eBusiness in Pakistan: Opportunities & Threats

Submitted by

Ghulam Muhammad

Supervisor

Dr. Bahadar Shah

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Department of Public Administration, Gomal University
Dera Ismail Khan, NWFP, PAKISTAN

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CHAPTER ONE: INTRODUCTION

1 INTRODUCTION

1.1 Background of the Study

Information Technology has brought revolution in the organizational structures and performance of all the public, private and other social organizations round the globe. Since 1960s, computer has crept into almost all dimensions of human life. Most striking role of computer technology is visible in the formal organizations of the public and private sectors etc. The computer-artifacts were initially used for ‘automation’ of the routine tasks therefore the technology played ‘back-office’ role in the organizational environments. Gradually, “the technology developed by offering multiple packages to be used at different levels of the management and the organizational practices (Watson and Brancheau, 1992:116; Brancheau et-al., 1996: 225-242)”, where Laudon & Laudon (2003:133-134) have claimed that “new technology is very handy” therefore; it can be adopted by all organizations. At the moment grossly all the executives, middle management, front-line managers and other supervisory staff can have ‘customized-computer-environments’ that are precisely according to their departmental, group or even individual requirements for data processing and information manipulation.

Today, we are living in the global village therefore; “the concept of management and administration is now defined in terms of information language (Bahadar Shah & Allah Nawaz, 1996).” In many industries, such as banking and telecommunication, it is virtually impossible for an organization to compete unless its customers are given the level of service that is only possible with high technology systems. Managers largely depend on the skillful use of information and knowledge because; most of the people today have jobs that are information intensive. Kalakota et-al. (1999:76) are of the view that “it is the computer based business ‘eBusiness’ which is the driving feature of today’s knowledge economies.” Similarly, according to Deva (2003:31) “eBusiness is the intricate synthesis of business processes, enterprise applications and organizational structure, which create a high performance model”; furthermore, in eBusiness many of
the functions are performed electronically through internet, so eBusiness means interacting and serving the customers online. According to (Rogers, 2002) “the term eBusiness is used a broader sense than the eCommerce, it is not just buying and selling but also servicing customers, collaborating with business partners, and conducting eTransactions within an organizational entity.” Likewise, IBM’s chief executive officer Lou Gerstner postulates that “eBusiness is all about time cycle, speed, globalization, enhanced productivity, reaching new customers and sharing knowledge across institutions for competitive advantage” (Ibid, 2002). Moreover, Laudon & Laudon (2003:134) have categorized eBusiness into the following “Business-to-Business (B2B), Business-to-Consumer (B2C) and Consumer-to-Consumer (C2C).” It is a technology based global business and global marketing is forcing every nation to come up with modern tools for global competition and excellent customer services with improved quality. eBusiness uses IT; (a). to expedite the exchange of information for communication and coordination both inside and outside of the organization, (b). to manage the internal processes and external relationships with customers, suppliers and other entities. However, eBusiness or any other application of new technologies also comes with new problems for the organizations, government and the society at large, for example, intellectual property rights besides several emergent technological, human, moral, social, legal and political issues relating to the information rights, piracy and property rights, the accountability, control, quality of the system and life of the systems etc.

Pakistan is on its way to digital modes of governance and business. Like any other developing country, Pakistan is also passing through good and bad experiences however, unless adequate measures are introduced in customizing the technology, mismanagement always results in wastage of resources, problems in usage and sometimes total termination of the projects (Glass, 1998:13-15). Survey after survey reveals that “most IT projects fail or more precisely, they fail to make their organizations more effective rather cause new organizational problems and eat budget (Smith, 1998).”
In Pakistan, eBusiness is still an infant child but it is growing where banking and telecom sectors are playing leading role yet the pace is slow because of many unfavorable conditions i.e. governmental, organizational and technological. Within this context, the study is designed to examine and analyze the threats and opportunities for eBusiness in Pakistan that makes or breaks the eBusiness.

1.2 Problem Statement

Computerization is a challenging process with novel technologies and mundane working procedures. Every organization goes through both structural and operational changes to adjust with the demands of new technological artifact. However, this adjustment is not a simple and straightforward job rather requires multidisciplinary approach to restructure the organizational edifice and do fine tuning of the functional procedures so that they become compatible with the emerging demands of new systems. Research indicates that “failure in creating alignment between the computer and business processes is the main area of problems (Watson & Branchseau, 1992:116).” The technological adjustments are simple in comparison to the organizational, human and environmental factors. Experience verifies that inadequate efforts to align IT and business are always translated into problems, which interfere with the integration issues of the enterprise.

This research aims at the identification of organizational, human and environmental context of the eBusiness in Pakistan as computerization in the developing countries has several common problems however; each country also has its own issues, which must be accommodated by the system developers through the customization of the new systems. Thus, the research problem for this research can be stated as ‘given the dangers of IT-projects both in the private and public sector, how are the conditions for eBusiness in Pakistan with regard to its contextual factors and how could they be streamlined according to the requirements of new systems?

1.3 Objectives of Study
The research objectives of a research project are multifarious however, all of them point to the learning of academic and analytical skills. Since I am a teacher therefore, prime objectives of my research can be coined in this way:

1. To look into the opportunities and threats of eBusiness in Pakistan.
2. Identification of the contextual fabric of the business organizations in Pakistan with reference to the computerization efforts.
3. Building up knowledge and command over MIS with special acquaintance of eBusiness in home country.

1.4 Justifications

IT-related growth is order of the day. No organization can stay isolated from the computerization spell of the contemporary organizational life. Government is launching several eGovernment projects in parallel with the same type of moves in the private sector. Though the digitization of public sector cannot be equated with that of business sector however, there are several common issues in the development and implementation of computer-based information systems, which can give a good start for understanding the ‘management perspectives of computerization’.

There was a real need for conducting a research study on the topic as no work has been done on this in Pakistan or even more. This will further contribute in enhancing the knowledge and awareness of the academia about eBusiness in Pakistan. Moreover, the research into the organizational, human and environmental dimensions of eBusiness will enhance my know-how and skills about the area.

Given my experiences in the field and inclinations towards exploring deep into the bottom line understandings of the topic, all upholds the idea that I was better able to perform in this area than any other with the intellectual guidance of my supervisor and teachers plus academic interactions with the class fellows.
1.5 Contributions

IT is new and the changes emerging out of IT-related reformations in the organizations are also novel and require fresh research. The research on the non-technical aspects of an IT-project is gaining momentum across the IS community. Several research publications are unveiling different problems and their possible solutions in a particular context.

In Pakistan, IT is yet to stand on sound footings but to achieve this goal requires a lot of research and development activities so that our customized problems are first underlined and then their solution-models are thought out. This research will contribute to the knowledge about typical IT-related issues of eBusiness in Pakistan with main focus on its contextual factors as how they make or break the IS development and use activities.

This research has come up with facts and figures about the context wherein new technologies are supposed to operate. Furthermore, the findings of research offer ample analytical models to analyze and understand IT environments for different organizations in Pakistan. It is also spadework in the area since the infusion of IT in the Pakistani organizational infrastructures is yet to mature. There are several chances of mismanaging IT-projects thereby ignoring the international signals for being careful; therefore, an initial understating of IT in Pakistan is achieved for further research.

1.6 The Organization of the Dissertation

Chapter 1 includes the introduction and background of the study besides the objectives, significance and contributions of the study.

Chapter 2 introduces the phenomena of eBusiness in global perspective, pointing out the opportunities and threats in developing countries and in Pakistani context. The governmental, organizational and technological factors are elaborated to identify major issues of eBusiness in Pakistan with an emphasis on the human, organizational and
environmental variables and how they influence the eBusiness development, implementation and use practices in Pakistan.

Chapter 3 gives a detailed account of research methodology, population, sampling, sampling procedure and sampling size, the methods and instruments of data collections and analysis to understand and analyze the different aspects of the issues of eBusiness in Pakistan and to sort out solutions.

Chapter 4 demonstrates the statistical analysis of the data and hypothesis testing. Similarly, to strengthen the argument and empirical basis of the proposed framework, chapter 5 provides a focused discussion and analysis. This chapter also highlights the major findings of the study. The opportunities, barriers and implications in the workplace are discussed. Major governmental, human, organizational and technological barriers to the effective eBusiness are explored. The findings into a solution model ‘Customizing the technologies: An integration model’ which emphasize on the public private partnership is highlighted in chapter 6. The framework suggests an integration model between the government functionaries, between government and businesses and with co-business community. Furthermore, limitations of the current model are analyzed and discussed.

Chapter 7 accounts for the summary, conclusions elaborating the continuous updating of IT and eBusiness systems and suggests some possible future research activities to test and further develop the framework with focus on the non technological dimensions of eBusiness especially humanization of IT and cyberlegislation, to safeguard online transactions and to accelerate the growth of eBusiness in Pakistan to compete in global business with state-of-the-art business technologies.
CHAPTER TWO: LITERATURE REVIEW

An effective research is always based on past knowledge. What does past knowledge tell us? It tells us what is already known as well as still unknown. According to Tariq (1998:147) “if a researcher comes to know what is already known and what is still unknown about the problem, it is expected that he will know where to start and what to do?” while Good & Seates (1954) are of the view that “survey of related literature can contribute in three ways to problem solving. First, it is a careful planned program of reading frequently to source significant problem, secondly, it determines whether the proposed study unnecessarily duplicates some earlier investigation or not and thirdly, the knowledge secure from such readings in terms of sources, procedures, results and interpretation of findings.”

“Literature review is the beginning of every academic research for certain purposes (Galliers, 1994:144-145).” The primary objectives are 1. Getting acquaintance with the area and background of the topic 2. Identifying the extent of so far research relevant to the topic and 3. Most importantly, pinpoint the problem-areas or yet unfolded and wanting research questions, which can be taken up for further research. Wilson (1950: 300-301) opine that “literature review is based on the assumption that it helps the researchers to accumulate facts and then learn and build from what others have done.” Today’s studies are built on those of yesterday. “Researchers read studies to compare, replicate, or criticize their own weaknesses (Neuman, 2003: 89)”, where the reason and objective of literature review is to create links to a developing body of knowledge.

2.1 INFORMATION TECHNOLOGY IN THE DEVELOPING WORLD

2.1.1 Introduction

“The trend of globalization has brought to the fore the hot debate on the use and impact of information technology on the societies and their businesses, which is most visible in the perspective of developing countries, as it incisively plays a significant role in the development of today’s economies (Bhatnagar, et-al, 2000: 22).” The growing success of
IT initiatives makes the global community more closed in the new environment, while Heeks & Richard (1999: 45-48) are of the view that “global village is all about global knowledge, access, participation and governance in the information age and IT has radically changed the views of societies about the boundaries between organizations and within the organization.”

As societies are gradually moving from one generation to another i.e. manual to automated data processing and furthermore to the new generation of the automated decision making, and now to new generation of mobile communication age, that is why the countries across the world find themselves enveloped by the truly ‘new paperless and borderless and more interactive global electronic business’ or eBusiness.

Many countries across the globe are trying to introduce IT in the process of government and business organizations, which aim to provide better services with supposedly less cost for the management of the business. The use of IT in business creating new face with failure of the old system, however, the use of IT in business does not necessarily lead to success rather it is the effective use of IT that make it happen, as Hirschman (1991) states that “individual create new organization which they believe will better achieve what they regard desirable outcomes than existing arrangements.” Likewise, it is not at all surprising for the governments across the globe to perceive it urgent to introduce IT in various aspects of society. For one thing, like the invention of the telephone and wireless communication in the past, it seems almost certain that IT has recently become a core technology, without which any society would not function properly. In fact economic activities, the very foundation of the societies, are rapidly integrated into one global web, without which even industrially advanced countries are unable to access the global market. It is also true that consumers, using information provided through internet, change their choices, in this sense, too, it is imperative for anyone who wants to participate in the global market to be equipped with the IT in one form or another. This dynamic process of economic activities tends to increase uncertainty. Every one must prepare for the ‘turbulence’ (Robert, 2000:1-2) triggered by a chain reaction of rapidly changing choices of IT and eBusiness.
In many developing countries, people are doing their businesses online even government have the offices that are IT intensive and people can get more information through the internet on government activities, reciprocally can convey their opinions on various policy issues than before. Therefore, the wisest way to take advantage of IT in organization and management for the sake of supporting and enhancing the “deepest” values of business in society is IT business alignment, otherwise, we would be put into the ‘Golden Straitjacket’ Thomas Friedman (2002) describes. Similarly, Heeks (1999: 33) argues that in “the developing economies the main emphasis is given to the socio-economic development and businesses are focusing to provide goods and services by the application of IT, where novel feature of IT is its accent on facilitating the effective management of the business.” Volkow & Avgerou (1995: 52-65) concluded that “IT promotes the acquisition and absorption of knowledge, offering the business firms the unprecedented opportunities to improve their policy formulation and implementation, re-engineer organizations and institutionalize innovations.”

There are studies indicating that is not necessary that IT always support beneficial change but it may also rash inequalities between those who haves and the have-not the IT and its use where on the other side the optimists believes that businesses are moving in the right directions, as the innumerable socio-economic problems are hindering the business development, which require scientific and systematic technological solutions, and IT fulfilled this purpose. Reich (2000) observed that “IT is almost projected as a magic potion for catapulting the country into a stable and developed economy; however, the pessimists believe that the application of IT in management may deteriorate the situation through lopsided access to services offered by business.” According to Alka & Uma (2004: 52-53) “this could be due to lack of proper infrastructure, high cost associated with computers, the barriers of languages, rigid mindset officials, and differences with reference to the use of information”, however, to access a common knowledge pool, the society may get divided on the basis of knowledge itself, which is impeding eBusiness in the developing countries like Pakistan. It is thought that IT has created a new social class,
which is inferior in living with information poverty at one hand and a new cadre of those who are reaping the benefits of new technology on the other.

A report released by World Economic Forum (WEF, February 2002) says that “Pakistan had the widest digital divide.” According to the report, “the internet is getting popularity in the country and the internet users and ISPs are growing fast as compared to few million few years ago, yet the urban areas are the major beneficiaries who have access to internet i.e. Islamabad, Lahore and Karachi, which have 70% internet connections in Pakistan”, however with the passage of time and encouragement of the government, IT is moving ahead positively.

Similarly, in developing countries less attention is given to the social application of IT, considering it just a technical instead of a strategic innovation. Likewise, there is widespread fear that overemphasis on application of IT may dislodge the idea of ‘appropriate technology’ and devalue the importance of the traditional cheaper technology which is still used by the majority of the businesses. It is feared that this over eagerness about IT could also result into the loss of traditional manpower resources. Another thing which is ignored is whether the revolution of IT can really empower the customers in the real or not without a minimum ‘existent’ infrastructure. It is said that in all developing countries, the electric power and telephone connectivity are the main factors, while the prioritization of the scarce resources to develop infrastructure and technical feasibility for IT projects have not given enough serious attention in the country.

2.1.2 Globalization of IT (Mounting on the Technology Bandwagon)

Imran (2004) notes that “the Electric power was first time used in 1873, which took 46 years for mass scale use, telephone system was invented by Graham Bell in 1876 and it took 35 for commercial use. The television was first used in 1926 and it took 26 for its commercial use, while personal computers were invented in 1975 and took 16 years to reach the users; similarly, mobile phone was introduced in 1983 and it took 13 years for
its commercial use and the internet was first introduced by ARPANET in 1994 and it took only 4 years and becomes accessible in all the nook and corners of the world just in 4 years.” With this much amazing development no nations could remain untouched, and all the developed and developing nations are mounting on the IT bandwagon.

Nisar (2004) asserts that “IT is the only option for several developing and developed nations to raise their economies to compete in the global market that is why in 57% of the Americans has access to internet, while only 0.6% people living in the developing nations have the Internet access.” Desmond (2004) and Arun (2004) claim that “200 million people around the world were connected to the Internet in 1999”, however the number of users is increasing geometrically, which obviously show their interest in the adoption and promotion of IT for their economic development and prosperity.

2.1.3 Evolution in Developing Countries

Developing nations are focusing their policies on “the acquisition and development of IT-infrastructure to be competitive in the age of knowledge-economy (Ordanini & Pol: 2001, 276-285).” It was mid 1960s when the concept of computing was introduced in the developing countries though advanced countries were already using the computer however; technology was not used for commercial purposes as it was costly. 1970s and 1980s saw the handsome development in the field of computer when computer entered into the developing markets and gradually crept into their organizational life. On the other hand, Internet was introduced in late 1990s in the developing countries, initially it was also very costly where the infrastructure was highly poor that is why it took long time to get popularity hence the pace was very slow. Likewise the concept of eCommerce and eBusiness got late entry and still at their infancy in the developing countries due to several governmental, organizational, technological, human, cultural and social constraints. Similarly Christian Morales of the Intel Corporation has rightly remarked that “as a developing nation, Pakistan is trying its best to excel in IT”. While Nizamuddin & Khalid (2001) are of the view that “Pakistanis are highly talented people and if the right kind of policies are adopted it could become a major player in the international IT market, they further says that Pakistan can learn more from the developed and developing
countries e.g. Malaysia.” They further points that “Pakistan is on way to the digital modes of governance and progressing positively to be included in the list of IT leaders.”

2.1.4 Information Technology in Pakistan

According to IT Report (2004), “the computers first came to Pakistan almost 35 years ago when it was introduced by few banks, PIA and WAPDA. The commercial banks in private sector like Habib Bank, United Bank and Muslim Commercial Bank took the initiative to infuse computers into their operations; this trend was followed by Quaid-E-Azam University, Pakistan Atomic Energy Commission, University of Engineering and Technology Lahore and PIA Karachi. A British firm British computer company International Computers Limited introduced mainframe computers in the major cities of the country; the beneficiaries include the KPT, KESC, Karachi Gas, PNSC, AIOU and State Life Insurance. The Packages Limited Lahore established the first software firm in 1977 with the name of Systems Private Limited. After realizing the IT revolution worldwide, the Government of Pakistan announced relief on the imports of hardware and software in 1985 and the custom duties on electronic goods were reduced to promote computer, this flooded the hardware markets with PCs. People started using personal computers in offices and homes. The heavy customs duties on computers were completely removed in 1991-1992.” Yet the real boom occurred in early 1990s, which is termed as ‘IT revolution in Pakistan’. The PTA (2006) reports that “in 1991, 90% telephone lines were converted to digital, in 1995; Internet Service Providers (ISPs) started providing Internet facility and in 2006, 85 ISPs out of 250 are operating in the country to provide internet service to 7.5 million users.”

Similarly, IT report (2006) further claims that “during the period of 1970s and in early 1980s, the import of computers was banned except the special license from the ministry of commerce, this ban was again relaxed in the middle of 1980s and the import of computer allowed free of duty, which resulted in the flood of low-cost user-friendly PCs in Pakistan markets.” Khawaja (2001:2-3) notes that “in March 2000, government has established the IT and Telecom Division a focal point for IT development at federal level,
given that then incredible development activity has taken place in the Pakistani IT sector.”

Pakistan like other developing countries can no longer rely on a stable primitive mode of business system, which had prospered in the past 60 years or so. Hood (2002:7-12) have claimed that “there is little doubt that the use of IT in business and management has the potential to reduce the cost and increase the speed and quality of services if used wisely.” IT is always seems to provide solution, on the contrary, the very nature of IT tends to present challenges in the process of digitization. However, management is human activity after all; it is the human beings not the IT that matter. How to organize a secure, safe, and stable business for human beings (customers) is what common sense is all about, where IT is only an instrument to achieve this objective.

According to ESCAP (2003) “a sizeable number of IT applications at various levels of business are used since 1980, specially in telecommunication and banking sector got roots in Pakistan whereas, the use IT is meant to achieve significant goals i.e. the increase to increase the service from the government and business community for the citizens and customers, which may enables the users to use information as precious resource for the effective business management, enhancement and betterment of the social and economic development.” Due to the popularity throughout the whole sphere of human activity, the IT is become an “essential component of effective management” or in other words the “good governance” (Heeks & Richard, 1999: 55).

Pakistan initiated IT programs in 2000-2002 and it is expected that in 2007-2009, first phase of Pakistan’s IT plan pertains to infrastructure. All the ministries of the federal government at first instance were brought into a network via fibre and their operations were computerized thus a ‘paperless government’ was introduced. Syed Tariq Niazi (2004) notes that “IT is now recognized as an important tool by the corporate sector in the country, that is why government is offering incentives to investors to invest in the IT sector of the country, so IT experts are optimistic that Pakistan is having conducive environment for the investors to grow and earn more profit from this sector.” He further claims that “some one hundred software firms in Pakistan are having ISO certification and even now the cost of the bandwidth has been reduced to facilitate common users”;
resultantly this will boost the eBusiness in Pakistan. A number of Pakistani sites have hitched a ride on the IT bandwagon, going into direct competition with of eBay.com and amazon.com to provide Pakistani goods to the Pakistani expatriate market.

During 2000, government gave a lot of emphasis to IT Sector, IT policy and action plan was announced, new IT universities were established in the country and IT professionals were hired to impart quality IT education in these universities. A series of nationwide seminars on IT, exhibitions and software competitions were organized to educate the people. In School and colleges computer was introduced as a subject. Internet cafes were established create awareness for Internet usage. The telephone network was improved and telecommunication facilities were extended via small exchanges and PCOs in the rural areas, and the links between Pakistan and other countries was enhanced. Several steps for the infusion of technology into different aspects of life have been initiated, for example, Ministry of Science and Technology Pakistan is chasing a hectic IT-development program since 2000. Where, Ara (2001: 28-29) have observed that “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. There are task forces for eGovernment, eCommerce, and for women in IT.”

The prominent characteristics of IT industry in Pakistan include the sufficient availability of human resource at affordable and low economic cost, conducive environment for foreign investment by offering special incentives through market based policies for IT investors, stress on the computer education projects to achieve the objectives of continued supply of manpower, the established capacity to successfully implement the projects of software development through Pakistani firms, provision of advanced facilities for data communication, provision of advanced hardware and development tools in the country with low price business software etc (IT Report, May 2004: 7). However, experts believe that IT-diffusion demands certain situational arrangements, which initially, must satisfy the minimum requirements on all the bureaucratic, political, educational and social fronts, otherwise, efforts on any one front and inattention to other dimensions may end-up in a mess or even if some achievement is made, it will be injustice not to bother about the wastage due to mismanagement.
2.1.4.1 An overview of Internet Infrastructure

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punjab</td>
<td>1,191</td>
</tr>
<tr>
<td>Sind</td>
<td>329</td>
</tr>
<tr>
<td>NWFP</td>
<td>609</td>
</tr>
<tr>
<td>Balochistan</td>
<td>210</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,339</strong></td>
</tr>
</tbody>
</table>

Table-1. Cities & Towns Connected to Internet in Pakistan as on June 2006


Figure-1. Internet Cities in Pakistan

The Internet Users (1997-2006)

<table>
<thead>
<tr>
<th>Years</th>
<th>No of Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-1998</td>
<td>0.01 million</td>
</tr>
<tr>
<td>1998-1999</td>
<td>0.20 million</td>
</tr>
<tr>
<td>1999-2000</td>
<td>0.50 million</td>
</tr>
<tr>
<td>2000-2001</td>
<td>0.80 million</td>
</tr>
<tr>
<td>2001-2002</td>
<td>1.00 million</td>
</tr>
<tr>
<td>2002-2003</td>
<td>1.60 million</td>
</tr>
<tr>
<td>2003-2004</td>
<td>2.00 million</td>
</tr>
<tr>
<td>2005-2006</td>
<td>2.14 million</td>
</tr>
<tr>
<td><strong>Up to December 2006</strong></td>
<td><strong>7.5 million</strong></td>
</tr>
</tbody>
</table>

Table-2. Number of Internet Users in Pakistan


Likewise, “promotion of IT to enhance the efficiency and effectiveness of both the public and private sectors and uplift of the economy is the priority of the government as expressed by the president of Pakistan General Pervez Musharraf (Najam, 2001)”, where Tan Choon Seng (2001) while analyzing the potentials of IT in Pakistan, says that “there is a room for expansion in Pakistan with a market of 155.4 million with 1.9% growth rate per annum” (also see, Economic Survey of Pakistan, 2005-2006), he also appreciated the pro-investment policies of the government of Pakistan. Similarly, Ms. Marilou Jane (2001) Finance Director of the World Bank praised the steps taken by the government for the development of IT and eBusiness in Pakistan.

The above discussion indicates that computerization in Pakistan has now sound footings and eBusiness could enjoy friendly and conducive environment as compared to the initial
years of IT in the country, however the development of IT industry to achieve the objective of real IT culture is still a challenge.

Today, the computer training institutes to impart education in computer science including all sizes and shapes have established across all the corners of the country. The students, irrespective of their selected syllabus and trade, are eagerly learning and advancing their IT knowledge and skills.

The characteristics of Pakistan’s IT policy include “the imports of computer hardware and accessories without duty, tax incentives to IT institutions and faculty besides reduction or total relief in duties on software exports, reduction in the rates of internet for the ISPs by expanding the network of internet to connect more cities of the country along with loans on soft conditions to purchase computer hardware for the selected individuals and firms (IT Policy & Action Plan, 2000).” Yet, an ineffective and poor implementation of the policy seems to raise many concerns. To implement IT policies successfully the provision of back-end support (technical and managerial) is essential along with infrastructure. Similarly, the front-end support is also necessary, while non availability of back-end support, specifically the lack of know how on part of bureaucracy about IT is an impediment in achieving the objectives of successful implementation of the IT policy.

Zarmeene (2006: 40-43) notes that “government has established an IT division in the Ministry of Science and Technology however; instead of facilitating the needed support for the promotion of IT sector the colonial mind set bureaucracy is hindering the spread of IT in the country, where low rate of PC penetration due to financial constraints is the major obstacle in the development of IT culture in Pakistan.” According to Pakistan Economic Survey (2005-2006) “there are 1.5-1.6 million PCs in the country with 1.2 million e-mail accounts, and 7.5 million internet users yet lot of efforts needs to be done for mass access of the Internet in the country. Similarly, the PC penetration requires telephone lines and it is essential to increase the number of telephone lines drastically, presently these are less than 5.2 against 5.1 million active lines in June 2005.”
Similarly, development of telecom and internet infrastructure are the prerequisites of the eCommerce and eBusiness, while in “Pakistan telecom sector is likely to grow at a 19% CAGR with total teledensity of 23.1 in April 2006, which was 2.8% in 2000-2001 with 9.9% cellular penetration (See, Pakistan Economic Survey, 2005-2006; Shabbir, 2004).” Due to the dynamic policies of the government in the country the telecom sector, a positive change occurred few years ago when the doors were made open for the private sector. Lower tariffs and less costly handsets brought revolution in the telecom sector of Pakistan and people jump on to the mobile bandwagon. According to Pakistan Economic Survey (2005-2006) and Spider (March 2006) “Pakistan’s teledensity stands at 23.1% with the subscriber base of fixed lines while mobile subscribers reached to 29.6 million with more than 131% increase in 9 months only and mobile phones industry has grown from under 1% (0.3) in 2000 to over 13% in 2005, representing a tenfold increase from less than two million customers to over 29.6 million customers.” After realization the dynamism and potentials in telecom sector, international investors entered to the Pakistani market in order to reap the benefits of a rapidly growing use of mobile phones. Keeping in view the advantages of the telecom deregulation around the globe, Pakistan has broken the monopoly of PTCL through privatization and deregulation of the telecom sector and Pakistan’s telecom sector saw handsome investment and growth in its telecom sector in 2004-2006 with the privatization of PTCL to Etisalat International, this resulted in the significant changes in socio-economic environment of Pakistan. Likewise, according to Pakistan Economic Survey (2005-2006) PTA took following initiatives to develop telecom and IT industry in Pakistan:

1. “The government of Pakistan reduced royalty on mobiles from 1.5% to 0.5%.
2. Annual license fee of card payphone was lowered to 1.5% of annual gross revenue (10% of initial license fee which ever is higher).
3. The royalty of ISP was abolished and replaced by the annual fee of 0.66% of annual gross revenue.
4. More liberal, transparent and non-discriminatory licensing policy was adopted PTA.
5. The calling Party Pay regime for mobile users was implemented.
6. Mobile Number Portability will be implemented at the end of 2006.”

Moreover, according to PTA (2006) the following incentives were announced by government to develop the telecom sector:

1. “Privatization policy of telecom-sector was announced in July 2003.
3. The broad band policy was announced by the government of Pakistan in December 2004.
4. The tax on activation of mobile connection was reduced from Rs. 2000 to Rs.1000.
5. The FAB is brought under the administrative control of PTA in April 2004.”

This competitive policy of the government attracted and encouraged the investors, which resulted into good investment in telecom sector.

The telecommunication infrastructure and services throughout Pakistan were properly established and Pakistan telecom sector network include the digital switching, radio and system of the fiber optic cable besides advanced technologies. In 2000-02 the analogue switch system was replaced the digital switch system.

Similarly, in the last three years numerous initiatives are taken to enhance the telecom services in Pakistan. Five private and one public cellular Mobiles companies are operating in the country, five out of six are having the GSM and one has analogue and digital AMPS network. The main shift that occurred in the last few months in telecom sector has resulted in handsome growth. According to Pakistan Economic Survey (2005-2006) and PTA Report (March 2006) “in 1990-2000 the total number of mobile subscribers were 0.3 million in the country, which crossed the figure of 2.4 million in 2002-2003 and this trend of sharp increase continued at an exceptional rate, and in 2003-2004 it crossed the figure of 5.0 million, where addition of new subscribers increased these figures to 10.5 million by the end of April 2005. According to estimates, currently there are more than 29.6 million cellular phone subscribers throughout the country including AJ&K with an addition of 1.6 million subscribers each month similarly, the
mobile phones teledensity crossed 7% 12.8 million in 2004-2005 from 0.2% in 1999-2000.”

Likewise Pakistan Economic Survey (2005-2006) and PTA (2006) reports that “the market share of the mobile companies in Pakistan show that Mobilink is leading the with 51% share, Ufone 22%, Instaphone 1%, PakTel 4% respectively. Telenor, which is the new player has a share of 6.20% with total subscriber of 653,170 in two months only while another new company Warid has started its operations in May 2005 and captured 4.3 million market share in six months with low tariff and 30 seconds billing with 12% market share.”

The development in the telecom sector has a direct influence on the economic growth in the country. On January 29, 2001, the president of Pakistan Pervez Musharraf inaugurated the services of Pak Telecom Mobile Ltd. (Ufone), which is available in 250 major cities of Pakistan with 5.4 million customers. While PTA (2006) claims “59 billion and 4.4 billion US$ investment in telecom sector which is 32% of the total investment in the country”. Moreover “teledensity in 2005 was 13.76 where it was 4.31 in 2003 similarly, in 2006 users of mobile phone reached to 29.6 million as compared to only 12.8 million in 2005 and mobile density is 19.19 (PTA Report, March 2006; Pakistan Economic Survey, 2005-2006)”, where private cellular firms paid 291 million $ as license fee to PTA in the recent years”, however, according to Mosani & Kamran (2006) “two of the pioneer cellular PakTel and Instaphone has announced closing their operations; they blamed PTA for blackmailing. On the other hand PTA (2006) claims that PTA is responsible to protect customers and says that they will not allow PakTel and Instaphone to close their operations because they failed to pay 29 million $ and 58 million $ respectively as the license fee even after renewal of their licenses.”

Mosani & Kamran (2006) further reports that “the Mobilink, Telenor and Warid are investing heavily to expand their network. The Mobilink is progressing rapidly with aggressive plans to increase the network capacity. The Instaphone has recently replaced its old system by Digital TDMA, and PakTel by GSM system.” The new companies Telenor and Warid Telecom are improving their technical infrastructure, which is
expected to generate employment opportunities and reduce the tariff. Yet, “Mobilink is the largest company in Pakistan with more than 10.19 million customers up to March 2006, where it had 7.8 million customers in 2004 followed by Instaphone 4, 08,000 and Ufone with more than 5.4 million each, PakTel with 9, 84,000 and Telenor 4.5 million customers in March 2006 and Warid 4.3 million in June 2006, however due to non GSM technology and limited coverage the number of Instaphone customers reduced by 27% (Mashriq, June 25, 2006).”

These figures shows 170% increase in the mobile telecom in the year 2005 where it was 136% in 2004 and 131% in 2006 while 180 new town and cities got connectivity during 2005, now 451 towns and cities have the mobile phone connectivity. Currently there are 3, 231 mobile phone towers in the country (PTA Report, March 2006). The growing rivalry in mobile phones market has opened new vistas with better services and low price for the users and especially for the business community to remain in touch with business operations online (m/eBusiness) via mobile technology.

<table>
<thead>
<tr>
<th>Year</th>
<th>No of Subscribers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>0.7 million</td>
</tr>
<tr>
<td>2002</td>
<td>1.7 million</td>
</tr>
<tr>
<td>2003</td>
<td>2.4 million</td>
</tr>
<tr>
<td>2004</td>
<td>5 million</td>
</tr>
<tr>
<td>2005</td>
<td>12.8 million</td>
</tr>
<tr>
<td>2006</td>
<td>29.6 million</td>
</tr>
</tbody>
</table>

Table-3. Cellular Phone Subscribers in Pakistan


In an effort to further expand subscriber base, Mobilink, the country’s largest cellular operator, has launched its Village Phone Program. Under this project, the company along with Khushali Bank will offer micro finance facility for the purchase of handsets. Mobilink is already offering its connections along with handsets in urban areas. Telenor, one of the new cellular company, has started operations in 2005 with online balance transfer facility throughout the country, where Warid Telecom, which is the second new cellular operator, has signed an accord with Ericsson for its mobile network services. The Warid launched its operations by investing Rs. 600 million. To finance its license fee and
expansion plans, the company has also signed a US$ 347 million contract with 18 local banks. Similarly, the teledensity in Pakistan is growing at a reasonable rate since last ten years.

Likewise, developed and state-of-the-art telecom and internet infrastructure is needed to promote IT culture and IT trade in the country, where on the other hand, this necessitates the development of IT professionals and human resources to support IT based business operations.

Besides development of telecom infrastructure, Aslam (2000) notes that “currently hundreds of institutions are imparting IT education; however due to no check from the government, most of the produce of these institutes do not meet market demands due to out dated curricula and poor faculty. Presently, thirty candidates are enrolled in the Bachelor of Computer Science programs nation wide, out of these five thousand (17%) are getting quality education, similar is the fate of other fifteen thousand who are registered in the courses of certificates and diplomas in IT throughout the country. This means that 20% among these are receiving quality education and the remaining 80% are not receiving up to the mark education that is why the out put of these institutions are in trouble to find a lucrative employment while having a certificate and diplomas.” This one of the huge misuse of manpower indeed, where proper accreditation and testing the quality of services of the thousands of IT institutions across the country is need of time because both public and private institutions delivering education which is irrelevant, or of poor quality. Ex-Secretary of PASHA, Khurram Rafiq opines that “out of rupees five billion, not a single rupee allocated and announced in the IT policy for the development of IT is utilized.” This indicate the lack of interest of the government machinery in the implementation of IT policy. Yet, situations is not that much gloomy because the policies of the government like lowering the cost of Internet rates are promising for the development IT culture through relief to the end users and the according to the IT Policy (2000) “the tariffs of the Internet bandwidth has reduced from US$ 87,000 to $ 1,400 per mega byte per second (10% of that in India and Dubai) while more relief in internet bandwidth tariff is expected. These will benefit the internet users as the charges will be further lowered 10-15%”, however, the real IT-culture has yet not got deeper roots in
Pakistan. Moreover, several websites as well as IT companies in Pakistan are operating online for business transactions however despite these efforts, purchase of goods offered online remain almost negligible while a real IT-culture starts with the facilitation of goods and services online (eBusiness).

2.1.5 Differences from the Developed World

Lee & Wang (2001: 54-62) have stated that “IT is a magic potion for all management problems as all the managers no matter where they serve are compulsorily doing the business of information and the scanning, manipulating and dissemination of the facts and figures are being fulfilled by information systems which is the effective use of IT.” Similarly, Feeny (2001: 41-52) have said that “to prosper socially and economically and to access to the global market, developing nations have no option but to adapt to this new technology.” Developing nations are in the process of digitization both public and private sectors are infusing IT in their organizational structures and operations. As discussed earlier that adoption of technology is not a simple and easy task as it has some pros and cons. Similarly there are several areas which need to be analyzed before adoption of new technology. As for as IT is concerned, in the field of IT developing countries have many differences from the developed countries in the forms of technological gaps, and socio-cultural differences. Experts suggest extreme care as these differences could result into a gap and IT business misalignment that causes the failure of new systems.

2.1.5.1 Technological Gaps

Yoffie & Cusumano (1999: 70-81) have observed that “advanced nations are reaping the benefits of leading-edge technologies, while developing countries lack the advance technology and sometimes unable to acquire it, consequently they are lagging behind in the race of development and advancement.” Willcocks & Plant (2001: 50-59) share the same view, to them “in this era of globalization where public and private enterprises are changing their conventional modes of businesses to online operations, developing nations are still at the inception of adopting these technologies.” There is large technological gaps of those have and haven’t of the computer and telecommunications hardware and
software for online businesses. In developing countries like Pakistan acquisitions, installation, use, and maintenance of new and sophisticated technology along with training of the personnel is a serious barrier to eBusiness. Similarly developing countries and especially Pakistan have no units to manufacture the hardware; furthermore Pakistan spends handsome financial resources on the acquisition of software which is the basic components of eBusiness systems. Pakistan has a very bad experience in this connection as Pakistan lack hardware manufacturing of the computer nor the developed countries are ready to transfer the leading edge machines and technology to the developing economies resultantly they remain at the mercy of the developed countries for hardware and other associated supplies. Besides hardware, according to Timothy & Linda (2002: 2-3) “software is the blood of IT and its development is cheaper if qualified software engineers and developers are available in the local market, however due to poor and below standard IT-education institutions developing countries are facing with a dilemma of the scarcity of the qualified IT-professionals in order to meet the national requirements of the eBusiness.” This compels the developing nations to spend huge amount of their resources on the purchase of the off the shelf costly systems from the advanced and developed countries. Though if they are able to produce software of international standard and high quality but due to lack of resources and the brain drain of the qualified IT–Professionals Pakistan is unable to cater the software requirements of the business. Thousands of IT-professionals from Pakistan are working in the Silicon Valley with Microsoft and Oracle etc. This massive brain drain resulted into the scarcity of the quality IT professionals.

Likewise, Sauer (999) have brought to the front that “business environment and conditions of the advanced nations are different from that of the developing nations in many areas e.g. the level of technology and the skill needed to use besides the socio-cultural and political differences, management practices and the regulatory environment.” Moreover off-the-shelf systems do not meet the business requirements of the developing nations. The only option is the customization of technology according to the indigenous environment of the particular business firm. This is not a simple and straightforward job rather involved many complexities in the technological, organizational and human
perspectives. He further postulate that mostly the acquired technology is outdated or obsolete and do not support the business activities in the global business arena as IT and eBusiness systems are dynamic and every spell of the moment add new and advanced features to IT, which are available to the firms of developed nations and far from the reach of the developing nations, so the level of advancement and use of technology create difference of digital apartheid between have and have-not’s due to which developing nations can not play the leading role in adoption and use of new eBusiness systems rather always seek help from the developed nations that is why the pace of IT diffusion and growth is slow in Pakistan and other the developing nations.

2.1.5.2 Social and Cultural Differences

The implementation of IT in business involves many social and cultural dimensions that are constantly changing due to new technological developments and environmental changes. Turban, McLean & Wetherbe (2004: 35) considered following issues: “codes of ethics, intellectual property rights (primarily digital property), accountability (for actions are non actions), personal and data privacy (including ‘data veillance’ electronic monitoring, data accuracy and data accessibility), freedom of speech Vs censorship, and ownership of information which fall under the umbrella of IT ethics, while these issues should be examined any time an IT project is undertaken.”

Daniel & Klims (1999: 318-325) have noted that “as globalization is shrinking the social and cultural diversity round the globe; a new global and universal culture is emerging from the use of IT.” The social and cultural differences between the developed and developing nations; transfer and sharing of knowledge and resources and changing the business and management culture with emphasis on competition and maximum humanization of technology are the driven features of the new IT-culture. Global business and financial transactions and supply of goods and services now need just a computer, telecommunication line and a single click. However developing countries are still at the stage of beginning or the least beginner, so it is very hard to change or assimilate the new business and organizational cultures in these economies. Wise & Morrison (2000: 86-96) while analyzing the promotion and development of IT have
observed that “the slow pace of IT in developing countries is because of the social and cultural gaps and differences between the developed and developing nations.”

eGovernment, eBanking, eShopping and dot.com are the emerging culture in the technologically advanced countries. The intensive computerization of the government agencies and business firms created this new culture which facilitates maximum choice and easy to pick/buy, this changed the conventional modes of business and social life. However, in developing countries though public and private firms are investing huge amounts on the digitization and promotion of new eBusiness culture to minimize the social and cultural gaps and differences, yet achieving this goal is still away to achieve.

Pakistan as a developing economy is trying to get maximum investment in the IT and IT based industry, banking and the telecommunications sectors took the initiative of digitization and acculturation of new values of the business and management, but still this needs lot of efforts and resources to meet the challenge because computerization is not a single click activity rather it needs fundamental, strategic and structural changes and adjustments of culture within organizations which is a Herculean task for the developing countries. Besides the bright face of IT, computerization shrinks many positions and terminate jobs, and the negative aspects of this technology is the economic and status threat. On the other hand, sociologists and researchers have observed the awful and ugly outcome of the global IT-culture i.e. computer crimes, thefts, deliberate distortions and manipulations of the data and information especially, where eCash and eTransactions are occurring, likewise, obscenity and pornography are also the perceived threats to the cultures in the developing nations hindering the development of IT. Similarly, strong organizational culture and utilization of new systems help digitize smoothly however many of the firms in developing countries lack the cultural support needed for success of computerization which means that the rate and pace of digitization of developing countries is different from that of the digitally advanced countries due to social and cultural differences and values. Likewise, According to Alexander (2000) “democracies are established on the principles of freedom of choice and freedom of expression”, however in developing countries the democratic culture is either week or non existent and there is strict control over the information and communication, where the fact is that
“democracy is the special recognition of an individual right to express freely, choice of employment and business which is basic right of an individual for business and entrepreneurship (Ibid, 2000), he further says that “democracy is the backbone of free-market business and innovations and the seal of success of eBusiness, however, Internet that provides the new ways for economic development may also become a super high way for crimes too, which also referred as the ‘gigabyte guerrillas’ (Alexander, 2000).

