

THE ENABLERS AND DISABLERS OF E-COMMERCE: CONSUMERS' PERSPECTIVES

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ABSTRACT

The availability and continued growth of Internet technologies (IT) have created great opportunities for users all over the globe to benefit from these services and use them in a variety of different ways. The use of IT to conduct business online is known as Electronic Commerce (E-Commerce). While developed countries have harnessed and adopted E-Commerce, developing countries are not yet fully adapted to its adoption. The aim of this study is to investigate the main factors that play a role in the adoption of E-Commerce from a consumer's perspective and, hence, develop a framework that conceptualises the influential factors (enablers and disablers) of E-Commerce. A 'grounded theory' methodology was used to collect and analyse the data and develop the proposed framework. Thus, semi-structured interviews were conducted with Saudi residents to elicit their opinions about E-Commerce enablers and disablers in Saudi Arabia. The findings of the study suggest that the factors that have the most significant impact on the adoption of E-Commerce in Saudi Arabia are security, fraud and hacking, trust, cyber-law, awareness and perceived usefulness, postal services, government e-readiness, resistance to change, the presence of commercial electronic websites, cost, tangibility, warranty, trial and experience.

Keywords: *Web technologies; Adoption; E-Commerce; Qualitative research; Saudi Arabia; Developing countries; Grounded theory; consumer behaviour.*

1. INTRODUCTION AND GENERAL OVERVIEW

The rapid diffusion and continuous development of Internet technologies have dramatically transformed many features of commerce and daily life. These Internet technologies enable consumers to search for information and purchase goods and services through direct interaction with the online store. Businesses have taken advantage of the great potential to extend their presence in the cyber-market beyond geographical boundaries and time restrictions (Park and Kim, 2003; Al-Somali et al., 2009; Ranganathan and Ganapathy, 2002). As a result, this has created a very popular concept called 'E-Commerce', which has grown enormously in the last decade (Aleid et al., 2009). This astonishing growth can be seen, for example, in the online population (Wei et al., 2010). While, the United States, followed by Europe, represents the largest share with about 79% of the global E-Commerce revenue, the African and Middle Eastern regions, on the other hand, have the smallest share with about 3% of the global E-Commerce revenue (AlGhamdi et al., 2012). Furthermore, Eid (2011) indicated in his study that, the Saudi Arabia E-Commerce spending is 12 billion Saudi Riyal (SR) in 2010; however, only 14.26% of the Saudi population were involved in E-Commerce activities.

While the diffusion and utilization of E-Commerce has grown dramatically in the developed countries, the proliferation of E-Commerce in developing countries has fallen far below expectations (Petrazzini and Kibati, 1999; Nir, 2007; Wei et al., 2010; Aleid et al., 2009). Studies indicate that businesses in developed countries differ from those in developing countries with respect to information technology and E-Commerce (Molla and Licker, 2005b;

Molla and Licker, 2005a). This difference is caused by the contextual impediments in managerial, environmental and organizational constraints. Furthermore, businesses implementing E-Commerce in developing countries face substantially greater challenges than businesses in developed countries due to the unreliability of the internet connection, the poor availability of accessing it due to the poor infrastructure, the high cost of doing so, and also the low level of ICT penetration throughout the country (Molla and Licker, 2005b; Molla and Licker, 2005a). Aleid (2009) carried out an investigation of different E-Commerce schemes in a number of countries with regard to culture, infrastructure and human behaviour. They find that there are a number of factors that may inhibit the diffusion of E-Commerce into developing countries (e.g. infrastructure, security, E-Commerce laws).

This study will focus on Saudi Arabia, which is considered to be a marketplace, which is ripe for E-Commerce activities in the Middle East (Eid, 2011). In their research Sait et al. (2007) also refer to the Saudi government efforts and achievements in keeping pace with advanced technological developments and their adoption. “The effort is ongoing as the Kingdom further opens Internet access, exploring opportunities for the Internet in education, government and commerce. The Saudi government has shown increasing interest in pursuing E-Commerce systems for promoting national and regional businesses, especially through the structuring of a legal framework for online transactions. Given the Kingdom’s regional influence, such a move would very likely have an impact on business flow and commerce systems in the Middle East”.

An additional reason for selecting Saudi Arabia for this study is that “a high level of cultural and social homogeneity prevails there. Almost 100 per cent of the Saudi population, 20 million according to a 2006 statistic, speaks Arabic” (Eid, 2011).

All that said, the rationale behind choosing Saudi Arabia for this study, in addition to the researchers own interests, is for the following reasons (Eid, 2011; Sait et al., 2007):

- The Saudi market itself is growing rapidly
- The geographical location of Saudi Arabia creates great potential for exchanging commercial benefits with the expanding neighbouring markets
- The availability of liquidity of both Saudi Arabia and its neighbouring countries works in favour of investing in E-Commerce-related requirements.
- This study is expected to contribute to the expansion of knowledge in the field, which will help many other developing countries

The paper is organized in the following way: Section 2 describes the research methodology and design; Section 3 provides a literature review on E-Commerce adoption in several countries; Section 4 presents the data analysis and findings; Section 5 offers a discussion and recommendations, and proposes a framework of the significant factors; and Section 6 provides a conclusion and suggestions for future work.

2. LITERATURE REVIEW ON E-COMMERCE ADOPTION

Different researchers have explored several different aspects of the factors affecting consumer adoption and acceptance of E-Commerce. Wei et al. (2010) have conducted a recent study to provide an understanding of the adoption of online shopping within Asian countries. Their investigation falls into three main categories: consumer attitudes towards online transaction management systems; the privacy and security of consumers’ personal information within vendor systems; and trust in the reliability of online sellers. Their findings show that security issues relating to the online transaction procedure and the reliability and

trustworthiness of online merchants have a direct impact on consumers' confidence in adopting E-Commerce (Wei et al., 2010). Another border study was conducted by Farhoomand et al. (2000) to investigate the E-Commerce adoption barriers at a global level. In order to identify the main barriers affecting the acceptance of E-Commerce across borders, they carried out field studies of ten companies in Finland and Hong Kong. The findings of their research suggest that the key inhibitors to the orderly acceptance and deployment of E-Commerce at the global level are: 'resistance to change', 'lack of education about the potential of global E-Commerce', and 'lack of flexible software'.

