Measuring Customers' Perceptions and Readiness to Accept E-Commerce in Iraq: An Empirical Study

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Abstract

Electronic Commerce (e-commerce) assists organizations to conduct business electronically. This innovation has proved to be one of many significant operational and strategic tools that bring various benefits to business. Many developed countries have actively applied e-commerce successfully since long time ago. In fact e-commerce has become an integral part in many western organizations. However, developing countries, such as IRAQ, are still lagging behind in e-commerce adoption. It is observed that there is a lack of systematic research in e-commerce in the Arabic countries in general, and in Iraq in specific. The purpose of this empirical research is to investigate the perceptions of a sample of Iraqi citizens about e-commerce, and their readiness to do transactions by this mean. The analysis conducted in this work reveals that perceived privacy is the most important variable to the sample surveyed. The study has also identified many barriers (such as e-payment, technological, legal, cultural, trust, etc.) which still impede the adoption of e-commerce in Iraq. The results of this research have many practical implications for policy makers regarding the diffusion and the regulation of e-commerce in Iraq.

Key words: e-commerce, customer perceptions, e-commerce barriers, Iraq

1. Introduction

With the widespread of the internet, the number of internet users has been growing consistently around the world. According to Almeida et. al. (2007), over one billion people had access to the internet in 2006. The world usage of the internet has increased more than 200% from 2000 to 2006. This growth is characterized by providing drivers and opportunities for local, regional, and global commerce (Humphrey et. al., 2003). In fact, the implications of the internet and its related technologies have resulted in new terms such as "weightless economy" and the "knowledge economy".

E-Commerce is the result of the Information and Communications Technology (ICT), which is considered the most contributors to the economic growth in the developed countries. According to United Nations, the ICT sector accounts for a significant portion of the world economy, and in some developed countries it accounts for more than 10% of the business sector value-added (UNCTAD, 2010). Thus, the developed countries have diffused the e-commerce and have made it an important part of its business activities. However, in the developing countries, the usage rates are much lower than those in the developed countries are. This is due, partly, to different environmental contexts, infrastructure, and socio-economic characteristics which play a significant role in the growth and acceptance of e-commerce in the developing countries (Efendioglu, 2007).

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E-commerce can play a major role towards economic growth and poverty fighting strategies in developing countries. Some developing countries have adopted strategies to regulate and diffuse e-commerce (Uzoka et. al.,2007). According to The Arab Advisors Group (2007), e-commerce volume in Kuwait, Lebanon, Saudi Arabia and UAE have exceeded $4.87 billion in 2007, and the total number of users is around 5.1 millions. However, the research level in e-commerce in developing countries in general, and in the Arabic countries in specific is still lagging behind that in the western hemisphere.

As a developing country, Iraq is a post-conflict society, there is a limited use of internet, and a wide mobile phone devices use among younger generation in urban areas, but there is little penetration of these technologies into the e-commerce activities (US Commercial Services, 2012). So far, the authors did not encounter many studies that investigate the perception of the Iraqi customers and their readiness to do transactions via e-commerce. Precisely, e-commerce adoption and acceptance in Iraq has not been evaluated before. The primary purposes of this research are to explore the perceptions of Iraqi customer's vis-à-vis e-commerce, to examine their readiness to use this mean of trading, and attempt to identify the barriers that hamper the diffusion of e-commerce, which are often underestimated in developing countries. This research contributes to the body of knowledge in the area of e-commerce with particular interest on Iraq. The findings of this work are limited by the sample surveyed and the geographical limits, however, the findings reached carry many implications for policy- makers in Iraq.

2. Literature Review

The literature on e-commerce is immense and describes extensively the factors that determine the success of this mode of transactions, in addition to investigating the perceptions and readiness of customers in different countries. However, very few studies about the use of e-commerce were conducted within the Iraqi context. To bridge this gap we shall focus on the studies that were conducted in developing countries in order to define the most important factors consistent with the Iraqi uniqueness. Lee et. al. (2001) claim that there are insufficient empirical research efforts concerning e-commerce in Korea as opposed to the research efforts in the USA. The authors attempted to demonstrate the extent to which contextual differences influence consumer satisfaction with the purchased products or services in developed and developing countries. The study reveals that contextual issues should be resolved before reaping the real benefits of e-commerce for consumers and businesses. Pare (2002) argues that B2B e-commerce is being promoted as if it offers firms, in developing countries, the ability to compete in international markets on a more equal basis. The argument he presents challenges this point of view.

