

Barriers In The Adoption Of E-Commerce In Pakistan With The Focus On Gender

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Abstract: Current research is aiming to explore the possible technological and human-related factors preventing the growth of e-commerce in Pakistan. Both qualitative and quantitative data have been collected with survey strategy and a mixed method approach is used for analyzing the data and presenting the results. Findings suggest that several hindrances, such as trust deficit, non-existent digital divide between payment infrastructure, digital divide among male and females and lack of appropriate cyber security laws, exist preventing the growth of e-commerce in Pakistan. Based on the findings, appropriate recommendations for improving the use of e-commerce in this densely populated country are presented.

Index Terms: ICT, ICT4D, e-Commerce, B2B, Barriers to e-commerce, Digital divide, gender, Pakistan .

1 INTRODUCTION

DEVELOPMENTS in Information and Communication Technologies (ICT) have opened up new ways of conducting business by expanding the markets and also by making humans more productive in many areas of life (Unwin, 2009). As a consequence, ICT is being recognized as a key solution for comprehensive development as it is utilizing the tools which may empower people, enhance their skills, increase productivity, and improve governance at all levels (Maier and Nair-Reichert, 2007). Electronic Commerce (E-commerce) is one of the techniques offered by ICT. Schwabe (2005) observed in 2005 that many companies in the developing countries, which were using e-commerce showed faster sales and growth. Also, the overall productivity of the workforce has increased significantly as compared to the companies which were not practicing e-commerce. A similar trend can be observed even today. Report of World Trade Organization (WTO) had also shown that enterprises, which adopted e-commerce have not only raised their business performances, but have also helped to improve the livelihoods in some of the world's poorest regions and communities (WTO, 2013). E-Commerce is defined differently by many researchers, e-business and e-commerce experts (Iqbal et al., 2012; Ibikunle, 2013). However, The World Trade Organization (WTO, 2013) defined e-commerce quite comprehensive as "the sale or purchase of goods or services conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders.

Even though goods or services are ordered electronically, the payment and the ultimate delivery of goods or services do not have to be conducted online." Over the recent few years, e-commerce growth has been enormous and it is still exhibiting an upward trend. Moreover, it is envisaged that by 2017, Business-to-Business (B2B) and Business-to-Customer (B2C), e-commerce transactions will account for about 5% of all inter-company transactions and retail sales (WTO, 2013). Several studies have shown that e-commerce has changed the way business is being conducted (Makame et al., 2014) and, also becoming a driving force of the global economy, as well as leading the countries to economic development (Schwabe, 2005) as it is rapidly replacing old ways of doing business with more ease and accessible ways (Makame et al., 2014). E-commerce is not only providing the easiest ways of doing shopping, but also allowing enterprises to generate efficiency gains at all the stages of their production and processes and, thus, resolving problems which matter for development (Odedra-Straub, 2003). However, there are also persisting some problems, such as digital divide, which may limit and even prevent the adoption of (B2B) e-commerce by the customers (Odedra-Straub, 2003). Despite all its proven advantages, the adoption of e-commerce is challenging for many developing countries. The existing barriers may include economic, sociopolitical and cognitive aspects (Kshetri, 2007). Specifically, these barriers can be elaborated as unavailability of credit cards, complex legal procedures for e-commerce and lack of awareness and knowledge (Kshetri, 2007). Furthermore, security concerns, having no possibility of touching the products physically prior to its purchase, language and geographical barriers (e-Commerce White paper, 2008), confusing electronic interfaces, bad user-technological experience and usability problems (e-Commerce White paper, 2008; Chen and Pu, 2014; Hasan et al., 2013) are also increasing consumer's hesitation in doing online shopping and, hence, hindering the successful and faster implementation of e-commerce in many developing countries (Yousaf et al., 2012).

1.1. Related Research

Notable research about the e-commerce adoption has been conducted in many developed and developing countries. For example, Odedra-Straub (2003) discussed thoroughly the important details pertaining to the development with the help of e-commerce. The research is comparing different reports and discussing clearly why e-commerce is leading the nations to the heights of developments. Makame et al. (2014) are focusing in their case study on Tanzania and the factors