Furthermore, Al-Somali et al. (2009) conducted a recent study to identify the factors that encourage the adoption of online banking by customers in Saudi Arabia. They developed their research constructs based upon the technology acceptance model (TAM) and incorporated some other control variables. They tested their model by conducting a survey questionnaire among 400 bank customers. The results of the study indicate that 'the quality of the Internet connection', 'the awareness of online banking and its benefits', and 'social influence and computer self-efficacy' all have significant impacts on the perceived usefulness (PU) and perceived ease of use (PEOU) of online banking acceptance. 'Education', 'trust' and 'resistance to change' also have a significant impact on the likelihood of adopting online banking. In the United States many other studies have contributed to an understanding of E-Commerce adoption (Grandon and Pearson, 2004; Kabbaj, 2003; Lassar et al., 2005); and also throughout Europe (Corner et al., 2005; Monswé et al., 2004; Littler and Melanthiou, 2006); and in Australia (O'Cass and Fenech, 2003; Lichtenstein and Williamson, 2006; Corbitt et al., 2003) and Asia (Yiu et al., 2007; Wei et al., 2010; AlGhamdi et al., 2012).

However, there have been few investigations in developing countries concerning the implementation of E-Commerce. Also there has been very little research into the factors that account for the different levels of sophistication of E-Commerce use in businesses in developing countries compared to the developed ones (Molla and Licker, 2005b). Likewise, there is a limited amount of published research exploring the antecedents that control the adoption/acceptance of E-Commerce by customers in developing countries in the Middle East (Al-Somali et al., 2009; AlGhamdi et al., 2011; Aleid et al., 2009).

A search of the literature indicated that little research had been done investigating what was preventing Saudi consumers from adopting E-Commerce, both from a 'consumer' and a 'system' perspective.

3. RESEARCH METHODOLOGY AND DESIGN

The reason for using a qualitative method in this research is that it enables the researchers to reach deeper into the experience of the participants, to find out how opinions and habits are shaped culturally in order to discover the relevant variables. In their book, Corbin and Strauss (2008) summarize the benefits of qualitative research in that it shares these characteristics: 'a humanistic bent', 'curiosity', 'creativity and imagination', 'a sense of logic', 'the ability to recognize diversity as well as regularity', 'a willingness to take risks', 'the ability to live with ambiguity', 'the ability to work through problems in the field', 'an acceptance of the self as a research instrument', and 'trust in the self and the ability to see value in the work that is produced'. The research has been conducted by using a grounded theory methodology (GTM), which was developed, by Glaser and Strauss in 1967. Following GTM allows a qualitative method to be used which provides the following valuable characteristics: to shed light on a person's daily life experience; to evaluate contributors' perspectives; to investigate the interactive processes between researcher and respondents; and to be descriptive based on people's words (Marshall and Rossman, 1999).

The research aims to elicit the consumers' perspective i.e. what people in Saudi Arabia think and believe about adopting E-Commerce. This includes thoughts, beliefs and opinions. This information will be gathered by asking general questions and recording notes and comments about the important ideas and concepts. The semi-structured interviews were conducted during August 2011 in Dammam and Khobar, as they are two of the main cities in Saudi Arabia, which are highly populated and have high business potential. All participants were selected at random regardless of their age, income and gender. The researchers approached people from private and public organizations in different locations (e.g. universities, companies, schools, Internet cafes, streets and shops). However, this research is about adopting E-Commerce, so the researchers had to verify that the participants were Internet users before starting the interview. The sample size of these interviews was 40 interviewees.

4. DATA ANALYSIS AND FINDINGS

Using the grounded theory, there were several stages in the process of gathering and analysing the data:

1. Conducting the interviews (taking notes and recording)
2. Transcribing the notes and recordings to electronic form. For the purpose of confidentiality and the anonymity of each participant, in the data analysis, the researchers gave the interviewees a number (i.e. 1 to 40) and these numbers are used in the study as a reference for each interviewee.
3. Sorting data collected from all interviewees per question
4. Grouping or categorising statements per topic area.
5. Counting the frequency of each group or category

The researchers have further analysed the qualitative data by converting it to quantitative data in order to enable its manipulation statistically using statistical packages such as IBM SPSS. After entering the converted data into the SPSS software package (version 19), correlations and cross-tabulations were generated. The results are shown in the following paragraphs and are summarised in Table 1. The following section outlines the analysis and study findings.

The extracted statements from the interviews were grouped into categories according to the interview questions. The 40 respondents (see Table 2 for demographic data) expressed a total of 474 statements, of which only 161 were found to be relevant, complete and suitable to put into a category. In cases where a respondent brought up more than one concept or issue, the statements were separated and each was put in its respective statement group. The analysis of data resulted in the creation of 18 categories containing different numbers of statements. However, any category containing two or fewer statements was discarded. This reduced the number of categories to 14. This then allows a conclusion to be drawn about the importance of the respective E-Commerce features for customers. Thereafter, researchers were able to arrange the different categories according to their importance as indicated by participants, which is as follows.

The most frequent category was *postal services* with 27 answers. This category consists of the following sub-categories: *postal services quality* (13), *postal services reachability* (11), and *postal services awareness* (3).

The second category is *awareness* with 17 answers. It includes two sub-categories: *general demand to increase awareness level and learning* (4) and *lack of awareness or ignorance* (13).

The quality of the Internet infrastructure plays an important role in the adoption and development of E-Commerce. This category contains 12 statements. The sub-categories are *Internet connection quality* (4) and *Internet availability* (9).

Perceived usefulness contains 8 statements/answers, wherein the most stated by far was *very useful technique and/ or facilitating tool*.

Rank	Category	(%)
1	Postal Services	62.5
2	Security, Fraud and Hacking	42.5
3	Awareness	42.5
4	Perceived Usefulness	42.5
5	Trust	40.0
6	Telecom Charges (Cost)	32.5
7	Internet Infrastructures	30.0
8	Cyber-Law	25.0
9	Government E-Readiness	22.5
10	E-Commerce online presence	22.5
11	Warranty	20.0
12	Trial and Experience	10.0
13	Tangibility	07.5
14	Resistance to Change	07.5
15	Religion	05.0
16	Visa Cards	05.0
17	Internet Abuse	05.0
18	IT Support Presence	02.5

Table 1: Ranking of the Influential Factors in the Uptake of E-Commerce According to Consumer Feedback

The trust in E-Commerce has 16 statements/answers. This category contains statements such as *E-Commerce has to be a trust worthy* and the lack of trust between parties can harm the spread of E-Commerce.

'Security, Fraud and Hacking' has 17 statements/answers, comprising some detailed statements concerning *fraud* (14), *hackers* (2) and *security* (2), one of the statements having encompassed two categories.

