behaviour of Pakistanis were identified as the main e-commerce barriers.

## **Foreword**

The choice of this subject was born out of our experience of living in Sweden. We have lived all our lives in Pakistan's capital city, Islamabad. Since around 1998 we had access to internet and like most teenager used the internet to chat online. Our usage of the internet in Pakistan was restricted to the purposes of communication via e-mail or messengers, surfing and downloading music but never purchasing online as it is not at all common, and further the fear of identity and cyber theft, coupled with unreliable platform for online transactions also added to our reluctance to shop online. It was only once we came to Sweden that we saw the huge influence of internet on our daily lives. Simply using the intranet for gathering information about our university studies was a new experience. It wasn't long before we booked our first flights online and bought a cell phone off ebay.com. The development of e-commerce in Sweden got us thinking about the state of e-commerce back home and we decided to write our thesis on it in order to investigate why it hasn't progressed like it as here.

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# 1 Introduction

*In this chapter we start by giving a background on Electronic Commerce followed by the problem discussion, a look at the state of Information Technology Infrastructure in Pakistan, the purpose of this thesis and finally the research question.*

## 1.1 Background

The advent of the internet has truly revolutionized many aspects of our daily lives. The internet has been able to link countries throughout the world and businesses are no longer confined to their own immediate city or state. Developments in telecommunications, the global diffusion of the internet, and emergence of e-commerce have helped in the creation of an environment that fosters the globalization of markets throughout the world (OECD, 1997). The World Wide Web has made our lives a lot more convenient. We use the internet to communicate verbally and visually with our friends and family in far off regions, book flights, watch movies, complete long distance online education programs and seek out potential future spouses. There are many other aspects of our daily lives where we use the internet.

Electronic commerce (e-commerce) has been defined in a variety of ways by researchers. Schneider and Perry (2000), define e-commerce as business activities conducted using electronic data transmission via the internet and World Wide Web. According to Turban, King, Lee, Warkentin and Chung (2002), Electronic commerce is a process of buying and selling products, services and information using computer networks and the internet. Gibbs, Kraemer & Dedrick (2003) define e-commerce as the use of the internet to buy, sell, or support products and services. In this study, e-commerce entails the use of the internet for buying and selling products or services.

Electronic commerce and activities related to it that are conducted over the internet can be a source that improve domestic economic well-being through liberalization of domestic services, rapid globalization of production, and development of available technology. The integration of domestic and global markets is in its very inception is supported by electronic commerce (Mann, 2000). The internet was commercialized not more than a decade ago by consumers and marketers (Dholakia, 2005) Businessmen are no longer confined to their city or region. E-commerce has allowed businesses to in-

crease their market to far off regions and its creation is one of the reasons that have allowed the globalization of world markets. Several scholars propose that e-commerce is an important factor behind the process of globalization (Gibbs et al., 2003). One of the popular examples of e-commerce facilitating globalization is the unprecedented level of interaction between consumers from all over the world on websites such as EBay, Amazon, PayPal, Google ads, etc. E-commerce has brought with it benefits such as the diffusion of new information and technology, sales promotion, customer services and collaboration of supply chains (OECD, 1997). E-commerce has flourished in the west at a rapid pace. According to US Department of Commerce, the total e-commerce sales for the US in 2008 were approximately \$133.6 billion. As more and more retailers engage in e-commerce and the number of consumers using online shopping increase, the online market is expected to grow and become very competitive.

The use of internet to conduct businesses is a significant development in the last decade. This trend originates from the benefits this medium accrues to firms that use it. Research shows that the adoption of e-commerce leads to various benefits such as, product quality improvement, cost reduction, new customer or supplier contacts and the creation of new ways of selling existing products (Schneider and Perry, 2000; Chaudhury and Kuilboer, 2002). E-commerce benefits are being realized in developed countries such as Australia (Berrill, Goode & Hart 2004), as well as in developing countries such as Malaysia (Mukti, 2000) and Chile (Grandon and Pearson, 2003). In 2004, The United Nations concluded that e-commerce is a reality and is on its development path in both developed and developing countries. This fact is supported by the sheer number of www servers in the world and the use of secure layer protocol that supports secure transactions (United Nations, 2004).

Towards the end of 2003, 36% of the world internet users were from developing countries, and during 2000-2003 their share in the internet population of the world grew by nearly 50% (International Telecommunications Union, 2004). However, the penetration of internet in developing countries is still far less and limited than in developed countries. For instance, the penetration ratios of developing countries are ten times lower than the average of the developed world (United Nations, 2004). Although many companies in developing countries are beginning to use the internet for various business functions, they are not yet engaged in on-line transactions (United Nations, 2004).

## **1.2 Problem Discussion**

Papers written on e-commerce in developing countries are often lacking empirical base and are purely conceptual. They tend to assume that Internet access will enhance e-commerce in developing countries because of greater access to global markets, easier incorporation into global supply chains, cost savings, and disintermediation (Singh and Tanburn, 2001; UNCTAD, 2004). Critics point out that these papers do not consider local ground realities in developing countries such as norms, resources, infrastructure, and culture (Hempel & Kwong, 2001; Ho & Chen, 1999; Odedra-Straub, 2003).

E-commerce has established itself in the developed countries; however it is yet to make roots in most of the developing countries (Dholakia, 2005). This is attributed to a lack of telecommunication infrastructure (Sheth & Sharma, 2005), low average income of the population, the lack of credit card penetration (Hawk, 2004), as well as cultural barriers (Hawk, 2004; Paul, 2002) further restrict the adoption of e-commerce technologies. A significant number of developing countries have traditional agricultural based economies and the internet is then less attractive for these sectors (Coppe, 2000). Other scholars have supported the above mentioned reasons for the slow progress of e-commerce in developing countries. A survey conducted among Brazilian consumers indicated that the low e-commerce adoption was connected with the state regulations on privacy and security, lack of business laws for e-commerce, inadequate legal protection for Internet purchases and concern over Internet taxation (Tigre and Dedrick, 2004). Weak formal institutions are also responsible for lower consumer trust in e-commerce and their preference to buy online (Kenny, 2003). Other factors such as lack of awareness, knowledge, skills, and confidence serve as cognitive feedbacks. Research shows that half the population of developing countries is unable to speak their own official language country (Kenny, 2003). This inability in English language hence becomes a major inhibitor among non-English-speaking consumers, especially the older generation (Gibbs et al., 2003).

## **1.3 Business Environments & Technology Infrastructure in Pakistan**

Pakistan is a developing country in the South Asian region. Its population is estimated at more than 170 million (Internet World Stats, 2009). With a growing infrastructure

and use of the internet, the prospects of e-commerce are significant. The number of Internet users in Pakistan is growing fast. According to the internet World Stats (2009) and the government of Pakistan's economic survey for 2007/08, the internet users in Pakistan are 17.5 million with a population penetration of 10.1% and internet user growth rate of 12.9% from 2000 to 2008.

The Government of Pakistan has taken several initiatives; it has established a reliable IT infrastructure and has provided incentives to the IT companies which is vital to the progress of Pakistan's IT industry. The areas where the Government of Pakistan is serving the private sector companies include, Information Technology Parks with low rent, provision of funds for software companies to get ISO-9000 and CMM-level certifications, foreign investors can have 100% ownership of equity in "IT/ITeS companies", tax is exempted for IT companies till 2016, 100% repatriation of profits allowed to IT companies, the State Bank of Pakistan (SBP) has allowed the opening of Internet Merchant Accounts by banks, high-speed and reliable connectivity, over 85% of telecommunications infrastructure is on fiber optic cables, internet access is available in over 1862 cities/towns across Pakistan, several cellular companies are using digital transmission (Global Service for Mobile Communication - GSM and Time Division Multiple Access - TDMA) , the cost of 2 Mbps connection has been lowered to US\$ 1000/month , redundant backup connectivity is available through PTCL for call centers. (Pakistan Software Export Board, 2009).