Throughout the world government are trying to draw the lines between freedom and control on the Internet and it is expecting that this will throttle the new economy. In developing nations e.g. India is an outstanding and successful example, which is the largest democracy of the world, is trying to control the Internet. Besides India, the China and some countries in the Middle East along with Singapore, Malaysia and Pakistan have very strict control and censorship mechanism which are affecting the growth eBusiness and its future. This happens because of the social and cultural gaps in which IT is operating in the developed and developing countries. Besides democratic culture and stable institutions in the country the culture and approach of management in making decisions about infusion of IT and information systems and the participation of end user is one of the indicator of organizational culture, hard and fast rules and impersonality in application of rules play down the human aspects with emphasis on the technical artifacts, which create a an imposing culture that meet resistance and failure of the new system, where in developed countries IT and eBusiness is not facing these problems due to advanced management approaches and democratic value in their organizational culture. Mumford (1979, 1985, and 1991) and Checkland (1981, 1990) advocates “the soft approaches and parallel considerations to technical and social aspects besides ensuring the end-user participation in the development of eBusiness systems” and further points that this ‘new democratic culture is the leading factor of success in the developed countries.’

2.1.5.3 Barriers for the Developing World

Local conditions and environments of the developing nations and technically advanced nations vary from region to region and country to country as Bhatnagar (2000) in his study on IT implications in developing countries have found that “needs, requirements
and resources of the countries and organizations vary according to their human and capital resources, goals and objectives, structures, and size, business operations and management so is the case of the technology.” A machine may better serve an organization but do not the needs of another. Similarly, banking, telecommunication, public and private sectors have their own limitations regarding financial and human potentials along with the organizational capabilities. Goodman et-al. (1994: 27-31) have noted “the lack of adequate knowledge of the technology and skills as serious barriers to the developing countries in selection, adoption and aligning the organizations to right technology at right time with right amount of resources and IT is not exempted of this.”

On the other hand eBusiness is still an infant child in Pakistan and facing several barriers to flourish. The sector of the country is still facing several challenges, which need proper understanding by everyone who are preparing to use IT in business. Furqan (2004) have observed “the unavailability of proper infrastructure, frequent failures of power, limited user of internet, the issue of security of transactions on the internet, high bandwidth rates and last but not least the rigid and monopolistic role of the PTCL as the notable barriers.”

The above discussion describes the following as IT barriers in the context of developing countries especially with reference to Pakistan:

1. “The diffusion of computers in a country is an important determinant of online business, and in countries, where the penetration of computers is high; the acceptance rate of the internet based business is likely to be higher as noted by Lange (1995: 30-35).”

2. Adoption of technology is another issue because of the high cost and technical incompetence in the developing nations. Where in many cases there are trade restrictions on the sale and transfer of technology to the developing nations, however, in case developing nations could afford the technology, they have inadequate human competence and skills to operate the new technology for which they need to invest huge money on the training and human resources development, which is not possible because of the lack of financial resources. Similarly, since IT is dynamic and twisting in nature, IT-professionals and end-
users need regular training and refresher courses, which are unaffordable in many cases, hence hinder to adopt and adapt new technology.

3. Lack of adequate knowledge and skills for acquiring the right technology is also a barrier to computerization in the developing countries resultantly they bear huge financial costs for consultancy, installation and maintenance of the IT-projects. On the other hand, contextual factors of the organizations i.e. size, structure and human factors are difficult to align IT with the human and business requirements, which needs consultancy and professionalism.

4. Cultural factors play a significant role in adoption of the IT and the integration of the community with the global community. These cultural factors include individual beliefs, value systems, and attitudes to information sharing along with this, the language barrier is considered as one of the problems facing the spread of the IT in non-English speaking countries. The use of English is common in some countries, but the real penetration of the IT into business requires using the IT applications in the local language, where in Pakistan most of the software are in English and only few for composing purpose are available in the national language ‘URDU’.

5. The negative administrative attitude of the civil bureaucracy, imitation in policy formulation and poor implementations besides political instability and frequent shifts and changes in the policies are the hurdles in the acceleration and growth of computerization in the country, responsible for the slow pace of eBusiness in the country.

6. Lack of eSecurity systems and cyber laws also impede the safer eTransactions, which is one of the causes of poor trust between seller and buyers impeding the eBusiness in Pakistan.

**2.1.6 What Developing Nations Should Focus Upon**

IT for the good is a reality and no country and sector can be imagined without the use of IT in this global era of information explosion and knowledge economies. Problems faced by developing nations are different from that of the less developed and the developed,
however, the barriers in computerizations vary within developing nations from country to country. Those who took early initiative are on the way to digital governance and eBusiness and have less problems, while those who paid late attention to this high potential sector are yet in infancy that is why the IT-problems and barriers in digitization of both the public and private businesses in developing nations are vary in perspective of government, industry and technology. Proper and objective analysis of the requirements can help excel in the cyber age. However, several options are available and developing countries can opt according to their local conditions and requirements to excel in IT and eBusiness.

Variety of technology with different purposes, sizes, and potentials is available in the market with markedly different prices. Selection and acquisition of the computer based technology is therefore a technical venture and need technical competence to decide about the different available alternatives or combinations of the options. The options include:

2.1.6.1 Leading Vs Tested Technologies

Change and innovation is the feature of present world, rapid technological changes and advancements are bringing innovations in goods and services. Inclination and curiosity of man towards new and novel technology is natural as people become frustrated from the existing one and look for change, seeking for the latest technology. IT is one of the fields with unimaginable and unprecedented dynamic changes even in the history of mankind. Computer and telecommunication machines along with related accessories are highly innovative and dynamic. Each new day, IT comes with new face, novel and attractive features with enhanced and increased capabilities and facilities. This rapid change is reshaping the modes of business, everyday technology become obsolete and outdated, this twisting nature of technology strongly affect the developing nations and their business firms to comply with/adapt to the changing trends and needs if they wish to lock in the maximum customers and to lock out the maximum competitors with the competitive edge of IT in the cut throat competitive environment.
The decision whether to acquire leading-edge technology or the tested and trusted technology is a question of matter for the developing countries as adoption of new and novel technology involve risks. Mata & Furest (1997) in their study suggests that “1. policy, 2. financial and human potentials, 3. requirements, and 4. quality, use and service package should be considered in determining and deciding the choice.” Pakistan is on way to digital modes like other developing nations. Timothy & Linda (2002: 318-320) have suggested ‘extreme care in selecting the technological options’, they suggest “tested technology for developing nations as developing nations can not afford the leading technologies because of the cost, high failure and misalignment, which may cause unbearable financial losses.”

2.1.6.2 Technological Vs Business Projects

It is important to remember that it is not wise to go for technology driven solutions; always look to the business requirements, and integrate the technology with the traditional ways of doing business. Technology's benefit is through enabling the firms to improve how we operate, not through creating good looking of these systems.

Many research studies reveal that IT is treated as a ‘silver-bullet’ or ‘grand-panacea’ for all the organizational problems (Mata & Furest, 1997; Jarke, 1998). It is assumed that computers can do any job and therefore can successfully replace the human worker that is why people have misperceptions about the IT. They consider it as panacea for all the organizational and managerial problems, efficient and effective means for the optimum utilization of the resources as competitive weapon. Every person, organization and country whether poor or rich, developing or developed are investing on the promotion and development of IT-infrastructure, trying not to miss the boat and mounting the IT-bandwagon. However it is human not the machine and it is not the computer rather it’s effective and innovative use which give a business the competitive edge. Yet the belief of ‘silver bullet’ has its implications. The managers start believing in the technological solutions of all the organizational problems including human, managerial and environmental. Social, psychological, political, cultural, and interactional aspects are either ignored or by-passed with the impression that computer-based solutions will take care of all the management problems thus, possession of the latest hardware and software
tools could rescue from all the worries. This leads to miscommunication, politics in ISD and user resistance resulted into mismatch of the technology with the business hence failure of the system is likely to happen.

On the other hand, HCI experts believe that organizations are not machines, even though some of those running them would dearly like them to be so. Handy (1993) in (Flowers, 1996:108) wrote that “they are communities of people, and therefore behave just like other communities. They compete amongst themselves for power and resources; there are differences of beliefs, opinion and of values, conflicts of priorities and of goals. There are those who want to change things and those who would willingly settle for a quiet life besides the pressure groups, their rivalries, contests, clashes of personality and group alliance. It would be odd if it were not so and foolish of anyone to pretend that in some ideal world those differences would not exist.”

IT experts in organizations emphasis on the technological aspects for the success while they negate the human aspects in alignment of IT with the organizational objectives and business needs, where this is the area of concern. Because of the misperception of IT where most of the IT-projects fail. The option to select technologically advanced systems or the system that addresses the organizational information needs is an area that requires depth of knowledge, skills and expertise both in acquisition and application of system in an organization. Here most of the organizations caught in dilemma, if a handsome analysis is done by involving the end-users and the stakeholders then even the technological projects can be successfully converted into business projects. A study undertaken by (Sauer, 1993) involving 88 companies indicate “variations in IT-strategy responsiveness, measured by the extent to which IT is openly considered in business strategy formulation, are linked to the type of business strategy being pursued by the organization, for example, IT is more alert to business strategy in firms who heavily stresses on the innovation of their products and market strategies as compared to those who are operating in a relatively stable market.” This implies that organizations with an aggressive business strategy are more likely than those with a conservative business strategy to explicitly consider IT as a strategic resource in formulating business strategy,
“the extent to which IT is used to shape business strategy differs among organizations, and that business strategy can help us understand the differences (Tan, 1995).”

Thus the core issues for IT-business alignment are 1. Developer-User Gaps, 2. Educational, 3. Functional, and 4. Cultural and this could be done through IT-business strategic planning, where Willcocks (1992) believe that “IT-business alignment could be attained by giving considerations to:

1. the importance of getting the involvement of internal stakeholders, and external collaborators (e.g. suppliers);
2. assigning responsibilities for IT benefits to line managers, in seeing applications as a portfolio related to customer needs for implementation;
3. making IT requirements coherent with strategic business unit plans. Mock-participation may be counter productive. History and emergent strategies play important roles – their influence cannot be ignored;
4. too many IT strategies cover too much and fail to prioritize and exclude;
5. there is the need for emotional as well as cognitive commitment to strategy development.”

IS experts like Sauer (1993), Galliers (1994) and Mumford (1991) suggest that “to successfully convert the technical projects into business projects, analysts and developers are required to prefer the business options over the technical options.” So, it is important to remember that it is not wise to go for technology driven solutions; rather look to the business requirements, and integrate the technology with the traditional ways of doing business. Technology’s benefit is through enabling the business to improve how business operates, not through creating good looking of just the systems. Users/consumers demand things as their expectations change. This drives business change and businesses need ways to differentiate themselves. Technology is the enabler.

2.1.6.3 Tailored Vs Off-the-Shelf Development Methods

Developing countries have both the options of acquiring the branded technology as well as the compatible system depending upon the government trade and finance policy,
resources of the country and business firms. Off-the-shelf systems and software are abundantly available in the market. However, it depends on the system analysts and developers that which system they recommend because sometimes branded or off-the-shelf systems have problems of misalignment with the organizational needs, where on the other hand scarcity of resources do not allow to buy the costly off-the-shelf systems. Likewise, in most of the cases, the local conditions, nature and operations of business vary from setting to setting and from country to country that is why IT experts recommend ‘the use of compatible and customized (tailor-made) systems that best satisfy the business requirements’ (Dutta & Segev, 1999: 72-83). So, while deciding the options, the strategic planners need proper consultancy if they do not have their own IT-experts.

Developing countries like Pakistan can not afford the costly off-the-shelf systems because of the economic constraints, where it has its own IT-workforce, who can tailor the systems that best suit the businesses of the knowledge age, this further necessitate the development and promotion of IT in all nook and corners of the country inorder to make happen the IT diffusion everywhere by bridging the gap of have and haven’t.

2.1.7 Learning from the Advanced Countries

Developing countries are at the initial stage of computerizations facing many challenges in technical and social dimensions of the CBISs. They lack both capacity building i.e., technical, legal and social infrastructure for the support and success of IT based businesses as well as its integration. As this field is novel and dynamic in its nature, the political heads and government’s administrative machinery fails to rightly asses the local and national requirements in defining and determining the priority areas in application of IT, that is why huge amounts of the public as well as private investment still remained unfruitful.

Several research studies have found that “more than 70% IT projects fails to achieve their objectives (Handy, 1993 in: Flowers, 1996)” that is why developing countries are required to learn lessons from the good and bad experiences and from the success and
failures stories of the advanced countries. Though this strategy developing countries like Pakistan could minimize the chances of the failures.

2.1.7.1 Good and Bad Experiences

 Millions of different information systems are in use throughout the world, which are being used successfully in all functional areas of business: accounting, productions/operations, management, marketing, human resource management, finance and more recently in online business replacing the physical phenomenon by virtual business environments.

Advanced nations are reaping the benefits of IT by infusing it into all spheres of government, non government firms and organizations. Reduced costs, greater benefits, global market accessibility and increasing trend of eBusiness describes the success stories of IT application in public and private sectors, see for example (the success stories of the Le Saunda Holding Co. Hong Kong, www.lesaunda.com, managing accounting information across Asia, Seattle Mariners Baseball Team for using IT for profitable operation of a stadium (www.seattle.mariners.mlb.com), state-of-the-art human resources management in International Information Products Company Ltd (IIPC) China (Smith, 2002) and Handelsbanken of Sweden the largest bank in Scandinavia for success of mobile banking (see, www-3.inm.com/e-business/doc/contents/casestudy/35433.html).

These success stories may wonder one that is IT always successful? The answer is, ‘absolutely not’ because IT is difficult to manage and can be costly when things do not go as planned. There are many failures and a high proportion of IS development projects either fail completely or fail to meet some of the original targets for features, development time, or cost. Many of these are related to technical, social and economic issues, e.g., an incorrect cost-benefit analysis, many failures occur in smaller systems that handle internal processes within an organization, and they usually remain corporate secrets. The total investment is no large, the failure does not have a major economic impact, and the effects are generally not visible to outsiders so managers do not know about them.
Similarly, some IS failures result in huge losses i.e., “more than US$ 10 million and may severely damage the organization, as well as generate a lot of negative publicity, see for example the (NIKE or the ERP cases In: Turban, McLean & Wetherbe, 2004: 24).” Another large-scale, public sector failure that brought huge losses to the government exchequer was that of the “DENVER INTERNATIONAL AIRPORT story (Ibid, 2004:619).” Furthermore, in addition there are many failures of internet projects in established companies (For example, the www.go.com project of Walt Disney, which was supposed to manage all the web sites owned by Disney and generate money from advertisers at the sites. However, the income generated from advertising was not sufficient to keep the site going.)

According to Barva et-al (2001), “the reason for eBusiness systems failures was that many of the models used were too narrow. Another reason for failure is that it is hard to predict the future because of the uncertainty and it is especially hard to predict the failure in the field of information technology, which is evolving and continuously changing.”

2.1.7.2 Lessons to Draw-up

One of the lessons from the history of IT is that ‘very big projects have a tendency to fail when expectations exceed real, capabilities’ (Turban, McLean & Wetherbe, 2004: 439). For example, many of the early material requirements for IT planning (MRP) systems, AI, complex transaction processing systems never worked. And one of the main reasons for failure is a miscalculation of the required amount of IT. It simply may be too expensive to rebuild and retool the IT infrastructure and adjust applications that are necessary for BPR. The solution may be instead to defer the BPR and use incremental improvements, or to reengineer only the most critical processes. Similarly, because of the complexity and associated risks of developing computer based systems, some IT managers refuse to develop systems in-house beyond certain size. The ‘one, one, ten rule’ says not to develop a system if it will take longer than one year, has a budget over one million dollars, and will require more than 10 people. Following this strategy, an organization will need to buy rather than develop large systems, or do without them.
The economics of CBIS for eBusiness suggests that, for relatively standardized systems, purchasing or leasing can result in both cost savings and increased functionality. Purchasing or leasing can also be the safest strategy for very large and complex systems, especially those that involve multiple units within an organization. For example, the SAP AG software firms offers a family of integrated, enterprise-level, large-scale information systems. These systems are available in versions tailored for specific industries, including aerospace, banking, utilities, retail, and so forth, as well as for SMEs. Many organizations feel that buying from a good vendor reduces their risk of failure, even if they have to change their business processes to be compatible with the new system. Yet, on the other hand many studies reveal that tailor made best suit the local conditions and aligning the technology with business instead of using the off-the-shelf system.

Succinctly, developing countries and especially Pakistan can learn from failures as well as from success however, the environment and conditions as well as resources and capability differs so is the case of IT applications, it success and failure. The right strategy is to customize and integrate technology according to the existing conditions through need assessment and analysis of the potentially sound and problematic areas in IT application for eBusiness.
2.2 DIGITAL MOVES IN PAKISTAN

Technology is important to our future, this belief has forced computers and telecommunication in our offices and pushed businesses to make room for IT because the new economy is no longer displaying the astronomical growth, cynicism regarding the future of technology and its application in the government and industry, rather IT tends to make the world smaller and more integrated besides widening the development gap between those countries and firms which have IT production and application capability and those which do not. Ibrahim (2004) reports that “in Pakistan, IT business 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 global sale of laptops grew to 35% from 15%. In the same period Pakistan’s import of computer hardware and associated devices was around US$ 20 million.” Though this is a scrawny picture but one can not portray it as very poor because the steps taken by government and private sector towards promotion and development of IT culture and enabling businesses to digitize is a positive sign of ‘IT and Internet diffusion’ for eBusiness activities in Pakistan.

2.2.1 Tracking the Past

Since 1995, at least all the governments in Pakistan paid attention to IT, initiated many programs and projects with direction at their best to promote IT-culture and digitization through IT education and multiple initiatives in different sectors for eBusiness. Gerard (1986: 45) is of the view that “in the age of globalization both public and private sectors interest to achieve maximum efficiency, economy and access to global market and to facilitate customers and all the stakeholders online left no option but to go hand in hand to infuse the IT into their organizational structures and further a head convert their conventional business practices into online modes of operations.”
To gain computerization and to digitize the office environment, government of Pakistan has sponsored several moves in IT for businesses. Huge funds are allocated for eGovernment initiatives and computerization of the public offices.

2.2.1.1 State Sponsored Moves for IT Development

To harness the potential of IT as a key contributor to the development of Pakistan, an IT-Policy was announced with the vision to rapidly develop the infrastructure in synchrony with the creation of excellently trained individuals and teams by directing these at transforming the society into a prosperous and dynamic one- that values and benefits from the creation and free flow of information and knowledge (IT Policy, 2000). Aim of the government efforts is to encourage and assist the entrepreneurial spirit, and make the fruits of this technology available to every citizen.

To realize the vision behind the IT policy, 2006, the following goals have been set: “to make the government a facilitator and an enabler to provide maximum opportunities to the private sector to lead the thrust in development of IT in Pakistan, to develop an extensive pool of trained IT manpower at all levels to meet local and export requirements, to provide business incentives for both local and foreign investors to ensure the development of Pakistan's IT sector (including the software, hardware, and service industries) and the use of its products, to develop an enabling legislative and regulatory framework for IT related issues, to establish an efficient and cost-effective infrastructure that provides equitable access to national and international networks and markets, to promote widespread use of IT applications in government organizations and departments for efficiency and transparency in functioning and service provision, and to organize and facilitate access to public information, to promote extensive use of IT applications in trade, industry, homes, agriculture, education, health, and other sectors with widespread use of Internet and to develop a tradition of eBusiness and eCommerce for both national and international transactions.”

These initiatives were further supplemented by the eGovernment projects, which were launched inorder to digitize the public sector, to make all the government machinery online, which further encouraged the computerization of private sector. According to
Ahsan (2003) government initiated the following projects inorder to establish, develop and promote IT and associated business in the last few years:

“The project of automation of domestic manufacturing industry was initiated by the government to help the local IT industry to explore more business-options in the domestic business sector. The aim of the project is to computerize 100 SMEs business manufacturing units and to introduce the automation-culture in SMEs under the project. SMEs from domestic manufacturing industries (textile, engineering and pharmaceuticals etc.) have been automated in management, reporting, finance, administration/work flow and eCommerce matters and quality solutions, etc. In phase-1 of the project, 44 industrial units have been automated. PSEB is offering financial and technical help for the development of such solutions.”

According to him another project was launched to cope with requirements of international market and to build up trust in IT product of software industry of Pakistan. Under this project, according to Ahsan (2003) “the IT companies were given financial and technical help to execute quality standards, such as ISO series in phase-1 of the project and in phase-2, IT companies were encouraged to adopt Capability Maturity Model (CMM) stages in their quest for software excellence. The aim is to bring eighty IT companies out of seven hundred to ISO/9001 level, by providing them 75% financial support besides technical help in phase-1. Up till now seventy contracts have been signed.”

Shamim (2001) argues that “human resource development is the most important area of IT policy and action plan and that is where 2/3rd of resources were planned to be invested. In this regard, forty eight projects have been approved and an amount of Rs. 1,462 million has been committed to date, out of which Rs. 415.87 million have been disbursed towards various projects. The amount of Rs. 487.85 million was further allocated to bring the total disbursement to Rs. 1040.72 million. One of the projects being undertaken was the training of data entry operators. In the first three stages, some eight thousand youth have been trained. This number will reach to ten thousand after completion of the ongoing fourth stage.” Junaid et-al (2001) claims that “five thousand federal government
employees have been trained in IT application for office use.” In order to target the lucrative software export market and specialized training in medical transcription and java was initiated. A total of 764 trainees successfully completed training as medical transcriptionists, which include 182 quality controllers and 581 operators. A total of 844 students at two levels (intermediated and advanced) have been enrolled and approximately 1000 more will be trained in the subsequent phase of the program.”

Junaid et-al (2001) further notes that “the groom (Internships) project was launched with the aim to establish linkages between the software industry and educational institutes. This will help in getting IT students exposed to the working software houses and will facilitate educational institutes to update in the field. The aim is to provide 1000 IT professionals to the local software industry, bearing the internship cost of the students up to rupees three thousand per month for three months. As part of phase-1, 425 students from 116 institutions (from all, parts of Pakistan) have been placed in 96 different software houses.”

Furthermore, he says that “to give an opportunity to young and bright talent of Pakistan, the initiative has been taken to establish 20 new software companies, consisting of 5 personnel each, concentrating on development of software products from international business- plans and provide them the project management facilities and office infrastructure and other logistic facilities at STP, Lahore. The construction of incubators has been completed and teams have been selected.”

Junaid et-al (2001) further postulates that “sound infrastructure is the requirement of successful online operations, in this regard government initiated infrastructure support project through Pakistan Software Export Board (PSEB), via its project of STP and Data Node Networks (DNN), is fundamental in provision of logistic and bandwidth facilities under one roof. 5 towering Information Technology Parks (ITPs) embellish the 4 main cities of Pakistan. There are 2 STPs in the capital city Islamabad and one each in Lahore, Karachi and Peshawar. Due to their immense popularity, the development of many more in public and private sector is on the horizon. These STPs enable IT companies to start
business immediately with saving time for instant deliveries. These STPs have subsidized tariff, with high speed data connectivity.”

Similarly, Ahsan (2003) further stated that “a Business Counseling and Guidance Project has been started to develop libraries and business councils at Lahore, Karachi, Islamabad and Peshawar, for guidance and support of local IT industry. Libraries at Lahore and Islamabad have started operations with almost 500 books and about 40 magazines. Member’s advisory council is on board to help the software industry. The exhibition pavilion at PSEB, Islamabad, has been established to facilitate effective introduction by IT companies of their products and services to their respective clients, using PSEB platform.”

### 2.2.1.2 eGovernment Projects in Pakistan

The launch of the information and services portal of government of Pakistan is being dubbed as Pakistan’s entrance in the age of electronic government. The basic aim and objective of the program is to facilitate the delivery of services and information to citizens. The project is composed of web information and services portal of the government of Pakistan with which websites of different federal ministries/divisions are integrated so that a single point of access is available to citizens with a strong search facility for different types of information on the portal. According to Tariq Aqil (2003) “a total of 34 division websites have been designed along with websites for 24 ministries.”

The eGovernment program in Pakistan did not happen and revolve overnight rather it started with the approval of national IT policy and action plan by the federal cabinet in August 2000 and has evolved over a period of time by tremendous hard work and valuable contribution by various stakeholders from the public as well as private sector.

Tariq Aqil (2003) reports that “the eGovernment initiative was taken to improve efficiency, quality, and transparency in functioning of the government and also serve as training ground for thousands of IT professionals being trained in the country. Program was charted out by MoST aims to enable the citizens to digitally or electronically interact with the government, use public service and it will create transparent processes ensuring
good governance and best practices. It is expected that the completion of these projects will provide an opportunity to companies to get experience in domestic IT projects before they are able to vie for the export markets. This program also include setting up of 1,000 kiosks-ATMs based network facility for utility bills collection, establishing National Accreditation and Quality Testing Council, developing Online Taxation System, automation of Narcotics Division, case laws of supreme court and high courts of Pakistan, Common Office Environment/Common Document Management System (CPE-EDMS), public eProcurement system, and public human resource management information system”. Shamim (2001) mentioned “the preparation of eGovernment architecture and identification of projects, training of government officers and officials, consultants being appointed at Karachi, Lahore and Islamabad to help in preparation of IT projects for provinces and eGovernment master plan implementations as the major initiatives on the eGovernment front.” While (Nizamuddin & Khalid (2001) highlighted the following eGovernment plans initiated and implemented by the government.

“An online facility to the citizens of Pakistan through government portal, a project with the name citizens online was introduced. Under this project the first-ever web portal has been developed for the federal government. The basic aim of the project was to provide visible services to deferent divisions at federal level for easy access to public information in respect to all divisions. As a part of this project, individual division web sites have been developed who contain relevant information about these divisions. In this connection all requirements have been completed through engagement of relevant resource persons. The web sites of the divisions contain commonly required information for the citizens, viz. how to contact the division; policies, rules and regulations including official gazettes notifications; frequently asked questions; news & press releases; list of official publications; list of all the services provided to the citizen by the division; job opportunities within the division and tenders published by the division. In addition, all official forms required by the citizens are available on the portal. The present phase of this project, which has just been completed, has created a portal and web sites that contain only static information about the ministries/divisions. Secondly downloadable forms used by citizen for submission to government offices, have also been uploaded.
The quality and quantity of web content and government forms is regularly enhanced and updated.

Similarly, according to (EGD, 2006) “eGovernment Directorate in collaboration with nationalized banks has installed eighteen ATMs at different locations in Islamabad/Rawalpindi for facilitation of payment of salaries to federal government employees, the locations selected are near to government offices and residential localities where there is a concentration of low and middle income government employees. Currently, government provides salary disbursement lists to individual branches which are credited to the employee's accounts on the first day of the month where previously majority of the employees rushed towards banks on the day of payment, thereby huge queues have been seen at the bank branches, furthermore, employees have to wait in cues for considerable length of time due to rush at the bank counters. The manual processing take longer time to process individual salary and the employees have to wait in lengthy queues for which bank's branches have to remain open in evening to complete the payment. This project is facilitating eBanking.

This is also advantageous to the banking sector because the employees now draw only required amount and more money is in banks. The present project will set an example for other banks to follow this beneficial scheme. It is worth mentioning that besides government employees ordinary customers can also avail this facility from these 18 ATMs. Currently 1- link facility is extended according to which ATM cards issued for use at these 18 ATMs can be used at all ATMs.”

Yousaf (2001) wrote that “another significant step of eGovernment projects includes skills training program for probationary officers in public sector. To ensure that the new entrants to the public service are IT and computer literate, a training program has been initiated for the newly recruited government servants; IT laboratories are established in different academies. The project involves curriculum and material for IT training in Civil Services Academy Lahore and other specialized training institutions to impart hands-on-training to the newly recruited officers during their 18 month stay of training. The project
will develop computer and IT skills in the new officers work in the new environment of eGovernment.”

Likewise, EGD (2006) launched another project under the title of “The mapping process to enhance efficiency at MoST. Before initiation a study was conducted at Ministry of Science and Technology to identify areas for automation inorder to improve the operations and efficiency of ministry. The areas identified include the internal communication and flow of files besides finance, planning, budgeting, human resource management and procurement. The different activities performed during this study include:

1. The designing of new system for existing processes.
2. To ensure the needed re-engineered processes.
3. To identify the applications to be implemented to enhance efficiency.
4. To develop RFQs for different solutions for MoST.”

According to (Yousaf, 2001; EGD, 2006) “the project was prepared with the help of this study to setup an eOffice at the Ministry of IT and it was decided that the software developed in the course of implementation will be adapted for requirements of other federal divisions.”

EGD (2006) further claims that “in the same efforts to computerize the public sector it has decided to survey the federal ministries and divisions for Local Area Network and Hardware requirements, which include the outsourcing of survey work to be carried out at all the federal ministries and divisions to establish the requirements for LAN, internetworking of the divisions, e.g. servers and PCs to provide the basic infrastructure for eCommunication within and between divisions of the government. This project will enable EGD in development of RFQ and BOQs for the implementation of Local Area Network as well as development of detailed specifications and quantities of hardware, servers and PCs. The project was launched because the existing networking facility was mostly either not available or was confined to few offices. Secondly, each workplace was not provided with a computer, which is a compulsory requirement for enabling eCommunications”.

Furthermore, to organize the IT education sector, according to (EGD, 2006) “government established National Testing and Accreditation Council for the standardized IT certification.

Likewise EGD (2006) reports that “to facilitate more citizens in the country, since March 23, 2001 onwards internet kiosks were made available at the country’s airports, which were being set up with the collaboration of Intel Corporation.” Similarly Nizamuddin & Khalid (2001) reports that “with the help of Pakistan State Oil, more than 1,800 internet kiosks are operating at fuel stations in the country.”

2.2.1.3 Punjab eGovernment Projects

The IT development got a huge boost in Punjab as the “Punjab government placed Rs. 200 million at the disposal of IT department for promotion of eGovernment in 2003, out of that amount, Rs. 20 millions were utilized for computerization of Excise and Taxation department. Its main objective was to provide automated system for better record keeping, improving tax collection and to overcome the problem of tax evasion (Spider (April 2003)”. The objective of this project was to enhance the efficiency and to ensure the smooth and swift flow of information with transparency and to increase the public access to the officials of the government via online interaction as noted by the Spider (April 2003).

2.2.1.4 Projects in Pipeline

The above facts about the different initiatives of public sector are the healthy signs of IT development, which can help in identifying the future trends. Huge investment of the public and private, local and foreign investors will pave a way for the large scale introduction of eCommerce and eBusiness in the country. This trend is continued, and still many projects are in pipe line expected to complete in near future, which will further enhance the IT capacity necessary for the online business. According to eGovernment Directorate (2006) following IT projects are in the implementations process.
“The data center project for federal government was approved to provide infrastructure to divisions and ministries to connect them through secure data center and to enhance the speed of communication. The 2nd goal of the project was to increase the productivity of government officials by enabling them to provide efficient services to the citizens. The visible aim of the project was installation of Local Area Network to provide basic infrastructure to divisions of federal government besides establishment of a federal government Intranet for interconnectivity via high speed Metropolitan Area Network (MAN). The project included the core switch, firewalls, intrusion detection systems, central storage facility, messaging/collaboration, network management, tailored applications for each office (Ministry and Division) and secure eCommunications. It was also aimed to provide central management, technical support and monitoring of the entire computer network of the federal government.

The project of networking and provision of hardware of federal government (28 divisions) was completed in June 2005 and the tender was invited in May 2005, the project was established in 3rd Quarter of the 2005 which interconnected the offices in at the end of 06.” Similarly according to EGD (2006), another important project was “the establishment of eOffice at Ministry of Information Technology; the main objective of this project was to computerize the following main areas of ministry of IT:

- E-Filing.
- E-Diary dispatch registers.
- The eMail system.
- The standardized e-Documents.
- The e-Fax system.
- The management system for the directions and assembly questions.
- eManagement of HR.
- The eProcurement and eRecord.
- eBudget and eAccounts

The following components were covered in this project:
- To track the audit para's.
- Project management system (the progress and monitoring feedback system).
- The computerization of active portal.

The project was awarded to a local company and completed at the end of 2006; later on the same was introduced in the other offices of the federal government.”

Furthermore, EGD (2006) has initiated another project “Secure eCommunications and Office Automation at PM’s Secretariat” for online facility. The project includes the establishment of LANs and development of the basic infrastructure to facilitate the internal and external eCommunications and computerization of the Prime Minister secretariat.

Likewise EGD (2006) has launched another project “Lexicon, Machine Translation and Text-to-Speech Urdu Software with the help National University FAST, Lahore. The eGovernment Directorate has placed large amount of information on the website of the government of Pakistan. To avoid the high cost of duplication this effort the best effort in Urdu. This project also include the Machine Translation System (attached with the portal) the information are available in both the languages (English and Urdu).”

Similarly, another important project of EGD (2006) is “the eEnabling of the Parliament, under these projects, applications for each house were developed to facilitate the parliamentarians to access information on the working of the national assembly and senate. Additionally, the information on legislative proceedings is also communicated to the public through National Assembly and Senate websites. The applications include Bills Management and Motions Management, House Debate, Question/Answer Session and Audio/Video Systems etc. The project was completed in the end of the 3rd quarter of 2006. Likewise, to provide technical facility to IT departments of the provinces and Azad Jammu and Kashmir, an eGovernment project was also initiated by EGD, which was specifically focused on development of the capacity and strengthening of the IT setups of the provincial institutions. As eGovernment is focusing on new ways of doing the business of the government, the project was developed to extend technical knowledge
and enhance the skills of the IT departments of the provinces and to provide them technical expertise required as part of the national IT policy facilitate more citizens.”

According to EGD (2006), ‘the Working Developing Party of the Information Technology and Communications approved the project for online recruitment in its meeting held on December 22, 2003 which was completed before the end of 2006 for Federal Public Services Commission to implement the general recruitment and recruitment of central superior services of Pakistan along with installation of local area network, provision of hardware and training to the end users on new work environment besides online information to candidates about the decisions without visiting FPSC personally.’

The eEnablement of the federal government offices projects was another significant project which was launched by EGD, the main features of the project were computerization of the Securities Exchange Commission of Pakistan (SECP), which look after and administer the corporate laws in Pakistan. The SECP and other regulatory authorities are playing key role by digitizing their operations. According to EGD (2006) “eServices for Submission of Documents at Securities Exchange Commission of Pakistan was launched to enable all companies to communicate online with SECP.” The goals of the project was to move the SECP from conventional to online mode of operations in order to enhance its governance, regulations and service in the digital age.

Similarly, EGD (2006) has introduced the “automation of the offices of the Chief Commissioner Islamabad to revolutionize the existing paper-based system to computerized work environment.” The project includes the computerization of the:

1. The e Domicile Certificates to the citizens.
2. The e Citizenship Certificates.
3. Computerization of newspapers declaration and certification of the printing presses and provision of the
4. Online international driving licensees to the citizens.
5. The e Cess Collection for education.
6. Computerization of the price lists for vegetables, flour, and fruits.
7. eRrecord of drug control.
8. Computerization of the management of funds generated by Local Government
9. Computerization of the project management under Rural Development, and
10. Digital Complaint Management System

The project is now offering the following services to the citizens:

1. Submit and check status of various types of their applications e.g. domicile certificates, etc.
2. To get information about the government processes and of general nature via Islamabad Capital Territory portal.
3. The documents storage for public access.

The project was completed in the 3rd Quarter of 2006.

In another move, EGD (2006) has started “the digitization of the Islamabad Police with the following services:

1. Development of Citizen Compliant Management System.
2. The registration of the motors and vehicle taxation System.
4. Computerized FIR management system.”

The project becomes operational at the end of the 3rd Quarter of 2006.

Furthermore EGD (2006) has initiated “eServices for Capital Development Authority, the facilities of this project include the automation of the:

1. Development of Citizen Compliant Management System
2. Computerization of Estate Management activities, property/building rules regulation etc.
3. Computerization of the payment of property tax and CDA charges/fee etc.
4. Computerization of the CDA Engineering, Water supply and Maintenance system.”

Similarly one of the important areas selected by EGD (2006) is the computerization of health services. The major goal of the Hospital Management Information System was to enhance the patient services by improving management and effective use of the human and material resources. The HMIS was extended to assist the management of the hospital to improve the planning and implementation, monitoring of the quality, efficiency and effectiveness for the patient registration, consultation of the doctor, admission, discharge and appointment of the patients, roster of the doctors, pathology, radiology, inventory and stores, pharmacy, blood bank, budget and accounts etc. PIMS and CDA Hospitals were selected initially as the pilot projects; this project was planned in 2005 and completed in 2006.

eEnablement of the press clubs was another project of the EGD, the aim of the project was to facilitate various segments of the society to have access to information. For this purpose all the press clubs in country were provided personal computers and internet facility to better research and communicate within and outside the country too.

Furthermore, Yousaf (2001) have noted that “to enhance the human resource capacity and to cater the needs of the highly professional IT work force in Pakistan, a number of IT projects were initiated in the education sector too by engaging the public and private educational sectors to promote IT education in the country. COMSATS, Cisco Certified Training, Java Certification Programs, Medical and Legal Transcription training, Oracle Certification Programs, Microsoft Certification Programs and IBM-ACE programs were launched besides the establishment of the (7) new IT universities in the country.”

Moreover, according to Spider (April 2006) “the City District Government Karachi and Microsoft Corporation signed a memorandum of understanding to facilitate cutting edge eGovernment services to enhance the existing services of the city government in Karachi’s.” The agreement was signed by city Nazim Mustafa Kamal and Gulf chief of the Microsoft Charbel Fakhoury in the presence of country manager Jawad Rehman. The
project aims to put the city government online, thus enabling residents of Karachi as well as expatriate Pakistanis to access information retaining to the city government and its services online.

Furthermore, ministry of IT (MoSt 2004) has “approved five projects in April, 2004 with the total cost of Rs million 208 to boost IT industry in Pakistan.” The projects were approved to enhance the quality standards and to create an environment conduce to local IT firms in order to compete in the internationally. The underlying table highlight the approved projects:

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of the Project</th>
<th>Total Cost in Million</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>National IT Development and Promotion Unit</td>
<td>38</td>
<td>It has provided a forum where private sector, the academia and other subject stakeholders carry out different subject matters collectively to identify bottlenecks and the enablers in the area of eGovernance, IT industry and H.R.D</td>
</tr>
<tr>
<td>2.</td>
<td>Call Operations Performance Center 2004 Certification (COPC)</td>
<td>36</td>
<td>The goal of the project was to plan and conduct COPC overview training sessions for IT-enabled service industry in the country to at par with the COPC standards.</td>
</tr>
<tr>
<td>3.</td>
<td>Reestablisning a Software Technology Park in Islamabad</td>
<td>87</td>
<td>The project was established with high speed fiber and backup international connectivity through V-SAT having modern facilities.</td>
</tr>
<tr>
<td>4.</td>
<td>CMM level –3 or Higher Certification Program</td>
<td>38.4</td>
<td>The aim to the project was to develop the indigenous capability to achieve the CMMI certification for 35 IT companies in the country.</td>
</tr>
<tr>
<td>5.</td>
<td>Invitation to the key Decision Makers of the Foreign Markets to visit Pakistan</td>
<td>9</td>
<td>The basic purpose was to invite key decision makers round the globe to visit Pakistan and interact with public and private sectors to remove their misconceptions and to highlight the positive and soft picture of the country.</td>
</tr>
</tbody>
</table>

Table-4. IT Projects Approved in April 2004
Succinctly, according to EGD (2006) besides the above initiatives by federal and provincial governments for eEnablement of the public sector, “the new projects are planned which are expected to complete in 2007, these include:

1. eEnablement of Establishment Division
2. Enterprise Budget System for Finance Division
3. PSDP Management System for Planning Division
4. eEnablement of Civil Services Academy
5. eServices for Ministry of Health
6. eServices for Ministry of Interior
7. eServices for Ministry of Population Welfare
8. Automation of Estate Office, Ministry of Housing and Works
9. The distribution system of SECP information
10. The monitoring of market and its surveillance by SECP.”

2.2.1.5 Ongoing IT Projects in the Province of NWFP

According to IT Department of the government of NWFP (2006) following IT projects has been initiated by the NWFP government to digitize public sector institutions inorder to speedup their efficiency and to facilitate the stakeholders online e.g. “a small scale project is started for ePolice in Distt Swat, which will be extended thereafter through out the province in next phase. Currently, 5 Training Labs have been established for preliminary trainings. The project initiated in January 2005 will complete in December 2007 with capital cost of Rs.18.2169 million.”

IT Department of NWFP (2006) launched another project “establishment of server room in IT Directorate to host emails and information for various departments of the government in NWFP amounting Rs. 7.668 million, which is expecting to complete in September 2007. It will extend web hosting facility to all the Government departments, which will act as a center for all the Government Departments to carry on their work.” Similarly, IT department of NWFP has established a STP at Peshawar, for which Rs.150.00 million were allocated in Federal PSDP on the condition that land for the project would be provided by the Provincial Government free of cost. A project entitled
as the Development Project Management System for Planning and Development Department was approved DDWP on March 06, 2002 with total amount of Rs.4.607 million with title of ‘Extension of IT in NWFP’. On other hand, a scheme for computerization of Teachers Recruitment and Staff Promotion in Schools and Literacy Department, NWFP was initiated on October 05, 2005 with total cost of Rs.5.350 million.”

Likewise, NWFP government (2006) has approved the project “to digitize the Driving License System for Directorate of Transport Peshawar; this project was established by DDWP on March 26, with total amount of Rs. 22.700 millions and was launched in April, 2005. The tenders were invited in the leading newspapers for the development of application software on December 15, 2005, which were opened on January 01, 2006. Similarly, advertisement for recruitment of project staff was advertised in the newspapers.”

IT Department of NWFP (2006) further reports that “another important eGovernment project was launched with the title of Establishment of IT Excellence Centre and IT Park in Peshawar in the Annual Development Plan 2005-2006. As it was a mega project and needs a proper Feasibility Study, on the arrival of the Feasibility Report a plan was chalked out and amount of Rs. 0.400 million was allocated.” Similarly, Government introduced “the scheme of one Science and one computer lab in schools and colleges of the province to infuse IT in education. The amount of Rs. 4.000 millions was release by Finance Department NWFP for the first half of financial year 2005-06 and Project was launched in April, 2005 practically. It completed in 36 months with cost of Rs. 29.206 Millions.” Moreover, another project titled as “online facilitation of Lady Reading Hospital Peshawar was also initiated in the mean time. This project includes online information within the hospital along with information for public ease on internet. The main goal of the project was to support the staff of the Hospital staff in enhance the patient related information management and processing for efficient services, it was started in January 2005 and expecting to complete in the end of December 2007 with total amount of Rs18.983 million.”
According to (IT Department NWFP, 2006) “the digitization of Property Tax Records for Excise and Taxation Department NWFP was another move of the government which was approved DDWP in its ADP on November 23, 2005 with total amount of Rs. 23.445 million. The tenders were invited in the Newspapers for the development of application software on December 15, 2005, which were opened on January 03, 2006 followed by an advertisement for recruitment of project staff. Government is expecting to complete the project in 36 months with total cost of 23.445 millions.”