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influencing the adoption of e-commerce in the country. The results show that infrastructure is a significant factor in the e-commerce adoption, and national level Government policy initiatives are essential in order to build the trust of the population in e-commerce technology in Tanzania. Furthermore, Mohammed (2014) focused his study on the online shopping intentions of young consumers in Jordan and Ahmed (2011) examined e-purchasing intentions in developing countries in general. The study of Ahmed (2011) found a significant correlation between customer's e-purchase intentions and factors such as education, income, age, a reputation of e-shop, ease of using e-commerce etc. However, both Mohammed (2014) and Ahmed (2011) focused on the consumer's direct experience of e-commerce as well as described how certain points of views on e-commerce may affect customer's intentions towards online purchases. Chen and Macredie (2010) critically reviewed and evaluated the work of several researchers with respect to how human factors can affect web-based interactions. Their research is pointing out that human factors such as gender, prior knowledge, and cognitive styles are playing an important role in the interaction with technology and the use of ICT. In another study, Maier and Nair-Reichert (2007) presented an insight regarding the gender-related problems, as well as pointed out that the empowerment of women through ICT and e-commerce is directly linked to a country's development. As the societies, where females are discriminated or restricted are less likely to grow economically, and, therefore less likely to reduce the poverty. Kshetri (2007) discussed in his research the possible barriers, such as economic, sociopolitical and cognitive, which may limit the adoption of e-commerce in developing countries. It should be noted that both studies conducted by Maier and Nair-Reichert (2007) and Kshetri (2007) do not discuss human and technology factors, which may hinder the adoption of e-commerce in developing countries. The focus of current case study is a densely populated developing country in South Asia with almost 200 Million inhabitants, Pakistan. It could be seen that there has been conducted different research on the prospects of e-commerce in Pakistan. Some research (Research and Markets, 2015; IORMA, 2013) focused, primarily, on the investigation of possible barriers to e-commerce in Pakistan, as well as included conceivable suggestions for bridging the digital divide (Research and Markets, 2015; IORMA, 2013). There has been conducted research by Qureshi et al. (2014) on Pakistani consumers' attitude and behaviour towards online shopping. Similar research was conducted by Yousaf et al. (2012) in order to identify the reasons for consumer's hesitation in doing online shopping in Pakistan. However, research of Yousaf et al. (2012) had limited scope and was only focused on younger students at a particular University. Khan et al. (2012) focused on the consequences and prospects of online marketing in Pakistan. In sequence, Saeed et al. (2013) explored the usability problems which may hinder the growth of e-commerce in the country by evaluating e-government and e-commerce websites. In another work, Schware (2014) focused on investigating 4 factors (Time, Quality, Privacy/Risks, and Price), which may affect the adoption of e-commerce by individual customers in Pakistan (Sattar, 2014).

1.2. Problem formulation

Pakistan is one of the prominent developing countries in the world, where Internet penetration is growing rapidly (Research

and Markets, 2015; Youngblood, 2014). When it comes to gender, it is important to mention that the country has low literacy rates, particularly among women. Furthermore, discrimination for women, both in personal and professional life is frequent (Youngblood, 2014). In addition to the cultural problems, there exist certain technological barriers as well which may limit the rapid applicability of e-commerce (Research and Markets, 2015; Youngblood, 2014). It is important to note that over the past few years, the research interest in exploration the culture-related aspects has also grown significantly. It was found that the culture related factors have a significant influence on the online consumers' behaviour (Sohaib and Kang, 2014). For example, Sohaib and Kang (2014) are exploring cultural aspects, which are hindering the growth of technology in Pakistan. Qureshi et al. (2014) in turn conducted a quantitative study, which tried to identify possible factors preventing Pakistani consumers from undertaking online shopping with a particular focus on factors such as age, relationship status, education level, occupation and income level. The study showed that the adoption of e-commerce by female consumers is lower than by male consumers, however, no relation to age, relationship status or occupation has been found (Qureshi et al., 2014). However, the focus of this work was considerably broad and did not specifically demonstrated which IT-related barriers were being faced by males and females of different ages in relation to their IT experience level as well as their educational backgrounds. Moreover, no specific comparison of different gender perceptions regarding barriers to online shopping was presented. In order to improve the adoption of e-commerce in the country, there is a special need for strategic planning and investigation of existing hinders (Saeed et al., 2013). Our literature search suggests that we still know fairly little about the factors that might prevent the adoption of e-commerce in developing countries. Therefore, the present study explores if there are any possible IT-related problems which may limit the growth of e-commerce among citizens of different developing societies, and, especially in Pakistan, with a focus on the comparison of important human factors such as gender, age, educational backgrounds and IT-experiences of citizens. Based on the mentioned above reasons, the primary focus of this study is to investigate which possible cultural and IT-related factors are hindering the adoption of e-commerce in Pakistan and, as a consequence, hindering the growth of e-commerce in male and female citizens.