Telecom Charges (Cost) has 13 statements/answers. The statements are mainly complaints about the high cost of the Internet subscription.

Nine statements focus on the category *E-Commerce online presence*. Statements here simply refer to the lack of online shops that sell/exchange products via the Internet and allow customers to fully interact with their website.

The *cyber-law* category has 10 statements/answers, expressed as follows: the *absence of responsible organizations* (5) and the *lack of laws and legislation* (5).

There are 10 statements/answers regarding the importance of the *government role*. All statements focus on the importance of the government's role in supporting, implementing, providing facilities for and adoption of E-Commerce.

The *warranty* category has 8 statements/answers, all talking about the need for guarantees for purchased products.

The categories *resistance to change*, *tangibility* and *trial and experience are* expressed in 3, 3 and 4 statements respectively.

The categories *religion* (2), *visa cards* (2), *IT support* (1) and *Internet abuse* (2) were excluded as they contain only 2 or fewer statements. The reason why the religion and visa cards were not stated as obstacles for E-Commerce adoption is that nowadays there are many banks that provide visa cards in a way that complies with Sharia law. It is possible that not many people consider the availability of 'IT support' as an important factor because they assume that a high-quality 'Internet infrastructure' is required before even starting to think about 'IT support'.

Age	Frequency	Percentage
18-25	22	55.0
26-35	8	20.0
36-45	6	15.0
46-55	4	10.0
Total	40	100.0

Gender	Frequency	Percentage
Female	6	15.0
Male	34	85.0
Total	40	100.0

Education	Frequency	Percentage
High School	24	60.0
Undergraduate	5	12.5
Graduate	5	12.5
Postgraduate	6	15.0

Annual Income (SAR*)	Frequency	Percentage
Less than 50,000	28	70.0
51,000-100,000	1	2.5
101,000-151,000	3	7.5
151,000-200,000	7	17.5
201,000-300,000	1	2.5
Total	40	100.0

*SAR = Saudi Arabian Riyal

Computer Literacy	Frequency	Percentage
Advanced	10	25.0
Intermediate	14	35.0
Some Capability	11	27.5
Beginner	5	12.5
Total	40	100.0

E-Com Use	Frequency	Percentage
Yes	19	47.5
No	21	52.5
Total	40	100.0

Table 2: Summary of Respondents' Demographic Data

Analysis of the data shows that there are more male respondents than females, with males accounting for 85%, and females, 15%; this may be due to the special culturally conservative society of Saudi Arabia. This resulted in extreme difficulty in approaching females and conducting interviews with them. 75% of the respondents are aged between 18 and 35 years, which is expected in Saudi society. Strangely, only 28.5% of them have graduate or postgraduate certification. 47.5% of all the respondents are frequent users of E-Commerce websites. 60% of the respondents rated themselves as having intermediate to advanced computer skills.

The following section provides an account of the research findings. It is organized as follows: for each factor, the discussion starts by highlighting the findings of other researchers followed by our findings in this research, concluded with a statistical table highlighting the frequency of that particular factor as per participants' feedback.

4.1 Internet Infrastructure

The infrastructure of the Internet is considered to be a crucial element in the success of E-Commerce. With regard to developing countries, several studies have highlighted the major

influence the quality of the infrastructure has as a determinant of E-Commerce adoption (Molla and Licker, 2005a; Aleid et al., 2009; Al-Somali et al., 2009). Al-Ghaith et al. (2010) conducted a survey about the adoption of online services and E-Commerce in Saudi Arabia and conducted an in-depth analysis of the 651 responses they received. They strongly recommend that the Saudi government should pay more attention to infrastructure and improve its quality in order to enhance the electronic services and E-Commerce use and adoption amongst Saudi consumers.

This study found that 30% of the respondents emphasized the enormous importance of infrastructure. Interviewee 8 commented, “There is no good infrastructure for many areas, specially the suburban areas and there is low availability for the essential technologies to use the E-Commerce ...”. Interviewee 37 commented, “There is no Internet connection in some villages”; also Interviewee 20 said “the Internet should be available more broadly with more attention paid to it by government. Even if it is weak it should still be available”. This has been confirmed by Interviewees 9, 15, 18, 21, 22, 27, 32, 34 and 39. Therefore, the Internet and its infrastructure are considered very important factors of E-Commerce and it should be given more attention.

Internet Infrastructure				
N=40	Frequency	Percent	Mean	Valid Percent
	12	30.0%	0.30	30.0%

Table 3: The Significance of the Internet infrastructure

4.2 Security, Fraud and Hacking

It is widely acknowledged by both government and industrial organizations that, from a consumer point of view, issues of information security are a major obstacle to the growth of E-Commerce. The perception of risk regarding Internet security has also been recognized as a concern for both experienced and inexperienced users of Internet technologies (Miyazaki and Fernandez, 2001). Furthermore, Miyazaki and Fernandez (2001) have identified the fraudulent behaviour by online retailers as a key concern for Internet users and, therefore, E-Commerce users Rose et al. (1999) identifies hackers as an obvious security threat to E-Commerce. This happens because the online availability and accessibility of the stored data of many corporations gives any hacker on the Internet the chance to steal data from these corporate databases. These threats have been identified in several new studies (Aleid et al., 2009; Al-Ghaith et al., 2010).

Concerning these critical issues, this study found that 45.5% of the respondents believed that these issues were crucial to the adoption and use of E-Commerce in Saudi Arabia. Interviewee 20 commented, “there is a weakness in the censorship and control over E-Commerce in Saudi Arabia which facilitates swindling and fraud between retailers and customers”. Interviewee 23 pointed out that “some of the important things that can negatively affect E-Commerce in Saudi Arabia are thefts and stealing your applications by using hacking software”. Interviewee 28 was afraid of using E-Commerce in Saudi Arabia because of the large amount of “...fraud and swindling...” from E-Commercial websites. These beliefs were supported by Interviewees 10, 11, 16, 21, 22, 26, 29, 31, 32, 34, 35, 37, and 39. As a result, the security standards and censorship activities should be maintained to a high professional level in order to aid the evolution of E-Commerce.