Similarly, eGovernment was one of the bold steps and main focus of the IT policy and Action Plan 2000. To pursue this goal, the Government of Pakistan has undertaken large number of projects in different sectors as the IT Action Plan aims to deliver public services efficiently and effectively within sharp time. Government considers IT as a key technology to deliver services to the citizens, so IT as a vehicle of computerization is used by the government to enhance the quality of services rendered to public. The project includes:

1. The introduction of the local area network for PA.
2. Provision of inter-connectivity of all offices of PA.
3. The establishment of CCTV control room at PA.
4. The eFacilitation of MPA’s.
5. The development and implementation of internal network for quick and focused information dissemination.
6. To launch a Provincial Assembly web site for the public.
7. To provide training on office productivity software to assembly officials.

The project was completed with total amount of Rs.72.443 million in 36 months.

The government of NWFP introduced another project entitled as “System Analysis and Re-engineering of Teachers Recruitment and Staff Promotion in Schools and Literacy Department, NWFP on the special demand of Schools and Literacy Department, which is the largest department with approximately 170,000 employees throughout the province. Though the department was maintaining its record manually yet the strength and size
required the automation of the office environment. The project was approved in DDWP on October, 05, 2005 with the cost of Rs.5.350 million (IT Department NWFP, 2006).”

Another significant step taken by government of NWFP was the launch of “the project of Virtual Teacher of Mathematics, Physics and Chemistry for Schools. The education department in general and the students in particular were facing the shortage of science teachers especially in the remote areas of the province, while the recruitment and appointment of teachers is a lengthy and tedious process while the deficiencies needed to be fulfilled take months and years, so to resolve this problem the “Virtual Teacher for Schools in NWFP” scheme was introduced with Rs. 1.500 millions in April, 2005 and approved on October 05, 2005 in DDWP with total amount of 23.445 millions (IT Department NWFP, 2006).”

2.2.2 Private Sector Contributions

Private sector is also keenly involved in trying to tap the immense opportunity that information technology provides. Several large industrial groups are seriously getting into IT business. Private venture funding is being made available, the first of which was Pak-Libya Venture Fund that attracted more than 400 projects within a few weeks of advertising. Leading business houses are establishing incubators for not only providing funds but also guidance and other support to develop successful IT companies. It is, therefore, expected that firms with business acumen and experience will be joining with technical people to start new IT companies with successful business plans.

The Federal and Provincial governments are playing an active role to facilitate and promote such initiatives. Software technology parks have been established in various cities of the country to provide office space and state-of-the-art technological facilities to private IT companies, for detail on the private sector contributions (See, 2.1.4 ‘IT in Pakistan’ Chapter-2).

All these efforts are the part of government IT policy to develop an eCulture in the country to replace the paper based system by the digital system inorder to improve the
efficiency in operations and economy of work in public sector institutions. As eBusiness is not functioning in vacuum which need an eCulture and people’s familiarity with online transactions. One can expect that these efforts of the public and private sector will gradually develop the confidence of the online community on eTransactions, which will be helpful in the development of eBanking and eShopping culture in the country.
2.3 MAJOR ISSUES OF E-BUSINESS IN PAKISTAN

Information Technology has brought revolution in the world while changing each and every aspect of our lives. Very few sectors of investment are as lucrative in potential growth and economic reward as ICTs. It is the ICT that is helping countries in the economic development with enormous potentials to escort economies in the state of progress and prosperity. With rapid technological and economic developments, the information technology holds unimaginable promise for people in the developing economies. The developing nations like Pakistan need to emphasize on the building of an infrastructure for information processing, accessing social services, organizing production and creating an investor-friendly environment. While economic growth depends on knowledge, the more knowledge will be shared; the more growth will be generated and it is the IT that plays key role as facilitator in this regard. ICT is the key enabler of change at present and rapidly changing the business climate that is why this ICT is emerged as a very fast growing sector in country like Pakistan, it has shrinked or totally eliminated the geographical boundaries and the entire world can be viewed now on computer screen just on a single click. IT has multiple faces; the brighter one is verified by the mushrooming computerization of the organizational and social life around the globe. Given the newness of IT as a technology, there is a lot of potential that need to be explored and its role in the organizations has expanded beyond the ‘traditional back-office jobs to the front-office strategic applications’ (Senn, 1998).

It is however, argued that as IT can revolutionize the economic development of a country, by the same coin, its mismanagement can end up in unwanted results. The bad experiences with IT projects are a commonplace experience in the developed world. Several concepts are being used to express IT related problems and even IT failure itself has been analyzed from different perspectives. It shows that an inadequate administration of the IT-adoption process can end-up in problems or straight failure of the technology at the business end. The research supports the premise that IT strategies need to be aligned with the local conditions and requirements of an organization and/or a country otherwise, failure can occur. If, for example, just to ride on the technological bandwagon, an
organization or a country opts for a leading-edge solution without first developing technological roots in the country, the contrary outcomes are predictable. A vision of “Wired Pakistan” (Hussain, 2001: 26-27) has become the buzzword among almost every literate and even illiterate Pakistani and it is being used as a status symbol. People talk about IT to learn more and thus be a part of newly emerging ‘cyber-community.’ This trend is a potential indicator of enthusiasm among the people, which is no doubt, a prerequisite for establishing a knowledge base at the gross-root levels of a nation. It cannot however, be taken for granted because the risks involved in the IT-adoption process are evident from the finding that up to 70% of IS projects are failing. Thus, community’s zest and zeal need to be administered at all the bureaucratic, political, educational and social and cultural levels and not only technology. So that the progress is reasonably oriented to the best possible developmental trajectory because both academic and applied or practitioner’s research suggests that ‘success' of eBusiness assumes much more than successful development of a computer based system (Avgerou & Cornford, 1993: 277-286).

According to Aslam (2001) “since last 10 years, Pakistan has been making efforts to develop IT human resource and needed infrastructure to meet the requirements of IT world”; now the IT industry is in the take off stage and is catching up with the regional and global industry, as few decades back communication used to be between people… one person to another. The existence and survival of business now depends on its response to the changes in the environment that how effectively they are responding and preparing strategies to co-op with. Pakistan is rich in human resources, which constitute the foundation for any major IT initiative. Its population of 155.4 million includes highly talented people, who have made their mark in various fields, including IT”. He further claims that the “IT-growth rate in Pakistan is about 50% per annum (compounded annual growth rate including growth in internet and it is estimated that number of internet users by 2010 shall increase by more than 10 million which is 7.5 million currently, where millions of dollars are being invested by the government in IT, majority being spent on human resource development and enabling infrastructure provision. With 90% digitized telecom infrastructure, 250 ISPs operating in major cities as well as remotest areas, connectivity with international 3 sub-marine optic fiber cables, domestic long distance
optic fiber network, and deregulations set forth for the telecom industry, Pakistan could be in the best position to take on the challenges in the global market and offers many exciting business opportunities (Ibid, 2001).

eBusiness applications began in the early 1970s however, the applications were limited to large corporations and a few daring small businesses. With the introduction of Internet and web in the early 1990s eBusiness applications expanded rapidly. Since 2003 eBusiness continues its steady programs. Today, many medium and large organizations as well as small ones are practicing the eBusiness (Turban, McLean & Wetherbe, 2004: 180). According to Forrester Research (1999) “eBusiness market in the US was worth US$ 131 billion in 1999, and reached to US$ 1.5 trillion by 2003 growing with high pace.” Pauline (2001) notes that “this online global connectivity facilitates the firms to reach the customers through Internet and implement more effective target marketing and relationship-building strategies with lower overheads.” Bourassa (2001) have observed that “eBusiness and Internet technologies are creating the ‘new economy where physical limits die and virtual reality emerges, and the sense of import and export vanishes.” Yousaf (2004) has defined eBusiness as “the advertising, sale and distribution of products via telecommunications networks.”

With the emerging dot-com culture in Pakistan there has been a mushroom growth of information web portals, specialized search engines and commercial websites in the last couple of years. Aslam (2001) notes that “eBusiness initiatives taken by the government of Pakistan include establishment of eCommerce Working Group and eCommerce Cell at the Ministry of Science and Technology (MoST), facilitation of Internet Merchant Accounts by the State Bank of Pakistan, legal recognition to Digital Signatures and Electronic Documents, protection of the intellectual property rights through Electronic Transaction Ordinance (ETO), Electronic Crimes Act (ECA) and eGovernance Ordinance, Electronic Funds Transfer (EFT) through 2000 branches in major cities according to an eBusiness plan envisaged by the government.” The financial sector would become the springboard for developing B2B eBusiness in Pakistan; According to Zarmeene (2006: 40-43) “the plan aims an eBusiness network, known as EC-Pak
Network Service to connect 7,406 branches of 4 public sector banks, 4 specialized banks, 20 local private commercial banks and 11 foreign banks in major cities.” All these banks will be linked to the State Bank of Pakistan and, to public and private stakeholders such as the tax collecting agencies, provincial governments, national saving centers, post offices, utility companies, government bodies, money-changers, trading-houses, airlines, shipping liners, clearing agents and insurance companies.

Despite these, eBusiness in Pakistan like other developing countries is facing different challenges in the computerization because “digitization is a highly human cum technical activity and multidisciplinary in its nature which needs hybrid, highly technical and competent IT-professionals and managers (Benbasit et-al. 1995).” Though computerization is comparatively simple in developed counties as infrastructure is properly developed but it is difficult in countries like Pakistan because of insufficient availability of required resources, infrastructure and skills. The rate of digitization and IT penetration in developing economies largely depends upon the several factors which either promote or hinder online business operations; these include the infrastructure, policies of the government, rules and regulations, economic development, political, social and cultural factors and Pakistan is not the exception.

Government is major actor to drive the business by facilitating the requirements for computerization of both the public and private sector. However, bureaucracy (top managers) in government organizations have a politicized role, which means that they must seek appropriations through political means, are appointed and serve at the pleasure of elected officials and must deal with political influences and the wants of multiple interest groups. This means that government officials are much more concerned with policy agenda-setting processes rather than management functions that is why contrary to the increasing sophistication of information technology, “information systems (eBusiness) continue to fail either during development or at the points of implementation and use (Poulymenakou & Holmes, 1996)”. The failure is attributed to numerous factors where each one is competent enough to make or break an IS development projects (eBusiness). The researchers have unveiled an array of human, organizational,
environmental and technological reasons (See, Hirschheim & Schafer, 1988; Mumford & Sutton, 1991; Poulymenakou & Holmes, 1996) that combine together and create a situation of failure. Despite huge research on IT-related problems, the IS (eBusiness) failure remains a problem world-wide (Sauer, 1999). Most of the runaway projects are huge and there is multiplicity of causes where Glass (1998: xii-xiii) finds that many of the runaway projects were lauded in their history as being “breakthroughs” but end in collapse.

With this context, eBusiness in Pakistan is facing many challenges in the IT-business aligning process (e.g. governmental, organizational, technological, socio-cultural and legal) that is why the growth and pace of eBusiness is very slow. Although eBusiness promises a great potential however according to Moreno (2001) low computer education, technology sensitization, lack of basic understanding of how-to use Internet, research and development, high cost of computers, lack of understanding of English language, entrepreneurial spirit, limitations of investment capital with the Pakistani business people, unstable economic, political and legal environment, poor regulatory framework for eBusiness and brain drain are the major market barriers of eBusiness with reference to consumers and users in Pakistan. In Pakistan, the eBusiness issues include:

**2.3.1 Technological Issues**

The technological issues are of vital importance to be considered in the computerization of businesses. The physical infrastructure i.e. the computer and telecommunication hardware, legal infrastructure besides building technical, social, political, cultural support from the society as well as from the organizational stakeholders is very important to be present in a country if one wish to gallop on the road of progress and prosperity in the global competitive eBusiness environment (Turban, McLean & Wetherbe, 2004: 219).

**2.3.1.1 Technical Infrastructure**

The basic need for eCommunication is the technical infrastructure to encourage eTransactions. In developing countries lie Pakistan, the provision of this infrastructure is
the foremost challenge to overcome. As the infrastructure needs to have sufficient amount of the bandwidth, it must be able to support high traffic and it needs to be able to provide secure and reliable connections. “The availability of sufficient IT infrastructure and consistency of electric power within the country plays significant role in the computerization process of any organization and a prerequisite for the success of online business” (Christie et-al, 1995: 52-59), he further says that “in countries where adequate infrastructure is available, the initial capital investment is low, and the adoption rate is generally high while, in countries where there is no or insufficient infrastructure, the initial investment is high; yet, once infrastructure is made available using advanced communications technologies, the usage costs fall to low due to fast transmission rate. Likewise, when an outdated infrastructure is used, the usage cost may be very high, which may affect the adoption rate negatively.” Moreover, the availability of infrastructure in the neighboring countries favors the process of computerization. However, according to Porter (1990: 23) “in countries where the policies and regulations are liberal towards IT based services, the market environment tends to be more conducive and competitive for eBusiness within a country.”

Initially in Pakistan, according to Salim (2003) “IT industry went unnoticed for many years, however from the last few years government is paying attention and high priority to computerization.” Yet, eBusiness is facing many challenges e.g. according to PTA report (2006) “Pakistan has just 23.1% teledensity, in comparison to other countries of the region, it is low however, it is still greater than India. Sri Lanka is having teledensity equal to 2.84, China has 8.62% and Malaysia has 20% penetration rate in the region.” The cost of computers is another factor which is impeding the spread of the Internet in Pakistan. In the last few years, although there is swift decrease in the prices of computers but still these gadgets are not in the reach of the common people.

Another bottleneck in the expansion of Internet in the country is inadequate telecom infrastructure to meet the demand and according to PTA “5.1 million people are having the fixed telephones lines in Pakistan (PTA, 2006).” Though, government is ardent and giving priority to the development of technical infrastructure for the real boom of the computerization and eBusiness. In this connection many steps are taken to improve and
enhance the present physical and legal infrastructure however inadequate policies by ignoring the interest of different stakeholders and weak implementation are the strong barriers for ePakistan. Power fluctuation and breakdown, load-shedding, poor and insufficient telephone lines per person, high bandwidth rates and economic backwardness are the major constraints in the development of proper IT-infrastructure. To bring Pakistani infrastructure at par with IT giants’ government of Pakistan is struggling to enhance the infrastructure, underlying figure shows the government efforts in attracting the investment for the development of IT sector in Pakistan:

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>Total FDI</th>
<th>FDI in Telecom</th>
<th>US$ Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2001-2002</td>
<td>484.7</td>
<td>6.1</td>
<td>1.3</td>
</tr>
<tr>
<td>2.</td>
<td>2002-2003</td>
<td>798.0</td>
<td>13.5</td>
<td>1.7</td>
</tr>
<tr>
<td>3.</td>
<td>2003-2004</td>
<td>949.4</td>
<td>207.1</td>
<td>21.8</td>
</tr>
<tr>
<td>4.</td>
<td>2004-2005</td>
<td>1,524.0</td>
<td>494.4</td>
<td>32.4</td>
</tr>
<tr>
<td>5.</td>
<td>July 05-March 06</td>
<td>2224.7</td>
<td>1007.6</td>
<td>45.3</td>
</tr>
</tbody>
</table>

Table-5. FDI in IT & Telecom Sector


Shamim (2001) have noted that to encourage investment in IT and to infuse IT in the public and private organizations Pakistan successfully attracted many foreign investors, these include “the internationally known names like IBM, Sun Microsystems, Cisco, Microsoft, Motorola, who have already set their offices in the country and others are planning to launch their operations in Pakistan.” These are the positive indicators which point to a healthy and growing IT industry in Pakistan. One can expect that these will drive eBusiness, however currently the technical infrastructure is insufficient to meet the eBusiness requirements of the country.

2.3.1.2 Acquisition of Technology and Expertise

According to the World Bank (1996: 188-189; 238-239) “the level of economic development of any of the country usually depends on the infrastructure and the level of demand for IT services in the country; the lower the economic development, lower will be the financial investment into the infrastructure.” Furthermore Bakos (1998) have
observed that “individuals and organizations in the growing economies have low level of income, so, the demand for the IT is also low, which is one of the causes of ‘slow digitization’.” Computerization needs financial and human resources while mostly the developing countries are economically, socially and educationally backward where 40% of the population lives below the poverty line with massive illiteracy, unable to meet their bread and butter and ¼ of the population of Pakistan is living below the poverty line. Their utmost priority is to cater the basic needs of livelihood for the people by building social and capital overheads for the uplift of the economy and national income. The acquisition of IT, installation and use needs knowledge, skills and expertise in the field of IT which eat huge amounts of the budgets, this make it impossible for the developing countries to invest on IT (Bensaou & Venkataman, 1996), similarly due to fused societal and administrative structures, conservative values and beliefs, political upheaval and instability there is no or very poor foreign investment and the fear of loosing the reserves do not allow to import the hardware, software and expertise, which is a serious question for developing countries that impede the eBusiness, however, luckily in Pakistan from last two decades government is taking interest in this neglected sector and allocating handsome funds for the promotion of IT and enhancing the technical and legal infrastructure and development of human resources besides the liberalization and deregulation initiatives and business friendly policies for acquisition of the required infrastructure and technical expertise. However, still there are many small business firms in Pakistan who do not afford the required technology to run the eBusiness successfully.

2.3.1.3 Digital Banking

The dawn of internet-based electronic finance offers considerable opportunities for banks to expand their client base, and reduce their cost of operations. Banking sector play very significant role in uplift of the nations, where conventional banking is now on the way to digital modes of banking and this trend is very common throughout the world. Most of the banks in the developed world have been providing banking services to their customers through internet. Digital, online, Internet Banking or eBanking refers generally to “all forms of financial transactions relating to commercial activities, including both organization and individuals that are based upon the processing and transmission of
digitized data, including text, sound and visual images” (Adeel, 2004). Similarly, Ashar (2002) is of the view that “an interactive service that allows the users to perform certain banking transactions directly from their PCs or mobile phones through the bank’s web site which involve exchange of any kind of physical currency or documents also come under the definition of internet/online/digital/e/mBanking.” The concept of anytime, anywhere, anyplace banking is a big convenience for all concerned, where internet or digital banking is really making anytime, anywhere, anyplace banking practical. When the internet happened, a convenient way opened for banks to reach each one of its customers, and that too without having to build up physical branches. Syed Tariq Niazi (2004) and Brig (R) Abdus, SA. (2004) broadly categorized the role of IT in a banking services organization into:

1. Supporting operational efficiencies.
2. Facilitating customer services delivery.
3. Risk management, and
4. Decision support.

Aziz-ur-Rahman (2004) argues that IT enables the organizations especially in the financial sector ‘to be effective, competitive, and profitable’. On the other hand Ashar (2002) is of the view that internet banking is a big convenience and can be performed at the:

1. Lowest level where one can surf a bank’s web site just to browse through the information, for one need not to have an account. In this capacity it works as brochure on all the services that a bank offers.
2. At the next level, one can apply for an account or a service through the bank’s web site such as personal identification numbers, username; passwords are emailed to account holders. Users can then log on to the bank site and enjoy the benefits of banking services without geographical restrictions.
3. At third level, the bank can function as a payment facilitator for B2C. This enables the customers to pay utility bills online or pay for goods and services purchased from online shops.
Deitel & Nieto (2005:5) have observed that banks are moving all their businesses online as it becomes clear that the web unconstrained by geographical boundaries, is a more efficient vehicle for their services and allows them to work on a truly global scale, where Zia ul Haq (2004) notes that “people are now able to ‘pay their bills, write and cash cheques, manage loans, mortgage their houses and manage their assets online’.” Money as we know is ceasing to exist, replaced by more convenient technologies such as smart cards and digital cash. All that a person needs to go shopping is a connection, a computer, and a digital form of payment, where one of the fastest growing online service industries is online or digital banking- either as an extension of services from a traditional bank or as a purely online entity.

People around the globe are increasingly turning towards online banking. A research from NetValue (2006) indicates that “over there are 471,000 or 32.3% home internet users in Hon Kong of the total online population, banked online in December 1999, while US have about 29 million people are using internet bank services, which were 2.2 million in the last five years.” According to Fulcrum Analytics and Europemedia “Poland has more than half a million online bank accounts, which include 40,000 corporate accounts and currently, about 10% of banking activity in Poland is conducted online”, while “24% of the Canadian adults use online banking”, reports eMarketer. Likewise, one fifth customers of the Swedish bank are online, and the over-all volume of eBusiness is more than 12.5$ billion annually. This shows that doing business on internet is not a very costly investment as benefits exceeds the costs (Baura et-al., 2001: 36-45).

Pakistan is on the way to digital modes; eBanking is available in the local and international banks with the facilities like PC or Home Banking, Internet Banking, Telebanking, Digital or eCash, Smart Cards etc. If we look in to the banking industry in Pakistan, currently Pakistan has 4 public sector banks, 4 specialize banks, 20 local private commercial banks, 11 foreign banks, 7 DFIs and 5 micro finance banks in operation whose activities are regulated by SBP.

<table>
<thead>
<tr>
<th>Branches of Domestic and Foreign Banks in Pakistan</th>
</tr>
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<tbody>
<tr>
<td>----</td>
</tr>
</tbody>
</table>


# Table-6. Branches of Domestic & Foreign Banks in Pakistan

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Banks</td>
<td>7,272</td>
<td>7,280</td>
<td>6,829</td>
<td>6,872</td>
<td>7,089</td>
<td>7,301</td>
<td></td>
</tr>
<tr>
<td>Foreign Banks</td>
<td>80</td>
<td>78</td>
<td>70</td>
<td>67</td>
<td>82</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7,352</td>
<td>7,358</td>
<td>6,889</td>
<td>6,939</td>
<td>7,171</td>
<td>7,406</td>
<td></td>
</tr>
</tbody>
</table>


The number of domestic bank branches which was 6872 in June 2004, increased to 7406 in December 2006. The number of foreign bank branches also increased from 67 in June 2004 to 105 in December 2005. In Pakistan banks are going online, according to Shamshad (2006) and Naeem (2003:114) 3,424 branches are providing real times online banking facility to the account holders as against 7,406 branches of 41 banks operating in the country which means that 47.27% branches are working online. An official report reveals that commercial banks have registered a growth of 45% in opening new online branches in the 2nd quarter of 2006 (Shakaib, 2006:62-63) however pace of digitization is still slow due to several factors. Yet, banking sector is the first which infused computer into their operations, though the pace is slow but the progress so far made is a positive sign for eBanking in the country. Similarly, mobile banking is introduced officially in 2006 is also in its initial stages as its services has limited advantage due to mini-statements retrieval facility on the phone. According to the former Governor of State Bank of Pakistan, Ishrat Hussain, “from 2006, all branches of commercial banks will be made online, initiating the mobile banking era… Banks will be offering customers business transactions through mobile phone without going to a brick and motor branch (Zarmeene, 2006: 40-43).”

Despite the progress in online banking either through installation of ATM machines, internet banking and online shopping facilities, yet in Pakistan still Debit cards cannot be used online or the only option open is using credit cards. On the other hand people fears misuse of their accounts due to insufficient security systems in preventing the online frauds and fear of disclosing and theft of their secret codes/passwords. Moreover, if a customer enabled the internet option on their cards, then there are only at few places where customers can pay online bills, a few online shops, or international websites that accept a Pakistan credit card. Though use of plastic money is risky however the trend is moving upward. Instead of using cards as a user preference feature, plastic is a jazzy
item. However, linking ATMs under the M-Net and 1 Link arrangement is a wonderful progress to facilitate customers of different banks, as no bank alone is certainly able to provide neither the network nor the reliability to its customers; however the density of ATM kiosks is still insufficient and they are missing from many areas, particularly in the smaller cities. Debit and credit cards need a desperate boost through nationwide campaign to educate the customers. Recent survey (Bakhtiar, 2005: 133-143) conducted in the districts of Peshawar, Mardan and DIKhan of the NWFP have found that only 5% of the customers know about the ATM, while 95% have no knowledge about ATM. The study also observed that only 8% of the customers are aware of the online account facility and 92% know nothing about online accounts. Similarly 12% of the customers were aware about the facility of debit and credit cards where 88% customer’s response was negative. Similarly only 1% knows the EFT while 99% does not know even the meaning of the EFT. The study further revealed that maximum customers cannot operate the ATM, only 5% can operate, mostly the foreign returned, 9% were able to operate online accounts and 11% credit cards. The most interesting part of the survey is nature of the respondents which included well qualified customers e.g. teachers of college and universities, doctors and engineers.

Yet the trend has changed recently and plastic money and eBanking is progressing positively, according to country manager Pakistan Visa International Amer Pasha (2006) currently sales volume of transactions made by using visa cards at merchant outlets grew by 66% year-on-year in the period ended June 2006, where retail sales rose to US$ 710 million compared to $ 430 million earned in the same period last year. He further postulates that visa debit cards registered growth in retail sales is 111.6% while visa credit card sales totaled $690 million, an increase of 64.3%. Moreover, Pakistani made 15 million transactions using their visa debit and credit cards between July 2005 and June 2006, a 57.5% rise over the same period, which shows the recorded jump of 72% in the number of cards issued over the past year. Despite this boom, yet cards acceptability is restricted and could be used only at petrol stations and supermarkets either located in big cities or those close to highways and motorways. Likewise, application procedures for credit cards are complicated and cumbersome.
Accessibility of eMoney needs lot of homework in all these areas to make sure that transaction can be carried out from anywhere at any time rather than actually physically having to make one’s way to a bank and personally doing the same thing. Undeniably, in today’s work environment, daily deadlines, appointments and meetings, one is often hard-pressed for time. In such a situation, any time, any where banking comes as a great convenience.

Comparison of eBanking Services in Pakistan

<table>
<thead>
<tr>
<th>BANKS</th>
<th>Debit Card</th>
<th>Credit Card</th>
<th>eBanking*</th>
<th>mBanking**</th>
<th>ATM Locator</th>
<th>ATM Network</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABN AMRO</td>
<td>✓</td>
<td>-</td>
<td>✓!</td>
<td>-</td>
<td>✓</td>
<td>MNET</td>
</tr>
<tr>
<td>Allied Bank</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
<td>MNET</td>
</tr>
<tr>
<td>Askari Commercial Bank</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
<td>1LINK &amp; MNET</td>
</tr>
<tr>
<td>Bank Alfalah</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>1LINK</td>
</tr>
<tr>
<td>Bank of Khyber</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>MNET</td>
</tr>
<tr>
<td>Bolan Bank</td>
<td>-</td>
<td>-</td>
<td>Broken Link</td>
<td>Broken Link</td>
<td>-</td>
<td>MNET</td>
</tr>
<tr>
<td>Citi Bank</td>
<td>-</td>
<td>✓</td>
<td>***</td>
<td>-</td>
<td>✓</td>
<td>MNET</td>
</tr>
<tr>
<td>Faysal Bank</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>MNET</td>
</tr>
<tr>
<td>Habib Bank AG Zurich</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>MNET</td>
</tr>
<tr>
<td>Habib Bank Ltd</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
<td>MNET</td>
</tr>
<tr>
<td>HSBC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>MNET</td>
</tr>
<tr>
<td>MCB</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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* eBanking: Electronic Banking, may vary from bank to bank but generally includes viewing eStatements and fund transfers. Require logging to website.
** mBanking: Mobile Banking, may refers to accessing mini-statements of accounts and funds by accessing websites via cell phone
*** Citi Bank has an exclusive eCard for online transactions
! Only offers viewing/receiving eStatements

Source: www pages of the mentioned banks.

After six years of internet penetration in Pakistan, still many banks in Pakistan lag behind in the race of online banking. Askari, HBL and MCB are the forerunners in internet banking in Pakistan. The volume of eBanking in the country is small but growing positively however, banking sector is waiting for enough customers to come online before they take the big leap, yet 4 years ago in 2002 16% banks were offering online
banking while according to Mushtaq (2003) it is estimated that in near future, almost 25% of the traditional business will be converted into internet business, where in Pakistan, according to Minhaj (Jang, October 5, 2005) while analyzing the growth of eBanking in Pakistan, he observed that only 11,000 online transactions occurred daily in the country worth 4 billion rupees.

Being a developing country and later entry into the IT arena, eBanking is facing many governmental, organizational, technological and managerial challenges in Pakistan. Machines are outdated and some times do not work. Moreover majority of the customers can not make use of it, outlets are scarce, procedures are mind-boggling and online accounts that have yet to materialize fully as a convenience- are small in number that’s eBanking in Pakistan.

Though, eBanking is novel to the Pakistani psyche where majority of the population is illiterate. Both customers and the businessmen largely transact business through conventional means. Behind tall claims and little true knowledge it seems what most banks are actually offering a mix of traditional banking and some electronic banking. The online retailers, too, have a critical opinion of local banks; credit-card-transaction handling banks in Pakistan have imposed a lower limit on online retailers per transaction that is why consumers could not just go online frequently to buy expensive goods that is why online retailers had the choice either to signs a contract with a foreign bank to store all the money pertaining to their transactions or let consumers pay ‘at their doorsteps’. Banks blame the government for the slow growth of eBanking in Pakistan by putting barriers in the smooth operations of eBanking in the country (Syed Tariq Niazi, 2004).

Likewise, development of online business has many pre-requisites which are either missing altogether or have a very narrow base. For instance, the use of Automated Teller Machines (ATMs) still remain an alien concept for the majority of the population still preferring to carry out basic banking transactions in person. Secondly, low base of the credit card use, which has become more a sign of status than a means of comfort, is another detrimental factor. Furthermore, transacting business online require credit card and the concept of plastic money is yet new for many people in Pakistan.
Despite the insufficient technical and legal infrastructure, confidence of the ordinary Pakistani Internet user in eBusiness is growing, as is apparent from the growth of Pakistani sites like Hi-Utility, SentimentsExpress and PakistaniShop etc. Recently a move is taken by EPB to encourage business community to go online and invited bids from manufacturers and exporters to display and sell their products on 220 shops of ‘Virtual Internet Shopping Mall’ (VISM) for the promotion of eBanking. The progress of eBanking is positive and healthy, according to estimates; Pakistani per annum US$ online expenditure has reached half a million from almost nil a few years ago. Growth in this expenditure, too, is expected to be more than 5% per annum. Similarly, the Internet Credit Card, launched recently is expected to be used by 20% of all Pakistani Internet users by end of the 2006 (Syed Tariq Niazi, 2004). Succinctly, it could be inferred from the above discussion that hopefully in the years to come, all major banks in the country are expected to be online.

2.3.1.4 Online Shopping

Jerry Thomas (1998) predicted that “internet shopping would increasingly begin to substitute traditional retailers and would create a negative impact on the conventional retail business.” Today we are witness over Thomas that online shopping and spending has a tremendous increase round the globe. The eShopping is an increasingly popular activity. “At the close of 1990, 55 million people, 60% of the internet users were shopping online. A consumer survey conducted in 2004 reflects 180.7 billion $ increase as compared to 106.5 $ billion online consumer spending in 2003 which shows that online sales grew by 14% in 2004, where this figure reached to 2 billion at the end of 2005 and 12.5 billion in 2006” as noted by Zarmeene (2005) and Shakaib (2006:62-63). The move toward eBusiness presents many benefits as well as a host of new considerations. The store front is the emerging model of eBusiness (eShopping), which combines transaction processing, security, online payment, and information storage to enable seller to sell their products on the web. According to Deitel & Nieto (2005: 72-75) and Alba et-al. (1997) “this is a basic form of eBusiness where the buyer and the seller interact directly.”
The seller or merchant conduct business using online catalog of products, take orders through their web sites, accept payments in a secure environment, send merchandize to customers and manage customers data such as customers profiles, however, to get maximum market share sellers must market their sites to potential customers. According to Deitel & Nieto (2005: 72-75), the two online shopping approaches are:

1. “Shopping-Cart Technology: It is the popular system of eShopping. This order processing technology allows customer to accumulate items they wish to buy as they continue to shop. A catalog is hosted on the merchant server in the form of database, which is a part of merchant server designed to store and report on large amount of information.

2. Online Shopping Mall present consumers with a wide selection of products and services. They are often considered to be more convenient than searching and shopping at independent online storefronts for several reasons. Consumers can search and shop for a variety of products and rather than making several separate purchases, they can use the mall’s shopping-cart to purchase items from many stores in a single transaction. Often these sites act as shopping portals, directing traffic to the leading shopping retailers for a specific product.”

more.com, ticketmaker.com are the companies engaged in online shopping, similarly amazon.com, mall.com and shopnow.com are firms facilitating eShopping to its customers world wide (Burke, 1997), however, online shopping is a new concept to Pakistani market and it is expected that eShopping growth will remain slow and uncommon practice in the coming years. Though many sites especially in Islamabad, Lahore, and Karachi are facilitating online shopping yet the scope and volume is not much wide as Bourassa (2001) have said that “education of the computer, high bandwidth and low internet charges besides awareness of the consumer regarding time consciousness to shop while sitting at home are the prerequisite for the promotion of eShopping”, where illiteracy or poor qualification are the impediments to eShopping in Pakistan. Nath et-al. (1998) have the similar arguments by putting that “mistrust, low confidence and poor legal infrastructure (eSecurity, ePayment and validation of credit,
debit cards etc.), slower the pace of development and growth of eShopping/onlineshopping in the developing countries” and Pakistan is not an exception too, where Zarmeene (2005) says that “online spending has only recently broken through the conventional shopping habits in Pakistan and gaining momentum gradually.” Many businessmen in Pakistan are converting their conventional businesses to virtual shopping malls, especially those involved in the selling of gems and stones are doing business online where some auction sites has also been developed to provide quick and easy online shopping services. Since there is no national survey in Pakistan, it is assumed that the age group of online shoppers would be between 21 to 35 years, as it is these people who are the predominant users of the internet in Pakistan. A small informal survey of shoppers revealed that the Pakistani online shoppers purchases items from both international as well as local online stores, such as Beliscity (www.beliscity.com), Liberty Books Website (www.libertybooks.com), desifalvor, desistore, desidukkandar as well as Bargelloshop (Pakistani fashion store, www.bargelloshop.com) allowing shoppers to not only purchase Pakistani as well as other products online but also send gifts to their friends and relatives within and outside the country, particularly on special occasions, however large number of people in Pakistan still remain wary of giving out credit card information over the internet and are also held back by the traditional mindset where they prefer to see the product physically and deal with a real sales person. This is perhaps a paradoxical situation since the only way of actually building up a healthy trust and comfort level is to have a successful online shopping experience. Similarly today consumer want maximum ease and comfort as they are more busier in the information age than the earlier industrial societies, that is why their ultimate decisions and choice is to have an internet shopbot, yet the importance of brand still matters.

Zarmeene (2005) while analyzing eShopping in Pakistan have said that “nonetheless the evolution of spending habits of Pakistan’s middle class is helping to widen their demand for foreign brands and products, luxury and otherwise.” This newly affluent section of society is quickly waking up to the benefits of online shopping, as the internet provides quicker and more viable solutions than flying off to Dubai for a shopping spree or sending relatives living abroad a huge list every summer. Majority of the population in
Pakistan is illiterate, poor and living below the poverty line that is why the concept of online shopping is not yet mature, moreover eSecurity is a barrier to eShopping though small number of stores facilitate eShopping yet it is still a novel to Pakistani psyche and it will take a time to become a common practice in the country. Yet, keeping in view the fast growing nature and spread of the internet, eShopping will not be novel to Pakistani market in the years to come.

2.3.1.5 eSecurity

The issue of security in the age of Cybercrime is more costly to businesses than physical crime and major area of concern supported by 58% of the respondents of a recent IBM survey of 600 US businesses (Spider, April 2006). Where Porter (2001); Weill & Vitale (2002:17-34) are of the view that “the growth in connectivity has been remarkable and created for organizations possibilities to establish distinctive strategic positioning to transact electronically and to gain entry to markets which were previously unattainable, to streamline operations and to reduce costs through eBusiness initiatives.” Information in electronic form is essential of the eBusiness initiatives on both strategic and operational levels, therefore, the effective management of information and its associated infrastructure is critical, one key subset is information security. Pauline (2001) states the ‘lack of security’ as one of the main barrier to the eBusiness, where Shapiro (2001) have stated that “failure to exercise due diligence in information assurance and security may lead to lost revenue or business opportunities”. Cockburn & Wilson (1996) reports in a survey that “the most frequent problem in the expansions of eBusiness in developing countries is the security (53.6% of the respondents), payment issues (47.7%), internet access (43.3%) and technical (38.1%).” Consistent with Cockburn & Wilson’s survey, Malaysian eBusiness users believed that “security is the most important barrier to eBusiness, chosen by almost 70% of the respondents (Mukti, 2002).” Clinton (2002) has categorized the possible barriers to eBusiness into three main subgroups and the most important according to him is “the security and legal issues are further subdivided into the uniformity of commercial authentication codes for eBusiness, the system for intellectual property protection, the privacy and the most important among them is the security.”
eBusiness in Pakistan is in mushrooming at slow pace but security and privacy are two main issues which are dispiriting the customers to enjoy the facilities of the virtual business as technology is constantly evolving and as the modern businesses expanding to take advantage of the new technology. Pakistani organizations are facing the new and more sophisticated information security challenges, where Naugent & Raisinghani (2002) have claimed that “the more complex the eBusiness the more security problems are raised.”

Security breaches in Pakistan prevent the investors and customers both to remain dependent on conventional business practices due to insufficient legal security in online transactions and in safeguarding their organizational eAssets, one of the barriers to grow eBusiness fast. Numerous researchers have written on the need of eSecurity to protect the eAssets of organizations (See, Landwehr, 2001:3-13; Pepkin, 200; Parker, 1999; Sturab & Welks, 1998:441-64; Von Solms, 1998:221-223; Landwehr, 1993). According to Ware (2001) “most organizations’ critical business information is stored electronically.” Information can be very sensitive (strategic and financial, customers or personal information), therefore it is a natural target for compromise. As surveys show (Power, 2001:29-51; Pipkin, 2003) that “hacker threat is very real”, whatever the motivation of perpetrators is because with the increased understanding of computer system, perpetrators can determine vulnerabilities in computer systems and exploit them to obtain privileges that will allow them to do anything about the system (Kumar, 1995), and repeated testing under various circumstances can make it becomes the perfect crime. However, the (internal or external) threats have potential to cause harm or loss to the organizations and come in different forms (Landwehr, 2001:3-13; Pfleeger, 1997). Threats must be well understood before effective information security measures are devised. Castono et-al (1995) has classified the threats the way they can occur: “non-fraudulent (accidental) and fraudulent (intentional).” Similarly, Buffan (2000) proposed a more elaborated classification of eThreats: “fundamental… which represent what an attacker really wants to do; information disclosure, information tempering, denial of service, repudiation, and illegitimate use… enabling) e.g. masquerade, malware or authorization violation), and
underlying threats (e.g. eavesdropping or administrative error).” Likewise, another major eBusiness issue in Pakistan is the enforceability of eTransactions. Ensuring enforceability in Pakistan requires the parties to focus on the following questions:

1. Notice and Consent: have the parties consented to conduct this transaction in electronic form and have the requisite notices been provided?
2. Signature: have the signature formalities required for the transaction (where applicable) been satisfied with legally recognized form of eSignature?
3. Record accessibility: Do the copies of the eRecords comprise the transaction available to all parties?
4. Record keeping: will the eRecords of this transaction satisfy applicable legal record-keeping requirements.

According to Hoshmer (2002) “another important aspect of eTransactions is time where secure and auditable time tamping to digital evidence eliminates the possibilities for fraud and unintended errors, and can provide evidence of priority for financial records and other business documents.” All this necessitates eSecurity, which can deliver competitive advantage by generating new markets and revenue streams and leverage new distribution channels. However, in this context Pakistani eSecurity system is not supportive to eBusiness because wider information is distributed to suppliers and other trading partners, the more important the role eSecurity plays in building confidence and trust among the online community. Regarding the eTransactions, the Commission of the European Communities (1997:19) considers that “the 1st objectives is to build trust and confidence, both consumers and businesses must be confident that their transaction will not be intercepted or modified, that the seller and the buyer are who they say they are, and that transaction mechanisms are available, legal, and secure. Trust and confidence is the prerequisite to win over businesses and consumers.”

Traditionally, security in computing was discussed in terms of goals: confidentiality, integrity, and availability of information (See, Pipkin, 2000; Lichtenstein & Swatman, 1997; Pfleeger, 1997; Swanson & Gutman, 1996) and authentication and non-repudiation...
(See, Landwehr, 2001:3-13), yet, the goals oriented approach may be flawed one. That is why modern day experts like (Pipkin, 2000) and (Landwehr, 2001:3-13) suggest “the adoption of a conceptual analytical research approach and discuss information security’s role in eBusiness on the following three high-level, organization-independent, inter-related dimensions:

1. Safeguarding organization’s information;
2. Complying with eBusiness legal requirements; and
3. Enabling secure electronic transactions (eTransactions).”

As security of the data and information is the prerequisite for the success of online business, keeping in view the importance of eBusiness, government of Pakistan took initiative for the improvement of security and building confidence and trust among the online sellers and buyers. In this connection Electronic Transaction Ordinance 2002 and Electronic Crimes Act 2003 were promulgated to provide legal cover to eSignatures and eDocuments. These are the significant steps for eSecurity which is supposed to facilitate secure and smooth functioning of eBusiness in the country. The ETO provides legal cover for the electronic communication aimed at facilitating trade and investment; expose local industry to international market by creating a legal structure to support online sales and trading rules. Though the ordinance meets only about 15 to 20% needs of eBusiness (Dawn, 2002) however, its importance cannot be denied since the concept of eBusiness had never been treated with required precision and seriousness ever before. The ETO 2002, comprising eight chapters and a schedule, It deals with preliminaries, recognition and presumption, electronic documents, certification service providers, certification council, amendments to relevant laws, jurisdiction and offences. This also ensures that the future eLaws will be flexible enough to remain applicable in case of technological advancement similarly section 2 of the first chapter covers various definitions of eSignatures, where section 36 of chapter 8 states that any person who gains or attempts to gain access to any information system with or without intent to acquire the information, when he is not authorized to gain access, as aforesaid, shall be guilty of an offence under this ordinance punishable with either description of a term not exceeding seven years, or fine which may extend to Rs.1 million, or with both. Sections 38 and 39 of the same
chapter say that all offences under this ordinance shall be non-bailable, compoundable and cognizable and no court inferior to the court of sessions shall try any offence under this ordinance. According to experts, the task ahead now is to draft a law on eBanking because the ETO does not fully cover the rights and duties of customers and banks, or address problems like opening of accounts by electronic mails when out of the country and the concept of eCash and it did not give customers the right to sue banks for wrongful honoring or dishonoring cheques and not maintaining secrecy of accounts. These issues make subsequent legislation imperative.