2 BACKGROUND

2.1 E-Commerce and Developing Countries

As mentioned in the previous section, e-commerce may bring several benefits into humans' daily life, such as the diffusion of new information and technology, sales promotions, friendly customer services and effective collaboration of supply chains (Suhail et al., 2009). E-commerce helps to reduce the costs of the products and services as well as creating new job opportunities (Khan, 2013). Another significant advantage of e-commerce is that it helps organizations to increase their productivity and profits (Moomal and Masrom, 2015; WTO, 2013) by reducing running costs and making businesses more competitive on the market (Moomal and Masrom, 2015). Another motivating advantage of e-commerce is that it has a great potential for empowerment of women, particularly in the developing countries, by effectively utilizing their skills. It was

shown that (Maier and Nair- Reichert, 2007), with the different cases, the e-commerce projects tap the skills of women and exploit their potential and women demonstrated their success in both roles: women as owners of e-commerce businesses and also women as e-commerce consumers (Maier and Nair-Reichert, 2007). It is important to mention that the growth of e-commerce has changed the customers' behaviour Ahmed, (2011). E-Commerce had flourished predominantly in the developed countries at a fast pace, where its benefits have been realized quite swiftly (Suhail et al., 2009). However, there are still many countries in the world where awareness regarding e-commerce among the people is very low, particularly in the developing nations, where the level of adoption of e-commerce is different from the developed ones (Khan et al., 2013). For example, in Asia, the know-how of online shopping is limited compared to Europe and America (Sohaib and Kang, 2014). For instance, there might be several reasons why e-commerce is still not popular among citizens in the developing nations. These reasons include lack of infrastructure, low average income, lack of credit cards penetration in the society, the security of personal data, lack of customer's trust in online transactions and slow progress of e-commerce in the country. In addition, Ibikunle (2013) is pointing out that access to technology, infrastructure and software are also playing a major role in the adoption of e-commerce in developing countries. It is also worth mentioning that PC penetration is still very low in many developing nations compared to the developed (Ibikunle, 2013). Moreover, digital divide (Ibikunle, 2013) and cultural problems are also important causes to explore (Sohaib and Kang, 2014). Kshetri (2007). Furthermore, emphasis can also be made on cognitive barriers such as knowledge, skills, lack of confidence in using ICT and other technologies, educational problems and consumer's age might limit the adoption of e-commerce in developing countries. Qureshi et al. (2014) are pointing out that demographic profile, partially, has a link with online shopping. Gender and family, socioeconomic status and living environment are also important factors to mention. Overall, Pakistan is one of such developing countries where adoption of e-commerce is extremely low (Qureshi et al., 2014).

2.2. Use of Computer and Internet in Pakistani citizens

Pakistan is the 6th largest country in the world (Research and Markets, 2015) with almost 200 million population, where 36% of the total population is living in urban places and 64% in rural (Youngblood, 2014; Sohaib and Kang, 2014). As far as gender is concerned, 78.9 million are women (Youngblood, 2014). In addition, the country has the highest ratio of young people in the World with over 54% of young people of age under 24 years (Index Mundi, 2014), overall, 91% of the country's population falls under the age of 54 years. In 2013, the income per capita in the country was around \$1275 per year (World Bank, 2013). In the world we are living today, ICT has been penetrated into almost all activities of our daily lives (Moomal and Masrom, 2015), as it has become the prime focus of technological evolution around the globe. For the last two decades, the enormous growth in the use of the IT for the business purposes has been observed globally (Moomal and Masrom, 2015). It is also noted that the major part of world's broadband subscribers are from Asia. Similarly, Internet connectivity in Pakistan has also been growing rapidly for the past few years (PTA, 2014). It is also interesting to mention that the total 'Tele-Density' in the country has reached to 79,

6% in 2014, in which the mobile segment was the main contributor (PTA, 2014). As a consequence, the number of cellular mobile subscribers in Pakistan has reached 139.9 million by the end of 2014 (Dawood, 2014). Even though almost 77% of the population is using mobile phones still the broadband is used by a small proportion of the country which is around 2.07% of the population (i.e. 3.79 Million) in 2013-14 (PTA, 2014). This shows that tremendous potential exists in the expansion of the broadband field. Recent studies showed that fast penetration of 3G and 4G connections predicting that the number of mobile the broadband subscribers will rise up to 45-47 million in Pakistan by 2020 (Research and Markets, 2015; Dawood, 2014; PTA, 2014). As the population of the country expects to reach 226 million by 2025, mobile broadband penetration is expecting to reach 79 million, according to Pakistan Telecommunication Authority (PTA, 2014).