Security, Fraud and Hacking				
N=40	Frequency	Percent	Mean	Valid Percent
		17	42.5%	0.43

Table 4: The Significance of Security, Fraud and Hacking

4.3 Trust

Trust can be defined as “The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the truster, irrespective of their ability to monitor or control that other party” (Park and Kim, 2003). Trust can be considered as a vital factor in business to consumer (B2C) E-Commerce. It gives consumers confidence to buy products or services even if an e-trader is unknown. It encourages more use of E-Commerce technologies, makes the e-transaction process easier, enhances the level of acceptance and adoption of E-Commerce, leads to the improvement of consumer commitment, boosts customer satisfaction, institutes the concept of loyalty, sustains long-term relationships with customers and assists the acquiring of a competitive benefit. Future purchases can be motivated and increased prices tolerated. It reduces customer worries about information privacy, and helps customers to tolerate the irregular mistakes made by the e-trader (Pittayachawan, 2008).

Notwithstanding all these advantages of trust, it is extremely difficult to construct trust in B2C E-Commerce. This is because there are a high number of threats on the Internet (Ba and Pavlou, 2002). Trust is a complicated concept and has a multitude of sides to be addressed. There are a number of researchers who have continually approached the ‘trust’ issue from a technical side such as Internet and network security and even web interface design (Fernandes, 2001; Clifford et al., 1998; Pittayachawan, 2008). Nonetheless, according to Klang (2001) and Ratnasingham and Kumar (2000), considering just the technical perceptions will not guarantee trust in E-Commerce.

However, this study considers the user’s perception of trust. It found that 40% of the respondents believed these issues to be crucial aspects in the adoption of E-Commerce in Saudi Arabia. Interviewee 31 commented, “... people or clients don’t trust E-Commerce services and they prefer to go physically to buy goods ...”. Interviewee 2 said “... because the Saudi environment wasn’t accustomed to these kinds of services, they can’t trust them and there is no trust between dealers...”. Interviewee 21 commented “...E-Commerce is not used because money can be stolen and there is a lack of trust of commercial electronic websites”. Interviewees 2, 5, 11, 13, 16, 21-24, 28, 31, 32, 34, 37, 38 and 40 also confirmed these concerns about adopting E-Commerce in Saudi Arabia.

Trust				
N=40	Frequency	Percent	Mean	Valid Percent
		16	40.0	0.40

Table 5: The Significance of Trust in E-Commerce

4.4 Cyber-Law

It goes without saying that unambiguous legislation is vital for the regulation of the systems and the protection of the rights of all parties involved in any commercial transactions and activities, and its absence will almost certainly lead to a chaotic situation (AlGhamdi et al., 2011). Travica (2002) clearly states in his study that, in the diffusion of E-Commerce into developing countries, regulations and laws (e.g. customer protection legislation) and the quality of telecommunications certainly do affect the rate of progress of E-Commerce activities in many countries. Furthermore, Plant (2000), in his book, identified the lack of a customer protection law as one of the obstacles to E-Commerce diffusion. Andam (2003) states, in answering the question “What are the components of a typical successful E-Commerce transaction loop?”, that governments should establish a legal official framework (i.e. laws and regulations) for electronic transactions, including all types of electronic documents, and legal organizations that would impose the legal framework by protecting consumers, and businesses’ rights and preventing swindling and fraud between parties. The willingness of organizations to regulate E-Commerce is considered to be an essential element, but one that is presently lacking in developing countries, for the encouragement of the trust necessary to perform electronic business satisfactorily (Molla and Licker, 2005a).

The findings of this study correspond to the findings mentioned above. This study found that 25% of respondents confirmed the importance of cyber-law in E-Commerce. Interviewee 33 commented that in order to adopt E-Commerce in Saudi Arabia we need “Laws to apply and to be followed by the E-Commerce company”. On the other hand, Interviewee 31 explained the lack of using E-Commerce in Saudi as “there are no specific organizations or institutes to protect the consumer’s rights and to enforce control and censorship over this type of business”. Interviewee 13 said “there is no well-known company or government effort to penalize a dishonest company”. These concepts have been confirmed by Interviewees 3, 6, 12, 14, 20, 39 and 40.

Cyber-Law				
N=40	Frequency	Percent	Mean	Valid Percent
	10	25.0	0.25	25.0

Table 6: The Significance of Cyber-Law

4.5 Awareness and Perceived Usefulness (PU)

Within the context of the information systems (IS) domain, much research has outlined the significance of the influence of perceived usefulness on attitude towards the use of E-Commerce. The real reason why customers would use E-Commerce is that they find it a useful facility for conducting shopping online (Alghamdi, 2011). Furthermore, according to Sathye’s (1999) research, the use of online banking services, which is a good example of E-Commerce, is new knowledge to many customers, and the lack of awareness of online banking is a crucial factor in preventing customers from adopting it. In his study of 500 Australian customers, he concluded that customers were not aware of the potential benefits of online banking. This was supported by another study by Howcroft et al., (2002) in which they found that the issue of lack of awareness and knowledge of online banking services and their

potential benefits are a sufficient cause for consumers' reluctance to use these services. Moreover, another study that surveyed 981 Internet users in the U.S. found that there was usually a positive perception of using the web to purchase products, which will therefore result in the growth of online shopping (Li et al., 1999).

This has been confirmed by 42.5% of the respondents in this study. Interviewee 8 commented, "The Saudi citizens are still not aware of the importance of E-Commerce and believe it is hard to use and can't be implemented..." Interviewee 31 explained the reason for E-Commerce not being used widely is that "In Saudi society, there is insufficient awareness and understanding of E-Commerce services..." and he further explained the usefulness of these services: "I believe implementing E-Commerce in Saudi Arabia will contribute to serving consumers and facilitating or making it easy for them. However, it is not implemented in the proper way and is facing problems...". Interviewee 24 agreed with this argument: "E-Commerce is a very useful endeavour, which serves as an excellent tool for buying and selling...". This point has been reiterated by Interviewees 12, 13, 15, 18, 20, 31, 35, 37, 39 and 40.

Awareness and Perceived Usefulness (PU)				
N=40	Frequency	Percent	Mean	Valid Percent
		17	42.5	.43

Table 7: The Significance of the Awareness of E-Commerce

4.6 Postal Services

Ideally, for a successful E-Commerce system, an essential component is the presence of a transportation infrastructure (e.g. carrier/freight/cargo companies) to deliver goods and products to customers at a national and international level, enabling the movement of physical products to their destinations (Andam, 2003). Furthermore, Andam (2003) states that, for B2C transactions, offering a means of transporting packages is a 'must' for the system. A commercial website is useful if it delivers the services and products efficiently, but if the standards of customer delivery are not satisfactory then the web site is not useful (Al-maghrabi et al., 2009). In the developed countries the postal service is 'taken for granted' as a means of delivery.