Pakistan Software Export Board (2009) claims that the communication infrastructure of Pakistan is highly developed. The telecom infrastructure is 100% digital and provides a good platform for encouraging services, such as call centers, Internet service providers - ISPs, software houses, voice and video conferences. The fiber optic infrastructure laid in the 1990s, accounts for over 85% of the international and national data exchange. More than 40 cities in Pakistani are presently interconnected via fiber optic exchanges, and there are around 2950 digital exchanges. Tele-density is constantly increasing and the Wireless Local Loop (WLL) sector is now open to private companies for investment. Broadband licenses were opened to ISPs in 2004. Pakistan is proud to offer the most competitive bandwidth charges in the whole Asia Pacific region.

The following statistical indicators depict reliable and vibrant growth in Pakistan's ICT infrastructure:

- Cellular penetration has reached 15.5 million, achieving a growth rate of 156% in one year; it is expected to grow more than double next year.
- Total lines installed are 5.5 million fixed and 17.3 million mobile subscribers. This has resulted in an enhanced tele-density of 13.7%, which is 3% more than India's.
- 132 ISP licenses have been awarded to ISPs, out of which 70 are operational, and a broadband policy has been announced for ISPs in Pakistan.

The government of Pakistan has set up vibrant policies to spur digital opportunities as well. The digital opportunity initiatives include: the creation of Virtual University and IT Centers; bringing up new technology-based infrastructure; attracting foreign investment in IT sector; promoting IT education through International Certification programmers; and a number of other important steps creating an environment that will nurture Information and Communication Technology (ICT)-driven development along with economic initiatives that intend to increase digital opportunities to speed up business and industry growth. The Digital Opportunity Initiative (DOI) is a platform to discover the opportunities and benefits of ICT to overcome geographic barriers and connect people across the globe at low costs. These costs have been significantly reduced for call centers, software companies and educational centers. By end of 2003, Pakistan was expected to acquire 300 million bits (Mbits) of internet bandwidth (Mujahid 2002). Pakistan Telecommunication Corporation Ltd (PTCL) is the main Internet connectivity and service provider with its satellite communication, global gateway exchanges in two major cities, fibreoptic technology, digital radio and 90 % of the work contains digital switched system exchanges. The infrastructure required for connecting private internet providers (ISPs), corporate sector, educational centers, software houses and data network operations is also provided by PTCL (Seyal, Awais, Shamail & Abbas, 2004).

## **1.4 Purpose**

This study is an attempt to identify reasons behind the slow progress of e-commerce in Pakistan in light of the e-commerce barrier for developing countries, identified by scholars. It will analyze the environmental factors that act as barriers to growth and are be-

lieved to have an impact on e-commerce adoption. This leads to the following research question which is the purpose of this study.

What are the environmental factors that act as barriers to the growth of e-commerce in Pakistan?

After reviewing theories and research work on e-commerce in developing countries, the following are considered as environmental factors; physical technological infrastructure, physical delivery systems, political, legal and social cognitive factors.

## **2 Theoretical Framework**

*This section starts by introducing Electronic Commerce and its types, the environmental barriers categorized as Economic, sociopolitical and cognitive and finally the reforms developing countries can make to improve state of e-commerce in their country.*

There is hardly any work has been done on e-commerce with respect to Pakistan, however due to similar or close enough characteristics of developing countries; we decided to cover theories and research work done with respect to other developing countries. This framework will cover the environmental barriers of e-commerce which include physical technological infrastructure, physical delivery systems, political, legal and social cognitive factors.

### **2.1 Electronic Commerce**

E-Commerce is the shortened term for Electric Commerce. It is doing business transactions and communications through computer networks and networks of personal linked computers via the World Wide Web (Schneider and Perry, 2000). Strictly defined, e-commerce is buying and selling of goods and services, and the transfer of funds, through digital communications (Turban et al. 2002).

Scholars have used different definitions for describing e-commerce. Though these definitions may differ slightly, they all agree over the fundamental aspect of e-commerce which is doing business over the internet using computers and electronic means of communication. The word electronic commerce is self explanatory just like the popular term E-mail, which stands for electronic mail.

### **2.2 Types Of Electronic Commerce**

In order to determine the types of e-commerce, it is important to identify them with the types of business level transaction types. Four major types of e-commerce transactions have been identified which are briefly described in the following paragraphs.

First is Business to business (B2B) which refers to transactions between two or multiple businesses. B2B e-commerce has been in use for quite a few years and is more commonly known as EDI (electronic data interchange). In the past EDI was conducted on a

direct link of some form between the two businesses where as today the most popular connection is the internet. The two businesses pass information electronically to each other. B2B e-commerce is currently the largest form of electronic trade in terms of volume.

Second is business to consumer (B2C) and includes transactions between businesses and consumers. Common examples of B2C are of online shopping websites, customer services and online banking.

Third is consumer to Business (C2B) is a model in which consumers (individuals) offer products and services to companies and the companies pay them. This business model is a complete reversal of traditional business model where companies offer goods and services to consumer B2C.

Fourth is consumer to consumer (C2C) and involves the electronically-facilitated transactions between consumers through some third party. A common example is the online auction, in which a consumer posts an item for sale and other consumers bid to purchase it; the third party generally charges a flat fee or commission. The sites are only intermediaries, just there to match consumers. Popular examples of C2C are ebay.com and amazon.com. (Aladwani. 2001; CAMSTAR, 2000)

Besides the above mentioned types of e-commerce, there a few other emerging types; one is business to employee (B2E) which uses an intra business network which allows companies to provide products and/or services to their employees. One more is government to business (G2B); these are non-commercial interactions between government and private sectors. Another one is government to citizen (G2C) and it also comprises non-commercial interactions but between governments and its citizens. (Digital Smith, 2009).

### **2.3 Barriers to E-Commerce in Developing Countries**

We analyze e-commerce barriers in terms of three categories of negative feedback systems: economic, sociopolitical and cognitive (Noda, Collin, 1995). While economic and sociopolitical factors focus primarily on the environmental characteristics, the cognitive component reflects organizational and individual behaviors. Arguably, for the initial adoption of e-commerce in developing countries, the cognitive component plays a more

prominent role (Molla, Licker, 2005). As organizations assimilate sophisticated e-commerce practices, environmental factors play more critical roles (Molla, Licker, 2005).

### **2.3.1 Economic Barriers**

Slow Internet and e-commerce adoption in developing countries can be associated with market and infrastructural factors affecting the availability of ICTs (Brown, Malecki and Spector 1976). For instance, in Tanzania, poor electrical supply, a low teledensity and a lack of purchasing power resulted in a low rural Internet usage (Mercer, 2006). Moreover, the focus of ICT products manufacturers is usually on large distributions (Gatigson and Robertson, 1985) often located in developed countries for their selling initiatives. Low usage of credit cards is also a major hurdle (Gatigson and Robertson, 1985; Kenny 2003; Biederman 2000). Past research has found such problems for Business to Commerce e-commerce in India, Latin America and Russia (Hawk, 2004; Hilbert, 2001). 30-40% of transactions in Asia are cash based (Biederman 2000). Financial systems are also underdeveloped (Kenny, 2003). In the Caribbean, online transaction processing is not provided by the banks (Fraser and Wresch, 2005) or other forms of electronic payment systems (Wresch and Fraser, 2006). Increasing returns to scale are pre-condition for positive economic feedback system (Noda and Collin, 1995). Research suggests that a slow Internet diffusion in developing countries has led to a low IT business value measured by performance and productivity (Tam, 1998; Dewan and Kraemer, 2000). These barriers associated with the lack of economies of scale in developing countries are accepted. A research of the Caribbean nations inhibited the development of clusters for the IT industry (Fraser and Wresch, 2005). Traditional economic sectors (e.g., agriculture) account for a major portion of developing countries' economies and the internet is less favorable for such economies. For instance, a study indicated that cost savings from e-commerce – as a percent of total input costs – is only 2% for firms in traditional sectors such as coal compared to forty percent in electronic components (Coppe, 2000). Fast development and growth of e-commerce in the US can be a result of infrastructure already in place and an easy availability of a physical delivery system. Such systems are scarce in developing countries (Hawk, 2004). In the Caribbean region, logistics challenges are among major barriers to e-commerce diffusion (Wresch and Fraser, 2006). Developing countries find it difficult to attract physical delivery system providers such as FedEx and UPS to provide delivery services (Kenny,

2003). Another relative disadvantage of the internet is a result of low bandwidth availability in developing countries. It means it takes a longer time to transfer data.