2.3. Digital Divide in the Country

Despite the considerable growth of ICT in Pakistan, there are difficulties and challenges when it comes to the adoption of e-commerce in the country. According to the latest reports, one of the major challenges is the non-availability of proper infrastructure for online payments, since paying by cash remains the most popular way of payment among people (Research and Markets, 2015). Trust deficit and lack of security for online transactions is another important point to mention (Research and Markets, 2015), as most of the people are reluctant to rely on e-commerce due to insecurity and lack of awareness of e-banking (Moomal and Masrom, 2015). It is interesting to mention that Pakistan was ranked on 104th place out of 144 countries by "The world economic forum's Global information technology Report" in 2013, which shows that the country's readiness to participate in the electronic world is not satisfactory for the wider adoption of the e-commerce by all segments of the society (Moomal and Masrom, 2015). Therefore, insufficient infrastructures could also be considered as one of the main reasons why the popularity of e-commerce is not increasing in the country (IORMA, 2013). Furthermore, the low literacy rate might also be one of the barriers when it comes to the adoption of ICT and e-commerce. Though the encouraging fact is that the literacy rate in the country has been increasing over the period 2010 to 2015 (UNESCO, 2015), there are still only 51 million literate adults in Pakistan. However, overall, 55% of the population can read and write to some extent (Mundi Index, 2014). It is important to note that in Pakistan, a person is considered adult and is eligible to cast vote in general elections at the age of 18 years. Another important phenomenon is the existence of gender discrimination in Pakistan. When it comes to gender, it could be observed that there is a clear gender inequality in the country (Bukhari and Ramzan, 2013), where the women are being widely discriminated and many of them are encouraged to stay at home (Youngblood, 2014). Gender discrimination is deep-rooted as a result of various social factors over the history of the country (Bukhari and Ramzan, 2013), for example, many times, limited access to public facilities by women is "explained" by socio-cultural norms that constrain female mobility in order to guard the honour of the family (Shah and Baporikar, 2013). However, this occurring more frequently in rural areas of the country (Shah and Baporikar, 2013). Maier and Nair- Reichert (2007) have also pointed out that women are facing more barriers in the adoption of ICT,

which may be due to lack of training and access, high cost of equipment and connection as well as non-user friendliness of hard-and software (Maier and Nair- Reichert, 2007). The study conducted by IORMA (2013) offered certain suggestions how to bridge the digital divide by focusing on improvement of the connectivity, e-leadership, e-business climate, uniform spread of broadband in the entire country as well as improving the security of the users' data in order to reduce the cybercrime (IORMA, 2013).

2.4. E-Commerce and its use in Pakistan

As mentioned earlier, despite the growth of ICT in the country the e-commerce adoption remains, in principle, on its embryonic stage (Moomal and Masrom, 2015; Sohaib and Kang, 2014), however the country is progressively moving toward the digital modes and facing good (quick and easy access to the internet, cheaper broadband packages, etc.) and bad (limited infrastructure for payments, difficulties when it comes to ICT use etc.) experiences during this process (Moomal and Masrom, 2015). Research conducted by Qureshi et al. (2014) and Moomal and Masrom (2015) is pointing out that, despite the fact, citizens are also starting to be aware of the fact that business on the Internet is providing many benefits (IORMA, 2013), there exist many hindrances in Pakistan and that is why the consumer's online purchase rate is very low. However, the economic theories are suggesting that the diffusion of new technologies can have significant impact on economic growth and development (Moomal and Masrom, 2015) and the country has tremendous potential for the development of e-commerce because of its large population and high proportion of young people in the society (Research and Markets, 2015).

3 METHODOLOGY

This work is focused on a particular case of identifying barriers which are causing hindrances in the adoption of e-commerce in Pakistan and, therefore, the research can be identified as a single instrumental case study (Creswell, 2013). The survey strategy was adopted here in order to gather the data for this study. The research methodology in this study primarily aimed to collect the relevant data from the selected sample frames belonging to different age groups and backgrounds. The data collected for this study was comprised of qualitative and quantitative nature. In order to obtain the appropriate data to deal with the research questions, a detailed research questionnaire was adopted. The same research strategy was chosen by different researchers, who conducted the similar research (Yousaf et al. (2012), Qureshi et al. (2014) and Sattar (2014). The questionnaire was managed, distributed and executed with the help of Google Documents. The link was distributed to selected participants through their private and work e-mail addresses. Overall, the invitation to participate in the survey was sent to 150 recipients. However, only 51 respondents submitted the filled questionnaire. Thus, the response rate for this survey is around 34%. For this study, non-probability sampling or convenience sampling was used. This study primarily aimed at the Pakistani citizens who are having access to the Internet and, accordingly, also having an e-mail address. It meant that only those citizens who are having access to the technology and the Internet are able to "be online" and fill the questionnaire. Furthermore, in order to reach an equal number of male and female participants, the questionnaire was sent to an equal number of male and

female participants. It is important to note that the participants in this study belong to a different age, background groups, different level of education and IT-experience. The questionnaire was constructed in such a way that it would have 2 groups of respondents: those using e-commerce and those who had never heard about it. The questionnaire consisted of both close- and open-ended questions, which made it possible for the participants leaving the comments according to their own view point for some questions. Multiple-choice and Likert scale types were also used for structuring some of the questions. The collected data were analysed with the help of quantitative method. The results of the study were coded and, later, presented not only in the form of words but also in the form of images, Likert scale score results, and text with the help of the mixed method approach.