To achieve the benefits of eBusiness, Pakistani organizations are still in acute need to find ways to effectively address the associated eSecurity implications, which can best be achieved by the application of the tri-dimensional approach of eSecurity (see: Shapiro, 2001; Gao, 1998 in: Lampson 1992:265-310). Furthermore, Puchihar et-al. (1999: 317-330) are of the view that “organizations should aim to gain understanding of the specific characteristics of the merging environment that may generate new threats.” Organizations doing eBusiness in Pakistan need to be vigilant and attentive to the security problems if they wish to excel in eBusiness successfully otherwise the consequences of failure to do so may severely impair their ability to carry out their business online and may even lead to legal exposures and liabilities.

2.3.2 Organizational & Managerial Issues

Computerization is not an easy job rather it has profound repercussion for both the organizations and management, it not only bring opportunities for both the organizations and its human force, it also pose threats and opportunities to the management of the organizations. Online business seems very attractive but it is highly difficult when one is going to make it operational as it is a multidiscipline and multidimensional in its nature that is why countless factors create bottlenecks in the digitization of conventional businesses. The most important is the level of organizational readiness and maturity to infuse and assimilate the technology into organizational culture. In Pakistan organizations are undergoing the transformation from traditional businesses to computer based eBusiness. As successful computerization depends on organizational IT maturity from
technical, organizational and human point of view. The knowledge, experience and skills of the organization’s IT professionals and management is extremely important in this regards that is the organizations should be mature enough in hardware, software, orgware and peopleware. Organizational and managerial issues of eBusiness in Pakistan are happening because of the immaturity in application and use of technology.

2.3.2.1 Organizational IT Maturity

Benjamin & Scott Morton (1992: 131-142) are of the view that “eBusiness is the technology driven activity” where introduction of computer based information systems and digitization largely affect the organizational contextual factors and get influences too, similarly Dewan & Kraemer (1998) argues that “organizational contextual factors include: the over all organizational environment, organizational culture, power and politics, the managerial styles, structure and size of organization and its mode of adoption and adaptation to the technology, which determine organization IT-maturity.” Many researchers have suggested that aligning organizational design with the environmental, technological and organizational aspects determine the success and failure of computerization (See, Yasai-Ardenkani & Nystrom, 1996), similarly Ennals (1995) believes that “the internal threat is greater than the outside dangers.” The main organizational threats emanate from the organizational structure and the management style (Warne, 1997). Structural issues are related to size and the resulting complexities which add to the environmental uncertainty. The ‘size of an organisation often indicates complexity’ (Kwon & Zmud 1987). Researchers suggests that in the scenario of IS development and use problems, organizational context is mostly characterised by: for example, structural complexities; poor reporting structures; imposing management styles; political conflicts between different organizational stakeholders; and the cultural diversities among different groups involved in the system development and use environments (See, Markus 1983; Staw & Ross 1987; Drummond 1994; Brown 1995; Keil 1995a; Drummond 1996a, b). Throughout the world during computerization organizations are facing with some universal and common issues as IT influence and affect the organizational contextual factors including structure, size, human, rules an procedures. With reference to eBusiness in Pakistan, businesses are facing the following
organizational and managerial issues i.e. organizational culture, organizational power and politics, management styles and organization structure and size.

2.3.2.1. a. Organizational Culture

The complexity of the interdependencies between organizational culture and different stages of the system development process may pose certain impediments such as: “hierarchical thinking; communication conflicts; team diversity; strength of cultural values and their effects on the various stages of innovation” (Hauser, 1998). According to (Schein, 1992) “culture is a set of assumptions about how the world is and how it must be which is shared by group of people to determines their perceptions, beliefs, mind-sets and the explicit behavior”; Schein further argue that these appeared at three levels:

1. “the deep-rooted assumptions which is the heart of the culture;
2. the core values which reflect the group ideal wishes and the way to present them publicly; and
3. the routine behavior in the form of complex compromises among the core values, deep-rooted assumptions and the immediate needs of circumstances.”

Getting cross-functional teams to work well together in developing an effective eBusines models is difficult because they bring their functional cultures into the project and, as a consequence, have difficulty in communicating with each other, reaching consensus, and implementing decisions effectively. Schein (1996b) asserts that “the difficulty of communication arises not only from the different goals of the participants, but also from the more fundamental issue that the very meaning of the words they use will differ.” Therefore, Dann et al., (1998) warn that “make sure your team has communication, influencing and negotiating skills so that difficulties can be confronted constructively and with skill, and the partnership works smoothly through regular review of the overall climate.”

To address the cultural issues, Schein (1996b) suggested ‘a framework of organizational cultures.’ He divides the cultural set up into three distinct components: “operator,
engineering and executive cultures.” He suggests that the “lack of alignment among the three groups can appear as serious barriers in IT-business alignment”, on the other hand while discussing the problems of groupthink, Joyce & Jeff (1995) remark that “strong cultural groups display behavior which encourages members of the group to conform to the group’s own view of the world.” Members develop a view of outsiders which is stereotypical, and put internal pressure on members who do not share the group view of a situation. Operators are considered to believe that: organization’s action is ultimately the action of people; the success of the enterprise depends on people’s knowledge, skill, learning ability, and commitment; hence, operators must be able to work as a collaborative team in which communication, openness, mutual trust, and commitment are highly valued, where engineers, on the other hand hold assumptions and beliefs like: a. engineers can and should and master nature; b. desire of “free of people” solutions; c. the ideal world is one of the elegant machines and processes work in perfect precision and harmony without human intervention; d. engineers prefer linear simple cause-and-effect quantitative thinking, similarly executives are more conscious of the financial focus, because the financial survival of the businesses is equal to long-lasting war with their competitors.

Given the obviously controversial frames of reference held by different cultural groups in the organization, it is argued that conflicts between different stakeholder groups are inevitable. However, organizations that are mature enough who may alter their culture in a better way when required. These organizations have the stories of success of digitization; Schein (1985) argues that “the culture of these organizations reveals that the resistance to change can become major barriers to the computerization.”

The cultural emphasis in computerizations is supported by many researchers (see for example, Shah et al., 1994; Poulymenakou & Holmes, 1996), because it forms ‘the basis for political maneuvering’. Flowers (1997), after analyzing five high profile failure cases, found that “organizational IT-maturity is concerned with individual and group behavior.” Similarly, in another analysis of failure cases Kirby (1997) discovered that “success is dependant on the management of “personal and group differences”. Several studies conducted by (Lyytinen & Hirschheim (1987) have shown that “the computerization can
be seen from many angles: it has symbolic and political dimensions in addition to the technical one. If culture gaps create tension among the users of systems, then these tensions are manifested through organizational politics, which may cause failure of the eBusiness.” Similarly, the cultural difference is one of the cause of conflict among the parties involved in the development and management of the IS (eBusiness systems).

2.3.2.1. b. Organizational Power and Politics

Managing the power, politics, and the organizational context, digitization is increasingly recognized as being of critical importance to successful eBusiness (See, Markus, 1983; Drummond, 1996a, 1996b). Computerization causes a redistribution of power which may be unacceptable to those losing it. Davenport et al. (1992) argues that “the primary reason that so many significant digitization management initiatives fail is because organizations have not been managing the politics of information.”

The conflict between various users and between users and developers can be reflected in the power base of these groups. The political process in organizations influences outcomes in terms of the way power is exercised, and this exercise of power may in itself be influenced by actions intended to reshape the relative power of parties in an organization (Sauer, 1993). Checkland and Scholes (1990) states that ‘politics is ultimately concerned with the disposition of power’, where Mintzberg (1989) defines politics as “the machinations created in the pursuit of power and the effects the resulting conflicts have on organizations.” Power and politics, therefore, are inextricably intertwined. Having power means having the capacity to have decisions and actions taken that support one’s interests. In an organizational context, power should be viewed as a characteristic of a relationship between people, and not just an individual attribute.

Political activity is frequently characterized by ‘conflict resulting from competition for organizational resources’ (Miller et al., 1998). The resolution of such conflict may be characterized by negotiation and compromise according to the ‘balance of power between the parties involved’ (Morgan 1986). When there is a high level of uncertainty, as in a large or innovative system, then substantial influence will be brought to bear by the organization’s power brokers because major change threatens the established power
relations of an organization. Computerization process is often the instrument of such change, which “affect large number of people in the organization (Sauer, 1993).” Warne (1997) found in a survey of public sector computerization that “seven out of eight projects, delivered on time and on budget, were shelved, by the clients, because of their perception of loosing the power and insufficient management commitment.”

These definitions of power suggest computerization would be fertile ground for the kind of conflict born of protecting one’s interests in an organization. According to Sauer (1993) “power accrues to those who control resources which are important to others.” Similarly, Orlikowski and Robey (1991) state “the allocation of information resources reinforces authority and distribution of power.” That is why the power people acquire through their control of resources is not just a matter of ownership, but of consciously having arbitrary control over their availability and use. Moreover, Davenport et al. (1992) are of the view that “as a role of a person in an organization becomes more specific by the people who hold and control the information, they view the information as a source of power and be less inclined to share or delegate this responsibility”. No resources are more important to an organization than information resources, and computerization often change the way these information sources are controlled. This conflict is more evident at the strategic levels planning. It is reported that the SISP implementation success rate has been very poor (see, for example, Lederer & Mendelow, 1988; Lederer & Sethi, 1994) and politically motivated resistance is a major contributing factor to the poor success rate (see, for example, Markus, 1983; Markus & Bjorn-Andersen, 1987; Lyytinen, 1988; Weill & Olson, 1989; Lederer & Sethi, 1994; Ewusi-Mensah & Przasnyski, 1995; McGrath, 1997). Ewusi-Mensah & Przasnyski (1995) claims that “the success or otherwise of a computerization is equally reliant on the social, economic and political settings within which it is constructed.” Therefore it requires political sensitivity as well as technical expertise. Since the assumption of risk is part of the political ‘fall out’ of decision making, so it is not analysis but politics which determines, what risks are run, when and by whom (Drummond, 1996a).

Researchers have found that ‘people misperception of IT as silver bullet resolves all problems’ (Aldrich, 1994); organizational and political issues are perceived to be non-
existent or unmanageable, thereby creating a situation where technocratic ideas dominate. It is well documented that the organizational context consists of several sub-environments: technological, organizational, psychological, political, cultural, monetary and so on, which form a necessary infrastructure which together with organizational procedures, establish specific form of social organization, which influences the computerization (eBusiness) and “which is not necessarily neutral” (Lyytinen, 1988). From the above discussion, it is clear that managing the power and politics in ISD, implementation and usage is one of the major issues of all the business firms.

2.3.2.1. c. Management Style

One explanation for the organization IT-immaturity is that ‘managers are not taking prudent measures to assess and manage the risks involved in the computerization process’ (Keil, et al., 1998). Remenyi & Schambreel (1997) identified a list of management mistakes resulting in IT business misalignment: “inadequate funding, not enough outsourcing, not enough careful listening to the users; jumping onto the technological bandwagon too early; stretching too far the skills of the IT professional; developing naive applications; end user skills and attitudes; neglecting to evaluate IT investments; and the culture gap.”

Similarly, management style (for example, authoritative, participative) determines the success or failure of eBusiness (Glass, 1998a). In most of the widely publicized failure cases, poor management style has been frequently referred to as the critical factor in the failure of the eBusiness systems. The classical Taylorism in managing the people is to develop tightly specified job descriptions, limiting the reliance of the organization on the unreliable human elements (Taylor, 1911), while this approach is not successful in explaining structures and behavior where there is a social context in which the human participants are affected by their theories about the workplace and the work (Kirby, 1997; Ennals, 1995). Swanson (1994) writes that “changes which are the outcome of the computerization are not usually considered in the larger organizational perspective.” It is therefore, vital to understand the computerization that happens in a complex context (See,
Lyytinen and Hirschheim, 1987; Mumford and Sutton, 1991; Sauer, 1993; Galliers et al., 1994; Sauer, 1999).

It is reported that there is a mismatch between conventional approaches to management, management education, and the environment of constant change in which managers now have to work and the mismatch remains to hamper computerization. Major criticism against the qualification of current IT managers is the ‘lack of multidisciplinary knowledge-base’ (Simpson, 1991). “Hybrid” manager is suggested as a solution to address the mismatch problem (Earl, 1989). According to Flowers (1997) “the rate of poor performance in computerization and use practices however, indicates the difficulties in achieving the goals of having a truly multi-skilled manager; in such a situation the failure of management is common”.

Schein (1985) suggested “twofold task-oriented management’s role in computerization, 1. task-oriented role, which comprised of taking initiatives, sharing information, stating opinions, and drawing conclusions and 2. the supportive role, this include maintaining and supporting groups and teams by reinforcing harmony, setting up norms, and controlling internal communication.” Considering these two tasks collectively means that “executives must have the human and analytical skills or in other words organizational managerial maturity (Schein 1985; Zuboff, 1988).” In the perspective of change, human expertise means to motivate the people to accept the change and learn while analytical competence means leading and managing the change cycle. Likewise, managers must have the analytical capability to build vision and solid objectives, and to devise ways and means to accomplish these. The visions have to be propagated to the personnel involved in the ‘change process’ (Huysman et al., 1994). Zuboff (1988) argues that “the planning and directing the learning process in an organization and then to facilitate the accumulation of individual and group learning into organizational learning is also the responsibility of the management.”

Furthermore, Zuboff (1988) is of the view that “managers must have the adequate knowledge of the possibilities, limitations, costs, and methods of computerization etc.” This means that without such knowledge, “managers cannot identify the role of
computerization in the organization and decide when to initiate the change process and how to control it” to run online business successfully.

2.3.2.1. d. Organizational Structure and Size

All organizations have some ‘degree of hierarchy’ (Beyer, 1981). The known information systems experts Kwon & Zmud (1987) argue that “there are both formal and non-formal structural factors besides the size that affect the technology adoption process.” While (Schein, 1996) is of the view that “the organization and their management are intrinsically hierarchical: which is the measure of status and success and the basic mean of maintaining control.” It is reported that the structural characteristics for example, divisional boundaries, functional specialization and level all act as significant barriers to information flows in organizations. Similarly, “the hierarchy of the organization can also lead to rigidity, resistance to change, and slow response. For example, the deep hierarchy shows the vertical communication and centralization of the decision making hence the change process become slow and resistance to change is common (Regan & O’Connor, 1994).” Since “changes emerged out of the computerization process are not usually considered in a larger organizational perspective (Swanson, 1994)” that is why “both formal and informal impediments come into play (Ennals, 1995).” Poor reporting structures with large size are widely cited as one of the main causes of several high profile IT-business immaturity and failures (Warne, 1997). Similarly, Markus & Bjorn-Andersen (1987) suggest that "IT professionals exercise power over users’ behavior by creating organizational structures and routine operating procedures that give them formal authority over users or foster user dependence on them for important resources."

Given the widely cited deficiencies in the traditional organizational structures and their incompatibility with the current demands, there requires a change in the nature of organizations. Lester et al. (1998) notes that “organizations are abandoning the conservative structures of the hierarchies, on the bases of clear functional divisions and clean demarcation of the lines of authority by adopting more flat, non bureaucratic and participative structures and the watchword of these new organizations is flexibility.” The goal is to adapt quickly to changes while ensuring that all the pieces of the organization
are able to work together effectively, without the need for a long chain of command. However, “changing the management structures is a highly political issue, where any perceptions of threat to the power of any influential stakeholders is accepted with difficulty or confronts serious resistance (Drummond, 1994).” Flexible, adaptive structure helps in getting the competitive edge of eBusiness.

### 2.3.3 Technical Factors

The most crucial aspect in IT maturity of organization is the technical factor, it also play a pivotal role in the success or otherwise failure of eBusiness, which are studied in the context of technology, human needs, and organizational tasks. The viewpoint is practical; to make IT fit into their aimed roles in organizational processes, it is necessary to understand the organizational tasks. A successful adoption of IT usually requires compatibility with existing norms, prior experience and user needs.

Technical dimensions of the information system are highly significant to be considered specially in the Pakistani context because it is the technology that comes to rescue the human from the worries and work pressures, where “eBusiness is dependent on the computer and telecommunication technology that shoot the information and hit the target giving competitive edge to firms to grow and expand with maximum market share as IT shrinks the boundaries and physical distances (Evan & Wurster, 2000).” However, technical problems include risks associated with both the hardware and software. Gates (1999) and Wetherbe (1996) argue that “computer and telecommunication technology is dynamic, fast and ever changing, it becomes obsolete as new technology enters the market”, where developing countries like Pakistan can not afford the frequent changes in the IT/IS specifications necessary for the successful operation of eBusiness and majority of the small firms in Pakistan who can earn more through eBusiness fail to coop with business requirements due to rapid technology-driven developments. Furthermore, the hype created by computer firms about the technological dimension and the over expectations from technologies considering the IT as ‘panacea’ and ‘solution of all the organization and managerial problems’, is another eBusiness issue in the developed as.
well developing countries and Pakistan is not the exception (Mata & Fuerst, 1997). However, along with technology the social factors are also crucial for the successful implementation of the eBusiness systems; most of the expectation fails because of the poor IT-business alignment and history of the Pakistani firms tells the same story.

As discussed in the preceding pages IT is dynamic in its nature, technology with new and enhanced features compel the firms to have leading-edge systems while sometimes organizational financial constraints restrict the adoption of leading edge technology. Thus replacing the old with enhanced eat budget and resources of the organizations, where developing countries and their businesses can not afford it, resultantly they lag behind in the race of competition. El-Sawy (2001) have observed that “sometime due to incompatible technological solutions failure of the information systems occurs besides the developer-user technological knowledge gaps, which creates barriers for eBusiness” and like other developing nations Pakistan is facing the same. Besides hardware, software issues have social implications as Wastell (1996) have reported that “the illusion of an all-powerful method allows practitioners to deny their feelings of impotence in the face of the daunting technical and political challenges in successful conversion of conventional business to online modes.” The problems inherent in digitization led to the 'software crisis’ well documented by (Naur et-al. 1976; Brooks, 1987; Abdel-Hamid & Madnick, 1990; Pressman & Russell, 1991). The record shows that the software industry has been marked by: cost overruns, late deliveries, poor reliability, and user dissatisfaction. An examination of the literature reveals a two-fold bias, which, firstly, construes the ‘software crisis’ problem arising from the sloppy, ad-hoc and irrational approaches of systems developers in practice; and secondly, views the solution to the system crisis in terms of the more widespread adoption of rigorous and formalized ‘systems development methodologies’ (Fitzgerald, 1996). Yet, Boddie (1987) is of the view that “failure to learn from mistakes is an impediment to the management of eBusiness projects”.

It is clear from the above discussion that technical problems in computerization are ‘multidimensional and emphasis on any one is inadequate’ (Kling, 1980; Hirschheim,
The success of an eBusiness is dependent on the human-IT maturity of an organization. Though, technical problems have their role, however, research indicates that most of the eBusiness projects failure have been caused more by non technological, particularly, human factors (See, Beynon-Davies, 1995; Glass, 1998a, 1998b; Beynon-Davies & Lloyd-William, 1999). Human factors manifest themselves through individual and group level perceptual and cultural barriers as well as political conflicts which need managerial solutions instead of technical panacea. Furthermore, these human issues and problems are hard to fix because ‘the potential for disaster through misunderstandings is considerable’ (Ennals, 1995), while misunderstandings lie at the heart of computerization. At the strategy choice and planning level misunderstandings are generated mostly by the hype about modern technology. Vendors advertise IT products as a silver bullet capable to take care of every information manipulation activity in the organization. Business disasters, due to opting for ‘leading-edge technologies’ are no more a secret. Decision makers fall short of making proper sense of the options provided by modern information technologies. Misunderstandings start piling up once it is decided to initiate a system. Furthermore, since there are very strong cognitive, cultural, professional and knowledge-related diversities among the system developers and the users, the management of their interaction, which is the only guarantee of any successful outcome, is found to be a problematic area in Pakistan, problematic in the sense that it is full of uncertainties.

Briefly, online business operations and success in organizations with reference to Pakistan largely depends on the organizational contextual factors, if the organizations is mature enough then organization IT-maturity helps in adapting the organization to the dynamic changes and environmental conditions as IT is the major operator of eBusiness, so IT-Business maturity is the prerequisite for success of online business.

2.3.4 IT-Business Alignment

Luftman & Brier (1999: 109-122) in his work concluded that “information system development is a socio-technical venture, which needs well contrived feasibility studies.” Misalignment of IT-with business objectives may leads to the failure of IT-project where
Sauer (1993) states that “more than 70% IT-projects fail because of the miscommunication and misalignment of the developed system and the business.” Similarly, developing an information system for a particular business system, analysts and developers are required to carefully analyze the organizational and managerial requirements otherwise miscommunication will result into the resistance of the developed project and user will either overuse or underuse the system with handsome complaints against the system.

Likewise, IT projects are not the ends in themselves rather supposed to fulfill organization’s business objectives; therefore, management has to make sure that an IT project is successfully converted into a business project. This requires taking care of not only the technological dimensions of the project rather the contextual factors must also be evaluated, which includes: human factors, power/political aspects, and structural side of an organization.

Since IT projects are innovative; these innovations require big changes where change is always resisted in the natural setting because change either increases or decreases the power of workers. In Pakistan, eBusiness is in its initial stages, where most of the workers in organizations have poor knowledge and understanding of the IT and its benefits; they fear and perceive IT as status, social and economic threat. Due to their misperception they resist the IT based new systems the most. Likewise, introduction of computer in organization structure is not a technical venture. At initial stage it does not seems to be a problem, however when it comes to implementation, there are several other considerations which must be sorted out. As said earlier that IT is innovative which require mega changes in almost all the aspects of organization, including structural changes i.e. new jobs are created, programmers, s/w engineers, system analysts, multimedia designers are employed, where power changes i.e. job description of the existing workforce changes thus changes can be positive or negative for different people e.g. if the power is going to increase with the introduction of computerization, people will accept the new changes with open heart. While on other hand, if a worker feels that computerization will reduce his control over resources, it is natural to resist. This
resistance appears because of the danger to the job security. So the resistance of such employees (to change) is not necessarily against the computerization rather it is the organizational status of employee which is at risk.

The pervasive role of IT into the organizational life is indicative of the human’s progress in harnessing this technology however, this progress also conceives some publicized and many off the record stories of frustration with the application of IT in Pakistan at several levels in the organization. The broadest definition of misalignment (IS failure) is the dissatisfaction of any stakeholder with the outcomes of an IS project while a failure which has broader impacts in terms of money and dissatisfaction, shows the other extreme of the problem. Thus, the rate of failure is measurable on a continuum of small level and broader levels of failure.

An analysis of the failure phenomena suggests that whatever the level of failure is, the major cumulative reason is the ‘misalignment’ between IT and the characteristics of the organization. The degree of alignment between several human, organizational, environmental and technological forces determines the degree of success and failure. Misalignment results in confusion, misunderstanding and thus conflicts, which reveal in several forms such as ‘user resistance’ to the change demanded by the technological transformation.

The development and implementation of CBIS (eBusiness) with a scientific mind-set makes the development process a mechanical and people-free endeavor which is thus based on the inattention of developers to the human, organizational and environmental factors during the development process. The resultant system may be a technical specimen but ignorance of non-technical dimensions of the project creates misalignment of the system with the human and organizational style and requirements. The failure is thus inherent in the system development process, which is evident from the dominance of positivist thinking with a ‘decomposition’ philosophy.

The controversies over the definition of IS failure does not relate to the existence or non-existence of failure rather with the degree of success and failure. Given the difference of
perceptions about IT and organization in Pakistan, the criteria for measuring IT benefits are multiple however, there is consensus on the fact that the incompatibility of IT with organizational traditional culture, lies at the core of the failure problem. For, user resistance theories suggest that when new system does not align with the user requirements, the failure is triggered through user resistance. Likewise, misalignment between the organizational and IS strategic planning are widely reported constructs to measure the failure of strategic IS implementations.

More than 70% of the IT project fails because of the misalignment, the dimensions of this misalignment are the IT-business alignment as has been ranked as one of the top issues for management in the development and use of new information systems (see for example, Kundi & Nawaz, 2006; Galliers et al., 1994). Similarly, IT-organization alignment has several dimensions which all collectively constitute the problem of alignment/misalignment in the interaction of IT and organizational characteristics particularly, IT [hardware/software policies, IS development methodologies, ISDLC, IS infrastructure] and organization [structure, strategies, and culture]. The misalignment at any level has its implications that are detrimental to a successful development and implementation of an IS project. Factors that cause inalignment include:

1. **Humans and IT**: both the developers and users have different perceptions of IT and about the automation and humanization in the computerizations process [change management].

2. **Organization and IT**: Structural considerations, senior management’s level of interest, organizational methods and procedures, management style, technological maturity, and organizational environment are the factors which lead to misperceptions of the IT.

Furthermore, in-depth analysis of the IS (eBusiness) failure in Pakistan, reveals that both technical and non-technical factors create, contribute and sustain the problem and the causes lie in the technical, human, organizational and environmental domains of the IS development process however, immediate cause of the IS (eBusiness) failures is the ‘misalignment’ between organizational characteristics and the technological demands. It
shows the inability of both the technical and organizational management in adequately managing the IT-business interactions causes misalignment.

Likewise, every organization espouses ‘team-work’ in its projects such as IS development however, the actions/interactions that take place are the output of compromises between the tacit values of the individuals and the demands of the day to day operations. So the degree of understanding of different actors in the IS development process (individuals, groups and organization) determines the practical layout of the compromise or, in terms of agency theory, contract. From the above discussion, it can be derived that if the interacting parties are well-informed about the particulars of a ‘technological transformation’ process, their compromises will take place at the higher levels of understanding otherwise, low-level compromises are served, which contain the dangers of ‘misalignment’. Here management must create a balance between these two types of feelings among the workers. The best policy is to convince the workforce in accepting new changes is that there should be incentives for the affected workers and education and training.

If these two policies are not existent then the new system is perceived as imposing. Now the imposed system can never be successful in the long run and the resentment of employees will emerge in different ways, for example,

1. Misuse of new system.
2. Under use of new system.
3. Un-necessary complaints.
4. Deliberate distortions in communication and feedback.

Management is responsible to control the deliberate distortions of communication and feedback across the organization, which is a challenge and threat to management. Research shows that intentional misinformation is a very powerful tool in the hands of organizational workforce through which they can misguide the management without the knowledge of management.
This discussion necessitates that satisfaction of end user from new system is a prerequisite and it is indispensable in the sense that the ultimate users of the new system must not only participate in the system usage rather get involved in the development too. Creation of involvement on the part of those workers who are negating (affected by the system), management has to work out a separate plan with special considerations on long term education and training to benefits from the fruits of eBusiness and the address these eBusiness issues in Pakistan.

Sketchily, experts have claimed that technology must be humanized and the computer should be given human face so that it is the computer which adapt according to human requirements and human are not suppose to change according to the machine.

**2.3.5 Social and Cultural Issues**

A great sociologist once said “it is only at the cost of other that society progresses (Hamza, 2006: 50).” The truth of this seventeenth century saying still resounds, as thousands of innovations that dot the technological map of the world, have been made at the cost of people who do not benefit from these advances and the IT is no different on which the online business depends. As an innovative technology eBusiness has revolutionized the business world by expanding the marketplace and redefining the traditional organizational boundaries and structures. Its economic influence is considerable which has social, cultural, political and legal implications. The future of eBusiness is bright and it will continue its rapid expansion and may eventually take over from traditional business practices yet in today’s society, there are very few laws enabling an effective transition, however “eBusiness is a global concept (Hill, 2003: 12-13), he further postulate that society, on the other hand, “believes in state sovereignty, patriotism and segregation, where cultural, social and political barriers continue to prevent effective online transactions and hinder the potential for growth in eBusiness in developing countries.”

The most critical barrier to effective eBusiness in Pakistan is the issue of security. Paul (2000: 35) describes “the World Wide Web as being coherently insecure and this insecurity is a fundamental drawback to its use in commercial settings.” The introduction
of the Internet has encouraged growth in areas such as commerce and telecommunications however it has also enabled a new type of crime: computer crime. Adam & Yesha (1999: 156) says that “the secrecy of internet users make it difficult to prevent the crimes of money laundering, hijacking accounts, piracy and computer viruses etc.” Where “intangible or intellectual property is highly valuable in the New Economy (Hartley, 2002: 162),” but continual advances in piracy and computer virus technology makes it very difficult to protect.

The accountability and ownership is another issue preventing eBusiness expansion in Pakistan. Rowley (2002: 25) writes that currently, “the Internet operates as a separate entity, not owned by an individual, company or state. This independence allows for uninhibited access by every individual with a computer however it also makes accountability virtually impossible.” The cultural, socio-political and legal acceptability in one country is illegal in the other. These differences are more prominent between the western and Pakistani society. For example, advertising wine and pork is legal in countries such as the United States however in Pakistan; there are severe penalties for companies that breach laws regarding wine and pork promotion. If a firm utilizes the World Wide Web for its marketing and advertising activities, they may reach Pakistani online users yet they are not breaking any laws.

When the Tim Berners-Lee developed the ‘www’ in 1989, he wished it to be ‘a communications facilitator free of legal regulations’ (Berners-Lee, 1996); however unfortunately, this is just not commercially practicable. If the World Wide Web is to be successfully utilized for eBusiness especially in Pakistan then regulatory bodies need to standardize practices across the globe. Although individual countries and Pakistan have implemented laws regarding computer crimes, these laws do not affect offenders outside of that sovereign state. The security must be ensured through international legislation for all involved parties. The intellectual property laws must be updated regularly besides penalties for online crimes. Though this will end the Berners-Lee’s regulation-free vision, but it will provide an opportunity for a new, eBusiness-friendly online environment.
Similarly, the societal setup of a particular nation and their culture is governed by some specific norms and values which are particular to that nation, the socio-cultural norms and values of the technologically advanced countries are different from that of the developing and transitional societies on the basis of their socio-cultural norms, values and religion, as most of the developing nations are those where fused structures exist while diffracted structures are offing in which Pakistan lie. In today’s global society, all firms and workers across the globe have a sense of their own ‘societal and organizational culture’ (Lyytinen, 1988). The organizational culture determines impacts on how companies perform and behave in the market place. Most significantly, the styles of communication vary throughout the world which influences the successful trade relations of the firms. With eBusiness and the Web, a new global digital culture and new forms of communication is emerging. Firms, especially doing businesses online, will consequently need to suddenly adapt to this new culture and yet attempt to retain their own special styles and culture that make for their uniqueness and innovativeness. With the passage of time advanced countries infused technology into their socio-cultural setup, however as developing countries like Pakistan are on the way to achieve the targets of digitization, they lack the legal infrastructure to regulate the IT associated socio-cultural and ethical problems. Security of the online transactions, interference in privacy, elimination of jobs and socio-organizational, economic and status threats and pornography are the social and ethical problems associated with the internet age that are impeding the growth and expansion of internet and eBusiness in Pakistan.

Likewise, prismatic societies like Pakistan are facing with a dilemma, For example, 1. to get economic progress and prosperity, we have no option but opt on new technology, where on the other hand 2. we can not afford the socio-cultural cost in case of cultural invasion as perceived by the society as serious threat to their religion, social and cultural norms and values. Similarly, IT rarely acts as a malleable and free commodity because: 1. the price of switching is high; 2. organizational politics may restrict available choices to inappropriate one; and 3. users (and even analysts) may set unrealistic expectations to technology due to bias, difficulty in evaluating its functionality, or just inexperience, laziness, or lack of time (Lyytinen, 1988), and the organizations who are adopting this
new technology are also facing with many problems because of the technological hype created by the IT-vendors, several misperceptions have been established for example, most of the organizational workforce considers IT as a 'silver-bullet,' which can solve any organizational problem, where other consider it as economic, social and status threat. This type of thinking is common among the users and the system developers. The developers however, are responsible for creating and enhancing unfounded expectations from the IT solutions. Lyytinen (1988: 61-81) suggests that “the problems of computerization are dynamic due to the influence of the IT because it brings changes in the organizational structures, procedures, culture and the external environment. That is why computerizations become unfit to stakeholders' expectations.”

2.3.6 National & Global Issues

IT is spreading like wild-fire and deepening its roots in all spheres of human life, as it is global in its nature, within Pakistani context computerization and online business is facing with many barriers e.g. unorganized IT education, political instability, bureaucratic hurdles, poor legal infrastructure and digital divide are some of the global and national issues of eBusiness.

2.3.6.1 Unorganized IT Education

IT is by any measure one of the most complex artifacts that human beings have ever created and the complexity very often exceeds the understanding of all concerned (Lyytinen, 1988). Therefore, emphasis on the technological education is logical in the sense that greater the understanding of the technological options, greater will be the chances of grown-up computerization. Today Pakistan stands at the “crossroads after realizing a little late [for example, in comparison to India] in the fame of IT that an illiterate population does not and cannot synchronize with the objectives of economic growth and foreign investment” (Hussain, 2001:26). Given the traditional model of our educational system, there are several weaknesses, which pose serious threats to the IT education and development in the country. At the moment, for example, most of the IT-educated products of these institutions are appearing incompatible with the market demands. It is not argued that these should not happen because some degree of failure is
acceptable as a price of the learning process however, if problems are emerging from the mismanagement, it is unlovable without developing an adequate IT-management strategy.

The most striking effect on the life of educated class in Pakistan is being made by the privately managed computer training institutions, which are opening in every nook and corner of the country under multiple names and titles. The educated community, which is not computer-literate however, cannot help getting at least acquaintance with the computer. So they are easy prey for the training institutions where, despite having an undesirably low qualification, teachers in many of the IT institutions are given the responsibility of shaping the minds of the future generations in the advanced field of IT. Since the trainees are ignorant of computer applications, therefore, what is being taught and how competent is the trainer, become irrelevant questions – but there is from where problems emanate. It is the government’s responsibility to so organize and regulate the private IT educational institutions that at least competence of the teachers and the compatibility of the courses with the current market demands, is ensured. Thus, in order to compete in an ever changing environment the methods of learning and teaching need to be redressed completely along with building the necessary infrastructure and facilities and must focus on techniques that help in coping with professional demands.

Several press reports and research articles are unfolding problems related with the educational system and their deliverables. There have been many reports of fraudulent practices by the so called computer training institutions particularly, through the high-pitch advertisements for generating hype about IT. The advertisements contain enough about IT but very little and ambiguous about how a particular course on IT will change the life of a learner. “95% of the so called IT education centers that have mushroomed in Pakistan in last couple of years, who are providing nothing but hard cold cash to the owners and nothing else (Hussain, 2001:27).” The major issues for IT-education in Pakistan are:
1. The quality of teaching. It is no secret that Pakistan, today, is short of qualified people who could impart quality training at the IT institutions. The phenomenon of massive and unrestricted brain drain has compounded this problem.

2. Poor monitoring of the progress of the IT institutes on the part of government, and last but not the least is the

3. Lack of uniformity in the courses offered by the so called IT institutions and outdated curricula.

2.3.6.2 Political Instability

Politics may be defined as the pursuit of interest in the face of scare resources. Political activity is frequently characterized by ‘conflict resulting from competition for such resources’ (Miller, 1962). The resolution of such conflict may be characterized by negotiation and compromise according to ‘the balance of power between the parties involved’ (Drummond, 1996).

The political dimension in the computerization has widely been explored by Markus (1983); Brown (1995) and Drummond (1996). There is consensus on the existence and dominant role of the political pressures during computerization, debates are going on among the research community about ‘how far political factors affect the process and how can they be declined to the positive stance’ (Flowers, 1997).

In developing countries like Pakistan and particularly those, which are yet in the clamps of colonial legacies in terms of obsolete political, official, legal and educational infrastructures and rules of business? Pakistan is not the exception, sometimes an uneducated is surprisingly appointed as the political head of ministry of education. However, the problem does not stop there, it extends down to the bottom of government machinery, for example, lack of IT-related knowledge on the part of decision makers at different levels of government hierarchy is resulting in the wastage of precious resources.

It might be assumed that political illiteracy reduces with the development of IT in the country however, since political literacy affects the IT-adoption process (because political heads are the decision makers about the national computing programs) therefore, a
proactive approach to acquaint the political leadership with the pros and cons of IT with particular emphasis on the administration of IT at the national as well as institutional levels, can ensure lesser wastage of resources and thus higher rates of progress.

Furthermore, experience of the political turmoil in Pakistan resulted into the political instability, weak institutions, and the frequent shifts in the policies, poor law and order conditions, which are severely affecting the business activities in the country as well the digitization. This further discourage the investment, hence impedes the growth and development of eBusiness in Pakistan. Stable political system is required for the continuity of policies and economic development, IT has great opportunities and investment in IT sector will be imperative for the economic growth of the country in the age of digital economy. If government and political elites work side by side in conformity this can create a culture of tolerance and accommodation which play significant role in strengthening the state institutions, this pave a way for the computerization and flourishing of the online business otherwise it will remain a threat to the eBusiness development in Pakistan.

2.3.6.3 Bureaucratic Hurdles

There is wide evidence that the success and failure of an IT infusion process significantly depends on the ‘senior management’s support’ in any organization, public or private. The same is arguable for a country like Pakistan, where the senior management (related political and bureaucratic structure such as, Ministry of Science & Technology [MoST]) and the IT Commission has to play dominant role in making or breaking the IT strategies, which are initiated both at public and private levels of development. If there is a wider gap between what the senior executives are speaking in the language of ‘official statements’ and the practical happenings of the same, the process of development is more likely to be pulled back instead of pushed ahead. For example, the delays in the reformation of our bureaucratic colonial structure are generating several side effects. Red-tapism and exhausting procedures to get any project approved in the name of ‘registration,’ for example, are the commonplace experiences of our nation in the adoption of any technology and IT is not the exception. IT education in the private sector, for example, is
connected with the bureaucracy both for the opening of a computer training institutions as well as state-monitoring of the performance of these institutes. “The classic assumption used in the IS development process is that its goals are clear, unambiguous and non-conflicting. However, this rational approach neglects the problems of goal formulation which often involves negotiation and standard techniques of horse-trading, persuasion, bribes, threats, and management of information” (Lyytinen, 1988); these also impede eBusiness in the Pakistan.

2.3.6.4 Legal Infrastructure for IT

Deitel & Nieto (2005: 163) and Hendrickson (2000: 11) have observed that “internet has presented legal, ethical and social challenges,” similarly application of traditional law to the internet is not always a smooth process because this new technology has presented new challenges to the legal side for safe business transactions and maintenance of the privacy and protection of intellectual property rights in Pakistan.

The interference in or interception in data and information or unauthorized access to the strategic data and information is one of the serious challenge of information and internet age within Pakistani context which impede online business. At present internet is a self governed medium, this enables the internet to flourish without the constraints of the legislation. Recent studies in “Pakistan show that 90% of consumers perceive online security and privacy as a major concern and 50% are hesitant to use their credit cards number for online transactions (Abbasi & Zubair, 2001)”, while violation of intellectual property and patent rights is another area of the legal concerns in Pakistan. US copyright office defines copyright as “the protection given to the author of an original piece, including ‘literary, dramatic, musical, artistic and certain other intellectual works” (Young, 2004), whether the work has been published or not, while “copyright protects the expression or form of an idea and similarly provides incentives to the creators of original material by guaranteeing them credit for their work given amount of time (US Copy Right (2004).”
Violation of copyrights is problematic area and due to the copyright violations, computer software is abundantly available at cheaper rates in the Pakistani market, though it is good from the consumers’ point of view yet injurious to the owners and business community. It discourage the software development in the country and people find less attraction due to the less reward for their potentials, efforts, skills and creative work, ultimately led them to flew abroad, and thousands of the Pakistan IT professionals are working in the silicon valley instead of serving the country. Though, Pakistan’s legal system offers improving, yet incomplete, protection for the acquisition and disposition of property rights. The 1979 Industrial Property Order “safeguards industrial property in Pakistan against compulsory acquisition by the government, even in the public interest, without sufficient compensation in accordance is with the provisions of the law.” This order protects both local and foreign investment, while Foreign Private Investment Promotion and Protection Act 1976 “guarantees remittance of profits earned through sale and appreciation in value of property (Special 301 Report on IPR, 2001).”

According to (Young, 2004) “the office of the U.S. Trade Representative has placed Pakistan on the Special Section 301 Watch List under the Trade Act of 1988 for the past several years because of inadequate intellectual property rights protection.” Areas of concern include optical media piracy (Eight optical disc factories in Pakistan currently produce an estimated 70 million unlicensed discs annually, the majority of which are exported); unauthorized reproduction of U.S. printed works. It is complained that though even Pakistan's intellectual property laws provide adequate protection but are very slow and ineffective in implementation. The weak implementation of is attributed to the division of assignments for copyrights, patents, and trademarks between various ministries of the government (www.state.gov, 2006). Government has announced plans to strengthen IPR agencies to enhance enforcement, however, the proposed IPR agency is still in the implementation process. Pakistan is the member of Universal Copyright and Bern Conventions and soon Pakistan will join the Paris Convention. In 2000-2001, the president of Pakistan promulgated five ordinances to meet the requirements of copyright, industrial designs, integrated circuits, patents and trademark obligations for WTO agreement on Trade Related Intellectual Property (TRIPS). According to special 301
report on intellectual property rights (2001) “the government copyright office is a department of the Ministry of Education. The copyright law farmed by Pakistan will protect literary work, including work on humanity, religion, social and physical sciences, tables, compilation of data, computer programs and artistic work, including phonograms, and contains penalties for copyright infringement for 50 years from the year of creation or performance. The new copyright law allows the government to grant a license for reprint, translates, adapts or publishes any text or book on a non-profit basis in the public interest is TRIPS-inconsistent. The registration of patents and designs is managed by the Patents Office at the Ministry of Industries, which are granted for 20 years from the date of application. The trademarks are registered under the 2001 Trade Marks Ordinance by Trademark Registry in the Ministry of Commerce, which are registered for the period of ten years from the date of registration renewable for further 10 years. The Industrial Designs Law facilitates the registration of designs for a period of 10 years extendable for two additional 10-year periods. The Layout Designs of Integrated Circuits law facilitates ten years protection from its first commercial exploitation anywhere in the world. The penalties and legal remedies are ensured in case of infringement on industrial designs, layout designs and trademarks, yet implementing rules of these ordinances remain incomplete.”

Succinctly, experts suggest that Pakistani government need take measures to encourage the software developers with the competitive reward system. This is possible through the proper implementation of the copyrights law but, unfortunately, trade off lies between the spread of computers and copyrights implementation for the computer software for the low-income countries like Pakistan. As the per capita income of Pakistan is just $600 per year and computer software are very expensive, it seems that implementation of copyrights will shrink the Internet subscription growth in Pakistan, and this will widen the digital divide, one of the barrier of eBusiness in Pakistan.