The need for reliable delivery services has increased along with the proliferation of E-Commerce, and to the point where it has become essential for almost all companies in order to conduct successful business (Travica, 2002). Furthermore, Travica (2002) states in his study that the efficiency of the delivery system for products bought online become ever more important as E-Commerce evolves. The greatest advantage of E-Commerce is that it enables a business concern or individual to reach the global market. It caters to the demands of both the national and the international market, so that business activities need no longer be restricted by geographical boundaries. With the help of electronic commerce, even small enterprises can access the global market for selling and purchasing products and services. However, for successful E-Commerce, a trustworthy and effective delivery infrastructure is crucial.

The findings of this study are consistent with the above-mentioned aspects, with a majority of the participants agreeing about the importance of postal services. 46% of the

interviewees mentioned the significant role of the postal services and delivery. Interviewee 37 commented that “In Saudi there is little awareness of the importance of the postal services and this is one of the key problems ...”. Interviewee 26 agreed with the importance of postal services: “Yes, there should be a mail box for every house and apartment next to the door so I can buy stuff from the Internet”. Interviewee 25 explained that one possible factor that can negatively affect E-Commerce in Saudi is that, “the product delivery speed is very bad and it always comes late...”. This has been confirmed by Interviewees 1- 7, 9, 11, 14, 22, 24, 27-29, 31, 32, 34, 35, 38 and 39.

Postal Services				
N=40	Frequency	Percent	Mean	Valid Percent
	25	62.5	0.63	62.5

Table 8: The Significance of the Postal Services

4.7 Government E-Readiness

In AlGhamdi et al. (2011), the authors refer to the government’s role in Saudi Arabia as an important one. It facilitates the essential requirements for the development of E-Commerce such as providing robust secure online payment options, ensuring a solid ICT infrastructure, providing educational programs and building up awareness using different means such as media and education institutions. The results of their study show the significance of government promotion and support as a crucial factor (AlGhamdi et al., 2011). Furthermore, Molla and Licker (2005a) state that “The government demonstrates strong commitment to promoting E-Commerce”. Government and industry’s promotions are considered as a major enabler for E-Commerce. This promotion takes different forms in different countries, the most frequent areas being the sponsorship of Information Technologies (IT) and E-Commerce in businesses (e.g. Small and Medium Enterprises SMEs) by supporting them with technology, training and funding (Gibbs et al., 2002). For example, the government in Mexico is enabling E-Commerce by promoting the IT industry and providing technical assistance to SMEs, and in Taiwan, by investment in up-to-date network-based business models (Gibbs et al., 2002). Regarding Saudi Arabia, Eid (2011) claimed in his study that the Saudi Government’s support was recognized as an important element in the development and growth of local E-Commerce (Eid, 2011).

According to this study, some Saudi citizens believe in the importance of the government’s role. Interviewee 8 commented on the diffusion of E-Commerce “by government and private accreditation in providing the basic facilities such as a house address for every citizen, to be used online for accurate delivery of products and documents and special services. If there is no reliable postal service, there will be no e-government”. Interviewee 3 believes that “the main reason for the delayed development of E-Commerce is the lack of a role played by the government in making people aware of the benefits of E-Commerce”. This has been confirmed by Interviewees 4, 17, 31, 39 and 40.

Government E-Readiness				
N=40	Frequency	Percent	Mean	Valid Percent
		9	22.5	0.23

Table 9: The Significance of the Government Role

4.8 Resistance to Change

According to the literature, several studies have paid attention to customers' 'resistance to change' from traditional methods of conducting normal banking activities to electronic or online banking. Customers may not be willing to change from traditional ways of conducting banking activities to online banking unless there are some incentives to do so (Al-Somali et al., 2009). In a study of 25 organisations, the findings show that there is a noteworthy level of customer inertia to changing their traditional banking activities to online banking (Daniel, 1999). There is a range of potential barriers to SMEs performing business on the Internet. Technical factors such as access to broadband (ADSL or ISDN) and the lack of suitable electronic business software could provide difficulties to some firms. However, Drew (2003) considers the resistance to change as an organizational barrier.

Ndou (2004) considers the employee's resistance to change as the biggest barrier to a successful transition. Generally employees fear change and ICT applications in particular, because they believe that ICT might replace them and thus cause job losses. In addition, it is usually very hard, in a short period of time, to stop using traditional methods of processing and to start learning new ones. To successfully address resistance it is necessary to make sure that there is a stimulus for employees to be trained, and that there are well-organized plans that encompass employee participation all the way through every stage of the process.

These same issues have been raised in this study. Interviewee 8 commented, "... there is no acceptance among some employees to change the current processes". This has been confirmed by interviewees 40 and 39.

Resistance to Change				
N=40	Frequency	Percent	Mean	Valid Percent
		3	7.5	0.08

Table 10: The Significance of the Resistance to Change

4.9 E-Commercial Online Presence

The presence of E-Commerce by companies and organizations in the real marketplace is one important step in the adoption of E-Commerce in the surrounding society. The research findings have shown that companies must have a presence online, as enabling customers to do business online is vital for businesses (Andam, 2003). Furthermore, Molla and Licker (2005b) highlight the importance of the role played by industry in striving for electronic 'readiness' in the country. Indeed, conducting E-Commerce successfully relies on the support provided by industry. The expansion of such industries creates advantages by making

available fast and efficient access to E-Commerce. For its evolution in developing countries, certain conditions are crucial: the availability and affordability of services from the IT industry; the structuralisation of the financial sector; and the reliability and wide range of carrier and transportation facilities. The IT industry, in many developing countries, is not sufficiently robust. Also, the financial sector does not have the maturity to tackle electronic transactions, and the transportation facilities are insufficiently developed (Molla and Licker, 2005b).

With reference to Saudi Arabia, in their research paper Aleid et al. (2009) add that this country has not reached a sophisticated level of E-Commerce. They point out that as the country still has only a very small number of electronic companies and shops, consumers are facing the problem of a lack of diversity and maturity in electronic business competition.

This has also been confirmed by the findings in this study. 22.5% of the respondents agreed with the above points. Interviewee 26 commented on why E-Commerce is not widely used in Saudi Arabia "... it is a must that E-Commerce should be used properly and that all companies and organizations should set up commercial electronic websites for buying goods via the Internet". Interviewee 12 said, "In order to make E-Commerce work properly companies should put their visions, facilities and services online". Interviewee 7 commented that "the local electronic market is very weak and there is no real electronic commerce taking place in the country at the moment...". Interviewees 3, 6, 9, 28, 39 and 40 agreed with this.