4 RESULTS AND ANALYSIS

Current study is focusing on Pakistan or the 6th largest country in the world by virtue of its population size. The survey questionnaire of the present work circulated to 150 participants, out of which only 51 respondents submitted their responses. Even though the survey questionnaire was distributed among an equal number of men and women, yet the 67% respondents of this study were males. The participants of current study belong to different age groups, however, the majority of participant's falls under the age of 40 or less. 85% of all the participants started using IT when they were 30 years of age or below, which is also in line with Index Mundi (2014) and the fact that Pakistan has the highest ratio of young people in the World. An interesting fact is that the majority of female participants started using IT in the age band of 18-30, compared to the male participants, who started using IT in the age groups of below 17 or 18-30 years. Table-1 shows the education level wise classifications of the participants of this survey.

Table-1: Classification of participants according to their education level

Sr. No.	Education Level	% of Participants
1.	Master's degree participants	47%
2.	Bachelor's degree participants	27%
3.	Below Bachelor's degree	26%

Furthermore, the data concerning the occupation of the participants also revealed that 73% of the respondents of the current study were working professionals, which might be due to the sampling techniques since the category of highly educated people only constitutes a small proportion of the overall population of the country.

Table 2: Occupation wise classification of the participants

Sr. No.	Occupation	% of Participants
1.	Working Professionals	73%
2.	Students and others	27%

However, the results clearly showed that mostly IT and e-commerce is adopted by the highly educated lot (College and

University graduates) of the Pakistani society. It highlights the fact that the majority of the remaining population can also learn and benefit from IT, if the IT-related introductory subjects may be taught at school level in Pakistan in the same way as they are being taught in colleges and universities. It is also worth mentioning that 89% of the experienced IT users who participated in the survey are using IT 5h or more per day. Consequently, there exists an apparent relation between the IT experience level of the respondents and the number of hours IT is being used. In current study participated more men than women. The females were either less interested in using ICT or do not have easy access to the technology. As already mentioned by Bukhari and Ramzan (2013), there is a clear gender inequality gap in Pakistan. These facts highlight that there are cultural barriers in the country, which limiting females from the freedom of movement and, consequently, limited access to the technology as compared to their male counterparts. Regarding the types of technology being used by men and women in Pakistan, the data revealed that 55% of the respondents were using personal laptops for accessing the Internet. Moreover, even though Pakistan is a developing country with a low per capita income of around \$1275 per year (World Bank, 2013), the majority of the respondents owns their technology (device) to access the internet. However, it is clearly seen that the female users are still sharing their technology with someone, whereas, it is less likely found that men are sharing their devices as shown in Fig. 1.

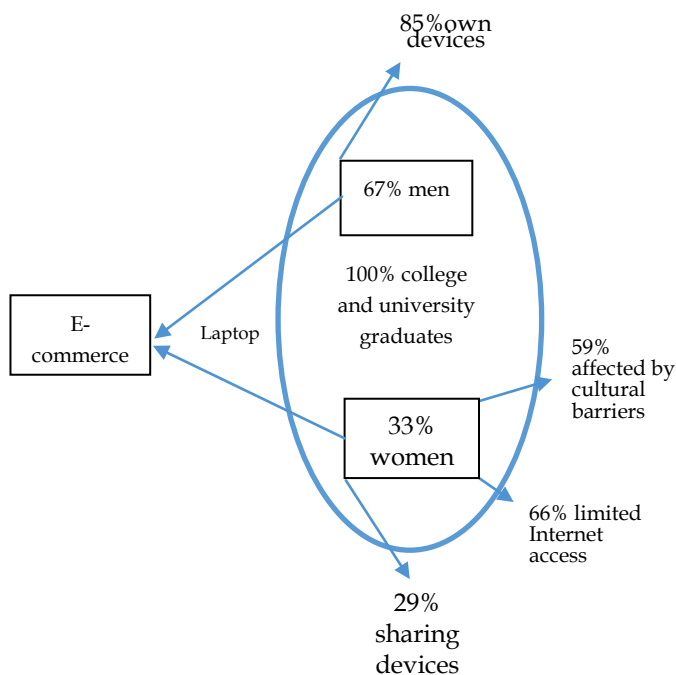


Figure 1: e- Commerce use

As mentioned earlier, Broadband subscribers and the number of mobile subscribers are growing in the country. Recently 3G and 4G licenses were sold to cellular companies, resulting in an increased popularity of smartphones in Pakistan. It was observed from the study that 80% of all the participants were having Internet access. According to Research and Market (2015), Pakistan, is one of the prominent developing countries, where the broadband penetration has been growing fast, but