2.3.7 Digital Divide

The development in technology is pushing societies into the future but not every country is progressing equally. The developed countries have a distinctive technological
advantage over the poorer countries which are being left to prevent themselves from the dark side of digital divide that is why third world countries have increasingly become dependent on the developed world for their technological progress.

The global village is now divided according to the degree by which a country possesses information and related technologies. The gap between the nations that can and those that cannot afford technology investment is known as ‘digital-divide’ (Hassan, 2006: 37). Though Pakistan is an upcoming industry in the area of IT however, search for its current positioning on the measure of digital-divide appears imperative so that grown-up IT-policies can be thought out, formulated and implemented. Furthermore, digital-divide exists not only between societies but also within societies. The Internet usage is much more common among urban rather than rural dwellers and the people with higher level of income and education.

It is an undeniable fact that computers and the internet have drastically altered the way we view and interact with the world while information technology has become a catalyst for revolutionizing communication, education, entertainment, commerce and other spheres of human activity, for many digital divide may just be a buzzword of the information age, but in reality it translates into a predicament plaguing the world’s poorest nations. The term ‘digital divide’ refers to “the gap that exists between people who have the ability and resources to utilize information technology effectively and those who do not (Khawaja, 2001: 2-3).” It can also be refer to the skills people have… the divide between people who are at ease using technology to access and analyze information and those who are not. In other words, the digital divide is marked not only by physical access to computers and connectivity but also by access to the additional resources that allow people to use technology well. The digital divide is generally discussed in international perspective indicating certain countries especially USA which more equipped as compared to other developing countries and reaping the benefits from the rapidly expanding internet and enjoy the blessings of modern living facilitated by technology. Given this scenario, the digital divide simply means that new forms of technology are yet one more thing that disadvantaged groups.
Usually, ‘economic impediments are singled out as the foremost source for creating a community of digital have-nots’ (Hassan, 2006: 37). However, there are instances, where instead of economic prosperity, nations still tend to lag in the IT arena and new technology is almost available in the developing countries too for example, India and Pakistan are the developing countries with the latest computer gadgets, mobiles and other technological contraptions in their markets but still these counties feature on the wrong side of the digital divide.

The causes of digital divide are diverse, the most significant being economics, literacy and the language barrier. Most of the developing counters like Pakistan situated on the wrong side of digital divide happen to be plagued by poor economic conditions, however, economy is not only a cause, but like Pandora’s box, is the gateway to many other problems as well. Weak economic conditions lead to a weakened national infrastructure and poor living conditions for the common man. Under such circumstances, computer tends to be regarded as a luxury, while this view point is fueled by the government’s lack of initiative for development of the IT sector. An eminent ICT journalist Fredrick Nornonha cites “illiteracy, poor education, and language as the basic problems afflicting Pakistan (Hassan, 2006: 37).”

Besides these three major issues of eBusiness in Pakistan, Khawaja (2001: 2-3) have noted other issues contributing to the digital divide, e.g. according to him “many third world countries and especially Pakistan is faced with regular political upheaval, colonial bureaucratic attitude and social turmoil, making the creating of a stable technological infrastructure almost impossible.” While Bano (2001) notes that “then there are those political regimes that impose censorship policies and restrict technological access to prevent the creation of an information society, where in many cases developed countries restrict the sales and transfer of technology to the developing nations.”

Lack of skilled manpower is another factor contributing to the sorry state of IT in Pakistan. Proper planning and initiatives can go a long way in helping the country realize its potentials in the IT sector. Fifty recognized IT-institutes churning out five thousand
and five hundred graduates a year approximately added to the seventy five thousand already working in the field which is insufficient for getting on the road of IT. In developing countries, digital divide has serious economic, technological, social and political implications where less than 5% computers are attached to the Internet and the digital divide is still wider.

Government of Pakistan is on its move to digital/eGovernance and several mundane measures are underway, however, given the threats attached to the computerization efforts, it would not be irrelevant to argue that ‘inadequate management of the IT resources may lead to isolated and disintegrated digital development’ therefore, ‘integrated approach’ with aggressive strategies is a hard but indispensable pursuit for the upcoming IT industry in Pakistan so that the deter of digital-divide is reduced to the control of our abilities and potentials inorder to accelerate the growth of eBusiness in the country.

According to government of Pakistan (Pakistan Economic Survey, 2005-2006; PTA, March 2006) there are approximately 155.4 million people in Pakistan with a literacy rate of 53.0 % with the claims that over 2,339 cities, towns and villages in Pakistan had access to the internet by June 2006. However, the figure released by ITU indicates that Pakistan had approximately 7.5 million internet users at the end of March 2006, this shows the slow pace of internet penetration in Pakistan and one major reason is the absurd pricing of bandwidth in Pakistan. Similarly, on the other hand in 2004, Pakistan’s software and IT enabled services were worth a mere $300 million compared to India’s 12.8 billion, however, these figures paint a misleading picture as most of the revenue figures are derived from the call centers. Even if they are doubled, they will not make a considerable influence in rectifying the digital divide (PTA, March 2006).

Similarly, digital divide was the hot debate at the UN sponsored World Summit on the Information Society (WSIS), while Pakistani IT minister Awais Leghari also addressed the issue of digital divide in an address to the 29th meeting of the management committee of the Asia Pacific Telecommunity, in both meetings it is acknowledged that government
and private sector need to work together to bridge the divide but unfortunately none has as yet outlined any firm steps that can be taken in this direction. However Khawaja (2001: 2-3) reports from the Pakistan IT-policy and Action Plan (2000) that Pakistan is following an agenda for digital revolution in the country through focusing on human resource development, increased production of trained manpower in appropriate skills, establishment of software parks, reduction in the cost of connectivity, the universal Internet access, tariff reduction on imports of hardware/software, 15-year tax holiday and fiscal incentives for IT industry, training institutions and the software/IT services. Furthermore, due to technological hype IT-users run the risk of overlooking real issues on the ground. Until masses are skilful to see through the hype, the improvement is questionable. To jump-start the IT- revolution, government has to implement the policies beyond slogans.

So far, present government’s measures towards digitization are the positive signs however, there is no guarantee that rest of the job will fall in place automatically and quite well. There is a dire need to launch an integrated digitization of the public and private sectors (public private partnerships) in the country so that the gap between have and haven’t could be bridged and this requires a very aggressive computerization approach for the eBusiness industry in Pakistan.

In order to mitigate the “digital divide”, there is a need to bring about substantial changes at the gross root level. Technology is not just a part of future, it is the future. And in order to fully capitalize the advantages and rewards of the information age, the government and private sector need to concentrate and seek practical solutions to eliminate this chasm. One way of bringing this about is working towards building better social, technological and legal infrastructure in order to facilitate internet access and accelerate the pace of eBusiness in the country.

2.4 Conclusions
In part first of the second Chapter, researcher has investigated the use of IT in developing countries in general and Pakistan in particular and looked at detail in the published experiences of IT application in the developing countries along with main factors affecting the digitization process (government policies and regulations, infrastructure providers/carriers, IT professionals, organizations/associations, economic development, culture, language etc.). IT can reorient the tenor of IT-business relationship to a large extent if the pertinent socio-technical concerns are not shown the backseat. It must be remembered that globalization is irreversible and with it is the influx of IT. The only reversible are their negatives. All efforts should be made to guide the IT initiatives with a focus on the extensive computerization of the public and private ventures.

Moreover, if all public and private stakeholders could understand their role in promoting IT-culture for information sharing, the crucial role of IT in enhancing the business globally by creating new economic avenues and reengineering organizations could bridge the conception-reality gap ‘misperception about IT’. Despite many problems and issues seemingly detrimental for the growth, the Pakistani IT future seems to bright due to several positive indicators, for example, the overall pervading importance has turned IT into an only option for the educated Pakistani, particularly the students. IT institutions are coming up in every area and locality in the urban centers and so are the cyber cafes. The internet is a symbol of knowledge, a benchmark of IT prowess and an ‘in thing’. The government looks serious to lend an all out support to develop the IT industry be it by abolishing duty on the import of hardware or accessories, financial incentives to software exporters, expanding the level of IT education, encouraging the internet use by cutting the tariff or linking more and more cities to the internet network, etc. Despite challenges the future of IT looks better and it is the time to take that much needed leap.

In part two of this chapter, researcher has explored the digital moves in the country with reference to promotion of IT. An overview of the public and private sector IT projects is taken which are either implemented or those that are in pipeline. While in third part of the 2nd chapter, researcher tried to highlight the technical, organizational and human
dimensions of eBusiness with reference to major issues of eBusiness in Pakistan. Since independence, the nation is taking major developmental leaps (the title of ‘atomic power,’ is one of the examples), in the face of many challenges like internal political breakdowns, political and bureaucratic corruption, and external wars with the neighboring country during the history of 59 years.

After analyzing several cases of IT-projects failure, one can find the secret that guarantees success is to err, and err, and err again, but less, and less, and less. Therefore, problems and even failure in the development of eBusiness in Pakistan should be treated not as the discouraging elements rather ‘learning experiences’ because, the problem of eBusiness failure has not prevented the field from advancing on many fronts. Researchers suggest that there is a need to follow a broad-based policy for the computerization of public and private life to enhance eBusiness in the country because, the life-sustaining capacity of the IT lies in its non-IT sectors such as formal and informal education (natural sciences, humanities, creative arts, technical skills, etc), developing marketing access of the rural produce while improving quality of products, participatory governance and services etc. where most of the case studies of eBusiness failure in the developed countries find that poor management, not the technology, is cause of the problem.

Research on eBusiness failure and success has never been sufficiently separable. However, when one is failing, one is forced to be creative, to dig deep and think hard, day and night.

All this discussion upholds that government (government IT policy, bureaucracy, stability of the political environment and institutions, and development of physical and legal infrastructure for IT); organization environment (structure, size, management, culture and organizational IT maturity) and technology (h/w, s/w and IT professionals) are the critical success factors of eBusiness which if favorable offer unprecedented opportunities and poses threats in case of unfavorable conditions for eBusiness in Pakistan. However; it depends on the ability of management of IT projects that how effectively they plan and develop eBusiness systems and how manage the IT related change in their organizations.
Likewise, computerization and eBusiness problems differ from country to country and setting to setting therefore, it is important to analyze carefully during development and use the extent, impact and nature of IT/eBusiness problems in concrete terms. This implies that for each stakeholder-group the list of possible difficulties in the IT/eBusiness should be derived. This could be used as a basis to analyze the risks and threats associated with IT, and an IT problem list can be used as a fruitful starting point for encouraging and developing eBusiness in the country.
CHAPTER THREE: METHODOLOGY

Mumford (1985:315-320) points that “as it is important to think very carefully and clearly about the problem, it is equally important to take care with research methods, which the researchers use.” Though there is no universally agreed definition of methodology; however, a methodology is regarded as a recommended series of steps and procedures to conduct a research. Peter Checkland (1991:114) states that “methodology is a set of principles and methods, which in any particular situation has to be reduced to a method uniquely suited to particular situation/study.”

Likewise, Wood-Harper (1985) asserts that “information system as a field embodies a mixture of scientific, technical, organizational, societal and psychological aspects… it is a multi-perspective discipline and should have a pluralism of research methods.” Similarly, Kothari (1986:18) is of the opinion that “research is the objective and systematic method of finding solution to a problem (i.e., systematic collection, recording, analysis, interpretation and reporting of information about various facets of a phenomenon under study.)

Research methodology is the plan, structure, and strategy of investigation conceived so as to obtain answers to research questions and to control variance. Thus research methodology is the arrangement of conditions for collection and analysis of data in an aims to combine relevance to the research purpose with economy of procedure. Below given is the research methodology of this study.

3.1 Introduction

A range of research approaches has been recommended for researching information systems (IS) (Galliers, 1994:144), which are grouped into hard and soft approaches. For example, quantitative techniques signify the hard research while qualitative research tools make-up the soft research in IS. However, researchers emphasize, “key to good research is asking right questions and picking the most powerful methods” (Hamilton, 1992:143).
Since IT or IS research is still in its infancy particularly, in the countries like Pakistan therefore, a researcher is caught in dilemma; on one side there are no standard methods for research that are universally applicable and on the other side, several new research methods and models are being imported from organization, management and other social studies thereby making the choice more difficult for the student researchers. However, the situation is not that much confusing that one cannot find the way out. Several researchers are using different methods under one principle and that is the ‘compatibility of the research approach, methods and instruments with the context/background requirements of the topic and the situation where research is carried out’. Researchers have carved out that “an IS development is a social process therefore, all problems associated with social sciences are also certainly faced by the IS researchers (Hirschheim, 1994:31).” This conclusion clarifies that research into CBIS is a social activity requiring both qualitative and quantitative approaches however, the later play supplementary roles while exploring the context of IT project. Keeping in view the background of IT and IS research survey approach is adopted.

3.1.1 Survey Approach

Mumford (1985:315-320) notes that “as it is important to think carefully about the research problem so is the choice and selection of the appropriate research methods to be used where contemporary literature on social sciences suggests several research approaches including observations, experimentations, case studies, surveys and many more.” However, according to Oliver (1997: 85) “survey research is extensively used in social sciences including IS research.” Gordon (1992: 242) argues that “researchers use survey for description and analysis of a person, group, or organization from which theory can either be developed or tested.” While Hartog & Herbert (1986:351-361) are of the view that “survey-based research is applied as an in-depth study tool to explore human actions and interpret their surroundings.” Similarly, Benbasat (1984: 47-85) claims that “survey approach is popular among the management and administrative researchers.” Likewise, Wilson (1950: 300-301) stresses that “survey is a cooperative understanding which applies scientific methods to the study and treatment of current related social problems and conditions having definite geographical limits and bearings, plus such a
The object of this study was to catch a bird-eye view of ‘eBusiness in Pakistan’. Since this technology is yet to get roots into the country infrastructure therefore the process of launching computer-based business enterprises is still slow and that is due to several contextual factors. Survey research, as said earlier, is an effective tool to capture trends in the human behavior as well as diagnose the influence on contextual factors, which influence the mode of computerization for eBusiness activities. In this study researcher has used questionnaire as survey tool for primary data collection.

### 3.2 Population and Sampling

“Population refers to large pool of cases and elements (Neuman, 2003: 202)” or “the entire group of people, events, or things of interest that the researcher wishes to investigate (Sekaran, 1999: 266).” Population of this study is the firms which are facilitating their customers online, where eBusiness is the interaction of producers with other producers, suppliers and the customers through electronic devices particularly computer-based. In other words, the business transactions are undertaken as usual however, physical contacts are reduced to the minimum. For example, online booking or orders, ePayments through credit cards, online authentication of the customers for safe transitions etc.

It is easy to observe that eBusiness in its true sense is still in the offing yet it has begun to appear in Pakistan though at a very humble level, however traditionally, these were the financial institutions, which started eBusiness by serving their customers online, for example, ATM; followed by telecom sector.

In Pakistan, Habib Bank and Askari Bank were the first to computerize their internal operations and that was then followed by several banks in the country. At the moment, MCB, City Bank, National Bank of Pakistan, State Bank etc is operating through IT. For example, SBP is offering several packages for the businessmen to launch eBusiness activities both at the national and international levels. Currently there are two main ATM
networks in Pakistan… M-Net and 1 Link (Pakistani Banks, 2004: 29). Most of the banks in Pakistan now offer ATM services. Habib Bank Limited (120), Muslim Commercial Bank (214), have the largest ATM network in the country. United bank (53), Allied bank (45) and National Bank (30) follow closely (Umer, 2004: 26). MCB virtual internet banking application procedure is much simpler than other (Dawn News, 2004: 29). Likewise, non-financial institutions (telecommunication sector) are also stepping into the field of eBusiness.

Mobilink GSM, the largest cellular service provider is Pakistan, has recently joined hands with CitiBank to offer online bill payment facilities. According to the CitiBank, it allows post-paid subscribers of the Mobilink holding a Visa/Master Card of CitiBank to logon to Mobilink’s website and pay their Mobilink dues online (CitiBank Press Release, DAWN, 2004). Basic aim is to offer the customers more values, “said Zouhair A Khaliq, president and CEO of Mobilink. The online bill payment solution, in collaboration with CitiBank show the commitment of private telecom sector businesses to making life easier for their consumers, taking care of the logistical issues so that customers can enjoy uninterrupted communication service, where CitiBank is also providing rupee-based Internet Merchant Accounts. Technologists are sure and say that “this service is secure, which use the highest level of 128-bit SSL encryption, which is major step of banking sector towards the growth of eBusiness in the country. A lot of work and efforts are needed to be done in all these areas to actually make eBusiness a success (Zohair in Dawn, 2004).”

3.2.1 Sample Population

According to Neuman (2003: 203) “population that is selected from the target population is labeled as sample population. The sample population of this study was all the organizations who are practicing in any of the following forms of eBusiness i.e. B2B, B2C from banking and telecommunication sectors.

The technical distribution of the total population is given in the table which shows the total number of each population category (N) along with its percentage in the total population:
<table>
<thead>
<tr>
<th>S No.</th>
<th>Strata</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Banking Sector</td>
<td>3,424</td>
<td>37.73</td>
</tr>
<tr>
<td>2</td>
<td>Telecommunication Sector</td>
<td>5651</td>
<td>62.26</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>9075</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table-8. The classification of sample population

### 3.2.2 Sampling Procedure

“Sample is the proportion of a study population from which data is gathered (Oliver, 1997: 189)”, where “sampling is the process of selecting a sufficient number of elements from the population so that by studying the sample, and understanding the properties or characteristics of the sample subjects, it would be possible to generalize the properties or characteristics to the population elements (Sekaran, 1999: 268).”

The sampling unit of this study was the organizations using eBusiness to run their organizations at any level, mentioned above. Given the scenario on number of such institutions and since they are still in their preliminary stages of using eBusiness technology therefore, efforts were made to contact randomly these organizations in the major cities of Pakistan.

A pilot study was conducted to prepare a proposal as well as get the required statistics for applying random sampling procedures in sample selection. The finite population formula was used to determine the sample-size for each population category. Population was made of 9,075 organizations, 3,424 from banking and 5651 from telecom sector. In social sciences 95% confidence level is usable, which is equals to 1.96 z-values was used in determination of sample size. Documented facts and figures were also used as a starting point for the designing and implementation of data collection model.

### 3.2.3 Sample Size

After conducting pilot study and administering the questionnaires from the sample population following sample size for finite population was determined:
Banking Sector | 0.46 | 0.085 | 3,424 | 112.51
Telecom Sector | 0.62 | 0.072 | 5651 | 284.86

Total (N) = 9075  Total (n) = 397.37

Figure- 2. Sample size determined via finite population formula.

Where $Z^2$ is the Confidence Level; $SD^2$ is the Standard Deviation and $E^2$ is the Standard Error and N is the population. Sample size determined through statistical formula for sample size from finite population was 397.37, however to get more comprehension, the figure was rounded into 400.

### 3.3 Pilot Study

The mini or small scale research is done in which researchers trying out questionnaire with an initial sample of respondents and to observe the difficulties which could be experienced in completing the study (Oliver, 1997:91). To get understanding of the topic, its nature and the contextual factors, researcher conducted the pilot study.

Initially, secondary data sources were explored and exhausted by extracting relevant research material including books, journals, magazines, newspapers and surfing the web, where experience survey was conducted to get initial understanding of the topic from the experiences of the scholars in social and IS research.

In second phase, a questionnaire was constructed based on nominal and 5 point continuous scale, administered and filled-out from the respondents to measure the major variables from major cities of Pakistan where online facilities are available. Most of the questionnaires were administered directly by the researcher, and the rest through relevant people of the field.

100 questionnaires were distributed, out of which 52 filled questionnaires were collected. Remaining 48 were either not filled properly while few were not returned. Primary data was analyzed through computer based package SPSS for the analysis, formulation of hypothesis in the light of pilot study and determining the sample size.
3.4 Data Collection

Data collection is the very important activity of any research study as all the subsequent steps depends on the valid, accurate, relevant and up-to-date facts and figures. Secondary as well primary sources were exhausted inorder to get deep understanding of the phenomena and explore the opportunities and threats of eBusiness in Pakistan.

3.4.1 Literature Survey

Literature survey was undertaken and all the relevant secondary data sources were exhausted e.g. books, research and business journals, magazines, newspapers, and research articles. Different public and private libraries and individual persons who possess handsome amount of the relevant secondary data were contacted, then relevant material, concepts, terminologies, and ideas were extracted from these sources, research cards were prepared with proper citations and references. From the secondary sources three independent variables ‘government’, ‘organizations’, ‘technology’ and the dependent variable ‘eBusiness’ emerged, where theoretical framework and hypotheses of this study were developed in the light of literature review.

3.4.2 Primary Data Collection

To define the problem understudy and to take the study to its final destination, researchers needs information because the information expand the knowledge base of the researchers to define trends, attitudes, behavior and developments about any event, activity, process or subject under investigation. For this propose researcher collected primary data through questionnaire.

3.4.3.1 Questionnaire

A questionnaire was constructed after operationalization process ‘the topic was broken-down into small frictions i.e. dimensions, attributes and elements’, elements were collectively exhausted and mutually exclusive. Questionnaire was based on nominal and
continuous scale and reliability of the scales was tested by the application of Cronbach’s Alpha. Data collection took more than two and half months. However, contrary to the initial estimates of one month, it took more than 10 weeks for the filled-out questionnaires. Initially 500 questionnaires were distributed in the major cities of Pakistan, out of which researcher was able to collect 374. Again, some 100 additional questionnaires were administered; out of these, researcher was able to collect 45 filled questionnaires. Thus 400 properly filled questionnaires out of total 419 were used in the study.

3.5 Concepts & Variables

Thinking involves the use of language which is a system of communication composed of symbols. A concept is an abstraction from observed events or as (Nachmias, 1976:15) puts it, “a short-hand representation of a variety of facts”.

Concepts are the building blocks of theory or an idea expressed in symbols or in words having two parts; a symbol (words or terms) and a definition where variable is a concept that varies, which take on two or more values (Neuman, 2003:107).

According to Emory (1998: 25) “the success of any research study depends on how clearly we conceptualize and how well other comprehends the concepts we use.” Oliver (1997:10) opines that “variables are the situations/elements which might ‘vary’ under different circumstances, and hence affect other situations/elements.”

Theoretical framework is built with the help of concepts and variables are "a special kind of concept (Babbie, 1993:49)." Goode and Hatt (1952:9) note, "Science is organized by a structure of concepts, which refer to the major processes and objects to be studied." Following is the description of the major variables of the study: (See Next Page)
3.6 Operationalization of the Variables

Developing the working/theoretical concepts or operationalization is a process of operationally defining a concept by looking at the behavioral dimensions, facets or properties denoted by the concept in order to translate into observable and measurable elements (Sekaran, 1999:178). Babbie (1993:50) comments that the operationalization is the process referring to all the operations involved in measuring the variables. Measurement of all the variables, attributes/elements and the numbers of questions are

<table>
<thead>
<tr>
<th>S.No</th>
<th>Variables</th>
<th>A Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Government IT-Policy</td>
<td>Govt-IT Policy shapes and reshapes the role of IT in the country given the resource and regulatory constraints.</td>
</tr>
<tr>
<td>2</td>
<td>Infrastructure</td>
<td>In this study the physical infrastructure means band width, telecommunication, power supply, &amp; legal infrastructure i.e. laws, rules and regulation to govern and regulate eBusiness.</td>
</tr>
<tr>
<td>3</td>
<td>Bureaucracy</td>
<td>That part of bureaucratic structure which plays role in IT-Policy formulation and implementation.</td>
</tr>
<tr>
<td>4</td>
<td>Political and Legal Environment</td>
<td>State institutions, political stability and law &amp; order in the country.</td>
</tr>
<tr>
<td>5</td>
<td>Organizational Structure</td>
<td>Contextual factors of the organization (Size, structure, structural pattern, rules and procedures).</td>
</tr>
<tr>
<td>6</td>
<td>Management</td>
<td>Organizational management is the developer as well as user of IT along with shouldering responsibility of IT-upgradation</td>
</tr>
<tr>
<td>7</td>
<td>Users Developers Gap</td>
<td>The difference of opinion between users and developers in ISD process.</td>
</tr>
<tr>
<td>8</td>
<td>Organizational IT-Maturity</td>
<td>The optimum use of IT by all the beneficiaries of the eBusiness systems including knowledge and data workers.</td>
</tr>
<tr>
<td>9</td>
<td>H/W &amp; S/W</td>
<td>Computer hardware, software and telecommunication equipments.</td>
</tr>
<tr>
<td>10</td>
<td>IT Professionals</td>
<td>Qualified system analysts, developers, programmers, h/w engineers and database and network administrators.</td>
</tr>
<tr>
<td>11</td>
<td>eBusiness</td>
<td>Business that is conducted via internet, including using email, instant messaging, G2C, B2B, and B2C.</td>
</tr>
<tr>
<td>12</td>
<td>Competitive Advantage</td>
<td>Refers to the application and use of IT in business for innovation, differentiation, cost, growth and alliance.</td>
</tr>
<tr>
<td>13</td>
<td>Opportunities &amp; Threats from IT</td>
<td>The benefits of the IT e.g. little cost without geographical boundaries, faster buying and selling and the competitive advantage.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The socioeconomic dangers of IT as perceived by individual and groups in organizations. Systems vulnerability and security issues, malfunctioning of h/w and s/w etc.</td>
</tr>
<tr>
<td>14</td>
<td>Security</td>
<td>Safety against unauthorized access to organizational data, codes, passwords, privacy and ePayments.</td>
</tr>
</tbody>
</table>

Table-9. Description of Variables
given in the questionnaire. Appendix 2 illustrates the variables and the elements onto which measurements were taken.

### 3.7 Theoretical Framework of the Study

The theoretical framework is a conceptual model which provides the foundation on which entire building of research project is based. It is a network of association (connections/relationships) which is logically developed, described and elaborated and which has been identified through such processes as interviews, observations and literature survey. Experience and intuition also guide in developing the theoretical framework. The survey of literature provides concrete foundations for developing the theoretical framework.

Weick (1984) says that “it is model for the reorganization of emergent concepts and their relationships in explaining different dimensions of the research question.” While according to Chakravarthy (1997) “theoretical model works as a reference for the researcher to keep focused on the main aspects of the topic thereby making best possible allocation of research resources.” So the theoretical framework is a model of research showing the flow of research and analysis.

Thus, “theory (theoretical framework) play the role of a tool for the researcher, which guides him in specifying:

1. What facts and figures are needed (the concepts/variables of research?)
2. Where from these will be got together?
3. Which methods can probably be used to amass this data? (Babbie, 1993:40).”

The ‘schematic diagram’ (Sekaran, 1999:103) of the theoretical framework of this research is illustrated in Figure.3, (See Next Page)
3.8 Hypothesis/Claims of the Study

In the literature of research and inference there are disagreement about the meaning of the terms ‘proposition’ and ‘hypotheses’. Proposition is ‘statement about concepts which may be judged as true or false, it refers to observable phenomena’ When proposition is formulated for empirical testing it is called hypotheses’ (Emory, 1998: 30). Kothari
(1985:21-22) suggests that literature survey enables the researcher to specify information required, its sources and state the working hypothesis, which are tentative assumptions made in order to draw out and test its logical or empirical consequences. Similarly, Emory (1998: 26) argue that a good hypothesis fulfills three conditions “1. it must be appropriate to its objective, 2. it should be testable and 3. it must be better than its rivals.”

Underlying are the hypotheses of the study:

<table>
<thead>
<tr>
<th>No</th>
<th>Claims/Propositions</th>
<th>Tests</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Private sector view inconsistency of government IT-policy as threat to eBusiness in Pakistan than the view of the public sector.</td>
<td>t-test</td>
<td>H₀ was Rejected</td>
</tr>
<tr>
<td>2</td>
<td>Private sector perceives the role of bureaucracy as non cooperative and ineffective in the promotion and development of eBusiness in Pakistan than the public sector.</td>
<td>t-test</td>
<td>H₀ was Rejected</td>
</tr>
<tr>
<td>3</td>
<td>Private sector perceives political instability as a threat to eBusiness in Pakistan than the public sector.</td>
<td>t-test</td>
<td>H₀ was Rejected</td>
</tr>
<tr>
<td>4</td>
<td>Banking sector is leading in eBusiness than the Telecom sector</td>
<td>t-test</td>
<td>H₀ was Accepted</td>
</tr>
<tr>
<td>5</td>
<td>Development and investment banks are more involved in eBusiness than the commercial banks.</td>
<td>ANOVA</td>
<td>H₀ was Rejected</td>
</tr>
<tr>
<td>6</td>
<td>Banking sector has different views from the telecom sector; banking sector say that due to insufficient infrastructure eBusiness is not growing rapidly in Pakistan.</td>
<td>t-test</td>
<td>H₀ was Accepted</td>
</tr>
<tr>
<td>7</td>
<td>Banking sector claims that ePayments are secure in Pakistan than the view of telecom sector.</td>
<td>t-test</td>
<td>H₀ was Accepted</td>
</tr>
<tr>
<td>8</td>
<td>End users are of the view that IT-Professionals are not competent and do not keep on updating the organizational systems than of the view of the developers.</td>
<td>t-test</td>
<td>H₀ was Accepted</td>
</tr>
<tr>
<td>9</td>
<td>Developers have different view from the users, they say that managers are non cooperative and do not have IT know how.</td>
<td>t-test</td>
<td>H₀ was Rejected</td>
</tr>
<tr>
<td>10</td>
<td>There is no gap between developers and end-users.</td>
<td>t-test</td>
<td>H₀ was Accepted</td>
</tr>
<tr>
<td>11</td>
<td>Political stability of the government itself reflects in either reinforcing or threatening</td>
<td>Linear Regression</td>
<td>H₀ was Rejected</td>
</tr>
</tbody>
</table>
12 Government IT-policies significantly influence the national pattern of IT-growths \textit{(eBusiness)}. Linear Regression \( H_0 \) was Rejected

13 Users are of the view that organizational IT-Maturity is not significant for the success of \textit{eBusiness} than the view of the developers. \( H_0 \) was Rejected

14 Technology shapes and reshapes the IT-Growth \textit{(eBusiness)} process in the organizations. Linear Regression \( H_0 \) was Rejected

15 Within organization \textit{eBusiness} is more dependent on IT-Professionals than on H/W and S/W \( H_0 \) was Rejected

16 Independent variables are mutually correlated. Pearson Correlation \( H_0 \) was Accepted

17 Government, organization environment and technology determine the success/failure of \textit{eBusiness} in Pakistan \( H_0 \) was Rejected

18 Private sector is of the view that due growing interest and investment from the private sector, the overall environment is favorable for \textit{eBusiness} in Pakistan than the view of Public sector; hence it has more opportunities than threats in Pakistan. \( H_0 \) was Accepted

Table 10: List of Hypothesis, Tests and Results
CHAPTER FOUR: STATISTICAL ANALYSIS OF DATA

4.1 Introduction

Organizing, analyzing and interpreting the collected data and formulation of conclusions and recommendations is a key step of research process. In analysis the collected data is breakdown into constituent parts in order to obtain answers to research questions and to test hypothesis. After doing this interpretation is necessary. Interpretation takes the results of analysis, makes inferences pertinent to research studies and draws conclusions about these relations while Whitney (1950) asserts that “data analysis is the core of any research process.” In Whitney’s view, “interpretation means an adequate exposition of the true meaning of the material presented and of the chapter and sections involved.” The mass data collected through the use of tool need to be systematized and organized, i.e. edited, classified, tabulated before it can serve the purpose. Here, editing implies the checking of gathered data for accuracy, utility and completeness; classifying refers to the dividing information into different categories, classes or heads for use; and tabulating denotes the recording of classified material in accurate mathematical terms, i.e. making and counting frequency tallies for different items on which is gathered. Analysis of data means studying the tabulated material in order to determine inherent facts or meanings. It involves “breaking down the existing complex factors into simplex parts and putting the parts together in new arrangements for purpose of interpretation (Bashkara & Sridhar, 2003:45).” In this study, researcher have used Sekaran model for data analysis and tables as it most preferred and widely used by the researchers of social science (See, Sekaran, 1993: 308-322). The collected data was summarized and analyzed by computer based statistical package SPSS. Underlying is the detail of statistical analysis of the study:

4.1.1 Checking the Reliability of Measure: Cronbach’s Alpha

The interitem consistency reliability or the Cronbach’s Alpha reliability coefficient of the 14 independent and dependent variables was obtained. The Alpha reliability coefficient of the 14 variables of this study was above .8. The result is shown in output table, which
indicates that the Cronbach’s Alpha for the 14 items is .8. The closer the reliability coefficients get to 1.0, the better. As the Cronbach’s Alpha for all the 14 items used in this study is about .833, thus internal reliability of the measures used in this study are considered to be good.

**Reliability Output**

Reliability Coefficients 14 items

Where Alpha is shown in the below table

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.833</td>
<td>14</td>
</tr>
</tbody>
</table>

Table-11. Cronbach’s Alpha

4.1.2 *Descriptive Analysis*

Descriptive analysis is largely ‘the study of distributions of one variable’ (Emory, 1998: 387). This provides the researchers with profiles of persons, organizations, workgroups and other subjects on any multitude of characteristics such as size, composition, nature, efficiency or performance. Similarly tables help in presenting the findings in frequency distributions to ‘calculate statistics’ and ‘estimate parameters’ as well as ‘generate different graphical presentations’ (Oliver, 1997:139). Main objective of descriptive statistics is to take a relatively large number of measurements and then to present them in a readily understandable form.

4.1.2.1 The Descriptive Statistics: Crosstabulations.

Crosstabulations were done to classify the organizational data. According to the classified data, it may be seen that out of 112 organizations, 46 banks in public sector are operating online where 22 operate conventionally, while 44 private sectors are online, similarly in telecom sector, out of 288 organizations, 43 public are online and 100 are working conventionally, moreover 86 private sector telecom organizations are online where 59 are using conventional business methods. If one look into the data on public sector banks, one can see that out of 112, 18 respondents represents development, 10 investment and
51 represent commercial banks, similarly one development and 32 commercial represents private banks. Furthermore, out of 112 organizations, 99 in telecom sector represent the plain and 79 represent cellular firms, where 51 firms in private sector belong to plain and 59 to cellular organizations.

Moreover, from data it can be seen that out of 112, 18 public sector banks are using P-III, 37 uses P-IV, while 11 private banks are found with P-III and 46 are using P-IV computer. In telecom sector out of 288, 55 public firms are using P-III and 102 uses P-IV, where 35 private firms are using P-III and 96 uses P-IV.

Data on use of different software indicates that out of 112, 22 public sector banks are using home-made software, 12 are using off-the-shelf software and 21 uses others, where 68 private banks have been found with home-made software. On the other side, 44 public sector telecom firms are using home-made, 29 off-the-shelf and 45 are using other than home-made and off-the-shelf software, while 77 organizations from private telecom sector have been found with home-made software, 46 with off the shelf and 23 with others. Similarly, out of 112, 27 respondents represent developers, where 27 respondents belong to end-users group from the public sector banks, furthermore, 28 developers and 26 end-users represent the private banks, where out 288, 71 developers and 72 end-users represents the public sector telecom organizations and 79 developers and 66 end-users belong to private telecom sector.

On usage level, out of 112, 31 public sector banks have been found using IT at Transaction Processing System (TPS) level, 22 at Management Information System (MIS) and 13 at Strategic Information System (SIS), where 18 private banks are using IT at TPS, 13 at MIS and 15 at SIS. On the other side, out of 288, 70 organizations in public telecom sector are using IT at TPS, 58 at MIS and 20 at SIS levels, similarly, 72 private telecom organizations are using IT at TPS, 23 at MIS and 40 at SIS levels, where minimum strength of the employees in these firms is 11 and maximum is 241.

**COSS TABLES**

<table>
<thead>
<tr>
<th>Count</th>
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<th>Total</th>
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</thead>
<tbody>
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<td>Sector</td>
<td>Biz Type</td>
<td></td>
</tr>
</tbody>
</table>

[Header table]
<table>
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<th>Nature</th>
<th>Public</th>
<th>Private</th>
</tr>
</thead>
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<td>22</td>
</tr>
<tr>
<td></td>
<td>Conventional</td>
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<td>44</td>
</tr>
<tr>
<td>Telecom</td>
<td>Nature</td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td></td>
<td></td>
<td>43</td>
<td>100</td>
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<td></td>
<td></td>
<td>86</td>
<td>59</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>219</td>
<td>181</td>
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</table>

Table-12. Nature of Business, i.e. Public/Private

### Banking

<table>
<thead>
<tr>
<th>Sector</th>
<th>Nature</th>
<th>Development</th>
<th>Investment</th>
<th>Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking</td>
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<td>18</td>
<td>10</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>1</td>
<td>0</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>19</td>
<td>10</td>
<td>83</td>
</tr>
</tbody>
</table>

Table-13. Public & Private Sectors Dev., Investment & Commercial Banks

### Telecom

<table>
<thead>
<tr>
<th>Sector</th>
<th>Nature</th>
<th>Public</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telecom</td>
<td>Nature</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Public</td>
<td>99</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>51</td>
<td>59</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>150</td>
<td>138</td>
</tr>
</tbody>
</table>

Table-14. Indicate Public/Private Sectors Telecom firms, i.e. Plain & Cellular

### Name of Machine

<table>
<thead>
<tr>
<th>Sector</th>
<th>Name of Machine</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Public</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>11</td>
</tr>
<tr>
<td>Telecom</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Public</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>112</td>
</tr>
</tbody>
</table>

Table-15. Represent Types of Computers used

### S/W Used

<table>
<thead>
<tr>
<th>Sector</th>
<th>S/W Used</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Home Made</td>
<td>Off the Shelf</td>
</tr>
<tr>
<td>Banking</td>
<td>Nature</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td></td>
</tr>
</tbody>
</table>
Table-16. Show the Types S/W Used

<table>
<thead>
<tr>
<th>Telecom</th>
<th>Nature</th>
<th>Public</th>
<th>68</th>
<th>29</th>
<th>45</th>
<th>142</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Private</td>
<td>77</td>
<td>46</td>
<td>23</td>
<td>146</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>206</td>
<td>95</td>
<td>99</td>
<td>400</td>
</tr>
</tbody>
</table>

Table-17. Types of Users, i.e. Developers & End-users

<table>
<thead>
<tr>
<th>Sector</th>
<th>User Types</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Developers</td>
<td>End User</td>
</tr>
<tr>
<td>Banking</td>
<td>Nature</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td></td>
</tr>
<tr>
<td>Telecom</td>
<td>Nature</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table-18. IT Use Levels, i.e. TPS, MIS, SIS

<table>
<thead>
<tr>
<th>Sector</th>
<th>Level of Use</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TPS</td>
<td>MIS</td>
</tr>
<tr>
<td>Banking</td>
<td>Nature</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td></td>
</tr>
<tr>
<td>Telecom</td>
<td>Nature</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table-19. Show the Sector wise Strength of Employees

4.1.2.2 Descriptive Statistics: Frequency Tables
Frequency distributions were obtained for all the personal data or classification variables. Below tables are showing the frequency distributions for nature, business type, sector, and banking and telecom sector, type of machine used, software used, type of respondents and level of IT use respectively.

Data in below tables portray that 28% firms where from data of this study was collected belong to public and 72% belong to private organizations, out of which 52.75% are operating online and 47.25% operate conventionally. 28% respondents represents banking sector, including 16.96 % development, 8.92% investment and 74.10% commercial banks, similarly 72% of the respondents belong to telecom sector, out of which 52.08% represents plain and 47.91% belong to cellular firms. It can be seen from data that 28% of the organizations are using P-III computers while 72% have been found with P-IV. Similarly 51.5% of the organizations are using home-made, 23.75% off-the-shelf and 24.75% other than home-made and off-the-shelf software. Furthermore, respondents in these organizations include 51.25% developers and 48.75% end-users. Data in tables also show that 47.75% of the organizations are using IT at TPS, 29% at MIS and only 23.25% use IT as strategic tool at SIS levels.

FREQUENCY TABLES

<table>
<thead>
<tr>
<th>Nature</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Public</td>
<td>112</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>288</td>
<td>72</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table-20. Represents Public & Private Sectors Data in %ages

<table>
<thead>
<tr>
<th>Biz Type</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Online</td>
<td>211</td>
<td>52.75</td>
<td>52.75</td>
</tr>
<tr>
<td></td>
<td>Conventional</td>
<td>189</td>
<td>47.25</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table-21. Portray the % of Online & Conventional Firms

<table>
<thead>
<tr>
<th>Sector</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Banking</td>
<td>112</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Telecom</td>
<td>288</td>
<td>72</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table-22. Show Data of Banking & Telecom Sectors Representation in %ages

### Banking

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Development</td>
<td>19</td>
<td>16.96</td>
<td>16.96</td>
</tr>
<tr>
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<td>Investment</td>
<td>10</td>
<td>8.92</td>
<td>8.92</td>
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<tr>
<td></td>
<td>Commercial</td>
<td>83</td>
<td>74.10</td>
<td>74.10</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td><strong>112</strong></td>
<td><strong>28</strong></td>
<td>100.0</td>
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<tr>
<td>Missing</td>
<td>System</td>
<td>288</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td>400</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table-23. Indicate % of the Development, Investment & Commercial Banks

### Telecom

<table>
<thead>
<tr>
<th></th>
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<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
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<tr>
<td>Valid</td>
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<td>52.08</td>
</tr>
<tr>
<td></td>
<td>Cellular</td>
<td>138</td>
<td>47.91</td>
<td>47.91</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>288</strong></td>
<td><strong>72</strong></td>
<td>100.0</td>
</tr>
<tr>
<td>Missing</td>
<td>System</td>
<td>112</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>400</td>
<td>100.0</td>
<td></td>
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</table>

Table-24. Show Data in %ages about the Plain & Cellular Firms of Telecom Sector

### Name of Machine

<table>
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<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
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<td>28</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>288</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
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<td>100.0</td>
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Table-25. Portray the % of the Types of Computers Used

### S/W Used

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<th></th>
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<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
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<td>51.5</td>
</tr>
<tr>
<td></td>
<td>Off the Shelf</td>
<td>95</td>
<td>23.75</td>
<td>23.75</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>99</td>
<td>24.75</td>
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<td><strong>Total</strong></td>
<td></td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table-26. Show the %ages of the Types of S/W Used

### User Types

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<tr>
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<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Developers</td>
<td>205</td>
<td>51.25</td>
<td>51.25</td>
</tr>
</tbody>
</table>
End Users | 195 | 48.75 | 48.75 | 100.0
---|---|---|---|---
Total | 400 | 100.0 | 100.0 | 

Table-27. Represent Data in % about the Types of Users

### Level of Use

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid TPS</td>
<td>191</td>
<td>47.75</td>
<td>47.75</td>
</tr>
<tr>
<td>MIS</td>
<td>116</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>SIS</td>
<td>93</td>
<td>23.25</td>
<td>23.25</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table-28. Show Data in %ages about the Levels of IT Use

### No of Employees

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>11</td>
<td>2.75</td>
<td>2.75</td>
</tr>
<tr>
<td>14</td>
<td>41</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>18</td>
<td>19</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>23</td>
<td>21</td>
<td>5.25</td>
<td>5.25</td>
</tr>
<tr>
<td>26</td>
<td>35</td>
<td>8.75</td>
<td>8.75</td>
</tr>
<tr>
<td>27</td>
<td>42</td>
<td>10.75</td>
<td>10.75</td>
</tr>
<tr>
<td>30</td>
<td>25</td>
<td>6.25</td>
<td>6.25</td>
</tr>
<tr>
<td>31</td>
<td>16</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>32</td>
<td>34</td>
<td>8.5</td>
<td>8.5</td>
</tr>
<tr>
<td>35</td>
<td>35</td>
<td>11.0</td>
<td>11.0</td>
</tr>
<tr>
<td>241</td>
<td>114</td>
<td>28.5</td>
<td>28.5</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table-29. Represent the Strength of Employees in %ages

### 4.1.2.3 Descriptive Statistics of the Computed Variables on 5 Point Scale

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Government IT Policy</td>
<td>400</td>
<td>2.00</td>
<td>5.00</td>
<td>3.4050</td>
<td>.71728</td>
</tr>
<tr>
<td>2</td>
<td>Infrastructure</td>
<td>400</td>
<td>1.40</td>
<td>3.40</td>
<td>2.0945</td>
<td>.50200</td>
</tr>
<tr>
<td>3</td>
<td>Bureaucracy</td>
<td>400</td>
<td>1.17</td>
<td>3.67</td>
<td>2.1133</td>
<td>.55012</td>
</tr>
</tbody>
</table>
4.1.3 Inferential Statistical Analysis

Inferential statistics help the researcher in evaluating the relationships between variables and also the extent to which a sample is characteristic of a population as a whole (Oliver, 1997:186). The statistical analyses of the study were done:

1. To judge whether a hypotheses were reasonably supported by the evidence.
2. It helped in the assessment to the extent to which results from a sample was generalized to a population.