### **2.3.2 Socio-Political Barriers**

Formal and informal institutions can be used to explain sociopolitical barriers (North, 1996; Scott, 1995; Scott, 2001). Compared to technological barriers, sociopolitical barriers can be more time consuming to overcome (Tigre and Dedric, 2004; Kenny, 1999; Kenny, 2002; Oxley and Yeung, 2001). Social barriers are related with informal institutions. In Asia, personal relationships are important in businesses and online transactions tend to threaten strong interpersonal networks (Gibbs et al., 2003). In developing countries, the people's preference for personal face-to-face communications over online interaction and existence of established relationships over the Internet's inter-personal efficiency also tend to discourage e-commerce adoption (McKinsey, 2001).

Many developing countries have inadequate legal system to provide legal validity of digital and electronic signatures (DES) (Stephens, 2001). In some developing countries, ICT products are treated as luxury items and import duty, surtax, sales tax and value added taxes are imposed on them (UNCTAD, 2000). Weak formal institutions hinder the consumers trust in online transactions hence their willingness to purchase online (Kenny, 2003). The literature provides enough evidence that legal barriers are a major factor behind slow or reluctant e-commerce adoption in the developing world. A survey conducted among Brazilian consumers indicated that the low e-commerce adoption rate was associated with government regulations such as concern over privacy and security, lack of business laws for e-commerce, inadequate legal protection for Internet purchases and concern over Internet taxation (Tigre and Dedrick, 2004). Similarly in China, a lack of 'transactional and institutional trust' was attributed to the poor rule of laws which were a major hinder to e-commerce (Gibbs et al., 2003; Efendioglu and Yip, 2004).

### **2.3.3 Cognitive Barriers**

Cognitive factors are associated with the mindsets of individuals or organizational decision makers (Huff, 2004). Some analysts suggest that cognitive barriers are a more significant concern than other barriers in developing countries (UNCTAD, 2000). Several factors such as lack of awareness, knowledge, skills, and confidence serve as cognitive feedbacks. For instance, priori evaluation of the top management influences cognitive

bias toward e-business (Noda, Collins, 1995). In developing countries, the main players and their resources and characteristics such as organizations' human, business, and technological resources, a lack of awareness and understanding of potential opportunities and risk aversion tend to lead to a negative cognitive analysis and perception of e-commerce (Molla and Licker, 2005; Pigato, 2000). Consumer's lack of awareness (Rao, 2003) and knowledge of ecommerce benefits and their low confidence in service providers have also restricted their use of e-commerce. For instance, low rate of credit usage in Latin America can be a result of lack of trust in the national financial infrastructure (Hilbert, 2001). Concerns over postal thefts were among the main barriers to e-commerce growth in Trinidad (Fraser and Wresch, 2005). Finally, cognitive barriers are linked to general and computer illiteracy and a lack of English language skills (Kenny, 2003). Most of the softwares, human-computer interfaces and the content on the internet are largely in English language (Nunberg, 2000). Research indicates that the official language of a developing country cannot be spoken by half the population of that country (Kenny, 2003). A lack of English language skills in the population has thus been a major hindering factor among non-English speaking consumers, especially the older generation (Gibbs et al., 2003). In Slovenia, 75% of the internet users are able to speak English while out of the non English speaking population only 1% of it is internet users (Kenny, 2002).

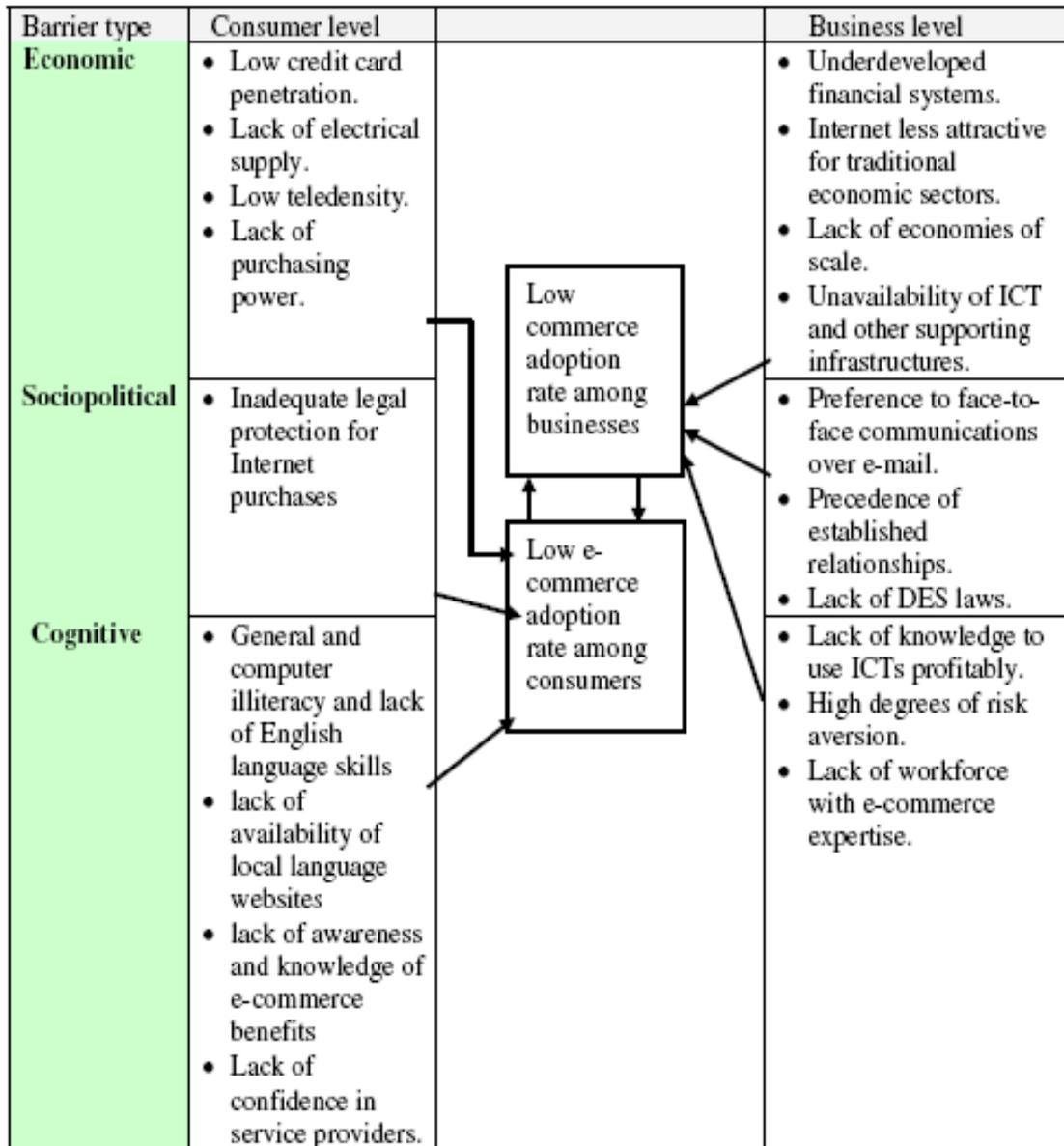


Figure 1 Presents E-Commerce barriers in developing countries. (Kshetri, 2007, pg 445)

The above diagram illustrates the classification of factors within economic, sociopolitical and cognitive barriers with respect to consumers and businesses that result in the low adoption of e-commerce among them.