E-Commerce Online Presence				
N=40	Frequency	Percent	Mean	Valid Percent
	9	22.5	0.23	22.5

Table 11: The Significance of E-Commerce Online Presence

4.10 Telecom Charges (Cost)

It has been suggested that in order to facilitate the growth of E-Commerce in developing countries a serious policy intervention is needed to reduce the cost of a number of essential charges, including Internet connection and subscription services and website-hosting with sufficient bandwidth (Andam, 2003).

A recent study conducted by Lawrence and Tar (2010) emphasizes the effects created by the high cost of Internet access. They claim that Internet access costs have prevented many users from using the Internet in developing countries and, as a result, slowed the development of E-Commerce. In addition, putting in place the essential infrastructure and creating a legislative framework and a competitive environment and that support affordable Internet access should be the preoccupation for most developing countries. Astonishingly, they state that the monthly subscription for an Internet connection far exceeds the average monthly income of a large portion of the population in many developing countries. They suggest that, to encourage more E-Commerce amongst users, companies should provide a wide range of options for Internet connections and communication services at competitive prices so that users can choose from a range of different services to match their needs and expectations. Additionally, a high Internet speed enhances the overall online experience for both businesses and individuals, motivating them to browse more applications and to stay online for longer. Thus countries with lower access costs usually have a larger number of Internet users so that

E-Commerce has improved rapidly in these countries. Therefore, the cost of Internet access is a key determinant in the use of E-Commerce (Lawrence and Tar, 2010).

A number of this study's respondents highlighted the concept of price and its effects on the customers' decision to use E-Commerce. Interviewee 2 commented that to encourage the use of E-Commerce in Saudi Arabia companies should offer facilities and discount prices to people in order to tempt them away from the traditional marketplace. On the other hand, one of the barriers to adopting E-Commerce in Saudi Arabia is, as Interviewee 15 commented, "the prohibitively high prices of Internet subscriptions offered by Internet Services Providers (ISP)". This important issue was also raised by Interviewees 3- 6, 9, 14, 19, 24- 26 and 29.

Telecom Charges (Cost)				
N=40	Frequency	Percent	Mean	Valid Percent
	13	32.5	0.33	32.5

Table 12: The Significance of Telecom Charges (Cost)

4.11 Tangibility

The previous research has discussed the product characteristics and types and their impacts on consumers' decisions or intentions to use online shopping. A study by Chung and Lee (2003) conducted an online survey to study the effects of 15 variables: 'product price', 'product quality', 'product variety', 'responsiveness', 'assurance', 'reliability', 'empathy', 'tangibility', 'perceived ease of use', 'site image', 'promotion', 'consumer risk', 'innovativeness', 'social interaction orientation' and 'preference of credit card use', to test overall consumer satisfaction with internet shopping and the intention to repurchase online. There were 700 responses from Internet users out of 5,200 distributed questionnaires. The researchers aimed to bring to light the correlation between these variables and customer loyalty, this being deemed vital to the success of online shopping. Their results also show that the tangibility of products is found to be statistically significant, having, as it does, a positive effect on the level of overall consumer satisfaction (Chung and Lee, 2003).

Another study highlighted the fact that online stores attract customers of a specific orientation. Online shopping is preferred over in-store shopping by a number of Internet users owing to its time-saving and convenience. Nevertheless, this study found that an overwhelming 69% of surveyed Internet users agreed that shopping at stores allows them to see, touch, feel and try the products prior to buying them. These findings indicate that consumers who are convenience-orientated are more likely to buy online, while those who are experience-orientated are less likely to shop online (Li et al., 1999).

The research of Li et al. (1999) is consistent with the findings of this study. 7.5% of our respondents have a certain consideration about the concept 'tangibility'. Interviewee 5 commented about how people differentiate and perceive product characteristics as "clients prefer to handle the item and recognize its specifications. With regard to clothes, people need to gain knowledge about the texture and quality of the fabric, the size and the actual colour...". This has been confirmed by interviewees 40 and 39.

Product Tangibility				
N=40	Frequency	Percent	Mean	Valid Percent
	3	7.5	0.08	7.5

Table 13: The Significance of the Product Tangibility

4.12 Warranty

Product warranties have gained the interest of researchers from several different disciplines and the literature on warranties is huge. A study conducted by Murthy and Djameludin (2002) tried to review the literature that has been published in the last ten years. From an overall business perspective, this study emphasizes issues that interest manufacturers with regard to managing new products. They stated that the warranty is a significant element for marketing new products and a better warranty usually refers to high quality products and enables consumers to have greater faith in them. Providing a warranty usually adds additional cost of the product for the manufacturer. This cost, however, usually depends on the product's reliability and warranty terms. Product reliability is also affected by decisions taken in the design and manufacturing stages of the products; thus, a warranty is deemed to be very significant in the context of new products (Murthy and Djameludin, 2002).

Another study by Christozov and Mateev (2003) investigated the concept of 'warranty' as a factor for E-Commerce success. They conducted an experiment on about 60 freshmen and sophomore students. They classified the factors that affect the success of E-Commerce transactions into two categories. The first category is the environment in which the transaction takes place between buyer and seller (be it an 'IT', 'logistic', 'financial' or other infrastructure', or 'government regulations'). The second category concerns the nature of the transaction (i.e. the understanding between buyer and seller), *which* can enhance the trust between both parties (and particularly the buyer's trust). One important element of this understanding is the warranty statement, which plays a vital role as a risk-reducing strategy for both buyer and seller, as it is designed to covers both parties:

- Seller: Malfunctioning (e.g. the product is not operating as expected by the seller).
- Buyer: Misinforming (the product is not operating as expected by the buyer).

Their results show that the problem of misinformation is significant for every kind of business transaction, but they are especially critical of transactions performed via the Internet. The warranty concept was given a good deal of attention by the interviewees in this study. 20% of the participants agreed on the importance of a warranty in the conduction of any E-Commerce activity. Interviewee 36 commented, "The electronic website should be guaranteed and certified by the Ministry of Commerce and there should be a warranty to compensate for damaged products". Interviewee 34 confirmed the importance of this issue: "The warranty is very important as insurance for damaged or lost products". This has also been confirmed by interviewees 6, 10, 13, 18, 22 and 25.