4.1.3.1 Testing of Hypothesis

Two different approaches are used by the researchers to test the hypotheses, the classical or sampling-theory and the Bayesian approach. Both have advantages; however the classical approach is widely preferred by the researchers (Emory, 1998: 406) similarly Bayesian approach is the extension of the classical approach.

Based on the problem statement, literature survey and theoretical framework, 18 hypotheses were developed and tested. Since several groups were involved so to test the significance of the of the mean difference in the views of the two and more than two
groups of the sample population t-test and ANOVA were applied, where Pearson correlation, linear and multiple regressions analysis were used to analyze linearly and cross-sectionally in order to have a better comprehension and understanding of the relationship and influence between dependent and independent variables.

A questionnaire on 5 point Likert, R. (continuous scale) was used. Pearson correlation matrix was developed in order to determine the correlation and regression between the dimensions used for assessing the over all threats and opportunities for eBusiness in Pakistan. Highest correlation was found between eBusiness, technology and organization than the government. Among these 18 hypotheses 8 \( H_0 \) were substantiated where 10 are not substantiated, illustrated in the given tables.

**Hypothesis No.1:** Private sector view inconsistency of government IT-policy as threat to eBusiness in Pakistan than the view of the public sector.

Results of independent sample t-test are shown in the below tables. As may be seen, the difference in the means of 3.66 and 2.68 with the standard deviations of .59 and .48 for the public and private respectively on the government IT-policy as threat to eBusiness is significant. Similarly, calculated t value 15.345 in table No. 32 is greater than the tabulated t value 1.960, thus \( H_0 \) is not substantiated, which validates the view of the private business community who say the IT-policy is inconsistent and non conducive for eBusiness in Pakistan.

<table>
<thead>
<tr>
<th>Nature</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Mean of SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government IT Policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>293</td>
<td>3.6689</td>
<td>.59806</td>
<td>.03494</td>
</tr>
<tr>
<td>Private</td>
<td>107</td>
<td>2.6822</td>
<td>.48105</td>
<td>.04651</td>
</tr>
</tbody>
</table>

Table-31. Represents Groups Statistics for Hypothesis No. 1

a. Grouping Variables: Public, Private
   b. Testing Variable: Government IT-Policy
**Independent Samples Test**

<table>
<thead>
<tr>
<th>Test for Equality of Variances By Levene's</th>
<th>Means Equality t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>F  Sig  T  df  2-tailed (Sig)  Diff. of Mean  Diff. of Std Error  Diff. of Confidence Interval (95%)</td>
<td></td>
</tr>
<tr>
<td>Government IT Policy  Equal variance is assumed</td>
<td>13.068 .000  15.345 398 .000 .98670 .06430 .86029 1.11311</td>
</tr>
<tr>
<td>Equal variance is not assumed</td>
<td>16.963 232.541 .000 .98670 .05817 .87210 1.10130</td>
</tr>
</tbody>
</table>

Table-32. Represent the Results of Independent Sample t-test for Hypothesis No. 1

**Hypothesis No.2:** Private sector perceives the role of bureaucracy as non cooperative and ineffective in the promotion and development of eBusiness in Pakistan than the public sector.

Below tables show the results of independent sample t-test for 2nd hypothesis. The difference in the means of 2.31 and 1.55 can be seen with the standard deviations of .48 and .25 for the public and private respectively for the non cooperative attitude and ineffective role of bureaucracy in the promotion and development of eBusiness in Pakistan is significant. As calculated t value 15.684 in table No. 34 is greater than the tabulated t value 1.960, thus H₀ is rejected, which support the views of the private sector.

**Group Statistics**

<table>
<thead>
<tr>
<th>Nature</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>Mean of SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bureaucracy</td>
<td>Public</td>
<td>293</td>
<td>2.3185</td>
<td>.48215</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>107</td>
<td>1.5514</td>
<td>.25226</td>
</tr>
</tbody>
</table>

Table-33. Represents Groups Statistics for Hypothesis No. 2

a. Grouping Variables: Public, Private
b. Testing Variable: Bureaucracy

**Independent Samples Test**
### Test for Equality of Variances By Levene’s

<table>
<thead>
<tr>
<th>Bureaucracy</th>
<th>F</th>
<th>Sig</th>
<th>T</th>
<th>df</th>
<th>Diff. of Mean</th>
<th>Diff. of Std Error</th>
<th>Diff of Confidence Interval of (95%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variance is assumed</td>
<td>38.919</td>
<td>.000</td>
<td>15.684</td>
<td>398</td>
<td>.000</td>
<td>.76714</td>
<td>.04891 .67099 .86330</td>
</tr>
<tr>
<td>Equal variance is not assumed</td>
<td>20.590</td>
<td>.000</td>
<td>350.82</td>
<td></td>
<td>.000</td>
<td>.76714</td>
<td>.03726 .69387 .84042</td>
</tr>
</tbody>
</table>

Table-34. Represent the Results of Independent Sample t-test for Hypothesis No. 2

**Hypothesis No.3:** Private sector perceives political instability as a threat to eBusiness in Pakistan than the public sector.

Results of independent sample t-test for 3rd hypothesis are shown in the below tables. As may be seen, the difference in the means of 1.63 and 1.39 with the standard deviations of .43 and .34 for the public and private respectively on the political instability as to eBusiness is significant. Where calculated t value 5.097 in table No. 36 is greater than the tabulated t value 1.960, Thus Hₐ is not substantiated, which support the view of private sector that the political environment in Pakistan is instable and non conducive which impedes eBusiness in the country.

### Group Statistics

<table>
<thead>
<tr>
<th>Nature</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>Mean of SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political Instability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>293</td>
<td>1.6348</td>
<td>.43567</td>
<td>.02545</td>
</tr>
<tr>
<td>Private</td>
<td>107</td>
<td>1.3972</td>
<td>.34160</td>
<td>.03302</td>
</tr>
</tbody>
</table>

Table-35. Show Group Statistics for Hypothesis No.3

a. Grouping Variables: Public, Private
b. Testing Variable: Political Instability

### Independent Samples Test
Test for Equality of Variances By Levene’s

<table>
<thead>
<tr>
<th></th>
<th>Means Equality t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Political Instability</td>
<td></td>
</tr>
<tr>
<td>Equal variance is assumed</td>
<td>2.501</td>
</tr>
<tr>
<td>Equal variance is not assumed</td>
<td>5.699</td>
</tr>
</tbody>
</table>

Table-36. Represent the Results of Independent Sample t-test for Hypothesis No.3

**Hypothesis No.4**: Banking sector is leading in eBusiness than the Telecom sector.

Below tables show the results of independent sample t-test for 4th hypothesis. The difference in the means of 4.11 and 3.13 can be seen with the standard deviations of .31 and .29 for the banking and telecom sectors respectively for competitive advantage. As results indicate that there is significant difference among the means, while calculated t value .022 in table No. 38 is less than tabulated t value 1.960, so H₀ hypothesis is substantiated, this means that banking sector is playing leading role in eBusiness than the telecom sector.

**Group Statistics**

<table>
<thead>
<tr>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Mean of SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive Advantage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banking</td>
<td>206</td>
<td>4.11034</td>
<td>.31185</td>
<td>.02173</td>
</tr>
<tr>
<td>Telecom</td>
<td>194</td>
<td>3.13014</td>
<td>.29587</td>
<td>.02124</td>
</tr>
</tbody>
</table>

Table-37. Represents Group Statistics for Hypothesis No.4

a. Grouping Variables: Banking, Telecom
b. Testing Variable: Competitive Advantage

**Independent Samples T-Test**
Table-38. Represent the Results of Independent Sample t-test for Hypothesis No.4

**Hypothesis No.5:** Development and investment banks are more involved in eBusiness than the commercial banks.

The results of the 5th hypothesis are given in the below table. Since there are more than two groups and eBusiness is measured on an interval scale, ANOVA is appropriate to test this hypothesis. If we look into the table, we find \( df \) in the 3rd column refers to the degrees of freedom, and each source of variation has associated degrees of freedom. For the between-groups variance, \( df = (K-1) \), where \( K \) is the total number of groups or levels. Because there were three groups, we have \( (3-1) = 2 \) \( df \). The \( df \) for the within groups sum of squares equals \( (N-K) \), \( N \) represents the sum of respondents and \( K \) is the sum of groups. As there were no missing responses, the associated \( df \) is \( (206-2) = 204 \).

\[
F = \frac{\text{MS explained}}{\text{MS residual}}
\]

The mean square for each of variation (column 5 of the results) is derived by dividing the sum of squares by its associated \( df \). Finally, the \( F \) value itself equals the explained square of mean, which is divided by the square of the residual mean.
In our case the $F = .240 (.013/.055)$ which is significant at .787. As calculated $F$ value .240 in table No. 39 is less than the tabulated $F$ value 3.00, so $H_0$ hypothesis of this study is not substantiated. That is, there is no significant difference in the means indicate more involvement of commercial banks in eBusiness than the development and investment banks.

### ANOVA

<table>
<thead>
<tr>
<th>eBusiness</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>.026</td>
<td>2</td>
<td>.013</td>
<td>.240</td>
<td>.787</td>
</tr>
<tr>
<td>Within Groups</td>
<td>11.146</td>
<td>204</td>
<td>.055</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>11.172</td>
<td>206</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table-39. Result of ANOVA for Hypothesis No.5

a. Grouping Variables: Development, Investment & Commercial Banks

b. Testing Variable: eBusiness

**Hypothesis No.6:** Banking sector has different views from the Telecom sector; banking sector say that due to insufficient infrastructure eBusiness is not growing rapidly in Pakistan.

Results of the independent sample t-test for 6th hypothesis are shown in the below tables. As may be seen, the difference in the means of 2.01 and 3.29 with the standard deviations of .49 and .50 for the banking and telecom sectors respectively on the infrastructure for eBusiness is significant. Where tabulated t value 1.450 in table No. 41 is less than tabulated t value 1.960, thus $H_0$ hypothesis of this study is substantiated, which implies that the infrastructure needed to run eBusiness successfully is insufficient in Pakistan, due to which growth of eBusiness is slow in Pakistan.

### Group Statistics

<table>
<thead>
<tr>
<th>Sector</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>Mean of SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastruct</td>
<td>206</td>
<td>2.0112</td>
<td>.49838</td>
<td>.03472</td>
</tr>
<tr>
<td>Telecom</td>
<td>194</td>
<td>3.2920</td>
<td>.50439</td>
<td>.03621</td>
</tr>
</tbody>
</table>

Table-40. Represents Group Statistics for Hypothesis No.6

a. Grouping Variables: Banking, Telecom
b. Testing Variable: Infrastructure

### Independent Samples Test

<table>
<thead>
<tr>
<th></th>
<th>Test for Equality of Variances By Levene’s</th>
<th>Means Equality t-test</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig</td>
<td>T</td>
<td>df</td>
<td>2-tailed (Sig)</td>
<td>Diff. of Mean</td>
<td>Diff. of Std Error</td>
<td>Diff. of Confidence Interval (95%)</td>
<td>Lower</td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variance is assumed</td>
<td>.047</td>
<td>.829</td>
<td>1.450</td>
<td>398</td>
<td>.148</td>
<td>.07274</td>
<td>.05015</td>
<td>-.17133</td>
<td>.02586</td>
</tr>
<tr>
<td>Equal variance is not assumed</td>
<td>1.450</td>
<td>395.938</td>
<td>.148</td>
<td>07274</td>
<td>.05017</td>
<td>-.17137</td>
<td>.02590</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 41. Represent the Results of Independent Sample t-test for Hypothesis No.6

**Hypothesis No.7:** Banking sector claims that ePayments are secure in Pakistan than the view of telecom sector.

Tables given below indicate the results of independent sample t-test for 7th hypothesis. The difference in the means of 2.31 and 2.59 can be seen with the standard deviations of .66 and .57 for the banking and telecom sectors respectively on security. As results shows that there in significant difference among the means, where calculated t value 1.760 in table No. 43 is less than the tabulated t value 1.960, so H0 hypothesis is accepted, this means that opinion of banking sector about online security is incorrect, which support the literature and validate the hypothesis No. 6 of this study that in Pakistan ePayments and online transactions are insecure due to insufficient technical and legal infrastructure, which implies that insecurity due to insecurity of ePayments people are reluctant to transact online which impede the growth of eBusiness in Pakistan.

### Group Statistics

<table>
<thead>
<tr>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Mean of SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>Banking</td>
<td>206</td>
<td>2.3169</td>
<td>.66590</td>
</tr>
</tbody>
</table>
Table-42. Represents Group Statistics for Hypothesis No.7

a. Grouping Variables: Banking, Telecom
b. Testing Variable: Security

<table>
<thead>
<tr>
<th>User Types</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Means of SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telecom</td>
<td>194</td>
<td>2.5964</td>
<td>.57121</td>
<td>.04101</td>
</tr>
</tbody>
</table>

Table-43. Represent the Results of Independent Sample t-test for Hypothesis No.7

**Hypothesis No.8:** End users are of the view that IT-Professionals are not competent and do not keep on updating the organizational systems than of the view of the developers.

Results of independent sample t-test are shown in the below tables. As may be seen, the difference in the means of 3.00 and 2.04 with the standard deviations of .66 and .65 for the developers and end-users respectively on the IT-professionals is significant. As calculated t value .441 in table No. 45 is less than the tabulated t value 1.960, thus H₀ hypothesis of the study is substantiated, which do not support the views of the end-users. It can be inferred from the results that IT-professionals of the country need more understanding of the organization and management, technical competency and skills in their respective field.
Table-44. Represents Group Statistics for Hypothesis No.8

<table>
<thead>
<tr>
<th>IT Professionals</th>
<th>Developers</th>
<th>159</th>
<th>3.0042</th>
<th>.66533</th>
<th>.05276</th>
</tr>
</thead>
<tbody>
<tr>
<td>End Users</td>
<td>241</td>
<td>2.0444</td>
<td>.65840</td>
<td>.04241</td>
<td></td>
</tr>
</tbody>
</table>

a. Grouping Variables: Developers, End-users
b. Testing Variable: IT-Professionals

**Independent Samples Test**

<table>
<thead>
<tr>
<th>Test for Equality of Variances By Levene's</th>
<th>Means Equality t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Sig</td>
</tr>
<tr>
<td>IT Professionals</td>
<td>Equal variance is assumed</td>
</tr>
<tr>
<td>Equal variance is not assumed</td>
<td>.440</td>
</tr>
</tbody>
</table>

Table-45. Represent the Results of Independent Sample t-test for Hypothesis No.8

**Hypothesis No.9:** Developers have different view from the users, they say that managers are non cooperative and do not have IT know how.

Below tables show the results of independent sample t-test for 9th hypothesis. The difference in the means of 2.35 and 3.07 can be seen with the standard deviations of .40 and .49 for the developers and end-users respectively for the non cooperation of management and their IT know-how in computerization is significant. Furthermore, calculated t value 15.162 in table No. 47 is greater than tabulated t value 1.960, so $H_0$ hypothesis is not substantiated. This implies that managers do not cooperate in ISD process and lack IT know-how.
Table-46. Represents Group Statistics for Hypothesis No. 9

a. Grouping Variables: Developers, End-users
b. Testing Variable: Management

Independent Samples Test

<table>
<thead>
<tr>
<th>Test for Equality of Variances By Levene's</th>
<th>Means Equality t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
</tr>
<tr>
<td>Equal variance is assumed</td>
<td>9.797</td>
</tr>
<tr>
<td>Equal variance is not assumed</td>
<td>15.795</td>
</tr>
</tbody>
</table>

Table-47. Represent the Results of Independent Sample t-test for Hypothesis No.9

Hypothesis No.10: There is no gap between developers and end-users.

Tables given below indicate results of independent sample t-test for 10th hypothesis. The difference in the means of 3.92 and 2.71 can be seen with the standard deviations of .25 and .25 for the developers and end-users respectively on gap between users and developers. As results shows that there is significant difference among the means, as calculated t value .333 in table No. 49 is less than the tabulated t value 1.960, hence H0 hypothesis of the study is substantiated, this implies that there is a gap between users and developers, literature support the results, where gap is the root cause of politics in IT projects and failure of the information systems (eBusiness).

Group Statistics

<table>
<thead>
<tr>
<th>User Types</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>Mean of SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dev User Gap</td>
<td>Developer</td>
<td>159</td>
<td>3.9233</td>
<td>.25931</td>
</tr>
<tr>
<td>End User</td>
<td>241</td>
<td>2.7113</td>
<td>.25527</td>
<td>.01644</td>
</tr>
</tbody>
</table>

Table-48. Represents Group Statistics for Hypothesis No. 10

a. Grouping Variables: Developers, End-users
b. Testing Variable: Developers Users Gap

Independent Samples Test
Table 49. Represent the Results of Independent Sample t-test for

Hypothesis No.10

**Hypothesis No.11** “Political stability of the government itself reflects in either reinforcing or threatening the eBusiness in Pakistan”.

On 5 point scale the relationship between political stability of the government and eBusiness was significant as tested by linear regression analysis. The first table lists the independent variable which is centered into the regression model and $R (0.104a)$ is the correlation of the independent variable with the dependent variable.

In the *Model Summery* table, The $R Square (0.011)$, which is the explained variance, is actually the square of the multiple $R (0.104a)^2$. The ANOVA table shows that the $F$ value of $4.318$ is significant at the $0.038a$. In the $df$ (degree of freedom) in the same table, the first number represents the independent variable (1); the second number (398) is the total number of complete responses for all the variables in the equation ($N$), minus the number of independent variables ($K$) minus 1. $(N-K-1) = 398$. The $F$ statistic produced ($F = 4.318$) is significant at the $0.038a$ level.

To be statistically significant calculated correlation must be at least .304 on 5 point scale, it is inferred that the influence of government political stability is significant as beta score is .511, thus $H_0$ hypothesis is not substantiated.

The next table titled *Coefficients* helps us to see that the independent variable influences most the variance in eBusiness (i.e., is the most important). If we look at the column $Beta$
under *Standardized Coefficients*, we see that the highest number in the beta for political stability of the government .511 which is significant at the .038a level. The results illustrate that the independent variable is significant.

This implies that political stability of the government affect the eBusiness. If the government and political environment is stable and conducive, it bring opportunities to eBusiness however instability negatively affect the eBusiness, thus the hypothesis is rejected.

### Summary of Model

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R. Square</th>
<th>R. Square (Adjusted)</th>
<th>Estimation Std Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.104(a)</td>
<td>.011</td>
<td>.008</td>
<td>.23501</td>
</tr>
</tbody>
</table>

a. Constant Predictors, Political and Legal Envt

Table-50. Represents Model Summary for Hypothesis No.11

### ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>The sum of Squares</th>
<th>df</th>
<th>Square of Mean</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.239</td>
<td>1</td>
<td>.239</td>
<td>4.318</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>21.982</td>
<td>398</td>
<td>.055</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>22.220</td>
<td>399</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Constant Predictors, Political and Legal Envt
b. Dependent Variable: eBusiness

Table-51. Represents ANOVA for Hypothesis No.11

### Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Non Standardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>3.128</td>
<td>.045</td>
<td>69.497</td>
</tr>
<tr>
<td></td>
<td>Political and Legal Envt</td>
<td>.057</td>
<td>.028</td>
<td>.511</td>
</tr>
</tbody>
</table>

a. Dependent Variable: eBusiness

Table-52. Show the Coefficients for Hypothesis No.11

**Hypothesis No.12:** “Government IT-polices significantly influence the national pattern of IT-growths (eBusiness)”

Linear regression was done. The result shows that eBusiness is highly dependent on government IT-polices. The result of on 5 point scale was highly significant. The first
table lists the independent variable which is centered into the regression model and $R$ (.150a) is the correlation of the independent variable with the dependent variable.

In the Model Summary table, The **R Square** (.022), which is the explained variance, is actually the square of the multiple $R$ (.150a)$^2$. The ANOVA table shows that the $F$ value of 9.108 is significant at the .003a. In the $df$ (degree of freedom) in the same table, the first number represents the independent variable (1); the second number (398) is the total number of complete responses for all the variables in the equation ($N$), minus the number of independent variables ($K$) minus 1. ($N-K-1$) = 398]. The $F$ statistic produced ($F = 9.108$) is significant at the .003a level.

To be statistically significant calculated correlation must be at least .304, as beta score is .472, so it is inferred that the influence of government stability on eBusiness is highly significant thus $H_0$ hypothesis is not substantiated.

The next table titled Coefficients helps us to see that the independent variable influences most the variance in eBusiness (i.e., is the most important). If we look at the column **Beta** under Standardized Coefficients, we see that the highest number in the beta for government IT-policies is .472 which is significant at the .003a level. It may also be seen that the independent variable is highly significant.

<table>
<thead>
<tr>
<th>Summary of Model</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>R</td>
<td>R. Square</td>
<td>R. Square (Adjusted)</td>
<td>Estimation of Std Error</td>
</tr>
<tr>
<td>1</td>
<td>.150(a)</td>
<td>.022</td>
<td>.020</td>
<td>.23363</td>
</tr>
</tbody>
</table>

a. Constant Predictors, Government IT Policy

Table-53. Represents Model Summary for Hypothesis No.12

<table>
<thead>
<tr>
<th>ANOVA</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>The Sum of Squares</td>
<td>df</td>
<td>Square of Mean</td>
</tr>
<tr>
<td>1</td>
<td>Regression</td>
<td>.497</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>21.723</td>
<td>398</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>22.220</td>
<td>399</td>
</tr>
</tbody>
</table>

a. Constant Predictor, Government IT Policy
b. Dependent Variable: eBusiness

Table-54. Show ANOVA for Hypothesis No.12
<table>
<thead>
<tr>
<th>Model</th>
<th>Non standardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>3.051</td>
<td>.057</td>
<td>53.773</td>
</tr>
<tr>
<td></td>
<td>Government IT Policy</td>
<td>.049</td>
<td>.016</td>
<td>.472</td>
</tr>
</tbody>
</table>

a. Dependent Variable: eBusiness

Table-55. Indicate Coefficients for Hypothesis No.12

**Hypothesis No.13:** Users are of the view that organizational IT-Maturity is not significant for the success of eBusiness than the view of the developers.

Results of the independent sample t-test for hypothesis are shown in the below tables. As may be seen, the difference in the means of 2.35 and 3.07 with the standard deviations of .40 and .49 for the developers and end-users respectively on the organizational IT-Maturity is significant. Where calculated t value 15.162 in table No. 57 is greater than the tabulated t value 1.960, hence $H_0$ hypothesis is not substantiated, which means that organizational IT-Maturity determines the success of eBusiness.

**Group Statistics**

<table>
<thead>
<tr>
<th>User Types</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Mean of Std Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developers</td>
<td>159</td>
<td>2.3522</td>
<td>.40684</td>
<td>.03226</td>
</tr>
<tr>
<td>End User</td>
<td>241</td>
<td>3.0705</td>
<td>.49760</td>
<td>.03205</td>
</tr>
</tbody>
</table>

Table-56. Represents Group Statistics for Hypothesis No.10

a. Grouping Variables: Developers, End-users
b. Testing Variable: Organizational IT-Maturity

**Independent Samples Test**

<table>
<thead>
<tr>
<th>Test for Equality of Variances by Levene’s</th>
<th>Means Equality t-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Sig</td>
</tr>
<tr>
<td>---</td>
<td>-----</td>
</tr>
<tr>
<td>Organization IT Maturity</td>
<td>Equal variance is assumed</td>
</tr>
<tr>
<td>Equal variance</td>
<td>15.795</td>
</tr>
</tbody>
</table>
Hypothesis No. 13

**Hypothesis No.14**: “Technology shapes and reshapes the IT-Growth (eBusiness) process in the organizations”.

Results on 5 point scale points a highly significant relationship between the technology and eBusiness in Pakistan. Linear regression model was applied to know the influence of technology on eBusiness. The first table lists the independent variable which is centered into the regression model and \( R (.349a) \) is the correlation of the technology with the eBusiness with regard to independent and dependent variables of this study.

In the Model Summary table, The \( R \) Square (.122), which is the explained variance, is actually the square of the multiple \( R (.349a)^2 \). The ANOVA table shows that the \( F \) value of 55.307 is significant at the .000a. In the df (degree of freedom) in the same table, the first number represents the independent variable (1); the second number (398) is the total number of complete responses for all the variables in the equation (\( N \)), minus the number of independent variables (\( K \)) minus 1. \( (N-K-1) = 398 \). The \( F \) statistic produced \( (F = 55.307) \) is significant at the .000a level.

To be statistically significant calculated correlation must be at least .304. As beta score is .349 so it is inferred that technology significantly influence eBusiness thus, \( H_0 \) hypothesis is not substantiated.

The next table titled Coefficients helps us to see that the independent variable influences most the variance in eBusiness (i.e., is the most important). If we look at the column Beta under Standardized Coefficients, we see that the highest number in the beta for technology is .349 which is significant at the .000a level. It may also be seen that the independent variable is highly significant. Literature supports the results that technology is one of the major actors for eBusiness success, so \( H_0 \) hypothesis is not substantiated.

**Summary of Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R. Square</th>
<th>R. Square (Adjusted)</th>
<th>Estimation of Std Error</th>
</tr>
</thead>
</table>

Table-57. Represent the Results of Independent Sample t-test for
<table>
<thead>
<tr>
<th>Model</th>
<th>The Sum of Squares</th>
<th>df</th>
<th>Square of Mean</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>2.711</td>
<td>1</td>
<td>2.711</td>
<td>55.307</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>19.509</td>
<td>398</td>
<td>.049</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>22.220</td>
<td>399</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Constant Predictor, Technology

Table-58. Represents Model Summary for Hypothesis No.14

**ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Non standardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>2.413</td>
<td>.109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technology</td>
<td>.232</td>
<td>.031</td>
<td>.349</td>
</tr>
</tbody>
</table>

Table-59. The Result of ANOVA for Hypothesis No. 14

Hypothesis No. 15: “Within organization eBusiness is not dependent on IT-Professionals than on H/W and S/W”.

The multiple regressions analysis was done. According to standardized coefficient on 5 point scale H/W, S/W and IT-Professional have significant influence on eBusiness. The first table lists the two independent variables that are centered into the regression model and R (.546a) is the correlation of the two independent variables with the dependent variable, after all the intercorrelations among the two independent variables are taken into account.

In the Model Summery table, The R Square (.299), which is the explained variance, is actually the square of the multiple R (.546a)². The ANOVA table shows that the F value of 84.523 is significant at the .000a. In the df (degree of freedom) in the same table, the
first number represents the number of independent variables (2); the second number (397) is the total number of complete responses for all the variables in the equation (N), minus the number of independent variables (K) minus 1. \((N-K-1) = 397\). The \(F\) statistic produced \((F = 84.523)\) is significant at the .000a level.

To be statistically significant calculated correlation must be at least .304. As beta score is .509 for IT professionals and .168 for h/w and s/w. It is inferred that within organization eBusiness is more dependent on IT professionals than h/w and s/w thus, \(H_0\) hypothesis is not substantiated.

The next table titled \textit{Coefficients} helps us to see which among the two independent variables influences most the variance in eBusiness (i.e., is the most important). If we look at the column \textbf{Beta} under \textit{Standardized Coefficients}, we see that the highest number in the beta IT-professionals was .509, which is significant at the .000a level. Hence data suggests that if eBusiness highly depends on IT Professionals, requires greater attention of the policy makers.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|}
\hline
Model & R & R. Square & R. Square (Adjusted) & Estimation of Std Error \\
\hline
1 & .546(a) & .299 & .295 & .19813 \\
\hline
\end{tabular}
\caption{Summary of Model}
\end{table}

\textit{Table-61. Represents Model Summary for Hypothesis No.15}

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|}
\hline
Model & The Sum of Squares & df & Square of Mean & F & Sig \\
\hline
1 & Regression & 6.636 & 2 & 3.318 & 84.523 & .000(a) \\
Residual & 15.584 & 397 & .039 & & \\
Total & 22.220 & 399 & & & \\
\hline
\end{tabular}
\caption{ANOVA}
\end{table}

\textit{Table-62. The Result of ANOVA for Hypothesis No.15}

\textit{Coefficients}
**Hypothesis No.16**: Independent variables are mutually not correlated. The Pearson correlation coefficient was calculated. The results indicate that government, organization and technology are highly interrelated/associated at (.816** and .753** at .001 level that is 100%) Thus the $H_0$ hypothesis is substantiated and accepted.

**Correlations**

<table>
<thead>
<tr>
<th></th>
<th>Government</th>
<th>Organization</th>
<th>Technology</th>
<th>eBusiness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>1</td>
<td>.009</td>
<td>.816(**)</td>
<td>.571**</td>
</tr>
<tr>
<td>2-tailed (Sig)</td>
<td></td>
<td>.854</td>
<td>.000</td>
<td>.001</td>
</tr>
<tr>
<td>n</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>Organization</td>
<td>.009</td>
<td>1</td>
<td>.753**</td>
<td>.637**</td>
</tr>
<tr>
<td>2-tailed (Sig)</td>
<td>.854</td>
<td>.</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>n</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>Technology</td>
<td>.816(**)</td>
<td>.753**</td>
<td>1</td>
<td>.459**</td>
</tr>
<tr>
<td>2-tailed (Sig)</td>
<td>.000</td>
<td>.002</td>
<td>.</td>
<td>.000</td>
</tr>
<tr>
<td>n</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>eBusiness</td>
<td>.571**</td>
<td>.637**</td>
<td>.459**</td>
<td>1</td>
</tr>
<tr>
<td>2-tailed (Sig)</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
<td>.</td>
</tr>
<tr>
<td>n</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
</tbody>
</table>

**The 2-tailed correlation is sig. at 0.01 levels.**

**Hypothesis No.17**: “Government, organization environment and technology determine the success/failure of eBusiness in Pakistan”.

The multiple regressions analysis was applied. According to standardized coefficient on 5 point scale the dependence of eBusiness for its success/failure on government, organization and technology describe the dependence of eBusiness on government, organization environment and technology.
The first table lists the three independent variables that are centered into the regression model and $R$ (.561a) is the correlation of the three independent variables with the dependent variable, after all the intercorrelations among the three independent variables are taken into account.

In the *Model Summary* table, the **R Square** (.315), which is the explained variance, is actually the square of the multiple $R$ (.561a)$^2$. The ANOVA table shows that the $F$ value of 60.664 is significant at the .000a. In the *df* (degree of freedom) in the same table, the first number represents the number of independent variables (3); the second number (396) is the total number of complete responses for all the variables in the equation ($N$), minus the number of independent variables ($K$) minus 1. ($N-K-1) = 396$. The $F$ statistic produced ($F = 60.664$) is significant at the .000a level.

To be statistically significant calculated correlation must be at least 0.304 on 5 point scale, it is inferred that the influence of government and organization and technology on eBusiness was found highly significant thus, the $H_0$ hypothesis is not substantiated.

The next table titled *Coefficients* helps us to see which among the three independent variables influences most the variance in eBusiness (i.e., is the most important). If we look at the column **Beta** under *Standardized Coefficients*, we see that the highest number in the beta for technology .704, government is .428 and for organization it is .365, which is significant at the .000a level. The results suggest the priority list for the policy makers to adopt it during the policy formulation for eBusiness in the country.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R. Square</th>
<th>R. Square (Adjusted)</th>
<th>Estimation of Std Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.561(a)</td>
<td>.315</td>
<td>.310</td>
<td>.19607</td>
</tr>
</tbody>
</table>

a. Constant Predictors, Technology, Organization, Government

Table-65. Represents Model Summary for Hypothesis No.17

ANOVA
**Table-66. The Result of ANOVA for Hypothesis No.17**

<table>
<thead>
<tr>
<th>Model</th>
<th>The Sum of Squares</th>
<th>df</th>
<th>Square of Mean</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>6.996</td>
<td>3</td>
<td>2.332</td>
<td>60.664</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>15.224</td>
<td>396</td>
<td>.038</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>22.220</td>
<td>399</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Constant Predictors, Technology, Organization, Government
b. Dependent Variable: eBusiness

**Table-67. Portray Coefficients for Hypothesis No.17**

<table>
<thead>
<tr>
<th>Model</th>
<th>Non standardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>Std Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>1.405</td>
<td>.137</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Government</td>
<td>.269</td>
<td>.043</td>
<td>.428</td>
</tr>
<tr>
<td></td>
<td>Organization</td>
<td>.253</td>
<td>.029</td>
<td>.365</td>
</tr>
<tr>
<td></td>
<td>Technology</td>
<td>.468</td>
<td>.048</td>
<td>.704</td>
</tr>
</tbody>
</table>

a. Dependent Variable: eBusiness

**Hypothesis No.18:** Private sector is of the view that due growing interest and investment from the private sector, the overall environment is favorable for eBusiness in Pakistan than the view of Public sector; hence it has more opportunities than threats in Pakistan.

Below tables show the results of independent sample t-test for 18th hypothesis. The difference in the means of 3.03 and 2.00 can be seen with the standard deviations of .29 and .23 for the public and private sectors respectively as threats for eBusiness. As results indicate that there is significant difference among the means, where calculated t value .701 in table No. 69 is less than tabulated t value 1.960, thus H₀ hypothesis is substantiated, this implies that due to considerable investment and interest of the private sector in digitizing their organizational environment. Business environment is in the transformation on the basis of which it is inferred from the results that in Pakistan, eBusiness can grow and flourish more if organizations makes effective plans and devise proper strategies to avail the opportunities.
### Group Statistics

<table>
<thead>
<tr>
<th>Nature</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>Means of Std Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threats and Opportunities Public</td>
<td>293</td>
<td>3.0322</td>
<td>.29830</td>
<td>.01743</td>
</tr>
<tr>
<td>Threats and Opportunities Private</td>
<td>107</td>
<td>2.0093</td>
<td>.23205</td>
<td>.02504</td>
</tr>
</tbody>
</table>

Table-68. Represents Group Statistics for Hypothesis No.18

a. Grouping Variables: Public, Private
b. Testing Variable: Threats & Opportunities

### Independent Samples Test

<table>
<thead>
<tr>
<th></th>
<th>Test for Equality of Variances By Levene's</th>
<th>Equality of Means t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig</td>
</tr>
<tr>
<td>Threats and Opportunities Equal variance is assumed</td>
<td>5.569</td>
<td>.019</td>
</tr>
<tr>
<td>Threats and Opportunities Equal variance is not assumed</td>
<td>.748</td>
<td>.215.196</td>
</tr>
</tbody>
</table>

Table-69. Indicate the Results of Independent Sample t-test for Hypothesis No.18
CHAPTER FIVE: DISCUSSION, ANALYSIS AND FINDINGS

5.1 Discussion and Analysis

eBusiness is the prominent feature of the 21st century. In this cyber age, manual conduct of business is giving up. Now business is conducted via internet, which is removing the physical distances and shrinking or totally removing the geographical boundaries. Today people interact face-to-face without being face-to-face (online) through virtual business environments (eBusiness) where computer systems and telecommunication networks are the prerequisites of the new age. Like other developing countries, Pakistan can not afford to rely on the conventional business practices because of the unprecedented opportunities that eBusiness offers, e.g. to grow faster and to capture maximum market share with minimum cost in the possible shortest time, that is why both public and private sectors are making efforts and pooling resources towards digitization. In Pakistan, studies for example, (Ashraf, 1990; Jamil, 1989; Naqvi, 1988, and Rana, 1988) have been conducted to investigate the influencing factors that play dominant role in the successful induction/failure of IT in the businesses. These studies identified issues like “low literacy of the top management with respect to the level of awareness about IT, deficiency of reliable and cheaper telecommunication service, lack of the required expertise, due to insufficient training and updating skills and over emphasis on the highly formalized and centralized structures.” Moreover, they further identified that “in many cases poor cooperation on part of managers are causing either total failure or delay in the application of IT in business organizations. Likewise, Munir (1994) have found that “some of the organizations have no formal budgeting system.” While Ahmad (1994: 1-38) notes that “in this environment introduction of IT is basically dependent on the personal urge of the top decision makers.” Similarly, he further identified that “highly inadequate IT education, poor know-how of IT on the count of users and IS developers and poor understanding of the issues of the business due to non availability of required training and education results in failure of IT application in Pakistan.”
With the above background, this study is an effort to dive deep into the contextual factors and conditions that makes or breaks eBusiness in Pakistan.

A study reveals that “government, organization and technology determine the volume and intensity of opportunities and threats for eBusiness (Agpalo, 1992).” However the role of government is more important as government is the facilitator and regulator of business. The infrastructure and environment in which eBusiness operates depend on the government as it is one of the major actors responsible for the development and maintenance of conducive environment for smooth operations of eBusiness in any country, and Pakistan is not exception to this reality. This study substantiates the role of government in the success or other wise failure of the eBusiness.

Government formulates, implement, facilitate and regulate the smooth running of business through timely, effective and business friendly policies. Pakistan announced its ‘IT-policy and action plan in August 2000’ to promote IT industry and to encourage digitization inorder to compete in the global market (IT Policy, 2000). Billion of rupees are allocated for the development of physical infrastructure and human resources. This is evident from the allocation of more funds for the development of IT in educational institutions and issuance of more licenses to ISPs and Internet café’s for the promotion of IT-culture in the country. Furthermore to encourage the business community government reduced the tariff and duties on imports of IT related equipments; announced tax relief on IT related products and reduction in bandwidths rates are the important features of the IT policy. Computer Bureau of Pakistan, MoST, PSEB were constituted and IT parks were established to explore more global opportunities for the development and promotion of eBusiness. Besides IT policy, Electronic Transactions Ordinance (ETO) and Electronic Crimes Act (ECA) were promulgated to provide legal cover and safety to online business community and to build confidence and trust among the producers and buyers in online transactions (ETO, 2002 & ECA, 2003). As policy guides, direct and facilitates the business, however in case of eBusiness, currently Pakistan has no eBusiness policy in place and no national strategy to eEnable Pakistan is apparent. The MoS&T have taken ownership of the eB/Commerce drive as part of its IT policy. The policy does devote a
small section to eB/Commerce, but mainly at the technical level. The lack of clear national strategy and lack of coordination between ministries is a potential weakness in the drive to develop eBusiness in Pakistan. Though IT policy helped in creating awareness about IT and its applications, resultantly IT started infusion into the organizational and individual lives yet inconsistency in the policy remained a distinct problem because of the political upheavals and instability, where consistency is highly essential for the fruits of the policies. As said earlier that government IT-policies determines the national pattern of IT-growth where eBusiness depends for its success on government policies. This bring to the fore the important role and impact of government IT-policies on the national pattern of IT-growth (eBusiness), which implies that if government policies are consistent and favorable then eBusiness can have more opportunities than the threats. On other hand, if government IT-policies are inconsistent and unfavorable then one cannot expect eBusiness to flourish. However in Pakistan due to inconsistency in the government policies and high level of uncertainty in the environment of the business community due to rapid and unexpected interventions by the government like duties and legal measures to regulate businesses, the pace of IT diffusion and growth of eBusiness is slow. Primary data of this study substantiate the role of government IT policy, when asked about the role of government IT policy in promotion and development of eBusiness in country, 59% respondents of the study were of the view that IT policy announced in 2000 is inconsistent, 53% have said that government is investing more funds in IT while 69% were of the view that government is giving tax freedom on IT products which shows the interest of the government in the promotion of IT culture in Pakistan. Though there are some flaws in the policy, yet government know the importance of IT sector and paying attention to this early neglected sector through huge investments and concessions.

Similarly, Argyris & Schon (1978) asserts that “bureaucracy is the most efficient instrument of government administration with distinct characteristics e.g. specialization, well defined hierarchy of authority, a rational system of rules covering the legal rights and duties of positional incumbents, a uniform system of procedures for dealing with the situations, impersonal behavior in relations, and democracy and merit in operations.”
However, besides its merits, one cannot overlook the demerits of this system e.g. “centralization of the authority, displacement of national objectives in favor of personal interests, self wishes of empire building and red-tapism (Drucker, 1993).” Yet Weber was expecting bureaucracy as the most vital instrument of the government to run the state affairs most efficiently and effectively. Luckily, Pakistan got independence in 1947 from the long sway of the British Empire but unfortunately it inherited its administrative systems and rules from the colonial rulers and this legacy still continues. As discussed earlier that success of eBusiness depends on the government policies which are formulated and implemented by the public bureaucracies, so if we look into the Pakistani context, history is witness of the fact that in “Pakistan bureaucracy mostly misused its powers and abusing the authority in favor of personal interests (Sultan, 1988: 126-127).” On the other hand it is administrative functionaries of the government who formulate and implement the policies, similarly, government is responsible for the development of business friendly environment in order to operate peacefully when asked about the role of bureaucracy in promotion and development of eBusiness in Pakistan, 65% respondents view bureaucrats as negative and non cooperative and 50% have said that the procedures of the government are cumbersome and unfriendly for eBusiness. Furthermore, 59% were of the view that bureaucracy prefers personal interests over the national interests, and 49% have said that policy implementation is ineffective. Similarly, 32% thinks that bureaucracy knows nothing about IT while some 28% were of the view that bureaucracy know about IT. Furthermore, 51% were of the opinion that bureaucracy is not playing a promoting role for the development of IT to promote eBusiness in the country. This describes that a gap exists between the expectations and outcomes, between public and government and between government and industry. This gap is more evident in government IT policy, similarly it do not represent the sentiments, needs, wishes and requirements of the business community. Business community and especially the private sector perceive the role of bureaucracy as non cooperative and discouraging in the promotion and development of eBusiness in Pakistan, and results of the study validate this view that administrative machinery of Pakistan is inefficient and non productive because administrative procedures in public organizations are unfriendly, government policies are ineffective and do not give credence to the public interest and business
requirements. Furthermore, bureaucracy prefers their personal interests instead of paying respect to national interests especially in case of IT, similarly on the other hand policy implementation is poor due to lack of interest on the part of bureaucracy and in most cases government’s administrative machinery knows nothing about the digitization. From this discussion one can infer that attitude of bureaucracy is negative and non cooperative, and instead of facilitating and promoting, actually bureaucracy is impeding the development of eBusiness in Pakistan.