## 2.4 E-Commerce Reforms in Developing Countries

In order to match the internet and e-commerce usage and development in the US or Europe, the developing countries must address several socioeconomic and regulatory issues. It takes more time and effort to overcome socioeconomic barriers while reducing and overcoming regulatory and political barriers is relatively clearer and less time consuming, politically it is also easier to realize e-commerce benefits. High costs of availing the internet, low usage and penetration of electronic means of payment such as credit cards, and inefficient delivery systems are the primary and apparent factors hindering e-commerce growth in developing countries. One area that is most easily quantified and compared is internet monthly access fees. Research data indicates that internet fees vary substantially across countries and that the share of the fees accounted for by ISP charges versus accounted for by local telephone charges also varies substantially. In the US, the approximately \$20 per month internet access charge is all an ISP charge. In Korea, the \$25 charge is about 1/3 ISP charge and 2/3 local call charges. In Brazil, the \$37 charge is nearly all a local ISP charge. In China, the \$65 charge is about half ISP charge and about half a local phone charge. More significantly, when adjusted by the level of per capita GDP, the differences in charges is high. For example, in the US and Australia fees are about \$25 per month, accounting for less than 2 percent of monthly GDP per capita. In contrast, in Mexico, the fee at about \$27 per month accounts for about 5 percent of monthly income and in Mozambique, that \$27 per month accounts for about 70 percent of monthly GDP per capita (ITU, 1999).

In order to promote e-commerce, a supportive electronic payment mechanism is necessary; this suggests a link between e-commerce development and the financial institutions. The efficiency of the electronic payment system can assist or hinder e-commerce adoption and diffusion. Besides affiance the level of security is also an issue such as authorizations and clearances. Electronic payments require a simple and secure payment process. Although many of countries are concentrating on “cash on delivery” for tangible products, e-commerce will require a payment method that is on-line so as to accommodate products delivered digitally. For business-to-business transactions, an easy-to-use electronic payments vehicle is imperative to achieve the cost effectiveness promised by e-commerce commerce. Security for financial transactions are also provided by legal and secure, with liability clearly identified, prosecuted and limited.

Eighty percent e-commerce transactions are based on credit cards, even as debit, smart cards or digital cash are being viewed as available options. Credit-card penetration by countries varies widely and for various reasons. In some countries, including China, the preference for cash to avoid audit trails undermines the use of credit cards as the basis for e-commerce transactions, even though as other forms of internet usage (such as e-mail) has risen. In other countries, such as Taiwan, people are unwilling to use credit cards for internet transactions as there is fear of identity theft and unlimited liability of fraudulent use of the credit card number. Finally, the additional cost to businesses (which in some cases is transferred in full to the customer) for the use of an internationally recognized credit card can be as high as 5 to 7 percent of the transaction (for example in Bulgaria), much too high to be acceptable to business or consumer. (Mann, 2000).

The same author also argues that many developing countries do not possess the financial institutions or central bank payments mechanisms that are up to the tasks for providing full efficiency and realization of the benefits of e-commerce. At least the authorization for transactions between internet businesses and payment institutions (such as credit card companies or banks) needs to be in real time, so as to allow on time delivery of digital products. Moreover, the shorter the time between authorization and actual payment is the more efficient the transaction and the lower the institutional risk.

When the state maintains controls on foreign exchange usage, full participation in e-commerce for international trade creates problems. Some countries allow exporters greater access to international exchange than other businesses (as in Morocco, for example). This approach may limit adoption of electronic commerce by indigenous small businesses that need to import in order to produce for a market niche in the foreign or even for the domestic market (Mann, 2000).

Finally, delivery systems complete the set of service infrastructures that are key enabling factor to developing e-commerce. Speed is one of the most important benefits of electronic commerce. Overnight delivery, just-in-time processing, 24 by 7 operations all are examples of how much faster and more precisely timed economic activities are in the e-commerce world. Without an efficient physical distribution and delivery system and without multi-modal transport for international participation, any country would fall behind in e-commerce. Moreover, there is a critical connection between the effective-

ness of the distribution and delivery systems and the motivation for the private sector to innovate and invest in new technology. For instance, the private sector spends money on internet technologies, but is unable to get products to customers because of distribution and delivery problems, as was the case for apparel producers in Sri Lanka attempting to break into the upscale international fashion market. When the economic benefits that might accrue to the private company are overwhelmed by inefficiencies elsewhere in the chain-to-market, it reduces the incentives for private sector investment in technological development; it also creates a barrier to innovating new ideas for the local market (Mann, 2000).

In order to respond to these domestic reforms, policy makers need to first, see the clear synergies that exist between the elements of policy reform. Making substantial progress on one element (such as telephone charges) will not reap all the rewards as expected because of its close relationship with the three foundations for e-commerce readiness. Second, exploiting and discovering present technology available throughout the globe has advantages of interoperability and can jump-start the internationalization of domestic producers. Finally, the premier innovation, profit, and increase in economic well-being will be generated by private sector entrepreneurs that account for market niches unique to the domestic market, since domestic entrepreneurs have a better understanding of their own market (Mann, 2000).

### **3 Methodology**

*In this chapter we state the methodology and the approach that we used to study the factors that influence the progress of e-commerce in Pakistan.*

#### **3.1 Sources of data**

There are two ways that data is obtained; they are primary and/or secondary sources. Primary data is information that is obtained firsthand by the researcher on interested variables for a specific purpose of the study (Sekaran, 2003). Our source of primary data is from individual experts in the field of e-commerce currently working in Pakistan. The already existing information that is gathered is called the secondary data (Sekaran, 2003). In our study source of secondary data was derived from different articles, publications and text books.

#### **3.2 Qualitative Research**

While quantitative research methods give dependable data which may be applied to larger populations but they cannot give the interpretations and meanings that inform actions and intentions of people (Steckler A, McLeroy KR, Goodman RM, Bird ST, McCormick L., 1992), using qualitative research techniques, thorough description of a phenomenon are highlighted. The aim is to produce highly detailed information where respondent's perspective is kept intact. These techniques work with a relatively unstructured and open research strategy unlike the quantitative methods where hypothesis are made and a methodology is designed so as to either prove or disprove the hypothesis. The objective of using qualitative research is discovering the context of meanings and multiple perspectives of respondents and understanding behaviors that take place. It further prevents preconceived frames of reference to those they study. The analysis is in a continuous way as during the research new questions are created. Our study is exploratory in nature and hence we used the qualitative approach through extensive interviews with people as we might come across new information as maybe some new phenomenon is discovered which acts as a barrier to development of e-commerce in Pakistan. Although the secondary data has provided us with many factors that influence development of e-commerce in developing nations but not specifically for the Pakistani environment, therefore using qualitative approach we will enable us to find out what other

factors that influence the progress. Hence the qualitative approach gives us flexibility to discover other factors that might influence in our study. (Murphy & Mattson, 1992)

### **3.3 Exploratory study**

Majority of research is confined to the Europe and North America. Comparatively there are fewer studies conducted in Asia and further studies on e-commerce adoption specifically in South Asia is at the margin. However, there were some research on e-commerce conducted in India (Sharma and Gupta, 2003), in Mauritius (Kardaras and Karakostas, 2001) and Iran (Karimi and Baghaei, 2003). Unfortunately scarce information is available about research on e-commerce adoption and is negligent in Pakistan. (Seyal and Rahman, 2003).