even though, there were only 3.79 million broadband users in 2014. Moreover, the female citizens, in most cases, are having limited access to public facilities which is "attributed" to socio-cultural norms (Shah and Baporikar, 2013). The similar predicament, that only 24% of the female participants are having unlimited Internet access is also revealed by the present study. Furthermore, those participants who, having unlimited Internet access are Bachelor degrees holders or higher. The participants with the college level education or lower do not have frequent Internet access as compared to University graduates. This phenomenon verifies again that less educated part of the society is not benefiting from the latest technology trends. However, this is not clear if the less educated citizens do not have the economic resources when it comes to the latest IT trends or they do not have enough knowledge to utilize it. According to Dawood (2014), almost 77% of the Pakistani population has been using mobile phones. However, according to the survey, the majority of the participants are using the laptops for accessing e-commerce (see Fig. 1). It is interesting to note that the majority of the participants, who were using their IT devices which were 1 year or less old, were males. On the other hand, only 6% female were having the devices which were 1 year old or less. The females usually use the devices which were 2-7 years old. The study did not find any clear correlation between the age of the users and their technology preferences. Although, 80% of the respondents have Internet access, yet only 33 % of them have knowledge about e-commerce and, thus, only 21% of all the participants were using e-commerce for shopping (see Fig. 2). On the other hand, 40% of respondents were using ICT for all other purposes, such as comparing products online, and getting general knowledge etc. This phenomenon also proves the claim made by Khan et al. (2013) that the use of e-commerce is different in developing world as compared to developed countries. Moreover, 33% of all the participants who used e-commerce were satisfied and 8% were highly satisfied with their experience of e-commerce (Fig. 2). Those participants who were highly satisfied were professional IT users, showing that the level of IT experiences plays a huge role in the adoption and satisfaction with the e-commerce in the country. As also mentioned by Makame et al. (2014), there is a lack of pertinent knowledge about the latest trends in the developing countries. As a consequence, even though the percentage of respondents who were having access to the Internet was considerably high, the respondents were not much aware of the features and benefits of e-commerce. When it comes to knowledge about e-commerce, all the female participants were aware of what it was, whereas, there were still 12% of all male respondents who did not know anything about it (Fig. 2). According to the study, 41% of all female participants and 35% of all male participants were having general know-how regarding e-commerce, therefore, it could be understood that it tends to be the female citizens who are interested in e-commerce. Despite this trend, there were only 36% of women who were doing online shopping, as compared to 64% of men. It was also found that these e-commerce users were having university degrees, which again repeated the fact that e-commerce was not much known among less educated participants, housewives or low-educated working class. Also, it is important to take into consideration that the cultural aspects as also highlighted previously by (Sohaib and Kang, 2014, Youngblood, 2014, Qureshi et al., 2014, Makame et al. 2014, Ahmed, 2011, Shah

and Baporikar, 2013) and also found in this study, 59% of the women and only 21% of men believed that there were still major cultural barriers which were limiting them from using e-commerce (see Fig. 1). As pointed out by Qureshi et al. (2014) and Kshetri (2007), the demographic profile has an important link with the ICT and online shopping. Furthermore, it can be seen from the results of this study that there is an evident relation between the age of the participants and their habits when it comes to the use of ICT or adoption of the e-commerce. However, in this study, it might be because the participants were mainly educated. On the other hand, a slight relation was also found between ages when the respondents started using ICT and their gender. There were identified several reasons why the participants are not using e-commerce, one of which is that they prefer to purchase products in the shops. It was also noted that some of the respondents were reluctant of using e-commerce due to non-availability of proper access to the technology. Moreover, the majority of the participants' were unsure about the reliability of new technology, and this is due to the lack of knowledge about ICT and e-commerce. About 75% of females were also concerned regarding the quality of the products they may purchase, along with the security issues of their personal details. It was found from this survey that trust deficit and lack of security are important issues restricting citizens from the adoption of e-commerce. Therefore, the Government is required to implement effective cyber laws. Also, 25% of the participants of this survey stated that as there is no direct contact between the retailer and the customer, the customer is not being able to see or touch the product directly. This also creates hesitation among these respondents.