The evidence obtained from attribute analysis and interviews in two major sectors in three developing countries indicates that e-commerce is not effective in reducing transaction costs and facilitating the penetration of global markets. The paper concludes that targeting "e-readiness" is unlikely to succeed in developing countries unless careful attention is given to the specific characteristics and positioning of firms within global value chains. With respect to mobile communication technology, Humphry et. al. (2003) studied the potential offered by the internet based e-commerce to enhance access to international market by firms in developing countries. Their study addressed the following questions: Does e-commerce offer new and cheaper access to global markets? Are developing country producers being marginalized by the introduction of e-commerce? How might governments in developing countries assist producers to participate in the development of e-commerce on an equitable global basis? The study called into question many of the optimistic views about the widespread of B2B e-commerce and the possibility of integrating developing country firms into the global economy.

Efendioglu et. al. (2004) conducted a study to investigate the impact of infrastructure and socio-economic characteristics on the level of variations in the acceptance and growth of e-commerce in China. The study reported that cultural issues such as socializing effect of commerce, transactional and institutional trust and attitudes toward debt play important roles in the diffusion and adoption of e-commerce. The authors discussed these findings and identified changes required for broader acceptance and diffusion of e-commerce in China. Furthermore, the study suggested approaches that organizations can use to enhance the development and use of e-commerce. Hawk (2004) mentions that the state of e-commerce in developing countries is similar to that found in the USA in mid-90's. He projects a great growth in the internet access in many developing countries in the next 5-10 years which signifies an opportunity for those who sell over the internet in the world.

The author studied the challenges that face e-commerce in three regions: Federal Russia, India and Latin America. The analysis revealed low credit card penetration and poor delivery systems pose serious problems for e-commerce in the studied regions. Vatanasakdakul et. al. (2004) explored the impact of social and cultural perspectives

on the adoption of e-commerce in Thailand.

Through interviews with key informants from different industries, it was found that firms face common problems that relate to social and cultural issues. It was also highlighted that even the firms that adopted e-commerce reported a limited use of it, and firms do not seem to have benefited much from e-commerce. The problem was that of users' cultural and social expectations about e-commerce. The authors believe that e-commerce meets the expectations and needs of Western Cultures that do not forcibly exist in the Thailand culture. Molla (2004) explored the organizational and environmental "e-readiness" constructs that might affect e-commerce success in developing countries. Molla extracted data through a survey that covered 150 business organizations in South Africa. Contrary to the traditionally-accepted belief which treats environmental factors as major barriers to e-commerce, it was found that firm-specific variables seem to be the key drivers in differentiating relatively successful from less successful business in South Africa. Moreover, the author reported that technological resources of business, the government model put in place, and the government's commitment play significant roles in determining the success of e-commerce in developing countries. The author recommends that organizational and contextual variables should not be neglected to sustain successful e-commerce. Almeida et. al. (2007) examined the advantages and potentials for the use of digital signatures to execute transactions electronically in developing and transition countries. The authors ranked areas in the world according to their e-readiness. North America, Western Europe, and some Asian countries ranked top in e-readiness.

However, the majority of countries in the world were ranked lower in their e-readiness. Further, the study delineated the following readiness indicators in the developed, developing and transition countries: connectivity, business environment, consumer and business adoption, legal and policy environment, social and cultural environment and supporting e-services. The study proposed key issues that should be considered for policy-makers to foster the development of e-commerce. Park & Lehtho (2007) state that China is the largest market in the world, but the rapid changes in economic environment is responsible for disparities among geographical regions which pose unique marketing problems. To better understand China as a potentially high valuable mobile technology market, the authors conducted a survey that covered 221 nationals to test the conceptual framework based on the Unified Theory of Acceptance and Use of Technology (UTAUT) with moderating variables. The analysis revealed that gender and education level are significant factors, while the internet usage was found to be less significant. The study suggests that cultural background and disposition should be taken into consideration for the UTAUT. In their study, Lawrence and Tar (2010) indicate that e-commerce has received a significant attention in developing countries due to its potential to enhance productivity and efficiency. The authors concluded that the absence of appropriate infrastructure, socio-economic and the lack of government ICT strategies have imposed significant barriers in the acceptance and growth of e-commerce.