According to the above reason, our thesis is exploratory in nature as we intend to further dig into the actual factors that are hindering development of e-commerce in Pakistan as we hope to see other influential factors apart from the ones mentioned in the literature review. Therefore to gain familiarity with this situation in hand, Sekaran (2003) suggests that a thorough ground work needs to be done and understand what is occurring, before we develop a design for careful investigation.

In quantitative research data is usually gathered through questionnaires whereas some qualitative studies are exploratory in nature where data is collected through interviews or observation. Exploratory studies are also essential when some facts are known, but more information is needed for developing a practical framework (Sekaran, 2003).

Hence in this case exploratory study was undertaken to better understand the nature of the problem since very few studies for the Pakistani environment have been conducted in this area. Extensive interviews with people further gave us information to get a clear picture of the situation and understand the factors that influence.

### **3.4 Data Collection Method**

Collection of data include interviews, observing people and questionnaires, these are the three main data collection methods in research. (Sekaran, 2003)

We conducted our research through the data collection method of interviews in context with our research question and this helped us identify factors that influence development of e-commerce in Pakistan.

### **3.4.1 Interviews**

We used interviews as our main data collection method as our study is exploratory and qualitative in nature as discussed above and through conducting interviews we were able to get new information or knowledge and result in identification of several critical factors in the problem situation that is central to our broad problem area. Interviews for the purpose of this study were conducted over the telephone and e-mail as the interviewees were from Pakistan.

Interviews in our study were semi-structured with broad open-ended questions (Appendix-1) where the sequence of questions asked from respondents was unplanned and asked according to the responses. In this way some basic issues were brought to the surface and in-depth questions further gave us specific responses. (Sekaran, 2003)

## **3.5 Qualitative Sampling**

Quantitative researchers usually do not understand the benefits of studying small samples. This is because of the false impression that generalizing is the goal of all good research and is further the main reason for the opposed sound available qualitative studies with inappropriate sampling techniques (Pound, Bury, Gompertz, & Ebrahim, 1995). A reasonable sample size for a qualitative research is the one that effectively responds the research question, for simple studies or very detailed ones, this can be in single figure and for complex questions large samples and a variety of sampling methods might be needed. However while in practice these numbers of required, respondents become apparent as the study evolves, as new explanations or themes saturate the information from the data. This is why a flexible research design where an interactive, continuous approach to sampling, data collection, analysis and interpretation is needed (Marshall, 1996).

### **3.5.1 Sample Size Strategy**

There are three broad approaches to selecting a sample for a qualitative study and these are convenience, judgment and theoretical sampling.

Judgment sampling is the most common sampling method. In this sort of sampling the most productive sample is selected to answer the question. It is based on the researcher's knowledge in the research area, the literature and data from the study itself and further involves developing a framework of the variables. It is a more rational technique than the simple demographic stratification though gender, age, and social class can be vital variables. And if the researcher knows the respondents, they can be stratified according to known beliefs or attitudes. It can be beneficial when study a broad range of subjects (maximum variation sample), subjects who have specific experiences called critical case sample, outliers also called deviant sample, or subjects with special expertise which is called key informant sample. Respondents may also recommend useful prospective subjects for study which is called snowball sample. In the process of data interpretation it is of utmost importance to see subjects who support continuous description and maybe subjects who disagree called confirming and disconfirming samples (Marshall, 1996).

In our study the sampling technique that we used is judgment sampling as we intend to interview academics/practitioners expert in the field of e-commerce and consumers/internet shopping users which were selected by us as being the most productive sample to answer the research question. The criteria for interviewee selection for academics/practitioners were based on several factors; a comprehensive educational background that establishes their authority over the subject and link to the e-commerce sector in Pakistan. The criteria for interviewee selection of consumers/internet shopping users was based on being users (have purchased from the internet several times in Pakistan) and non-users (have never purchased online in Pakistan) of online shopping, these are people that had at a bachelors degree and have lived in Pakistan for more than a decade.

### **3.6 Validity and Reliability of Data**

Qualitative research when performed or designed poorly, the results are neither useful nor credible. The disbelief that researchers have regarding the validity and reliability of the information gathered, it is imperative that the problems they create careless investigators be realized. The first is that it is crucial to understand that these methods to a higher degree than quantitative approaches are highly reliant on the skills and know-

ledge of the research team. A condition to succeed through a focus group is on a well structured guide and conducted by a trained mediator flexible to work both through and around the structure. A key informer through interview will produce much less useful information if the interviewer does not have ample background knowledge to know when a response further needs inquiring or enough expertise to figure out either the openness of the respondent or the extent to which the person has knowledge and experience relevant to the questions. An inexperienced interviewer will need training which can best be provided by having accompanied with an experienced interviewer in the field or listen carefully probably several times to tapes of successfully conducted interviews. (Sofaer, Kreling, Kenney, Swift, & Dewart, 2001)

Secondly performing a good qualitative study like conducting a good quantitative research requires attention to the matter of study design, sampling techniques, instrument development, the unit of analysis and analysis plans. When developing over time the research designed to collect data at several points in time rather than depending on recollection is required. It is critical when conducting a focus group research, sampling to define precisely the inclusion and exclusion criteria for respondents and the magnitude on which a particular group is to be homogeneous and heterogeneous. (Sofaer et al., 2001)

In qualitative as well as in quantitative research instrumentation is very important. It involves training and practice to write open-ended questions which is of utmost importance while conducting a qualitative interview and then to avoid converting them into closed-ended questions particularly with a reluctant subject when actually carrying out the interview. A few researchers have the capability in developing and using observation or in conducting and writing up the notes from observations. Observations should make clear the particular magnitudes of an interaction or an event that are of interest. For example if you are observing a meeting you typically want to know who was expected to attend who actually showed up whether there was a leader and who it was whether there was an agenda and whether it was followed what roles the leader and other members took on who asked questions and who answered them who requested input and who provided it how and by whom it was determined that a decision needed to be made whether how and by whom decisions were made whether conflict arose and what kind whether the conflict was acknowledged by others whether and how the conflict was resolved and so on. It is often a good idea to draw a map of the meeting showing who sat

where if for no other reason than to help visualize the experience afterwards. It is also useful to note aspects of the physical environment that might influence the process. And then in addition to paying attention to meeting dynamics the observer will also have to follow and take notes on the actual content of the discussion. Clearly the use of this technique requires skills experience and endurance. (Sofaer, 2002)

### **3.7 Data Analysis**

The analysis of qualitative data is perhaps the most demanding aspect of the use of these methods. It is not suitable to approach qualitative data in a quantitative manner. Statements made by focus group members should not be counted and expressed in a table. Besides being at odds with the basic principles of the method these presentations can take readers to assume incorrectly that the data can be generalized to similar populations which are simply not the reality. Data gathered from qualitative research are typically suggestive in nature and rarely if ever conclusive. Nevertheless the analysis process should be highly planned. Qualitative research tempts us to generate impressions based on an initial review of notes or tapes and quickly move to summarization them. This blurs the distinction between what was heard or read and the patterns that an investigator has discerned. Just as in quantitative research we are cautious in presenting our findings separately from our conclusions, in qualitative work we also need to distinguish between our observations and our interpretations. To achieve this, the research needs explicit processes for managing raw qualitative data in ways that allow data to be viewed at both in its textual context and outside of it for recognizing and articulating emergent ideas about trends, explanations and hypotheses and later conducting a conscious search both for 'rival' patterns and for data that in some way contradicts or negates or refine the patterns and explanations. This is a lengthy process and resource intensive but it is a hallmark of respect for the data collected and for the willingness to be proven incorrect that is a key element of being 'scientific'. (Sofaer, 2002)

## 4 Results of Interviews

*This Section includes the method and description of interviewees selected for this research. It also shows responses obtained from the interviews in light of the theoretical framework.*

The interviews were constructed in light of the reviewed literature. This literature review is a comprehensive analysis of various barriers to development of e-commerce in developing countries. The data gathered were expert opinions of academics/practitioners and non-user, consumers/internet shopping users in relation to the literature review.