4.1. Emotional perception of e-commerce

Figure 2 shows, on Likert Scale, that most of the participants think that the transferring of the personal and financial information is unsecure, and also the e-shopping still needed to prove its reliability. Moreover, 47% of the respondents were unable to do online shopping as the debit cards issued by most of the banks in Pakistan do not support online transactions, particularly, international transactions. Therefore, online companies, banks, and the Government have to work together in order to provide an easy, convenient and safer e-commerce environment to the customers where both customers' rights and their money are secure. Furthermore, the results obtained from the Likert Scale, a scale using values from 1 to 5 in this work, showed that females are facing more problems with an exploration of new products on e-commerce websites, compared to male participants. Also, according to the majority of the female participants, it is desired to have a better technology device in order to access the e-commerce, whereas, the majority of male participants believed that the good infrastructure is crucial. It has also been pointed out earlier by IORMA (2013) and Ibikunle (2013) that inadequate infrastructure and software are playing as a notable hindrance in the adoption of e-commerce in the developing countries.

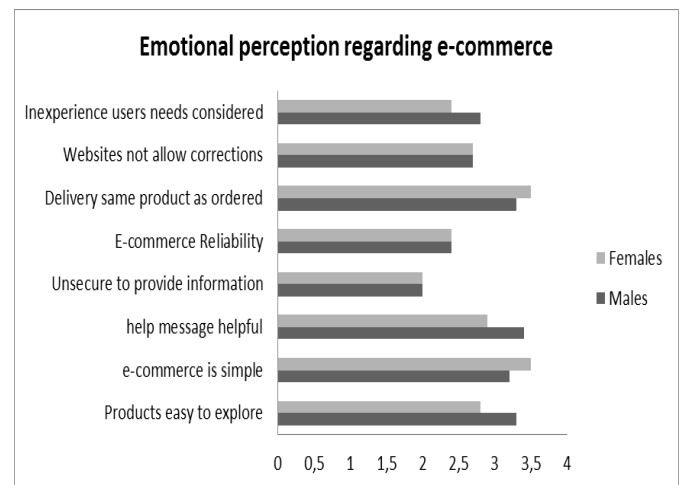


Figure 2: Participants emotional perception regarding e-commerce

However, most of the female participants believed that online shopping tasks can be performed in an easy manner (see Fig. 3), and the ordered products will arrive the same as was seen online, whereas, most of the male participants are somewhere skeptical regarding this claim. It shall be understood that e-commerce can only be popular in a country if the users are satisfied and they get the product which matches exactly to what they have selected on the websites, and almost half of all participants also feel that it is difficult to correct and amend the mistakes. Furthermore, non-user friendly hard- and software may limit the citizens from the adoption of the e-commerce, according to Maier and Nair-Reichert (2007), White paper (2008), Chen and Pu (2014) and Morris and Proberts (2013), and this may also be seen that 25% of the respondents declared that poor user interface and website format is the main barrier to the growth of e-commerce. This highlights the fact that the ICT companies shall further simplify the websites in order to improve its usability. Apart from all the issues, 17% of the respondents still having trust in the fact that e-commerce will help businesses to grow in Pakistan. The Likert Scale (see Fig. 3) showed the responses for the question "if experienced and inexperienced users' needs to be taken into consideration". It showed that the majority of the respondents gave it a very low score. This phenomenon reveals that the users do not believe that users of different experience level should be taken into consideration when it comes to the construction of the user-friendly devices and websites. Instead, all the end-users should be treated equally. It was also found that 79% of all male participants were optimistic about the bright future of e-commerce in Pakistan. On the other hand, merely 29% female respondents think that e-commerce has a brighter future in Pakistan. It is clearly seen that women have far less know-how when it comes to e-commerce in Pakistan and, hence, less certain about the utility and its future in the country. Despite the existence of a considerable number of barriers to the growth of e-commerce in Pakistan, overall, 39% of the respondents still believe that e-commerce can have a positive future in the country. On the other hand, 31% of the respondents believed it is difficult to say today as until the main issues will not be addressed at the country's level, the future of e-commerce is still uncertain in Pakistan. It is altogether positive that only a small number of respondents (4%) said that e-commerce has absolutely no

future in Pakistan.