Likewise, Jenster (1987) and Palvia et-al. (1990) accentuate that the fore most responsibility of government is “to ensure smooth and transparent system and development of conducive and business friendly environment.” They further argue that “stability of the political environment and peaceful law and order is necessary for investment and promotion of business activities.” Countries where state institutions are weak and there is no stability of the government tenure and policies and the law and order conditions are worse, investors hesitate to invest because no body is ready to take risk in such a turbulent environment. On the other hand, political stability and peaceful environment is necessary condition for the continuation of policies and success of business as political stability of the government reflects itself in either reinforcing or threatening the eBusiness. 60 years of Pakistan are witness of the fact that due to political instability, law and order remained a serious problem for business community. When asked about the importance of political stability and peaceful law and order and its affects on eBusiness in Pakistan, 50% respondents of this study view political instability of government as threat to eBusiness and 57% concluded that poor law and order is one of the issue that impede eBusiness in Pakistan. Furthermore, results of the study substantiate the literature that at least in developing counties and particularly in Pakistan political instability of the government is a threat to eBusiness, where stability is necessary for the continuation of public policies and success of business.

Many studies have stressed that the most significant aspect of government IT-policy should be the development of basic infrastructure for eBusiness in such a way that maximum of the people from all the geographical areas i.e. urban and rural, all sectors
and all segments of the society can reap the benefits and facilities of the eBusiness (See, Joseph, 1995: 26-252; Sullivan, 1995), they believe that growth of IT and eBusiness is highly dependent on the availability of sound physical and legal infrastructure, where development of infrastructure need funds and commitment of the government functionaries. When questioned the respondents about the infrastructure in country, 39% have said that technical infrastructure is insufficient for the promotion of eBusiness where 70% listed bandwidth and slow speed of internet as poor and non satisfactory. In Pakistan, internet connectivity is largely dependent on telephone cables, where network of plain and cellular phone is insufficient that is why most people still do not have access to internet. Similarly poor bandwidth and slow speed of the internet along with faulty cables slower down the speed of internet due to which user face frequent disconnections. According to Ali (2001), “though availability of bandwidth was increased from 32mb/s in August, 2000 to 410mb/s in October, 2002 and bandwidth-cost have dropped from US$ 70,000 per month for a 2Mn link to around US$ 3,500 per month, it is still costly when compared with developed countries and some of the developing countries of the region too.” And there are still problems with ‘last mile connectivity’. The quality of connections between users and ISPs is poor. Though some impressive strides have been seen over the past year for the development of the internet infrastructure; yet there is still a great deal of skepticism about the quality of the connectivity. Certain key-towns, which host handsome industry, still have very poor connectivity, making it difficult for industry to eEnable their systems inorder to facilitate eBusiness.

Similarly, consistency and supply of electric power is needed to run the machines and keep on connecting the sellers and buyers. In Pakistan the condition of power supply is worse and this year during summer 2006 it becomes more worsened especially in the economic cities like, Karachi, Lahore and Faisalabad where it remained discontinued for many hours and some times more than 10 hours. Business community launched protests and demanded consistent supply and riding off the loadshedding, further they claimed that due to power failure they have beard more than “Rs. 3 billion losses in a week (Geo News, 2006).” When inquired about the power conditions in Pakistan, 52% of the
respondents were of the view that supply of electric power is inconsistent and frequent breakdowns are impeding the smooth operation of eBusiness in the country.

Besides the national level physical infrastructure of IT for eBusiness, availability of the latest h/w, s/w and telecommunication systems, relevant accessories and after sales services at reasonable price for organizations is another important aspect of infrastructure. In Pakistan, small and medium firms still can not afford the costly systems. Hartog & Herbert (1995) have said that “eBusiness can not grow and develop without the provision of required technology.” When questioned about the availability of the computer based technology in Pakistan, 49% of the respondents strongly agreed while 38% agree that required h/w and associated devices are available in the local market. Furthermore, when inquired about the price factor, 32% of the respondents strongly agreed and 68% were agree that h/w is not expensive, 82% respondents have said that after sales services are available. Similarly, 72% have said that required software is available in the market, yet according to 71%, it is expensive, where 72% of the organizations prefer to use the leading edge technologies. Furthermore, besides the development of physical infrastructure, no body can deny the need of legal infrastructure as it build confidence and trust regarding the security aspects of the eBusiness between sellers and buyers in online transactions. Many studies have considered the “security of online transaction as one of the main issue of eBusiness round the globe” (See for example, Pauline, 2001; Shapiro, 2001; Cockburn & Wilson, 1996; Mukti, 2002; Hoshmer, 2002; Gao, 1998). Security systems help in preventing the online frauds, unauthorized access to secret codes/passwords and also prevent the unethical, unsocial use of IT and cultural invasion. Fear of IT attacks; interference in personal privacy and the disclosure of the strategic business information impede digitization process. These experts further believe that a well established and sound legal infrastructure is needed for eBusiness operations. Rana (2006) reports “80,000 to 1, 00,000 daily attacks on PCs in Pakistan.” Hackers attack the systems to access authentication codes/passwords, to pilfer the strategic and financial data and email addresses, which indicate an alarming situation of cyber crimes and serious concern of eSecurity for eBusiness in the country. When inquired, 40% respondents were of the view that legal infrastructure is insufficient for
eSecurity of eBusiness in Pakistan and 45% have said that it is also insufficient to prevent the unethical and unsocial use of IT. Similarly, results of the study supports the literature that lack of confidence and trust between the parties involved due to insecurity in safer transactions of ePayments is one of the reasons which prevent the users to transact online. This shows the concerns of the sellers and buyers who perceive insecurity in ePayments and online transactions as threat to eBusiness in Pakistan. Though government of Pakistan enacted ETO and ECA to safeguard online community, however many areas still need to be covered to ensure more security and protection of ePayments, due to which the growth of eBusiness is slow in Pakistan.

Today, eBusiness is most commonly used mode of business operations throughout the world and these were the financial institutions who first introduced IT in their operations. When internet emerged as medium of interconnections, again it was the same banking industry which took lead and converted their conventional business practices into online operations. In Pakistan, Habib Bank and Askari Bank were the first who introduced computer based systems in their operations and now several local and foreign banks are doing eBanking in one or another way. Similarly, telecom sector is another important player of the eBusiness, and actually it is the infrastructure of telecom sector upon which the operations of eBusiness depends. In recent years, Pakistan adopted a liberal telecom policy of de-regulation and privatization, for example the privatization of the sole monopolistic PTCL. This encouraged the investors and huge amount of investment can be seen in the telecom sector. Both plain and cellular industry is mushrooming speedily and especially mobile phones are spreading like wild fire in the country. To capture maximum market share and to provide more facilities and comfort to customers both sectors are on the way to digital modes of business as eBusiness offer competitive advantage, which refers to the application of IT for the purpose of getting ahead of competitors, for example, a system that can increase company’s market share and thus give competitive-edge in differentiation of the products, services and costs from the rivals, for example, reduce the firm cost, reduce the customer’s cost and raise the related costs of the competitors. Similarly to introduce a change in a product or process which may bring major transformation the way business is conducted in the industry besides the
growth in volume or geographical expansion, product-line diversification and last but not least, the alliance to establish a joint venture or to make acquisitions concerning the “thrust to differentiate, reduce the cost, bring innovations and growth of the business are benefits of eBusiness as compared to the conventional mode of business operations (See, Ives & Learmonth, 1984; Damanpour & Evan, 1984).”

As said earlier that eBusiness is a competitive tool that give an edge to business to become a market leader. It can be seen from data that 40% strongly while 60% have agreed that they use IT as competitive weapon to differentiate their products, similarly, 60% strongly and 40% have agreed that they use IT to reduce the cost. 72% have said that their organizations are investing heavily in their IT projects, on other hand, 82% view their projects successful and 60% have said that they are investing in IT as necessity. Furthermore, in Pakistan, banking and telecom sectors are investing heavily in digitization to gain maximum benefits of computerization to compete in the market successfully. Results indicate that banking sector is leading however, within banking industry commercial banks are more involved in eBusiness than the development and investment banks, results of the tests verify this. Similarly, 56% respondents of the study have said that eBanking is progressing in the country yet, currently insecurity of ePayments is one of the reasons of the slow pace of eBusiness in the country. This is evident from data as 63% respondents have showed their concern and said that security is a major issue of eBusiness.

Development of human resources is the requirements of the new age and it should be the main focus of the government IT policies. Today business needs “hybrid managers” not only specialized in managing the affairs of organizations and humans but also equally competent in computer based technology inorder to run eBusiness efficiently and effectively because it is a socio-technical activity (See, Mumford, 1985; Griffin, 1998; Dudeja, 2001; & Glass, 1998), they further argue that both “the developers and users (managers) must have expertise in their respective fields.” Fortunately government recognized the importance of human resource development and main emphasis of Pakistan’s IT policy is on the development of human resources that is why huge funds
have been allocated for this purpose, due to which throughout the country one can see the mushroomed growth of IT education institutions. Thousands of the computer science and IT graduates have been produced. However, in absence of check and balance system most of the institutes are busy in money making rather than producing the qualified professionals. The curriculum taught in these institutes is mostly out dated and in several cases it has been found that these institutes even lack the qualified faculty. Similarly, a huge gap exists between the planned and the final output. All this upholds that there is a lack of coordination between government, IT institutes and IT industry. Resultantly the IT graduates failed to meet the organizational and industrial requirements. After spending huge amounts on the digitization, still organizations are facing difficulties to keep on updating their systems. This shows that IT professionals of the country need more understanding of the organization and management besides technical competency and skills in their respective fields. Similarly, management’s lack of IT know-how impedes digitization is another issue of eBusiness in Pakistan. Keeping in view vital role of computer in all spheres of life, though in Pakistan computer and IT as subject have been introduced in all the major disciplines but eBusiness demands more and different i.e. business and management graduates are expected to fully abreast with computer and IT knowledge (Hybrid Management).

Likewise, management is a force that runs the business and ultimately responsible for its success or failure. Computer and IT knowledge is the compulsory requirement of today’s managers as they not only manage human resources but also time and the materials including physical equipments (h/w, s/w and telecommunication equipments) that fuel and run eBusiness. If we look into this aspect of the study, 54% of the respondents have said that management do not know about IT, yet 46% say that their management considers IT as competitive tool.

Similarly, looking deep into the organizational aspects of eBusiness, experts have observed that executive culture is more dominant in most of the organizations that is why the climate of organization is less innovative for eBusiness which discourage participation and result into lack of innovative thrust for eBusiness. Many studies reveal that mostly in the ISD decisions, ‘IS managers are either ignored or not involved in
strategic planning process for eBusiness’ (Mumford, 1985; Checkland & Scholes, 1990). This is supported by the answers of the respondents, it can be seen from data that 44% respondents are of the view that management follows hard approaches for organization in ISD and ignore the human element. This results into a gap and politics in IT projects, which is causes, IS failure (eBusiness). Warne (1997) believe that due to ‘different backgrounds gap occurred between developers and users i.e. language, education, qualification, skills, social and cultural differences and miscommunication’. When asked about the participation, 29% respondents of this study have said that IT managers participate in IT projects while 30% negate their participation similarly, 29% disagree and 27% have strongly disagreed and said that are not involved in the development of IT projects. Furthermore, from end-user’s point of view 49% respondents have said that they have no role in ISD process yet, 28% have said that end users participate in ISD process. On other hand, 44% have said that end user have immature perceptions about IT while 50% negate this view and believed that end users have mature perceptions, where organizational immaturity causes gap, when asked about the gap between the developers and users, 57% of the respondents were of the view that there is gap between developers and users and results of the tests verify it, though experts found ‘miscommunication as one of the source of gap’ (Lyytinen, 1988; Drummond, 1996b; O’Reilly, 1978; Wang & Turban, 1991; Markus & Bjorn-Andersen, 1987; Keil, 1995b, 1998), yet in this case, communication is not the cause of gap because 69% of the respondents are of the view that there is effective communication between the developers and users. Similarly, experts have further emphasized, that systems integration is a task fraught with difficulties and, in particular, that success is unlikely unless organizational political obstacles are addressed first (McGrath & Mike, 1997: 3-17). On the other hand, Lederer & Sethi (1992); Markus, (1983); Markus & Bjorn-Anderson, (1987); Weil & Olson, (1989) found that ‘politically motivated resistance due to user developer gap has been a major contributing factor to the poor success rate of eBusiness systems’. Likewise, Markus (1983) and Markus & Robey (1988) have stressed that “the gap and user resistance can be reduced if organizational structure and management problems are addressed first while discussing the role of size and structure they are of the view that relatively it is easy to computerize the small and centralized firms.” Similarly experts
believe that computerization is easy in small organizations and have fewer problems, when inquired the respondents, 50% verified the experts view, and 63% respondents have said that decentralized and flat structure is not suitable for computerization.

Likewise, reduction of gap depends upon the organizational IT-maturity which determine the success or otherwise the failure of eBusiness. If end users are not involved in the ISD process and in developing their own programs this appears in the form of end-users misperceptions about IT, which is dangerous for eBusiness. The misperception results into the development of a system that fail to align with the business requirements, Sauer (1993) asserts that “70% of the IT projects fails due to IT-business misalignment.” When asked about the existence of politics in IT projects, 70% of the respondents have said that politics exists in their IT projects, Sauer further suggests that IS projects must align with business requirements or more precisely it must results into IS however due to politics in ISD and gap between developers and users, misperceptions occurred and politics enters which cause failure, similarly when questioned about IT business alignment in their organizations, 50.3% strongly and 49.8% have agreed that IT project are not aligning with their businesses. This is further supported by respondents, 58% strongly and 42% have agreed that users resist new IT systems in their organizations. To minimize the gap and to develop working relationships between both parties involved in the development and use of the systems, experts consider the end-user’s computer and information literacy as most important because end-user’s command on h/w and s/w is important as organizational systems and their maturity determine the attitude of system users and success of eBusiness. Similar is the case of IT professionals, besides professional qualifications and skills, on the job training are necessary for the professional development and continuous enhancement of their knowledge and skills. Rigorous training and refresher courses for end-users are the means to polish their knowledge and skills. Respondents of the organizations surveyed were satisfied from their training programs. When inquired, 100% respondents have said that their organization provides sufficient training to end users.

Having gone through the role of government and organization in development and promotion of eBusiness in Pakistan no body can ignore or deny the role of technology as
eBusiness is the system of communication between buyers and seller via digital technology, which shapes and reshapes the IT-growth (eBusiness) process in the organizations. Technology includes physical equipments, software and the IT-professionals.

IS researchers considers computer and telecommunication technology as the most important vehicle that drives eBusiness, which is highly innovative and twisting in its nature and advancing very rapidly than other technologies. The acquisition and use of the technology is still a problem for the developing counties and this is clear from the gap between those ‘who have and that have-not’s this technology’ (Khawaja, 2001: 2-3; Hassan, 2006). Due to financial constraints and backward economies developing countries are unable to adapt into these modern giants. Similarly research have described that even if someone afford, they lack the expertise to ensure optimum use of the technology. Fortunately in Pakistan, through government’s liberal policies, relief in taxes and exemption from duties, computer technology is flooding the Pakistani markets and availability of the hardware is not the serious problem in Pakistan. However, Pakistan lack the required number of qualified IT professionals, though Pakistan has handsome amount of qualified IT-professionals yet the uncompetitive market salary led them to fly to the Silicon Valley for more opportunities and professional growth. Currently Pakistan is producing some 2500-3000 IT graduates annually, compared to the growth of eBusiness, this number seems to be low but it is expected that due to massive IT education, Pakistan will be able to meet its local requirements. Experts believe that success of eBusiness is influenced by quality of IT professionals. When asked about the quality of IT professionals, some 13% of the respondents agreed strongly while 59% have said that in Pakistan, IT professionals lack the required knowledge and skills similarly, 53% have said IT professionals know about organizations and humans. As said earlier that IT is innovative, it demands creativity and innovation in professionals to keep on updating the organizational systems, 40% of the respondents have claimed that IT professionals in their organizations are unable to keep on updating their systems however 33% negate this view; similarly 45% think that IT professionals do not meets the international standards, this is further supported by data, it can be seen that 40%
respondents strongly where 60% have agreed that IT education in Pakistan is incompatible to the market/organization demands. Furthermore, experts have found that ‘online interaction of seller and buyers is more influenced by IT professionals’ (Trippi & Salameh, 1989) when asked from the respondents, 26% respondents strongly and 37% simply support this view that eBusiness is more dependent on IT professionals than technology, and this is verified by the results of the study. This necessitates improvement in the quality of IT processional besides coordination between IT institutes and industry/organizations and between government and industry. Keeping in view the significance of IT in the modern economy, government is paying attention and taking interest in this neglected area of the IT and established the National Quality and Accreditation Council to improve the quality of IT professionals. Besides the availability of hardware, software and IT professionals in a country, experts believe that within organization eBusiness is more dependent on IT-Professionals than on h/w and s/w and this is evident from the results which support this view. Similarly Wiseman (1985) has found that “optimum use of technology in an organization makes eBusiness a success than the availability of leading-edge technology. Many studies stressed on the competitive use of IT and suggest that management should focus on the ‘acquisition of right person for right job at right time’ (See, Ives & Learmonth, 1984; Damanpour & Evan, 1984). Therefore, in the age of eBusiness one cannot deny the significant role of quality professionals in making the business and management more competitive.

Succinctly, all this upholds that government, organization environment and technology determine the success/failure of eBusiness. Furthermore, this study describes that conditions for eBusiness in Pakistan are good as 43.5% strongly and 56.5% simply have said that as eBusiness environment is growing positively and favorable for eBusiness. The belief is not based on the speculations rather on the reality and facts, evident from the interests, efforts and contributions of the private and public sector for the promotion of IT culture and eBusiness in country. Keeping in view the commitment of the government and private firm’s one can see from the figures showing the results for the 18th hypothesis that in Pakistan the environment is becoming promising for eBusiness which indicate that eBusiness will enjoy more opportunities than threats in Pakistan
however, it depends on the abilities and potentials of the firms that how effectively they plan and devise strategies to avail the opportunities as continuous improvements in infrastructure and human resources are going on. Furthermore, flexible and liberal trade, commerce and privatization polices of the government are offering more opportunities to eBusiness. The growing trends and increase in the use of ePayments, online billing, ATMs and eShopping in the country indicate the progress of eBusiness in Pakistan.

5.2 Findings of the Study

Literature review provided the theoretical framework, which was used to get readings from the real-world situation (eBusiness in Pakistan). Primary data collected through questionnaire and interview provided enough material about the problem-situation in the background of ideal theoretical framework 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:

Policy is an official document which guides how to behave and work in a particular area/discipline, where eBusiness is one of the important aspects of today’s business. In Pakistan it is still in its infancy that is why it needs more devotion, funds and times from the government inorder to gallop on the right track.

First finding of the study is that in Pakistan at least there is no separate eBusiness policy though an IT policy exist where eB/Commerce is included as part of it yet it do not fulfill the requirements, which necessitates separate policy as this study founds that IT policy by itself is inconsistent and do not meet the expectations and requirements of the business community. Furthermore, government IT-policies has strong impact on eBusiness, where in Pakistan due to inconsistency in policies, the pace of IT diffusion and growth of eBusiness is slow.

Similarly, government functionaries have very important role in IT policy formulation and implementation, second finding of the study is that in Pakistan, bureaucracy misuses
its powers and abuses the authority in favor of personal interests. The attitude of bureaucracy is negative and they are non cooperative. The official procedures are unnecessarily lengthy and unfriendly for eBusiness. Furthermore policy implementation is weak and ineffective and government functionaries lack IT know-how. Results of the study support the claim that bureaucracy is not playing a promoting role for eBusiness in the country. The imposing attitude of government officials has further aggravated the situation, which resulted into a gap between the expectations and the outcomes, between business community and government because government’s policies do not accommodates the needs nor reflect the wishes and aspirations of the business community, and do not meets the business requirements. Furthermore, experts asserts that stability of the political environment and government interalia peaceful law and order is necessary condition to run business smoothly however this study have found that in Pakistan, political environment is instable, institutions are wea and law and order is poor due to which investors are reluctant to invest aggressively.

As mentioned earlier that sound infrastructure is a prerequisite without which no body can imagine the eBusiness. Though Pakistan announced its IT policy and made efforts to build infrastructure however this study has found that due to inconsistency of IT-policy, it failed to achieve the goals of development of sound technical and legal infrastructure because high bandwidth cost, slow and poor speed of internet, frequent disconnections due to faulty cables and inconsistency of electric power besides insecurity of ePayments are still the issues of eBusiness in Pakistan.

Similarly, another requirement of eBusiness is the qualified human resource i.e. developers and users, this study has found that country lack good quality IT institutes along with modern curricula that is why quality of the IT and management graduates do not match the organizational requirements.

Likewise, another finding of this study is that within organization there is a gap between developers and users due to several factors, i.e. language, education, qualification, social and cultural differences however mainly it is because of the technical incompetence i.e.
lack of computer and management knowledge and resistance to change due uncertainty and fear ‘unlearning the old values’ are also responsible for this gulf. Furthermore, this study finds that both public and private firms are not reaping the maximum benefits because they lack the ability of optimum utilization of IT mainly due to organizational IT-immaturity, and it is used at TPS level the most. On other hand, management uses hard approaches in computerization process and ignores the human dimensions of the ISD, which results into IT-business misalignment; all this indicates organizational IT-immaturity.

Moreover, conditions of eBusiness in Pakistan originate that all independent variables are mutually correlated i.e. government; organization environment and technology determine the success/failure of eBusiness. However this study finds that environmental conditions in Pakistan are improving gradually, while eBanking is progressing and within banking sector, commercial banks are digitizing more than development and investment banks. Furthermore this study has identified that eBusiness in Pakistan has more opportunities to grow and prosper and the rising interest of the private sector is its indicator, who are investing heavily in digitizing their businesses and changing their conventional practices into online operations to give more facilities and services to their customers, to capture maximum market share which can only be materialized through eBusiness.
CHAPTER SIX: CUSTOMIZING THE TECHNOLOGIES: A PROPOSED FRAMEWORK

6.1 Introduction

Technology infused into almost all the aspects of human life, whether personal or organizational, its pervasive role is evident in all shapes. No technology is good nor bad rather it is its use which makes it good or bad; same is the case of IT. Although this technology was initially introduced to help process as much data as organization can afford but now it’s pervasive role can be seen in organizations as one of the competitive resource of business upon which the success and failure of business depend. Computerization is need of the hour to participate in global business activities. The large number of business firms in the developing countries has recently infused IT into their operations to provide more opportunities for IT understanding. The environment of the developing countries as compared to developed countries is different and unique which extend an opportunity to study various information systems related phenomenon in such a way which is impossible in the developed countries. This is the age of globalization and a shift towards border free trade that is why large numbers of organizations are moving towards eBusiness. Most of the work done in advanced countries is to comprehend the problems of IS development and its application focused on situations in the technologically advanced counties. Niederman (1991) has conducted a study by using data of US based firms to identify IT management issues in 1990, while Palvia (1992) provided a list of “major IT management issues of US, Europe and India.” An analysis of these IT issues portray that the major issues for USA and Europe are related with the application of IT for strategic objectives and facilitator in integration and change, while issues of India are related with the operational side more specifically with environmental aspects. (Lederer (1990) has also established a theory regarding ‘the impacts of environmental factors’ and the way they affect the utilization and management of IT.

With this background of variation in the environment of the developed and developing nations, it will not be wise the blindly follow the framework developed in the advanced
countries to understand IT management issues in developing countries. The integration of technology with indigenous conditions is needed to get its fruits; this necessitates customization of the technology and an integrated framework in conformity with the local conditions.

6.2 Sharing the Responsibilities: An Integration Model

Pakistan has not yet achieved the objectives of social and economic development by using IT as a vehicle of development as compared to the other countries of the region. However, the extensive growth of internet in the country and the enthusiasm for eBusiness are presenting enormous potentials for Pakistan to use IT to achieve the goals of economic revitalization. Today business provides an altogether new way of conducting commercial transactions and the opportunities emerging from eBusiness have far-reaching social, legal, organizational and social implications (Jennifer, 2004). IT has dramatically reduces the economic distance between the producers and customers; however it brought many challenges to the management of public and private firms; this necessitates the development of an environment in which the potentials of eBusiness can be materialized. Achieving the objectives of computerization needs ‘cooperation on key issues between public and private sectors, on principles to guide the development and implementation of eBusiness policies and on basic policy approaches to major issues’ (Kemal, 1998), where Bushra (2002) is of the view that” this calls for close coordination between government and the industry.”

Pakistan needs to develop an eBusiness policy and formulate strategies to integrate itself with the global economy. “Pakistan is widely considered to be in the third wave of developing economies (Hussain, 2001)”; where it started to adopt computerization and internet very late in 1993 with state monopoly over the telecommunication sector with low teledensity per population and very high telecom cost, which restricted internet and computers diffusion and internet access in the country. Similarly, like other developing countries Pakistan have ‘weak political and democratic institutions where government welcome new commercial opportunities, yet at the same time it feel threatened’ (Qureshi, 2000). On the other hand Bushra (2002) asserts that “eBusiness is an infant child in
Pakistan and faces many barriers to grow.” Similarly, Hussain (2001) conducted a survey to get a feel about how eBusiness is shaping in Pakistan; “findings of the survey were very encouraging, e.g. 83% of the respondents of local eBusiness saw potential of selling on the internet.”

Keeping in view the major issues and scope of eBusiness in Pakistan, an integrated framework for the development and promotion of eBusiness is suggested. This framework identifies the integrated role of government and private sector i.e. ‘sharing of ideas, resources, and accommodation of mutual interests’ to promote eBusiness in the country. The schematic diagram of the proposed framework of IT integration in eBusiness with reference to Pakistan is given bellow.

![Schematic Diagram of the Proposed Solution Model](image)

6.2.1 Government Functionaries

Government is one the major player of any business activity, success of the policy largely depends on government and its administrative machinery, because primarily it is responsible for creating a healthy environment to implement the policies i.e. political, social, legal, trade and commerce. Computerization of the public and private sectors is influenced by the government decisions; private sector can perform better if government functionaries are competent, committed and devoted. Moreover, close coordination and cooperation and openness can develop better understanding between the government and business community that is why Khawaja (1988) asserts that “it is amply recognized that the private sector is the primary engine of the information age economies, however the
role of government machinery is extremely important as a catalyst for change, as facilitator, as regulator and as a governor of a level playing field”, so government functionaries can play significant role in developing the IT integrated policies through the partnership of eBusiness community.

6.2.1.1 IT Integrated Policies

Besides consistency of IT policy, fundamental requirement of eBusiness is to develop well coordinated and integrated policies to guarantee the success of eBusiness. Similarly, government machinery is the driving force, responsible for the success or otherwise failure of any system as it play key role in policy formulation and implementation. Administrative scientists have suggested extreme care in policy formulation as it eats budget and resources of the nation, so fruits of the policy must flow down to the public. Government and industry are the two pillars which must go hand in hand for the development and promotion of eBusiness. In Pakistan, there is a wide gap between what is needed and what is offered ‘mismatch between policies and the ground realities’. On the other hand, implementation of policy in letter and spirit is the requirement upon which survival and success of any system depends. As stated in the findings that in Pakistan policy implementation is poor as bureaucracy took interest only in those projects from which they can earn commissions and kickbacks that is why the IT policy and action plan introduced in 2000 has been failed to change the pace of computerization in the country. Similarly, eBusiness is at the initial stages in Pakistan, this necessitates IT integrated policies i.e. integration of trade, commerce, legal and educational policies with IT policy to overcome the challenges and to meet the requirements of eBusiness.

Through effective IT integrated policies; government can build confidence of the business community through development of physical and legal infrastructure and human resources. This further need, establishment of a chain of trust that links a number of institutions such as banks and telecom services to the exporters and importers in legislation of legal infrastructure and support for eBusiness, while, WTO (1998) suggest that “government should avoid over legislation, ensure flexibility and technological
neutrality, transparency and predictability in the law.” This includes establishing cyber-legislations and cyber-police with minimal government intervention.

6.2.1.2 Giving Credence to Public Interest

Findings of the study show that IT-policy in Pakistan has not been harnessed in accordance with the public interest. Rather secondary factors are placed on the top, such as, gaining the title of computerization at national level by purchasing hardware and software without properly analyzing the organizational requirements and peopleware.

This governmental attitude is further supported by the behavioral analysis of bureaucrats. Research indicates that bureaucrats tend to decide on their own without any adequate arrangement of technical consultancy. Even if it is done, this happens through foreign companies, who can not understand the local requirements then how can they suggest a customized solution. Experts are of the view that instead of giving importance and priority to public interest governments administrative machinery’s attitude of prioritizing their own interest and self wishes of empire building creates major hindrances for computerization and its use for online business applications that is why it is demanded that IT-policy should be formulated keeping in view the interests of the general public that is the business community and the users who interact via internet for selling and buying the goods and services, i.e. organizations involved in eBanking and eShopping in the country.

6.2.1.3 Partnership with eBusiness Community

Government and private sectors are the two pillars of national development; none of them can function nor contribute alone to the national development, rather combining the resources of the two, i.e. the coordination and joint efforts can make eBusiness happen. After then one can expect the solution of socio-cultural and legal barriers of IT diffusion and internet in the country. As eBusiness is the computer and internet based activity that is why any meaningful IT initiatives for online businesses in Pakistan will necessarily have the coordination between the government and the private sector. This necessitates courageous, non conventional and strategically right policies, which need the vision of
managerial expertise, and beyond this, the determination to succeed by the government to choose the right strategy for IT initiative in Pakistan in collaboration and coordination of private sector and then implement it brushing aside the various impediments; this will lead to the success.

6.2.2 Business Community

The role of industry and private sector by itself is very important to digitization and eBusiness. Success in eBusiness depends on business sense than on the sophistication of the information system (website). Business community is required to pay full regard to the government policies and national priorities in harnessing the business friendly environment, which in turn will contribute to the national economy. To meet the challenges of eBusiness, “the first and the foremost step to be taken by business community is to promote awareness of eBusiness among the industry and citizens (Junaid & Tahir, 2001).” If the industry work side by side the government, both technological, non technological and legal solutions can easily be incorporated to replace the physical security of the paper based operations, thus business and government can help adjudicate the trade-off between protecting privacy and obtaining the benefits of eBusiness that they both value. Similarly, consumer is a king; with this reference businesses have no option but to win the confidence of the consumers through effective customer relationships management and fulfilling their obligations through satisfaction, privacy and timely delivery according to the commitment. Need of the hour is that now after sufficient support by the government of Pakistan, the private sector must come forward to realize the vision of digital Pakistan with recognizable presence in the international IT arena.

6.2.2.1 Partnership with Co-business and Government

We are living in the age of systems. We work with and work through systems, which are well integrated, interrelated and interdependent in such a way that even thousands miles away a small change in one corner of the world may influence and disturb business operations in Pakistan. Society composed of several sub system, similarly all sectors of the society are working as systems i.e. public or private or within private they by
themselves are operating as a part of larger business system for the welfare and wellbeing of the society and have bearing on each others. Experts believe that any of the business and especially eBusiness believes that eBusiness can grow and prosper if there is public private partnership. Furthermore, within private sector it is the close coordination and cooperation that drive eBusiness to its destination. Many IS studies suggests the public private partnership for success of the eBusiness and argue that intimate and close coordination build strong bond of cohesion between government and business community i.e. working together for the mutual interests. On other hand, it is suggested that besides the public private partnership eBusinesses are required to develop partnership with other cobusiness fellows. Many of the areas can be identified in which they can integrate and coordinate their efforts for their mutual benefits, e.g. sharing the information and resources. Management scientists strongly believe that in this way many of the problems can be solved, intensity of threats could be reduced or totally eliminated, opportunities could be availed, and eventually this will help eBusiness towards self reliance and exonerate their total dependence on government to flourish independently.

6.2.2.2 Participative Management

Humans are the core element whose interaction composes an organization without which no body can think of the organization. Management does nothing but develop an environment in which people can perform up to their maximum. Most of the organizations follow the mechanical approach e.g. 'SSADM in ISD’, where the will of management prevail ignoring the physical and psychological aspects. While modern schools of thought suggest humanistic and participative approach in ISD for eBusiness as eBusiness is the socio-technical activity, see for example, Checkland (1990) ‘SSM’ and Mumford (1991) ‘ETHICS’. Participation of the IS managers and end-users is useful in bridging the gap between users and developers and minimizing the end-users resistance. Therefore, several studies have suggested that within organization management should abstain from the feudal mind set to the more liberal and humanistic mind inorder to successfully launch eBusiness. Therefore, this model suggests the application of participative approach because IT could best be aligned with business if the developed system is user friendly and meets their requirements.
6.2.3 Continuous Updating of IT and eBusiness Systems in Pakistan

IT is innovative and dynamic in its essence; this necessitates continuous updating of IT and eBusiness systems. Many organizations, throughout the world, continuously conduct programs as an attempt to improve their productivity and quality and they frequently do so for their success, examples of such programs include “Total Quality Management (TQM), knowledge management, productivity and creativity improvements, just-in-time processing, improvements in decision making processes, change management, Six Sigma and customer service improvements (Brue, 2002; Turban et-al, 2004: 16).”

This is done to continuously improve the IT projects by (1) monitoring and analyzing the performance and productivity and (2) to gather, share, and better use organizational resources. Some organizations use “Balanced Scorecard” to evaluate the overall health of organizations and their eBusiness operations to keep them updated (Sawhney, 2002). The method advocates that management not only focuses on short term financial results of the eBusiness projects, but also on four other areas for which metrics are available. These include: 1. finance, including both short- and long-term measures; 2. customer (how customers view the eBusiness); 3. Internal processes of the businesses (finding the areas to excel) and 4. Learning and growth (ability to change and expand). The key idea is that an organization should consider all four strategic areas for eBusiness. The balanced scorecard is used to measure the performance of eBusiness systems, including intangible benefits too in which eBusiness systems are examined from two perspectives: that of the organization and that of the user. Moreover Rayport & Jawarski (2001) developed a variant of the balanced scorecard called ‘performance dashboard’, to measure and evaluate the performance of eBusiness to ensure the continuous updating of eBusiness systems.

6.3 Society as a Whole

All social and governmental activities are meant for the uplift of the society’s i.e. ‘current state to the desired state or increase in the living standards’, however due to population
explosion none is able to provide desired facilities in meager resources, there comes the private sector to bridge the gulf between today and tomorrow. Similarly, every society has a particular environment different from society to society as well as within society it varies i.e. political system, social, cultural and values system, technological system, educational system, economic system and business system etc. It is an admitted fact that different dimensions of the social environment may affect business that is why the role of society in the promotion and success or failure of any of the subsystems is very critical.

With reference to eBusiness in Pakistan, society can contribute to through crash IT education programs and developing an IT culture in the country.

6.3.1 Crash IT Education Programs

Findings of this study have revealed that Pakistan is facing the challenge of qualified IT professionals because of the shortage of quality IT institutes, however recently it succeeded to in luring some of the reputed multinational IT companies such as Oracle Corporation and Microsoft to invest in IT education. Amanullah (2001) is of the view that “the global and local demand of eBusiness created the craze for IT education which is resulting in a remarkable growth of IT institutions in the country to cater the need of IT professionals”. However, Safi (2000) stresses on “the quality human resource development”, yet Pakistan lacks quality IT institutes.

Fascinated by the unprecedented demand for IT education and a handsome reward too, some large groups of companies, industries and business houses have jumped into the IT arena, which is a healthy sign and this will surely held to lay down the strong foundation for IT education in the country. However, government is required to check these institutes for their curricula and faculty. Some of these institutes offer different degrees and courses in IT without having knowledge and needs of the IT industry or eBusiness of the country. Given the limited number of IT professionals and management Yousaf (2001) have suggested that “both government and private sector is required to earmark a comprehensive strategy for renovate the knowledge base of the country in compatibility to the needs of this high technology sector”. Similarly, Junaid & Tahir (2001) postulate
that “currently Pakistan is producing only 2500 to 3000 IT professionals of international standards every year where to meet the internal and external demands of the country, we need thirty thousand IT professionals in the coming two years, which further requires three thousand qualified teachers without delay along with some three thousand project management experts.” This implies that to meet the target of high quality IT professionals Pakistan need crash IT education program throughout the country with fully equipped state-of-the-art machines, highly qualified faculty and advance curriculum. The problem of shortage of faculty could be addressed by attracting and retaining the scientists with higher, lucrative and market competitive salaries, yet at present according to Aslam (2001) “most of the computer institutions hire less qualified, untrained faculty, just better than the students, which they are suppose to teach.”

Furthermore, poor check system on the part of government agencies has resulted in mushroom growth of IT institutions which are not accountable to any one and are producing poor IT professionals at immense national price due to which the quality of the IT professionals remained a problem for eBusiness in Pakistan. Sohaib (2000) and Aasiya & Rana (2000) opine that “major challenges impeding the success of mass campaign of IT education include the development of appropriate curriculum and faculty, poor performance in learning and teaching of IT, identification of components besides putting in place the IT infrastructure, linkage of market of the IT graduates through internship training programs, projects, placement consultancy and application of IT, and practical training program and quality assurance through monitoring and accreditation system.”

Success stories of the USA, UK and Japan unveiled that that government must launch a mass scale IT education program in collaboration of private sector to produce quality IT professionals to cater the eBusiness needs of the country. As it is an admitted fact that we learn from the lap of mother to the grave, so learning from the experiences of other could minimize the mistakes and errors and it is possible through more and more education, not only education but quality education. Similarly gap between developers and users due to lack of knowledge uncertainty could be reduced through quality education ‘computer and information literacy’, this will ultimately help promoting the eCulture in the country.
6.3.2 Developing an IT Culture

“Pakistan may have missed the IT-bandwagon” as puts an Indian IT tycoon Monterio (2001), however according to Ahmad Bilal (2000) “it is not too late to gallop on the IT road because Pakistan is moving ahead in the right direction”, similarly, experts like Safi (2000) believe that “besides global opportunities, developing IT culture in Pakistan will make the domestic market more efficient and also allow the major institutions of government, banking, telecom, and education to deliver better services to the citizens and customers at lower costs.” He further opines that “an easy access to reliable and high speed internet is a pre-condition of eBusiness culture without which the penetration of PC which is actual barometer of IT growth, can barely be expected to grow.” Furthermore, it is necessary to guarantee the payback of duty free imports of the computer and its accessories should drop to the retail level to promote IT growth in the country. Where Ibrahim (2004) claims that “the penetration of PC in Pakistan currently stands at a low 1.5-1.6 million, which demand for strong annual growth.”

This necessitates enough focus from the government to launch awareness about the potentials of IT as development tool as Hassan (2003) suggests, similarly, he further postulate that language and cultural barriers are the main obstacles in diffusion of online business in the country (the reason for gap between developers and end-users) though, it is easy to understand the language barriers no matter how useful the content, if one can not understand the language in which it is presented, it has no value, where cultural barriers are sometimes more subtle for IS. However they are equally important and could at times present greater barrier than trying to learn a new language and this dream could be realized through massive IT education. Briefly, the development of physical and legal infrastructure, mass IT education besides IT integrated policies can develop and promote IT culture in the country.

6.4 Limitations of the Model
Novel things are always difficult to adopt and implement because new changes are hardly accepted and face resistance. There are reasons behind the resistance as people fear and perceive change as threat to their social status and positions. Likewise, computerization affects the organization’s structure and positions, so people resist it the most. However, experts believe that it is the education which encourage unlearning of the old values, beliefs, attitude and behavior. Through education and literacy many of the mysteries and fears could be removed often exist due to uncertainty where education softens the targets to accept change. Following are the limitations of the model with reference to eBusiness in Pakistan

6.4.1 Unlearning the Old values

Humans created organizations are the going concerns always passing through learning processes, where learning brings creativity and innovation not only in organizations but also expand the horizon and vision of the people involved. However, one can not imagine innovation and change in fused and prismatic societies due to mass illiteracy and poor education. Learning is the permanent change in behavior and it could happen if we are ready to unlearn our existing beliefs and values. Balasubramanian (2006) have argued that “organizations are now eagerly paying attention to the organizational learning in order to increase competitive advantage, innovation, and effectiveness as learning occurs because of the influence of different factors e.g. the structure, strategy, environment, technology, and culture.” According to Dodgson (1993) and Fiol & Lyles (1985) “organization learning is as ‘the detection and correction of error’, where learning is a dynamic process and it stresses the frequently changing nature of organizations, on the other hand organizational learning is more than the sum of the parts of individual learning.” Similarly, he further says that “along with learning, it is equally important to create an environment of unlearning, which really means that the organization must stop thinking about some of its history.” Unlearning the conventional business values is significant for organizations to stay alive and uphold competitive advantage and encourage novelty. Information systems can facilitate this endurance strategy of innovation and the competitive advantage.” Beyer (1981) believe that “organizations can
learn somewhat up-to-the-minute, if they unlearn what they think they already know that is organizations may have to find out that they should no longer depend on the existing beliefs and methods”, while several studies (for example, Hedberg, 1981; Nystrom & Starbuck, 1984) have found that “dissatisfaction is perhaps the general reason to doubt the current beliefs and methods”, he further points that “no one should be confident that their current beliefs and methods are the best as it is impossible, if they seems accurate, other may find other ones equally useful.” This means that if some of them seem best today, the better will emerge tomorrow. That is why William Starbuck (2006) asserts that “organizations need to remain ever doubtful, it is not good enough’ and ‘it is only an experiment’ are mind sets that help the organizations to remain alert to avail opportunities to progress and ‘it is not good enough’ reminds us to search for more authentic beliefs and improved methods, while ‘it is only an experiment’ helps us to have a feel of less commitment with the existing ones.”