### 4.1 Interviewees

For selection of our interviewees the sampling technique used is judgment sampling where we selected personal as being the most productive sample to answer our research question. According to the criteria set for interviewee selection we chose the following academics/practitioners and consumers/internet shopping users:

#### **Academics/practitioners:**

- **Mr. Ansir Ali Rajput**, Associate Professor, Department of Management Sciences, Mohammad Ali Jinnah University, Jinnah Avenue, Islamabad, Pakistan. Currently a PhD candidate of entrepreneurship and has several years of management and industrial experience in IT sector. He was one of the first to introduce a course on e-commerce in Pakistan and has a pure e-commerce business in Pakistan.

- **Mr. Khalil-ur-Rehman**, Entrepreneur IT Services, Director Engineering at Intelligentsia Software (Pvt.) Ltd, Islamabad, Pakistan. MSc. In Computer Science. Currently, a visiting faculty member at Bahria University, Islamabad, Pakistan.

- **Mr. Saad-ur-Rehman**, MSc. Electrical Engineer, Msc. Computer Science. Was a permanent faculty member of Air University, Islamabad, Pakistan from 1998-2000. Was a visiting faculty member of Bahria University, Islamabad, Pakistan for 01 year 1996-1998.

- **Mr. Zaheer Uddin Asif**, Assitant Professor at Institute of Business Administration Karachi. Ph.D Temple University, USA. MBA, Institute of Business Administration Karachi. PGD, Institute of Business Administration.

#### **Consumers/internet shopping users:**

Users;            Mr. Azm Dar, Ms. Sidra Nazim and Mr. Rizwan Masood.

Non-users;      Mr. Umair Tauqeer, Ms. Hana Afzal and Mr Raja Shahzad.

## **4.2 Results in lieu of Development Factors in E-Commerce**

In this section we have the responses of the interviewees and categorized their responses into three categories e.g. economic, sociopolitical and cognitive factors. We first asked the interviewees regarding the factors identified in the theoretical framework. However since our interview questions were open ended; the interviews at times lead to factors that were identified before. This benefits our study as it was able to explore factors that are particularly related to the Pakistani environment.

### **4.2.1 Economic Factors**

The IT infrastructure in Pakistan according to the interviewees meets the requirements necessary to encourage e-commerce; it is widely and easily available at high speed with reliable connectivity. However this is true to urban areas only. In the rural areas internet penetration is lower. Personal computers are also very common in urban areas. Almost in every household, the personal computer and laptop is a norm. Personal computers are found in rural households but are not as common. Over all the IT infrastructure has developed many-fold over the last decade. As it is described by Mr. Rajput:

*“The infrastructure if compared over last decade has improved phenomenally but it is still not enough to produce a good national e-commerce environment. The growth has been slow because primarily there are not many opportunities for companies to test this method. One of the reasons in my opinion is the utility of IT infrastructure is only limited to only a few industries, such as textile, banking etc. With the introduction of wireless telecommunication infrastructure and the higher purchasing power in urban areas, the IT infrastructure is better in comparison to rural areas, however this wireless tech-*

*nology has provided access to the internet in rural population. But at present the usage of internet in rural areas is only limited to information phase.”*

Ms. Nazim (User) states: *“I always feared that I would lose the internet connection right in the middle of buying something online. But then I changed my internet provider and got a wireless connection. My confidence in the internet connection was higher hence I decided to buy something small as in less expensive on a test basis. Once it reached my doorstep, I have now bought several items online.”*

In relation to the infrastructures, the electrical supply in urban and rural areas is not consistent and reliable. Particularly over the last few years, the entire country including main business hubs faced electricity shortage and had to switch to alternative modes for generating electrical power which is much more costly and only a few companies could afford to use it but that too on a sub-optimal level. Mr. Saad Rahman states:

*“I think the IT infrastructure is quite sufficient but the problem lies not in the IT infrastructure but the provision of electricity to make them work.”*

Over the last few year the communication infrastructure in Pakistan has improved dramatically by the privatization of telecom sector. This has led to the introduction of latest means of communication technologies. This development has been caused by international telecom companies entering the telecom sector. The downside of the prevailing communication systems is that it is still mainly relying on copper cables, Mr. Rajput states:

*“We have fiber optics availability. There are about four companies which are providing fiber optic connectivity. Similarly the connectivity through copper cables is there but it is not reliable and is the prevailing technology in rural areas. Satellite connectivity is also there but the biggest miracle this country has witnessed is that in the last ten years the 02 MB stream of US\$3,200.00 has reduced down to merely US\$5.00. So this is how cheap the cost of bandwidth has become. The arrival of foreign telecom companies has improved the quality of communication services and the increase in competition has resulted in better services for the consumers.”*

Pakistan’s economy is basically an agricultural economy. The work force employed in agriculture is dominantly uneducated and lacks computer knowledge and skills. Mr. Asif states:

*“Majority of the national workforce is engaged in agriculture and this workforce is largely uneducated as they rely on centuries old ways of farming. It is highly unlikely for these people to engage into e-commerce as they hardly know how to operate a computer and it is not suited their conventional ways of doing business”*

The infrastructure provided by financial institutions to carry out electronic trade is inadequate. There is only one bank that provides merchant accounts which are necessary to carry out online businesses. This is due to lack of demand in the market place for online transactions because the national economy is still very traditional so the financial institutions have not invested in this sector, as mentioned by Mr. Rajput:

*“The merchant account is only provided by one bank. This is the only bank that provides online processing for credit cards and I personally tried to get this account and it was not easy. There is high potential for e-payments but since there isn't enough business so most likely banks are not interested to invest in this sector. The market is not enough for banks to offer e-payment mechanisms.”*

Mr. Tauqeer (Non User) states: *“I have always been hesitant in buying something online. The fear of fraud is just too much for me and I don't think our banking system is secure enough plus the law in place for cyber theft isn't any good to give me any kind of confidence.”*

Ms. Afzal (Non User) States: *“I don't trust our banking system's control over online transactions. I don't think anyone would steal our money but due to poor systems, lose our money.”*

According to all interviewees the physical delivery system in Pakistan is reliable and efficient for transportation of goods bought online, as asserted by Mr. Khalil-ur-Rehman:

*“Logistics is there. There are a few old players that provide them efficiently. Traditional businesses are heavily dependent on logistics. Pakistan government offers a good infrastructure as there are no delays and a good land transport infrastructure. There is no such issue in terms of logistics. We have 12 hour, 08 hour deliveries. These mechanisms are already available. Other means of transport such as air and rail are also very efficient. They cannot be compared to developed countries but still it's viable.”*

#### 4.2.2 Socio-Political Factors

Social factors identified include the nature and mode of interaction between people, preference over face-to-face than online interactions and trust in online transactions. Political factors include government policies, regulations and laws that encourage and provide a supportive environment under which people are protected from cyber-crimes.