5 MAIN FINDINGS

1. IT is more freely accessible and, hence, being more used by the male respondents as compared to their female counterparts in Pakistan.
2. The majority of female participants started using IT in the age of 18-30. An equal proportion of male participants started using IT in the age of below 17 or at the age of 18-30 years.
3. IT was used more than 3h per day by the participants with Bachelor degree or higher. Highly experienced IT users were using IT 5h per day or more.
4. It was also found that, as shown in Figure, only women with lower education levels (college or secondary school) were using IT 60 min per day or occasionally.
5. It was found that more likely female population shared the technology (device) with someone as compared to male participants.
6. The data revealed that only 62% of all male participants and 24% of all female participants are having unlimited Internet access. The majority of the participants, who are having unlimited Internet are having Bachelor degree or higher.
7. The citizens accessing the Internet mainly from the laptops. Most of the females were using their devices which were between 2-7 years old, whereas, majority of male respondents using the devices which were either 1 year old or less or older than 7 years.
8. As revealed in the study, only 33% of the participants have knowledge about e-commerce and only 21% used e-commerce for shopping. There were only 36% of females who were using e-commerce for shopping. Primarily, e-commerce was mainly adopted by the highly educated citizens of Pakistan.
9. 41% female participants and 35% male participants were found to have general knowledge about the e-commerce. 12% of male citizens do not know anything about e-commerce.
10. The results showed that 59% of the participated females experienced the presence of cultural barriers, whereas, only 21% of all male believed that there exists such barriers.
11. The participants of this study mentioned that effective Cyber laws should be implemented. They were unsure about the reliability of new technology. The equal number of males and females were also concerned about the quality of the products they may purchase.
12. Poor user interface and website format is a big problem, according to participants.
13. Females are facing more problems with exploration of new products on e-commerce websites, as compared to their male participants.
14. There exists a strong potential that e-commerce will be more popular among females, since they were having relatively more comfortable experience of online shopping. Furthermore, females trusted more that the ordered products were the same as ordered, whereas, most of the male participants were somewhere more skeptical to this claim.
15. It was found that 17% of the citizens who participated in the study are still having trust in that e-commerce will help businesses to grow in Pakistan.

16. 39% of the respondents were positive about the brighter future of the e-commerce. Furthermore, Gender wise 79% of men and 29% of women were optimistic about the brighter future of e-commerce in the country as presented in Figure 18.

6 CONTRIBUTIONS TO THE FIELD AND FUTURE RESEARCH

6.1 Originality and contributions to the field

The current research investigated and compared which possible IT- and human related barriers are limiting the use of e-commerce among Pakistani citizens. This work can be seen as a partial extension of a recently published work Qureshi et al. (2014). However, the current study is providing a deeper and broader comparison of the gender-based factors which are hindering males and females from the use of e-commerce in the country. It was important to determine these factors in order to bridge the digital divide and take into consideration different problems which genders may have when it comes to ICT- and e-commerce use. The current study has contributed to the field in several ways. For the first, it provides a deeper understanding of the barriers which are preventing the e-commerce adoption in the country. Secondly, the research presents gender-based analysis of these barriers and also illustrates the expansion of ICT in the country among males and female. Thirdly, the study providing the knowledge about the digital divide in the country in context to social, technological, gender, education, and skills aspects of the users. Therefore, the present work discusses quite uniquely the social-technological issues and their correlations. Finally, the work provides useful recommendations to overcome the obstacles and, hence, expand the use of IT and e-commerce in this highly populated country of the World.

6.3 Future research

The current study found that despite high educational levels of the majority of the users, they are not practicing e-commerce as it should be. As it is not clear from this study if less educated citizens do not have the economic resources in order to use the technology or they do not have enough knowledge about the latest trends. It may be worth continuing to investigate this problem in order to determine what possible barriers may exist for this issue. As current research has not focused on the level of income of the respondents, affecting their ability to use ICT and e-commerce, it will be useful if a study may be conducted keeping in view this aspect as well, as the per capita incomes of the Pakistanis are quite low, \$1275 (Mondi 2013). Therefore, future research in this regard may reveal interesting facts. Ahmed (2011) found a significant correlation between customer's e-purchase intentions and several human factors, one of which is age. However, research and the study conducted by Qureshi et al. (2014) did not find any visible correlation with the age and e-commerce use, this may be due to the fact that majority of the respondents of this study (49%) were MS degree holders or higher, as well as included only 24% of participants of age 41 or older. Therefore it is also useful to conduct a research by including only the people of 40 years or older. As the majority of the population belongs to a low or uneducated segment of the society in Pakistan, the results may differ if the study will include the participants who have less or no education. This will help to get a better overview of how e-commerce is

perceived among less educated or uneducated citizens and what are the possible factors which may limit their e-commerce adoption and how these obstacles can be removed.

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