To generate new ideas means that you have to accelerate the unlearning of old ones by learn to play again, take more risks, seek out new experiences, seek out the awesome and trust your unconscious. All these avenues open the unconscious mind to allow fresh ideas to bubble up, and accelerate our unlearning in an environment that values openness. Perhaps Marcel Proust have said it best, “the real voyage of discovery consists not in seeking new landscapes, but in having new eyes (Carl & Hammerschlag, 2000).” However, in Pakistan, it seems very difficult because of people beliefs on conventional practices and fear of the new system due to insecurity and delays in delivery. Yet, this model suggests that learning from past and unlearn the past will be the best strategy to move forward in desirable direction to accelerate the growth of online transactions in the country.

6.4.2 Disturbances in Power Structure

Political stability of the government and peaceful law and order create business friendly environment which is necessary for the success of business activities, where Safi (2000) in an interview points that “political instability is one of the major issues of eBusiness and cause of the poor implementation of policies which is impeding digitization and
eBusiness in Pakistan”, as politically instable states face with the problems of law and order, where Pakistan has bad history of political turmoil and worst law and order restricting investment in the country. On other hand, stability of the government, consistency in policies and peaceful law and order in the country can give Pakistani expatriates and foreign investors the opportunity to look at Pakistan with greater interest for investment in all areas including IT for eBusiness. It is suggested that all the stakeholders must develop consensus that at least for the survival of the country and economic uplift, we have to strengthen the institutions instead of personalities, because disturbances in power structure badly affect the economic activities, shake the confidence and trust of the investors, which impede the whole process of socio economic development, while, stability is essential for peaceful law and order and success of business. Similarly, giving credence to public interests than individuals is necessary for the success and boosting the eBusiness.

**6.4.3 Social Barriers**

eBusiness not only depend on the technological artifacts and human resources for its success rather socio-cultural factors are equally important as the connectivity, content and capacity are? eBusiness not only requires the technical infrastructure but the social infrastructure too i.e. the development of locally relevant content, preferably in national and local languages, the skills to access this content and the ability to contribute towards it. IS researchers Mikhailov & Artandi, in: Ledebur (1983:145) are of the view that “only technological development by itself is not the solution of all problems of eBusiness rather it is the integration of technology in the society and business organizations which may help in the diffusion of eBusiness at large in the country.” This needs development of socio-cultural support and policy reforms supported by the society at large and users of the systems in particular because the social barriers can only be neutralized by creating socially and politically stable and conducive environment in the country because real benefits of IT does not lie in the provision of technology, rather in its integration to create powerful social and economic networks through improvement in communication and exchange of information among the communities both in urban and rural areas. Similarly, Yousaf (2001) have advocated that “political stability, good governance, transparency,
accountability, and literacy can help achieve the computerization objectives if linked with the overall IT strategic targets, resultanty this will help to overcome the social barriers to computerization and eBusiness in the country.” He further postulates that this require “a holistic approach that entail looking at the larger picture with deeper understanding of the use of IT by different sections of the society, taking into account socio-cultural factors, like literacy to encourage inclusive and partnership oriented initiatives, furthermore, government, society and business community especially in the form of social philanthropy should come together to form partnerships, to explore IT for development of eBusiness.”

All this upholds that IT integrated policies and public private partnership can facilitate eBusiness development and implementation to achieve the results of overall national strategies for development. For this purpose a three-pronged strategy can be adopted i.e. 1. Solid concrete plans with well-defined projects on core IT activities prepared by the government as well as the private sector, 2. A reasonable amount of funds should be allocated for the implementation of these projects and plans, and last but not the least 3. It is imperative to choose the right people for the implementation of these plans, particularly as availability of such huge monies attract all sorts of people many of whom may not have the management and implementation skills to make these projects a success and are more interested to be associated with a project so that they can quote it as a reference.

This proposed solution model ‘Sharing the responsibilities: An integrated model” could help government and business community to promote eBusiness more by building technical, social and cultural support, which is possible through balance development i.e. physical and legal infrastructure, development of human resources, business friendly policies, support and cooperation from bureaucracy and all this could be materialized through literacy and education, not only the literacy and education but IT integrated education.
7.1 SUMMARY OF THE STUDY AND MAJOR FINDINGS

7.1.1 Summary of the Study

Information Technology has revolutionized the organizational structures and efficiency round the world no matter their nature and size i.e. public, private, large and small. Pakistan is on its way to digital modes of business. Computer based information systems are the driving force and tool of management and the most vital role of this technology is visible in the formal organizations. Initially usage of computer-artifacts was ‘automation’ of the routine business of the firms and took ‘back-office’ role in the organizational environments. However, gradually, the technology infused into almost all aspects of the organizations by offering multiple packages for different managerial positions and the organizational practices. Information technology is very handy therefore; it can be adopted by all organizations. At the moment all the executives can have ‘customized-computer-environments’ that are specifically designed to cater the individual and departmental requirements of information manipulation.

We are living in the age of systems and internet, where the concept of management and administration is now defined in terms of information language. Today one can not imagine the success of business without the customer’s satisfaction which is only possible with high technology systems. Management efficiency and effectiveness could be attained now on the skillful use of information and knowledge because today most of the people have information intensive jobs where computer based business ‘eBusiness’ is the driving feature of today’s knowledge age, which is the transaction of business activities on internet, totally removing the physical phenomena. Now businessmen need a computer and a telephone lines to reach as many customers as one could imagine. eBusiness is classified into three categories Business-to-Business (B2B), Business-to-Consumer (B2C) and Consumer-to-Consumer (C2C), forcing every nation in the global
village to come up with modern tools for global competition and excellent customer services with improved quality. eBusiness uses IT to expedite the exchange of information for communication and coordination, manage the internal processes and external relationships with customers, suppliers and other entities. However, eBusiness or any other application of new technologies also comes with new problems for the organizations, government and the society at large.

IT play significant role in the development, uplift of economy and prosperity of the nations as IT make it possible to access the global market and to benefit from IT based business systems. Developing nations are focusing on the application of IT in its every day life inorder to compete in the global market. Like other developing countries, Pakistani can not stay isolated and government is keen in the development and promotion of IT culture in the country by offering promising opportunities and incentives for investment in IT to encourage online business. According to an international eReadiness ranking survey 2004-2005, which divided the IT world into three categories i.e. 1. Internet services, 2. The individual internet users and 2. Organizations using internet. “Pakistan is ranked 59 on internet use; where on internet service Pakistan stands on 54th, similarly on internet connections Pakistan is ranked on 55th position.”

Likewise, in 2000, internet was available in 31 towns and cities, now it is available in more than 2339 towns and cities. In the same move government has launched several eGovernment programs to digitize the public sector with the hope to bring more efficiency and transparency in the administrative operations and expecting to create more employment opportunities in the country. To reach this target ministry of science and technology approved several IT projects in last two years as compared to only six to eight projects in the last so many years.

Similarly, government announced IT policy and action plan in 2000 for the rapid growth of IT sector in the country. Fortunately, in the last three years, IT is getting roots and satisfactory development in the country, where computers related equipments prices
remained low, and it is expected that users of broadband will cross the figure of 20 million in the next two years.

Besides the introduction of IT-Policy, government promulgated Electronic Transaction Ordinance (ETO) and passed an Electronic Crimes Act (ECA) to push eBusiness regulations in place and to build legal infrastructure and confidence of the buyers and sellers in eTransactions. Moreover, to encourage foreign investment, special incentives are announced. State bank is proving a driving force in encouraging eBanking, which attracted many big investors and investment is coming rapidly. Similarly, like other developing countries, Pakistan is also passing through good and bad experiences however, unless adequate measures are introduced in customizing the technology, mismanagement always results in wastage of resources, problems in usage and sometimes total termination of the projects. Survey after survey reveals that most IT/eBusiness projects fail or more precisely, they fail to make their organizations more effective rather cause new organizational problems and eat budget.

On the other hand, eBusiness is still in its infancy in Pakistan but growing positively especially banking and telecom sectors are playing the leading role in online business. However, as eBusiness is a challenging process with novel technologies and mundane working procedures. Similarly, every organization goes through both structural and operational changes to adjust with the demands of eBusiness. Yet, it is not a simple job rather requires multidisciplinary approach to reengineer the organizational edifice and do fine tuning of the functional procedures so that they become compatible with the eBusiness. The alignment between the computer and business processes is the main area of problems as technological adjustments are simple in comparison to the organizational, human and environmental factors and inadequate efforts to align IT and business are always translated into problems, which interfere with the integration issues of the firms.

This research aims at the identification of organizational, human and environmental context of the eBusiness in Pakistan as computerization has several problems which are common in the developing nations however; each country also has its own issues, which
must be understood in its local environment and conditions which necessitates that they
must be accommodated by the system developers through the customization of the new
systems. The research problem for this research was that what are the conditions of
eBusiness in Pakistan with regard to its contextual factors and how could they be
streamlined according to the requirements of new systems? So this study examines the
threats and opportunities for eBusiness in the Pakistani environment. An over view of the
eBusiness in Pakistan is taken along with the governmental, organizational and
technological dimensions and improvements for eBusiness as well as the issues and
challenges because progress of eBusiness in Pakistan has been hindered by unanticipated
governmental, organizational, technological, economic, social, cultural and legal issues
that diminish value.

The basic objective of this study was to explore the challenges for eBusiness in Pakistan
and to identify the contextual fabric of the business organizations with reference to the
computerization efforts and building up knowledge, command and acquaintance of
eBusiness in the country.

Similarly another reason for undertaking study on the topic is the significant and critical
role of IT in the advancement of the economy as eBusiness offer competitive advantage
where IT-related growth is order of the day. No country and business can stay isolated
from the computerization spell of the contemporary business life. Though the digitization
of public sector cannot be equated with that of business sector however, there are several
common issues in the development and implementation of computer-based information
systems, which can give a good start for understanding the ‘management perspectives of
computerization’. Furthermore, government is launching several eGovernment projects in
parallel with the same type of moves in the private sector. Within this context, the study
is designed to examine and analyze the threats and opportunities for eBusiness in
Pakistan which makes or breaks the eBusiness.

Literature review was done to get deep understanding of the problem and to find the
major variables. Government, organization, technology and eBusiness are the major
variables of this study. Literature survey further helped in operationalizing and defining the variables i.e. government IT-policy, technical and legal infrastructure, bureaucracy, political and legal environment, organizational structure, management, users developers gap, organizational IT-maturity, H/W & S/W, IT professionals, eBusiness, competitive advantage, opportunities from IT, threats from IT and security. On the basis of literature review a schematic diagram of the theoretical framework of these variables was developed and hypotheses were formulated.

In literature review the phenomena of eBusiness in global perspectives with reference to opportunities and threats in developing countries and in Pakistani context is discussed to identify and elaborate the major issues of eBusiness in Pakistan, i.e. governmental, organizational and technological factors and their influence on eBusiness development, implementation and use practices in Pakistan. Moreover, the government efforts for the promotion of IT and eBusiness and the various initiatives and project launched are documented. Literature review further highlighted the various kinds of online business practices in the banking and telecommunication sectors of Pakistan with their strengths and weaknesses and major challenges they are facing.

Beside exhaustion of the secondary sources, a survey was conducted to collect primary data through structured questionnaires from the industry, the management as well as end-users and technical experts to provide their views to make a sense of the key issues of eBusiness in the country.

This study is based on the survey and population of the study was public and private sectors banking and telecom organizations engaged in the online business and operating throughout the country. Stratified and random sampling techniques were used for the collection of data.

Initially pilot study was conducted; quantitative data was then analyzed with the help of SPSS, which helped the researcher in discovering the new avenues to attack the problem understudy. Pilot study brought to the surface new dimensions and resulted into
additional hypotheses which were accommodated; moreover, sample size was also
determined with the help of pilot study. Sample size for finite population was 397.37, yet
in the full scale study, the sample size was extended to round figure 400. The new
hypothesis emerged from the local conditions were then tested in the subsequent study.

Five hundred questionnaires were administered, out of which 419 filled questionnaires
were collected. Quantitative data was then analyzed with the help of descriptive and
inferential statistical tools using a computer based package SPSS and the conclusions
were drawn. Following is the summary of hypothesis along with tests applied and their
results:

1. 1st hypothesis of the study was that “private sector view inconsistency of IT-
policy as threat to eBusiness than the view of public sector”. t-test was applied
   and H₀ hypothesis was rejected.
2. 2nd hypothesis was about the role of bureaucracy; statement of the hypothesis was
   that “private sector perceives the role of bureaucracy as non cooperative and
   ineffective in the promotion and development of eBusiness in Pakistan than the
   public sector”. t-test was applied and H₀ hypothesis was rejected.
3. “Private sector perceives political instability as a threat to eBusiness in Pakistan”
   was the 3rd H₀ hypothesis, again t-test was applied and hypothesis was rejected.
4. 4th hypothesis was to know the leader of eBusiness in Pakistan from the two
   sectors that “Banking sector is leading in eBusiness than the Telecom sector”. t-
   test was applied and H₀ hypothesis was substantiated.
5. “Development and investment banks are more involved in eBusiness than the
   commercial banks” was the 5th hypothesis. ANOVA was used to test this
   hypothesis; results did not substantiate, so the H₀ hypothesis was rejected.
6. 6th hypothesis was that banking sector has different views from the telecom
   sector; banking sector says “due to insufficient infrastructure eBusiness is not
   growing rapidly in Pakistan”. t-test was applied and H₀ hypothesis was substantiated.
7. 7th hypothesis was about the security aspects of online business, statement was that “banking sector claims that ePayments are secure in Pakistan than the view of telecom sector” t-test was used and H₀ hypothesis was substantiated.

8. “End-users are of the view that IT professionals are not competent and do not keep on updating the organizational systems than the view of the developers” was the 8th hypothesis. t-test was applied and H₀ hypothesis was substantiated.

9. “Developers have different view from users, they say that managers are non cooperative and do not have IT know how” was the 9th hypothesis of the study. t-test was applied and H₀ hypothesis was substantiated.

10. 10th hypothesis was that “there is no gap between developers and end-users”. t-test was used to test the hypothesis and H₀ was substantiated.

11. “Political stability of the government reflects itself in either reinforcing or threatening the eBusiness in Pakistan” was the 11th hypothesis. Linear Regression was applied and H₀ hypothesis was substantiated.

12. 12th hypothesis was about the role of IT policy in promoting the eBusiness in country. Statement of the hypothesis was that “government IT-Policies determines the national pattern of IT-growths (eBusiness)”. This hypothesis was tested through Linear Regression and H₀ was rejected.

13. “Developers are of the view that organizational IT maturity is not significant for the success of eBusiness” was the 13th hypothesis. t-test was used to know the developers and users views about the organizational IT maturity, H₀ hypothesis was not substantiated.

14. “Technology shapes and reshapes the IT-growth (eBusiness) process in the organizations” was the 14th hypothesis. Linear Regression was applied and H₀ hypothesis was rejected.

15. 15th hypothesis was to inquire about the dependence of eBusiness on IT professionals and h/w and s/w, claim of the statement was that “within organization eBusiness is more dependent on IT-Professionals than on H/W and S/W”. Multiple Regressions Analysis was done and H₀ hypothesis was not substantiated.
16. “Independent variables are mutually correlated” was the 16\textsuperscript{th} hypothesis. Pearson Correlation was used and $H_0$ hypothesis was substantiated.

17. 17\textsuperscript{th} hypothesis of the study was that “government, organization environment and technology determine the success/failure of eBusiness in Pakistan”. Multiple Regressions Analysis was applied and $H_0$ hypothesis was rejected.

18. “Private sector is of the view that due to growing interest and investment from private sector, the overall environment is favorable for eBusiness in Pakistan than the view of the public sector, hence it has more opportunities than threats in Pakistan” was the 18\textsuperscript{th} hypothesis. t-test was used and $H_0$ hypothesis was accepted.

\textbf{7.1.2 Summary of the Major Findings}

1. Growth and development of eBusiness depends on governmental policies which guide and govern the business operations yet in Pakistan at least there is no separate eBusiness policy though an IT policy exist where eB/Commerce is included as part of it yet it do not fulfill the requirements, which necessitates separate policy as this study has identified that IT policy by itself is inconsistent and do not meet the expectations and requirements of the business community. Furthermore, government IT-policies has strong impact on eBusiness where in Pakistan it is inconsistent and non conducive to eBusiness as its implementation is weak and the procedures are cumbersome. Due to inconsistency in policy the pace of IT diffusion and growth of eBusiness is slow in Pakistan.

2. Second findings of the study was that in Pakistan, bureaucracy misuses its powers and abuses the authority in favor of personal interests, their attitude is negative and non cooperative, the official procedures are cumbersome and non friendly for eBusiness, furthermore policy implementation is weak and ineffective and government functionaries lack IT know-how. Non cooperative negative bureaucratic attitude is impeding the rapid growth and development of eBusiness in the country. Red-tapism and exhausting procedures to get any project approved in the name of ‘registration,’ for example, are the commonplace experiences of our nation in the adoption of any technology and IT is not the exception. IT
education in the private sector, for example, is connected with the bureaucracy both for the opening of a computer training institutions as well as state-monitoring of the performance of these institutes. The imposing attitude of government officials has further aggravated the situation, which resulted into a gap between the expectations and the outcomes, between business community and government because government’s policies do not accommodates the needs nor reflect the wishes and aspirations of the business community, and do not meets the business requirements.

3. Stability of the political environment, institutions and government interailia peaceful law and order is necessary condition to run eBusiness smoothly and successfully. The political instability, poor law and order are the barriers to eBusiness in Pakistan, results of the tests for 3rd hypothesis of this study verify the view of political experts, according to which political instability of the government, weak institutions and turbulent law and order prevent the investors from large chunk of investment in the country, hampering growth of eBusiness in the country.

4. Sound infrastructure is a prerequisite without which no body can imagine the eBusiness. Technical and legal infrastructure is the backbone of eBusiness where growth and development of eBusiness depends on safer financial transactions, which win the confidence and trust of the customers. Internet bandwidth, number of telephone lines per person and the provision of consistent electric power compose the basic physical infrastructure required for running the online business. This study finds that in Pakistan, physical and legal infrastructure is insufficient to support the computerization of businesses, where slow connectivity, high cost of bandwidth, limited number of telephones per home/per person and inconsistency in the flow of electric power are the impediments of eBusiness in Pakistan. Security against online frauds, unauthorized use of access codes and passwords is the key issue of eBusiness in the country. Though Pakistan announced its IT policy and introduced the ETO 2002 and ECA-2003 to build legal infrastructure to provide safety against the online frauds in financial transactions and strategic data and to encourage online business however this
study finds that due to inconsistency in the IT-policy, it failed to achieve the goals of development of sound technical and legal infrastructure. Though situations is improving with every next spell of the moment however high bandwidth cost, slow and poor speed of internet, frequent disconnections, faulty cables and inconsistency of electric power besides insecurity of ePayments are still the issues of eBusiness in Pakistan.

5. Successful operations of eBusiness need qualified human resource i.e. developers and users inorder to run the systems properly. IT-professionals are the blood responsible for the success or otherwise failure of eBusiness. However, this study has find that in Pakistan instead of government efforts to produce high quality IT professionals it is still a dream because of the un-organized IT education and the rapid mushrooming of private below standard IT educational institutions. The country still lack qualified system analysts, developers, programmers, h/w engineers, and database and network administrators. Furthermore, currently Pakistan has the capacity to produce 2500-3000 quality IT professionals in a year where it needs 35 thousand IT professionals to run the eBusiness operations. If Pakistan wishes to excel in eBusiness, it needs an annual increase of 10000 IT professionals to meet the targets? Likewise, acquisition of the adequate technology and its effective utilization need good understanding of the technology and highly developed IT workforce so that IT project could easily be converted into business projects in order to achieve the business objectives otherwise the projects failure is evident, and this failure results into IT-business misalignment, while more than 70% IT projects failed due to IT business misalignment. This study has found that Pakistan lack good quality IT professionals to cater the organizational IT requirements.

6. Another important finding of this study is that within organization there is a gap between developers and users due to language, education, qualification, social and cultural differences however main reason behind gap is the technical incompetence. The contextual factors of organizations e.g. size, structure, management, culture, attitude and behavior and the way business activities are managed and the extent to which they affect the computerization are the issues of
eBusiness in Pakistan. Technical competence, market understanding, experience and the way they conduct the business can make or break the eBusiness. Scanning the market and environmental trends and forces for timely response, access and decision making to avail the opportunities/ frame strategies to overcome the threats are the factors upon which success of eBusiness largely depends. So organizational IT-Maturity and its strategic use is a key to competitive edge of eBusiness, which shows organization and its management capability in fully exploiting the potentials and benefits of the eBusiness and the extent to which organization is reaping the IT benefits, if organizations wish to be successful in eBusiness they must be mature enough in IT. Moreover, computerization depends for its success or failure on the humanization of IT i.e. giving parallel considerations to socio-technical dimensions of the eBusiness projects and ends user participations and consultation in ISD and implementation process otherwise it results into a gap between developers and users and politics in ISD. Which is a main cause of IS failure. This study has found that in Pakistan due to different backgrounds and professional qualifications there is a gap between end-users and IT professionals. Furthermore eBusiness system should be user friendly. This study reveals that gap occurred due to the organizational IT-immaturity, another impediment to computerization and eBusiness in the country. This study also finds that public and private firms are not reaping the maximum benefits because they lack the ability of optimum utilization of IT mainly due to organizational IT-immaturity.

7. Furthermore, conditions of eBusiness in Pakistan originate that all independent variables are mutually correlated i.e. government; organization environment and technology determine the success/failure of eBusiness. However this study finds that environmental conditions in Pakistan are improving gradually. This study further finds that technology shapes and reshapes the IT-growth (eBusiness) process in the organizations and within organization eBusiness is more dependent on IT-Professionals than on H/W and S/W.

8. eBusiness offer unprecedented opportunities e.g. competitive advantage, major benefits of eBusiness include: 1. little cost without geographical boundaries, 2.
quick buying and selling, 3. open transactions of business and 4. increased savings, where better information, improved service, increased productivity and the competitive advantage are the strengths of eBusiness. IT has strategic impact on a business in cost leadership, differentiation, focus, innovation, growth and business alliances and it is the eBusiness having strategic impact on many businesses and those that support the eBusiness. It is an eBusiness system ‘computer based information system’ that increases the online capability of business firms to interact globally with customers without geographical boundaries and constraints. This study reveals that in Pakistan both public and private sectors are changing their conventional modes of business into online modes of operations however private sector is digitizing more speedily than the public sector organizations where banking sector is progressing more than the telecommunication sector and it is the private sector which is showing considerable enthusiasm in embracing and experimenting the web. This study further finds that within banking sector, commercial banks are digitizing more than development and investment banks; however they are not fully exploiting the benefits of eBusiness.

9. Banking and telecommunication sectors of the country are progressing in computerizations of their organizational structures and operations in both public and private sectors, for example, telecommunication and banking sectors are the first who took initiative in computerizing their operations, eBanking, ATM, credit and debit cards are some of the IT driven products and services in this regard besides online billing and recharge of the accounts. There is enormous demand of ATM cards, with proper infrastructure and legislature in place, and a well thought out awareness campaign targeting customers, eBusiness is not unsuitable or unconventional a concept to Pakistani psyche. Presently many small outfits are offering cash-on-delivery as an alternate mode of payment. Similarly, mobile phones are spreading like wildfire, and are likely to continue being the most popular gadget the crosses barriers that set limitations upon who can be a customer online, and it is the private sector which will drive eBusiness. It is expected that in the coming years almost all the financial institutions,
telecommunication companies besides major superstores will be doing business online. Furthermore this study finds that due to growing interest of the private sector and heavy investment in computerization eBusiness has more opportunities to grow and prosper in Pakistan.

Discussion and analysis of the findings is done in relation with the existing literature. A solution model ‘Customizing the technologies: An integration model’ is presented, which emphasize on the private-public partnership. The framework suggests an integration model between the government functionaries, government and businesses and within cobusiness community along with its limitations. Likewise, the continuous updating of the eBusiness systems for user’s (organizational and customers) satisfaction is a prerequisite for running the eBusiness successfully. This study also reveals that availability of h/w and s/w is not the major issue of eBusiness in Pakistan, which is easily available in market, yet off-the-shelf systems do not meet the business requirement that is why this study suggests the customization of technology as alternate solution to meet the local conditions for success of eBusiness. Similarly, this study observed that in Pakistan, government and private sector is reshaping the environment according to the business requirements and getting more conducive, yet, due to dynamism of IT and eBusiness systems, in Pakistan organizations needs to continuously keep on updating the eBusiness systems i.e. hardware, software, orgware and peopleware to be competitive in the global business arena.

7.2 CONCLUSIONS

Not many of the issues raised by computerizations are entirely new; however, because of the varying conditions IT has profound impact on all aspects of society, from government, to the workplace. eBusiness has shown appreciable progress over the past three years in the country. National IT Policy and Action Plan (August, 2000) was the driving force to strengthen IT sector and eBusiness in Pakistan similarly, government encouraged import of IT equipments by reducing custom duties, further bandwidth costs were brought down and internet-access is provided to more than 2339 cities, towns and
villages. Moreover, enactment of ETO and ECA indicates a willingness to make the required legislative adjustments necessary for safer ePayments.

Likewise, in Pakistan IT is fast becoming a necessity. Besides development of healthy environment for eBusiness, Pakistan urgently needs a new breed of quality IT professionals in various sectors of the economy. This endeavor should include computer access and computer literacy at all levels including grassroots level. Banks have showed commitment toward offering ePayment applications for enterprises and civil society in general, whereas eGovernment and eBusiness applications are now clicking in main cities. The private sector interest to invest in IT, re-engineering and computerization of public and private sector, re-organization and growth of communication infrastructure throughout the country, utilization of available educated human resources pool, unlimited eBusiness potentials in telecom and financial sector due to internet explosion, social reforms and lowering of cultural barriers and government drive for eDocumentation are the positive indictors for the success of eBusiness in Pakistan.

Yet, there are governmental, organizational and technological challenges being faced by eBusiness community restricting the increase in number of businesses operating online in the country. The dream of online business could not be materialized without resolving the issues of censorship, imposition of unfavorable standards, restrictive nature of national regulatory laws, continued low literacy levels, degradation of education standards, massive brain drain due to underpaid IT professionals, which further restrains the availability of qualified IT professionals. Moreover, continued technological backwardness due to refusal of major international IT players to share technology, inability of Pakistani firms to tap and penetrate lucrative foreign markets to provide eBusiness with needed band-width and communication capabilities of international standard at competitive prices, indifferent attitude of majority of industrialists about IT, resistance for computerization by the users, inconsistent and non participative government policies, lack of awareness in the government administration, bureaucratic hurdles, lack of co-ordination among industries and academia besides lack of entrepreneurial skills and managerial know-how of IT professionals, low level
infrastructure development, insecurity and misuse of information technology, lack of understanding of legality and processes involved in IT products development and marketing, continued political instability resulting in economic stagnation and lack of progress in institution building, poor law and order, low quality, high price of communication infrastructure and weak legal framework for protecting eTransactions needs to be resolved.

Similarly, any meaningful IT initiative in Pakistan will necessarily be based on a partnership between the government and its agencies on one hand and the private sector on the other. Bold, unconventional and strategically correct decisions are needed with effective top managers and the right mix of vision and managerial competence is required to reap the benefits of eBusiness.

Succinctly, once the characteristics of the work-conditions are identified, it is possible to ‘fine-tune’ the management of any project, including eBusiness projects against the particular work-background. Being a developing country, Pakistan has several adverse factors in the government, organizations and human resources, however, urge for development can step on any hurdles. eBusiness is context-oriented, in the sense, that contextual conditions make or break the role of eBusiness. Though conditions in Pakistan are not much promising but they can be so by getting more familiarity with the nature and intensity of the contextual background. Both banking and telecom sectors are first to initiate eBusiness at B2B and B2C level. A huge investment from private sector is underway to get online with the fellow businessmen and the customers. Government is also spending unprecedented amounts on the telecommunication infrastructure thereby improving the work conditions at the national level. Furthermore, each organization has to draw-upon their own internal climate and makes the change management process a permanent feature of their eBusiness projects. Similarly, eBusiness depends for its success or failure on the government, organization and technology. If the conducive and healthy environment is created then eBusiness can flourish in Pakistan.

To achieve this goal an integrated approach between various segments of the society particularly public private partnership is needed. Moreover, local conditions demand customization of the technologies that suit particular environment of the firms.
Customizing the technologies solves most of the eBusiness problems; if firms adopt this approach, we can positively expect that eBusiness will grow and prosper in the country.

7.3 FUTURE IMPLICATIONS OF THE STUDY

The study is undertaken keeping in view the growing importance and role of eBusiness in the national and economic development. eBusiness in Pakistan is a new concept but progressing in the right direction however, there are several factors which impede the growth and pace of online business. eBusiness is the technology based business activity and has been a core of the investigations for the scholars, business and IS researchers in the developed and developing nations, which have made significant progress in advancing the business and economies.

Literature survey of the previous studies and the success/failure stories of eBusiness in developed countries, suggests that there are many important aspects which need much attention of the researchers to use technological tools to enhance eBusiness by enriching the business lives and tapping the enormous benefits of the digitization beyond the digital divide to digital opportunity as eBusiness has the potential of transforming the way we live, work and shop. This research illuminates the opportunities and threats of eBusiness in the Pakistani context especially with respect to governmental, organizational and technological factors. However the ideas analyzed and discussed in this study need further testing and refinement through an additional research as constraints of the time and resources have not permitted the researchers to cover all the significant aspects of the contextual factors of eBusiness in Pakistan. This study will have the knowledge, practical and research implication for the future researchers.

As for as eBusiness is concerned, no study has been conducted in Pakistan on this important topic to explore the opportunities and issues faced by eBusiness in the country, similarly there is a scarcity of written material and literature on eBusiness in Pakistan. In this study researcher tried his best to explore the secondary sources of data on eBusiness in Pakistan but failed to collect the required amount of data as very little was available in
the Pakistani libraries and in the public offices. This study was undertaken due to highly important role of eBusiness in national economic development and aimed to explore deep into the governmental, organizational and technological factors that makes or breaks eBusiness in Pakistan. Findings of this study will add some handsome amount of information to be used by the government, academia and business community to understand the phenomena in Pakistani context and address the human and security issues in future, which are impeding the growth of eBusiness in Pakistan.

Since research is a scientific activity, every effort has been made by the researcher to collect the most relevant, accurate and up-to-date data, moreover, data was analyzed very carefully and then conclusions were drawn. Likewise, research studies are conducted to provide practical solutions to the problems faced by individual, organizations and society. Issues faced by eBusiness are largely concerned with the individuals (developers and end-users), organizations and their management (eBusinessmen) involved in the online business and government at large as eBusiness depends for its success or failure on the government the regulator of the business. This study will be helpful to the individuals, organizations and governmental authorities to concentrate on the gray areas identified by this study which are still endangering the eBusiness in Pakistan there by improving the environmental conditions for the growth of eBusiness in the country.

Mainly, this study focused on the contextual conditions that how they make/break eBusiness in the country as development of infrastructure and supporting activities are mainly done by the government and private sector has little role in it where gaps and misalignment of IT with business is the critical area and cause of the IS failures. This necessitates a need for the detailed studies specifically on the issues and problems i.e. human and security aspects of eBusiness in Pakistan? It is suggested that future researchers have to concentrate on the humanization of IT and cyber security, the core of eBusiness inorder to give the computer a human face and to minimize the resistance, building confidence and develop trust among the eCommunity (sellers and buyers) to transact online without fear and hesitations. This area of research needs further exploration where particular contributions may be made by the management and IT
researchers as eBusiness is a multidisciplinary. The empirical demands of such research, however, need to be recognized. Although studies can be found in the research literature of the developed nations, it is not surprising that very few exist in developing countries, yet none is available in Pakistan. Moreover, future studies are required to analyze the human and security aspects more thoroughly to address the business and customers concerns.
Appendix-1. Questionnaire

**eBusiness in Pakistan: Opportunities & Threats**

**Dear Sir/Madam**

This Questionnaire is designed to study the evolving interaction of Information Technology and business organizations. The information you provide will help us better understand how IT is absorbing into organizations. What are the opportunities and threats offered by Information Technology? The purpose of the study is purely academic and research-oriented.

---

**Organization-Profile**

Name of the Organization: ___________________________ Nature: Public/Private

Type of Business: Online/Conventional

Banking Sector: Development/Investment/Commercial. Telecom Sector: Plain/Cellular

Using IT since ___________ Name of Machine ___________________________


User’s Type: a. Developer, b. End-User

Number of Employees ________

---

**Government**

1. There is consistency in Government IT-Policies.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Agree</th>
</tr>
</thead>
</table>

2. Government is investing in IT.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Agree</th>
</tr>
</thead>
</table>

3. Government is giving tax freedom on IT products services.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Agree</th>
</tr>
</thead>
</table>

4. Legal infrastructure is sufficient for eSecurity of eBusiness.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Agree</th>
</tr>
</thead>
</table>
5. Legal infrastructure is sufficient to prevent unethical, unsocial and cultural invasion of IT.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

6. Technical infrastructure is sufficient to promote eBusiness in the country.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

7. Bandwidth and speed of internet is satisfactory for eBusiness.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

8. Power supply is consistent in Pakistan.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

9. Bureaucrats are cooperative and positive.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

10. Government procedures for eBusiness are user friendly.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

11. Bureaucracy upholds national interests over personal.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

12. Policy implementation is effective in Pakistan.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

13. Bureaucracy knows about IT.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

14. Bureaucracy is playing a promoting role for the development of IT in Pakistan.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

15. Political stability in Pakistan is promoting eBusiness.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

16. Law and order is peaceful and friendly for eBusiness in Pakistan.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |
2. Organization

17. Computerization in small organization has fewer problems.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

18. Centralized and tall structure is more suitable for computerization than the decentralized and flat structure.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

19. Management knows about IT.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

20. Management considers IT as strategic tool.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

21. Non IT managers participate in your IT projects.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

22. Management follows hard approaches for organization.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

23. End-users are involved in the ISD process.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

24. End-users have mature perceptions about IT.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

25. There is no gap between developers and end-users.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

26. Your organization provides sufficient training to end users.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

3. Technology

27. The required h/w is available in the market.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

28. The required h/w is not expensive.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |
29. After sales services are available.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

30. The required s/w is available in the market.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

31. The required s/w is not expensive.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

32. Your organization always prefers to use the leading-edge technologies.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

33. IT-professionals have required knowledge and skills.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

34. IT-professionals know about organization and humans.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

35. There is effective communication between developers and users.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

36. Your organization keeps h/w and s/w updated.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

37. IT-professionals of Pakistan meet the international standards.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

38. eBusiness is more dependent on IT Professionals than technology.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

4. eBusiness

**Competitive Advantage:** Refers to the application of IT for the purpose of getting ahead of competitors, for example, a system that can increase company’s market share and thus give competitive-edge.

39. You use IT for differentiating your products.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |
40. You use IT to reduce your costs.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

41. Your organization invests heavily in IT projects.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

42. Your IT projects are successful.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

43. You are using IT as necessity.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

44. IT-banking is progressing in Pakistan.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

45. ePayments are secure in Pakistan.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

46. There is no politics in your IT-projects.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

47. IT-education matches market/organization demands.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

48. IT-projects are aligning with business requirements.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

49. There is no user resistance to new IT-systems in your organization.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |

50. eBusiness has more opportunities in Pakistan.

| Disagree | 1 | 2 | 3 | 4 | 5 | Agree |
Appendix 2. Operationalization (List of Variables, Dimensions, Elements and Questions)

**eBusiness in Pakistan: Threats & Opportunities**

**OPERATIONALISATION** (List of Variables & Attributes)

<table>
<thead>
<tr>
<th>NO</th>
<th>VARIABLES</th>
<th>NO DIMENSIONS</th>
<th>NO ELEMENTS</th>
<th>QUESTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Government</td>
<td>1.1 Govt. IT Policy</td>
<td>1.1.1 Consistency</td>
<td>There is consistency in Government IT-Policy.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.1.2 Investment</td>
<td>Government is investing in IT.</td>
</tr>
<tr>
<td></td>
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<td>1.1.3 Tax Freedom</td>
<td>Government is giving tax freedom on IT products services.</td>
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<td>1.2 Infrastructure</td>
<td>1.2.1 Legal</td>
<td>Legal</td>
<td>Legal infrastructure is sufficient for eSecurity of eBusiness.</td>
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<td></td>
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<td>1.2.2 Legal</td>
<td>Legal</td>
<td>Legal infrastructure is sufficient to prevent unethical, unsocial cultural invasion of IT.</td>
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<td>1.2.3 Technical</td>
<td>Technical</td>
<td>Technical infrastructure is sufficient to promote eBusiness in the country.</td>
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<td>1.2.4 Technical</td>
<td>Bandwidth and speed of internet is satisfactory for eBusiness.</td>
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<td>1.2.5 Technical</td>
<td>Power supply is consistent in Pakistan.</td>
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<td>1.3</td>
<td>Bureaucracy</td>
<td>1.3.1 Cooperation</td>
<td>Cooperation</td>
<td>Bureaucrats are cooperative and positive.</td>
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<td>1.3.2 Procedures</td>
<td>Procedures</td>
<td>Government procedures for eBusiness are user friendly.</td>
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<td>1.3.3 National Interests</td>
<td>National Interests</td>
<td>Bureaucracy upholds national interests over personal.</td>
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<td>1.3.4 Policy Implementation</td>
<td>Policy Implementation</td>
<td>Policy implementation is effective in Pakistan.</td>
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<td>1.3.5 IT Know-how</td>
<td>IT Know-how</td>
<td>Bureaucracy knows about IT.</td>
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<td>1.3.6 Role in IT promotion</td>
<td>Role in IT promotion</td>
<td>Bureaucracy is playing a promoting role for the development of IT in Pakistan.</td>
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<td>1.4 Political and Legal environment</td>
<td>1.4.1 Stability</td>
<td>Stability</td>
<td>Political stability in Pakistan is promoting eBusiness.</td>
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<td>1.4.2 Law and Order</td>
<td>Law and Order</td>
<td>Law and order is peaceful and friendly for eBusiness in Pakistan.</td>
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<td>Organization</td>
<td>2.1 Organizational Structure</td>
<td>2.1.1 Size</td>
<td>Computerization in small organization has fewer problems.</td>
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<td>2.1.2</td>
<td>Management</td>
<td>2.2.1</td>
<td>IT Know-how</td>
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<td>Suitability</td>
<td>Centralized and tall structures are more suitable for computerization than the decentralized and flat structures</td>
<td>Management knows about IT.</td>
<td>IT-professionals have required knowledge and skills.</td>
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<td>2.2.2</td>
<td>Strategic Tool</td>
<td>Management considers IT as strategic tool.</td>
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<td>Participation</td>
<td>Non IT managers’ participation in your IT projects.</td>
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<td>2.2.4</td>
<td>Approach</td>
<td>Management follows hard approaches for organization</td>
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<td>Dev User Gap</td>
<td>End-users have mature perceptions about IT.</td>
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<td>2.3.2</td>
<td>Gap</td>
<td>There is no gap between developers and end-users.</td>
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<td>2.3.3</td>
<td>Knowledge &amp; Skills</td>
<td>IT-professionals have required knowledge and skills.</td>
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<td>Organization know-how</td>
<td>IT-professionals know about organization and humans.</td>
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<td>2.3.5</td>
<td>Communication</td>
<td>There is effective communication between developers and users.</td>
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<td>2.4</td>
<td>Organizational IT-Maturity</td>
<td>End-users are involved in the ISD process?</td>
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<td>Perceptions</td>
<td>Non IT managers’ participation in your IT projects.</td>
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<td>2.4.4</td>
<td>Training</td>
<td>Your organization provides sufficient training to end users.</td>
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<td>Technology</td>
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<td></td>
<td>Standards</td>
<td>It-professionals of Pakistan meet the international standards.</td>
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<td>3.2.6</td>
<td>Dependence</td>
<td>eBusiness is more dependent on IT professionals than technology.</td>
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<td>4</td>
<td>eBusiness</td>
<td>4.1 Competitive Advantage</td>
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<td>4.1.1</td>
<td>Differentiation</td>
<td>You use IT for differentiating your products.</td>
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<td>4.1.2</td>
<td>Cost Reduction</td>
<td>You use IT to reduce your costs.</td>
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<td>4.1.3</td>
<td>Investment</td>
<td>Your organization invests heavily in IT projects.</td>
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<td>4.1.4</td>
<td>Success</td>
<td>Your IT projects are successful.</td>
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<td>4.1.5</td>
<td>Necessity</td>
<td>You are using IT as necessity.</td>
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<td>4.2</td>
<td>Threats &amp; Opportunities from IT for eBusiness</td>
<td>4.2.1 Progress</td>
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<td>4.2.2</td>
<td>Security</td>
<td>ePayments are secure in Pakistan.</td>
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<td>4.2.3</td>
<td>Politics</td>
<td>There is no politics in your IT projects.</td>
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<td>4.2.4</td>
<td>IT-education</td>
<td>It-education matches market/organization demands.</td>
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<td>4.2.5</td>
<td>Alignment</td>
<td>It-projects are aligning with business requirements.</td>
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<td>4.2.6</td>
<td>Resistance</td>
<td>There is no user resistance to new IT-projects in your organization.</td>
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<td>4.2.7</td>
<td>Opportunities &amp; Threats</td>
<td>eBusiness has more opportunities than threats in Pakistan.</td>
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<td>Security</td>
<td>4.3.1 Legal</td>
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<td>Legal infrastructure is sufficient for eSecurity in Pakistan.</td>
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<td>ePayments</td>
<td>ePayments are secure in Pakistan.</td>
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</table>
Appendix-3. List of Statistical Tools

For the statistical analysis of the primary data, using SPSS both descriptive and inferential statistical tools were applied, which include:

1. Cronbach’s Alpha.
2. Crosstabulations and Frequency distributions.
5. t-test.
6. ANOVA.
7. Pearson Correlation Coefficient.
8. Linear and multiple regression analysis.
Appendix-4. Variables and their Corresponding Questions

<table>
<thead>
<tr>
<th>Variables</th>
<th>Dimension</th>
<th>Questions</th>
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<tr>
<td>1. Government.</td>
<td>. Govt. IT-Policy.</td>
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<td>. Developers Users Gap</td>
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<td>. IT-Professionals</td>
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<td>. Threats &amp; Opportunities from IT for eBusiness</td>
<td>44, 45, 46, 47, 48, 49, 50.</td>
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<td>. Security</td>
<td>4, 5, 45.</td>
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