Warranty				
N=40	Frequency	Percent	Mean	Valid Percent
	8	20.0	0.20	20.0

Table 14: The Significance of the Warranty

4.13 Trial and Experience

Chung and Lee (2003) conducted research into the factors that influence repurchasing intentions via the Internet. [In their study, participants had to have had experience of using the Internet but not necessarily of purchasing services or products online. They studied 15 factors relating to overall consumer satisfaction and repurchasing intentions. The results show that the consumers who have had prior experience of buying online are more likely to buy goods online again.

Another study by Jarvenpaa and Todd (1997) was concerned with why consumers would purchase via the Internet. One of the main factors that they surveyed Internet users about was their shopping experiences. They studied the correlation between the shopping experience and the intention to purchase online. Their findings show that there is a strong correlation between the shopping experience and the intention of purchasing online.

Research conducted by Monsuwé et al. (2004) aimed to increase researchers understanding of consumer attitudes to online shopping and their intentions towards shopping on the Internet. Their framework was based on an extended version of the Technology Acceptance Model (TAM). They stated clearly that consumers' Internet shopping history influenced their intention to shop online. They confirmed their claim by pointing out that several earlier research results agreed that an Internet shopping experience has a direct effect on Internet shopping intention. In addition, their review highlighted the fact that attitudes and intentions for shopping online are not only influenced by 'ease of use', 'usefulness' and 'enjoyment', but also by external factors like 'consumer traits', 'situational factors', 'product characteristics', 'previous online shopping experiences', and 'trust in online shopping'. Furthermore, they proposed that any individual's reaction or response to any judgmental task is based on three facets: (1) the accumulated past experiences of that individual; (2) the background or context; and (3) the incentive (Monsuwé et al., 2004).

The prior experience of a customer was given attention by this study's interviewees. About 10% of the respondents mentioned the importance of having a past experience in order to adopt E-Commerce in Saudi Arabia. Interviewee 39 commented about the lack of experience "...because of the shortage of commercial electronic websites Saudi citizens do not have any past experience of using them, I think if they are used more widely it will support their implementation?...". Interviewee 40 commented about the obstacles that can prevent the implementation of E-Commerce in Saudi Arabia: "I have no prior successful experience in using E-Commerce in Saudi". Interviewees 8 and 22 made similar comments.

Trial/Experience				
N=40	Frequency	Percent	Mean	Valid Percent
	4	10.0	0.10	10.0

Table 15: The Significance of Trial and Experience

5. DISCUSSION AND FRAMEWORK CONSTRUCTION

The aim of our research was to identify the factors that encourage customers to adopt E-Commerce in Saudi Arabia, which can be useful for E-Commerce policy makers, government and industry in general, and E-Commerce end-users in particular. The main strengths of this study are the derivation of its factors, which have gained the attention of different conceptual and empirical research projects in different countries. The applied measures used in this study were developed through an extensive study of literature reviews and grounded theory methodology. In addition, the research findings, which have been used in many previous technology and E-Commerce adoption studies, were found to have adequate reliability and validity. The importance of the factors in the success of E-Commerce, according to consumer feedback, are shown in the figure below.

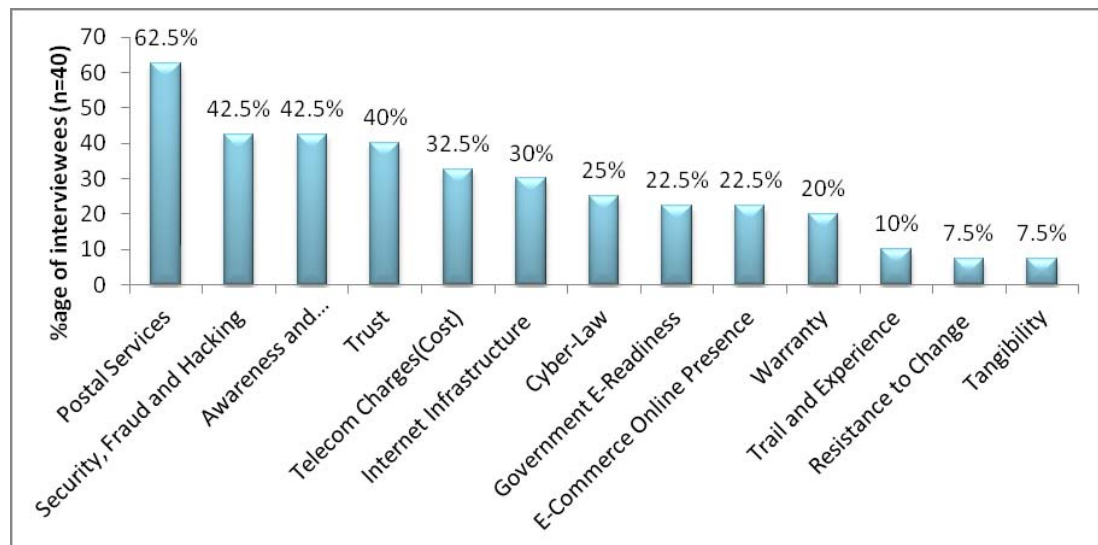


Figure 1: The most influential factors in the success of E-Commerce from consumer feedback

The findings of this study can be divided into two main categories that both play a significant role, from a consumer perspective, in the adoption of E-Commerce: (1) 'Enablers', which comprise 10 factors as listed in Figure 2 below, some of which need more improvement and expansion, supported by current technologies, and some of which need to be encouraged and widely applied using the best and most advanced technologies. What is required are reliable internet connections, good infrastructure; the understanding and implementation of cyber-law; efficient transportation for the delivery of products; trustworthy

security systems; fair and effective warranty agreements; the perception of trust, and the promotion of it; comprehensive awareness and training programmes; and e-readiness and support from government. (2) 'Disablers', which comprise 5 factors, also listed in Figure 2 below, that need to be either managed, limited or prevented by: finding alternative ways of offering customers a trial or the equivalent of a tangible experience of the product; introducing competitive and affordable charges; promoting the potential benefits of E-Commerce to eliminate the impact of resistance to change; and installing high quality security systems using strong encryption algorithms to prevent hacking and fraud.

After analysing the collected data, researchers were able to construct a framework of E-Commerce enabling and disabling factors that need to be considered by E-Commerce policy makers, government, industry and eventually, the end user (see Figure 2). While the availability of 'enablers' will help E-Commerce to flourish, the presence of 'disablers' will harm the growth of E-Commerce.