The respondents made a distinction between urban and rural areas in regards to social factors. In urban areas people are comfortable with the concept of online transactions. This is due to recent introduction of e-payments by few banks, immense use of mobile phones for advertizing and transferring mobile credit through text messaging. In rural areas the above mentioned phenomenon are still unpopular and there is a preference to conduct face-to-face transactions. Interviewees also attributed varying literacy rates between urban and rural areas. According to Mr. Rajput:

*“Trust related issues are not at all a barrier to development of e-commerce. I have launched a website that sells second hand cell phones and we saw 6,000 mobile leads in one month’s time. I have also launched SMS (Short Messaging Service) campaigns which received very good response. People are willing to use this technology. People are transferring money through the cell phones. So I feel trust of people prevails in this sort of transaction. But people in rural areas are still behind in terms of trusting e-commerce, I owe this to low rate of literacy in rural areas”*

Mr. Asif states: *“Trust issues are not at all a problem in Pakistan. If buying online is cost effective than people will buy online”*

An interesting factor pointed out by our interviewees was that national consumer purchasing behavior was unfavorable for e-commerce. The national consumer purchasing behavior is unfavorable for e-commerce development. In Pakistani society, peer pressure plays a major role in influencing consumer’s buying behavior. Mr. Rajput states:

*“The consumers from the west world have an individualistic buying behavior while in Pakistan; buyers seek the approval of their friends or family before buying anything. Whether the children in a family are old or young, the whole family likes to shop together.”*

Consumers are unable to physically check a product online. In Pakistan the comparative low trust level mean people are doubtful of the product's quality hence refrain from buying online.

Mr. Saad Rahman States: *“In the South Asian region people have a higher tendency to communicate face to face and to physically check the product before buying it. Hence I think this is a hindrance especially in less educated people– establish a trust based system on which people can reliably buy from the Internet without getting worried about its quality. This is a factor which has a more social limitation that would be difficult to cover with any technological improvement.”*

The government of Pakistan has failed to encourage e-commerce at the national level and within its own ranks. The role of the government has been highly criticized by the interviewees as Mr. Rajput states:

*“Governments approach is usually reactive rather than proactive. Governments are in the business of making policies that should facilitate trade, unfortunately 95% of Pakistani economy is informal that is, it's undocumented. So government needs to document the economy and create an environment where people can go online and feel safe. Trade is not the domain of government. Pakistan is a very different land. Government should just sit in the back and provide facilities and let the people trade.”*

He further went on to say, *“Yes, there are e-commerce laws. The government has established an e-commerce directorate but its job is only to make government into an e-government but this project is not successful because they have not been able to digitize or provide online access to basic applications. Only a few websites provided by the Government are current or have dynamic applications such as the Central Bureau of Revenue. This is the only example I can quote which is very relevant. Other websites provide out dated information. There is no security as far the hosting is concerned. Incidents of websites being hacked are frequent. Over all there is not a lot of encouragement at the government level itself to produce a good e-government environment.”*

### **4.2.3 Cognitive Factors**

Cognitive factors include general and computer literacy, lack of English linguistic skills, lack of local language websites and lack of awareness of e-commerce benefits. The

mindset of the people of Pakistan is such that the purchasing behavior of consumers is highly dependent on peer pressure; most shopping decisions are based on collective approval of friends and family members.

Most interviewees agreed that lack of computer literacy is one of the major hurdles that people are not well versed with the internet, this is primarily associated with lack of education in the country which has resulted in very poor command over the English language and most websites are in English and people are reluctant to use them. Mr. Rajput states:

*“There two sides, one is the entrepreneur side and the other is the consumer side. The government has to create sufficient IT education and awareness among people to build the consumer side. The government has failed miserably primarily because we do not spend a lot on education and in particular spending on IT education is very little, hence lack of literacy. The claim is that 45% of population is literate but these people can only read and write their name but only 15% people are actually literate. Similarly less than one percent of national population is internet literate so this is the main dilemma.”*

Mr. Rahman also asserted the same point but pointed out the lack local language websites to be a problem since majority of the population is unable to read or write English and most websites even those in Pakistan besides a few news related websites are in English.

Mr. Saad Rahman however had a different opinion in terms of literacy and lack of awareness about e-commerce. He States:

*“It is not the literacy rate or e-readiness among the population of Pakistan that is a problem. The Actual size of the concerned markets in terms of numbers does not matter but with the deep pockets. Those who have the money and the capacity are more or less E-Ready. But those who do not have the money or the technological capacity are quite far from E-Readiness.”*

## 5 Analysis

*In this chapter we have analyzed interviews in light of the reviewed literature and formed our findings.*

### 5.1 Economic Factors

The analysis of the IT infrastructure in relation to e-commerce re-affirms that the diffusion of internet is highly dependent upon this infrastructure. However the analysis also shows that a nationwide availability of the IT infrastructure is required as usually the rural areas are less developed than urban areas in this regard. Mercer (2006) also recognized that the development of IT infrastructure is low in rural areas and attributes this as a reason for slow diffusion of e-commerce across a country. In Pakistan the IT infrastructure available in urban areas is adequate to encourage e-commerce and the consumers also have faith in it, but as we move towards rural areas the IT infrastructure weakens. This is primarily because communication systems in urban areas are modern in terms of technology while in rural areas outdated technology prevails. The international telecom companies are also mainly focusing on urban areas; same is the case with internet service providers. This is due to higher demand in urban areas. Slow adoption of e-commerce amongst the commercial sector has been slow due to lack of demand for it by the consumers; hence the commercial sector has also been reluctant in investing in its IT infrastructure. So the IT infrastructure is prevailing and over the last few years, considerable development has been witnessed. The only thing missing is the demand for online purchasing by the consumers in the market. The electrical supply in the country over the last few years has been very inconsistent and shortages have been experienced both in urban and rural areas. The commercial sector is able to use other means of electrical power generation however households don't have the same capacity. In such circumstances dependence on the internet in anyway proves to be a bad idea. The population in urban areas hence has access to better and higher quality IT infrastructure that increases their tendency to use the internet for various purposes.

The role of financial institutions is to provide an online trading system that allows buyers and sellers to conduct business over the internet. The more reliable and efficient the system is the more at ease the users will be to transact online. In Pakistan the financial

institution are not at all providing sufficient services in this regard. Only one bank is providing merchant accounts which are mandatory for online commercial transactions. The same bank is the only one to provide services for online processing of credit cards. This has been identified as a hurdle for e-commerce development by Hawk, 2004; Hilbert, 2001. The lack of online trading services provided by banks is primarily because of low demand in the market for these services. The market structure in the country is still traditional economies in nature, due to which the banks have yet showed no interest in providing these services. Since online banking is a relatively newer idea, consumers are still hesitant in using it and show reluctance to trust the security of the system.

The lack of availability of physical delivery systems are also considered as an barrier for e-commerce development as it hinders transportation of good bought online (Wresch, Fraser, 2006). Fortunately in Pakistan these services are provided and are considered to be efficient and reliable. These services are provided nation-wide by the government and by private companies. They include all means of transportation such as air, rail, sea and road.

## **5.2 Socio-Political Factors:**

In developing countries, preference to face to face transactions if given over online transactions (McKinsey, 2001) These informal social norms and traditions hamper development of e-commerce as people are not ready to accept and trust online trading. In Pakistan however there are two different pictures. In the urban areas, the increasing trend of mobile usage is changing the perception and attitude of the people and they are becoming more and more comfortable with this mode of communication. A mobile credit exchange through text messages is one sign of it. Similarly advertising through text messages is also gaining popularity. This phenomena is increasing the trust people have in technology to conduct electronic business. In the rural areas however, the usage of mobile phones is comparatively less. People are more inclined towards using traditional means of communication.

Another interesting finding is the national consumer purchasing behavior. Peer pressure in Pakistan influences buyer's behavior and in e-commerce demands a more individualistic interaction. This is a cultural barrier that will take time to overcome and can be

linked to the literacy rate, exposure, awareness of e-commerce benefits and market structures.

The role of the government is to provide laws, policies and regulations that not only encourage e-commerce but provide a safe environment to conduct online businesses. Absence of these has a negative effect on e-commerce development (Tigre, Dedrick, 2004). The government of Pakistan is providing the basic laws that govern e-commerce activities but most of the initiatives have been unsuccessful. The government has failed to implement the initiative it took in 2001 to turn the government into an e-government. The government itself only has a few websites which are current or have dynamic applications. So over all the government has failed to provide a safe e-commerce environment.

The failure of the government to implement e-commerce regulations is not a surprise. The governments over the last decades have in general been unable to have a strong hold over law and order in the country. The geo-political situation of the country has also witnessed instability. In these circumstances area such as e-commerce seem to be a much lower priority of the government.

### **5.3 Cognitive Factors:**

Cognitive factors are the mental maps of individual decision making. They also include literacy rates, English language skills and awareness of benefits of e-commerce.

In Pakistan there is high rate of illiteracy, due to which people are not very familiar with computers and especially the internet. The lack of education has resulted in only a small percentage of the population that speaks and understands English and according to Kenny, 2003; this is a barrier in usage of internet to conduct business online as most of the websites are in English. There are only a few websites in the national language (Urdu). The IT awareness in Pakistan is very low. This has also hindered the growth of e-commerce (Hutt, 2003).

This low literacy rate has produced a very low skilled and educated population that lacks skills in information technology. The skills the population has are more suited to agricultural sectors which are what the Pakistan economy is. Majority of the population is below the poverty line and in such circumstances the internet becomes a luxury item.

This is true to the rural areas. Hence people are too mentally occupied to consider the advancements in technology for their benefit. In the urban areas, people are educated and have a higher tendency to trust and appreciate the benefits of e-commerce as compared to people in rural areas. The lack of local language websites is also not a problem in urban areas. It is suggested by some experts that with introduction of local language websites, the usage of internet and e-commerce in rural areas can increase. Fortunately for Pakistan local language websites have started to appear, at present in the shape of online newspapers.

## 6 Conclusion

This study has lead us to believe that the IT infrastructure in Pakistan is up to mark providing consumers and businesses a reliable and efficient mode to conduct transactions. This fact is true for the urban areas in particular, however, in the rural areas IT infrastructure is present but in lags in terms of speed and connectivity. Consumers have access to good quality internet at cheap costs and they are satisfied with it. The physical delivery system is also reliable and offers quick deliveries nationwide. Besides the local governmental postal services, there are foreign companies such as FedEx and UPS operating in Pakistan providing physical delivery services. The banks and financial institutions have the capacity to offer e-commerce services but have been reluctant due to the lack of its demand in the market. The Central bank of Pakistan is providing the basic setup that is required for online transactions. The penetration of personal computers and IT infrastructure in the rural areas needs improvement but from our analysis we conclude that its supply will quickly follow its demand in rural areas whenever it increases. Personal computers are common and are found in all educational institutions, offices, and households. The present state of electrical supply in the country has been very poor. Households and businesses have been facing electrical shortages of several hours in a day. Under these circumstances the IT infrastructure becomes secondary as without electrical supply all of these are useless. In the rural areas, traditional economy prevails and compared to the developed countries, people engaged in agriculture are not nearly as educated. The agriculture sector in developing countries is still following centuries old market practices hence e-commerce is not a suitable tool for them.

The government has taken initiatives to encourage e-commerce but considering the political instability and national issues of higher priority, the governments over the last decade have been unable to succeed in its efforts. The people of Pakistan have the tendency to trust online interactions however it is limited to the educated class in the urban areas. People have less faith in financial institution's capacity to provide security for online transactions but this phenomenon is linked with the government's inability to improve law and order situation in the country and provide cyber protection to the people. This trust can improve dramatically if the government is able to take productive steps to ensure people rights and security. Unlike in some Asian countries, people don't have high preference for face to face interactions. Especially in urban areas people are famili-

ar with online chat rooms and have faith in it; however this trend is unpopular in rural areas. In Pakistan people prefer shopping in groups and seek peer approval before purchasing something.

The high difference between urban and rural areas in terms of IT adoption is a reflection of the contrasting education levels which is very low in rural areas. This low literacy level means there is a small percentage of the population that can speak and write English, understands e-commerce and its benefits, can operate a computer. Therefore, only a small percentage of the national population has the mental capacity to operate a computer, use the internet and appreciate the benefits of e-commerce.

These factors are inter-related and improving just one factor won't be sufficient to encourage e-commerce. The literacy level is low which results in a low productive workforce which in general results in low national productivity. The governments over the last ten years have been unstable and have not shown significant contribution to improve the literacy rate. In order to improve the state of e-commerce in the country the government needs to start at the grass root level and educate the masses and only through education will the people have the capacity to accept and embrace new technologies, innovations and way of life. Besides this significant reforms needs to be taken by the government to improve its own performance in terms of electrical supply. The cultural barriers would take time to overcome and through a paradigm shift in the mindsets of the masses can it be resolved.

## **6.1 Limitations:**

As this study was conducted in Sweden, there was a lack of access to academics and professionals in e-commerce from Pakistan; this research depicts the findings from a small group of people. Even though these individuals had credible opinions, to conduct a more promising research more experts need to be interviewed. Top management officials from the government and corporate sectors were unavailable to contribute to this study. Their contribution would add considerable value to this research. As the Pakistani economy is largely undocumented, the statistics obtained from government websites are not accurate and a complete picture of the state of the national environment cannot be retrieved for analysis. For this purpose field research is imperative. The theoretical framework written for this thesis lacks research work on consumer purchasing behavior.

The research conducted for this thesis suggested that the purchasing behavior of Pakistani consumer acts a negative barrier for e-commerce so further research in this regard needs to be done. Organizational perspectives have not been studied. The factors that enable and influence organizations to implement e-commerce within their own ranks and as a marketing tool need to be studied as these organizations are good receptors of the environment.

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# Appendices

## Appendix 1 - Interview Template for Experts

### For E-Commerce Academics/Practitioners:

1. Among the following factors which in your opinion are the most influential for e-commerce development in Pakistan and why?
  - Information Technology infrastructure
  - Access to internet
  - Reliable online transactions
  - Financial intuition infrastructure, Plastic money
  - Legal framework
  - Government online trade policies
  - Trust
  - Culture, preference over face to face transactions
  - Lack of local language websites
  - Computer literacy
  - Physical delievery system
  - Any other factors
2. Is the prevailing state of IT infrastructure sufficient to encourage and sustain e-commerce growth?
3. How does the quality of internet providers in terms of speed and connectivity influence the process?
4. Online transactions need infrastructure provided by financial institutions, such as online transactions. Is this infrastructure provided by financial institutions? If yes, are they up to standards with international markets? What are the short comings?
5. Is the government taking suffiecient steps to enourage e-commerce?

6. Does the governments laws, policies and regulations in place to provide security and assistance to online buyers and sellers?
7. Logistics challenges are also considered to be a barrier for e-commerce development. Do you think the delivery system in Pakistan domestically and internationally is cost effective and reliable?
8. Is there a preference towards face to face transactions to the extent it hinders online transactions?
9. How important are cognitive factors in development of e-commerce in Pakistan? The level of literacy, understanding of English, computer and e-commerce knowledge, theft and trust.
10. Some scholars have used the term E-Readiness to suggest an acceptance of the masses towards e-commerce, in your opinion is the Pakistani society e-ready?

## **Appendix 2 - Interview Template for Consumers**

### **For E-Commerce Users and Non-Users:**

The same interview template (Appendix 1) was used but the questions were asked in lay-man english and were confined to their personal perceptions and experiences rather than on a larger, national scale.