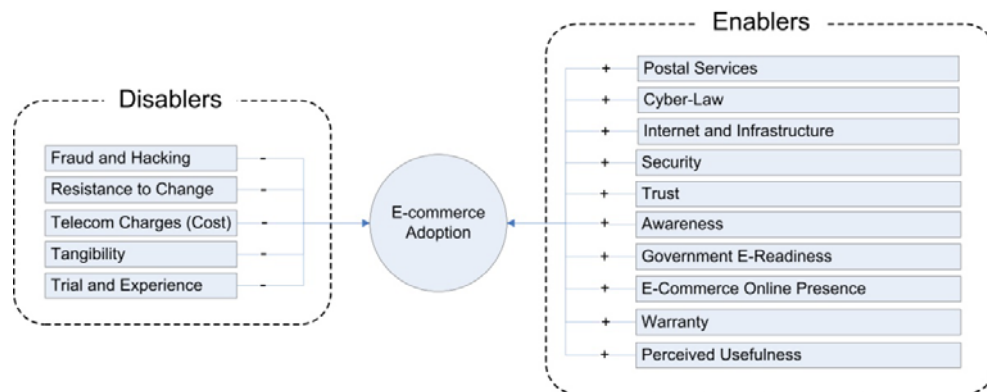


Figure 2: E-Commerce enablers' and disablers' framework

These factors and their categories (i.e. enablers and disablers) agreed with the previous findings of studies that have been mentioned throughout this paper. This indicates that E-Commerce adoption is facing similar enablers or disablers in other countries. Therefore, countries worldwide need to pay attention to all these factors, to look into the weak links in their infrastructure and transform them into positive ones in the quest for E-Commerce expansion.

6. CONCLUSION AND FUTURE WORK

Under the guidance of grounded theory and through analysing and synthesising the gathered data, a framework of e-commerce enablers and disablers in Saudi Arabia was constructed. This research highlights the most important factors that need to be considered in order to support the proliferation and advancement of E-Commerce in developing countries. Countries need to encourage and improve the E-Commerce enablers as shown in Figure 3 above. Failure to do so could convert the enablers into disablers. Disablers need to be eliminated, reduced or handled in certain ways to avoid their worst effects. Therefore, this study represents a showcase for different factors preventing the proliferation and advancement of E-Commerce in developing countries that are similar to Saudi Arabia. Furthermore, it highlights the driving factors that enable the progress and proliferation of E-Commerce.

With the inspiration of the developed framework, the critical factors can be cumulatively grouped as follows: 1) Telecom and IT infrastructure; 2) IT skills/literacy awareness); 3) the perception of usefulness and ease of use, and 4) transportation and postal services. The availability of these factors and their sub-factors will streamline the success of E-Commerce in any country. These factors are interrelated; hence, achieving total success will normally take some time, even in countries that are willing to pay whatever it takes.

This research sheds light on the potential factors that may play a significant role in supporting the proliferation and advancement of E-Commerce in Saudi Arabia. The outcomes of this study may contribute to the market stakeholders' understanding of their potential customers' needs and concerns. Exploring the market, especially at this time while E-Commerce is still in its development stage in the Middle East, is critical for industry stakeholders in order to ensure the success of this emerging market.

The authors highly recommend a number of practical suggestions in order to increase E-Commerce adoption in Saudi Arabia. The efficiency of postal services were found to be the most related factor affecting E-Commerce adoption in Saudi Arabia, followed by security, fraud and hacking, awareness and perceived usefulness. Trust of the commercial websites, telecom charges and Internet infrastructure also had a notable effect on E-Commerce usage and adoption in Saudi Arabia. Cyber-law, government e-readiness and online presence are also considered by many participants to speed up the adoption of E-Commerce. Based on these findings this study has a number of recommendations for E-commerce website developers and designers, the Saudi government.

With regard to the *E-Commerce developers and designers*, it is strongly recommended that they develop more user-friendly websites that can be easily used by those who lack Internet expertise and, since almost all Saudis speak Arabic, these websites should also be bi-lingual interface (Arabic and English) to insure that the website is understandable to those who have difficulty in dealing with the English language. It is recommended that the focus be on simplicity and appropriateness of the information as well as meeting the concerns on its accuracy, usefulness, and the suitability of fonts, colours, graphics and animation.

The survey highlights the importance of conducting intensive programs to raise the awareness of the benefits of E-Commerce in Saudi Arabian society. Usually the highest rate of adoption is achieved among those who recognize that E-Commerce is able to meet their needs. Therefore, increasing awareness of E-Commerce and its benefits is vital for increasing its rate of proliferation. Consequently, it is highly recommended that the Saudi government pay serious attention to how to build up the awareness of E-Commerce and the advantages of its use amongst Saudi citizens. This can be achieved by setting up campaigns on how to use it and, prior to that, widely promoting the Internet and its services. Another possible way of raising awareness is by using the media, such as television (TV) programs, competitions and advertisements, educational and awareness campaigns, the distribution of brochures in shops and other public places, the daily newspapers and the TV news channels.

Alongside the above-mentioned methods, infrastructure plays a crucial role in the advancement and proliferation of E-Commerce. The Saudi government should, therefore, do their best to accomplish new and high quality infrastructure standards at a national level. In addition, the existing postal system should be improved in such a way that each building should have a standardized, simple but unique address. This will enable fast and efficient delivery of products and services to the identifiable shipping address. Subsequently, the citizens need to be made aware of these developments by the means mentioned above. Furthermore, the government should improve the Internet quality by increasing the investment in ICT infrastructure. Moreover, the government and the communications and

information technology commission (the ICT regulatory body), should work hand in hand to issue more licenses for public communications network operators and ICT service providers. This would generate a competitive business environment, which in turn should enhance quality and reduce the costs of E-Commerce and Internet services. It will also help to provide affordable, high quality Internet access at high speed, which in turn would certainly increase E-Commerce adoption.

Cyber-law and regulations in Saudi Arabia are major concerns of organizations, firms and consumers. They play an important role right from the beginning of any online transaction through to the after-services and warranty of the online product or services purchased. The government need to make sure that these laws do not offend people from any walk of life; in particular it should comply with Shariah laws, as Islam is the religion practised in Saudi Arabia.

Another study could include an investigation in more cities, and especially in more rural areas, which may lead to more accurate and comprehensive results and analysis. Also, comparative research in different parts of the country would produce more complete national findings. The results of this study could then be compared with those of other developing countries having similar conditions to see if there is a significant difference. Finally, increasing the sample size would provide more representative results and analysis.

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