The study shows that in order to facilitate the diffusion and adoption of e-commerce in developing countries, the cultural issues must first be resolved. Dehkordi et. al. (2011) investigated the impact of culture, gender and previous experience with information technology on the success of e-commerce by surveying a sample of 136 persons in Iran and the United Arab Emirates. The study found that culture and prior experience with information technology play a significant role in the willingness to adopt e-commerce. Eid (2011) performed a study in Saudi Arabia to identify the factors that influence the degree to which Saudi consumers trust, satisfied and are loyal regarding B2C e-commerce. The author used a self-administered survey to gather data. The analysis reported that B2C e-commerce customer loyalty in Saudi Arabia is strongly influenced by customer satisfaction but is weakly influenced by customer trust. In their study, Johar & Awalluddine (2011) attempted to explore the factors that influence and contribute to customers' willingness to deal via e-commerce. The research purpose was to measure how far the Technology Acceptance Model (TAM) contributes in the adoption of e-commerce in Malaysia. The analysis of 611 questionnaires reveals that the TAM offers valuable constructs (perceived usefulness, perceived ease of use and perceived enjoyment) which explain the effect e-commerce adoption. Lawrence (2011) has some doubts about the adequacy of e-commerce for developing countries.

He believes that the absence of relevant infrastructure, socio-economic, socio-cultural, and government ICT strategies hinder the adoption and widespread use of e-commerce in the Kurdistan region of Iraq. The author argues that to diffuse and to understand e-commerce in Kurdistan, the issues of socio-culture such as transactional trust and social effect of retailing must be considered first.

Despite the fact that there have been many studies that addressed e-commerce, and have attempted to understand its issues in developing countries, but it is quite clear that very few studies have focused on Iraq. More specifically, the perceptions of Iraqi customers were not explored before. Therefore, we shall attempt to address this deficiency by conducting a primary research to unveil the perceptions of Iraqi citizens with regard to their readiness and acceptance of e-commerce in Iraq.

3. ICT Status in Iraq

According to ITU (2012), during the previous five years, the Arabic countries have made a significant progress regarding the ICT adoption. The number of mobile-cellular subscribers has almost tripled from 126 million in 2006 to approximately 350 million in 2011. The mobile-cellular penetration in the region has reached 97% which is higher than the world average. Meanwhile the internet usage is still limited. ITU estimates that the percentage of people using the internet in the Arabic countries was about 30%, while the broadband penetration was about 2% only at the end of 2011. These percentages are well below the world average. Despite the fact that many Arabic countries installed 3G mobile-broadband services; the active-mobile broadband penetration is estimated to be around 13% which is below the world average.

With respect to Iraq, the only entity in charge for regulating the telecommunication and media markets is The Communication and Media Commission (CMC). The CMC is the sole authority that grants licenses for telecommunication operations, receives fees and tariffs, and manages resources such as spectrum frequencies, right of way, international communications, in addition to some activities which support the universal access (ITU, 2012). Other responsibilities of CMC include the regulation of broadband access networks and digital broadcasting in Iraq. In the present time, there is an absence of a comprehensive legislation for privacy rights, and the protection of personal data and access to information.

The Ministry of Communication (MoC) joined by the CMC have started a national campaign to renovate the fixed telephone infrastructure and equipment in Iraq. By the end of 2010 the number of fixed telephone subscribers reached 1.6 millions, the fixed telephone penetration rate is 5.1%. Although the cellular phone was introduced after the events of 2003, its growth has skyrocketed since that time. Now there are three national and one regional mobile-cellular operators: Zain, Asiacell, and Korek, while Mobitel is a regional operator that provides 3G services in the Kurdistan region of Iraq. The mobile-cellular market continues to grow steadily. In fact the number of mobile subscribers reached 24 million at the end of June 2011; the penetration rate is 75%.

The internet market in Iraq is not regulated completely. Due to security instability during the past seven years, a thorough regulation of the internet market has not been possible. The entire internet infrastructure has been damaged right after 2003. Internet users relied on worldwide interoperability for microwave access such as Very Small Aperture Terminal (VSAT), microwave links and Wireless Fidelity (WiFi) systems provided by private companies which are often unlicensed. The number of internet subscribers is very limited due to high prices ($40-$60/month). Some users depend on fixed-wireless services offered by Wireless Local Loop (WLL) and Worldwide interoperability for microwave access (WiMAX) licensed operators such as Kalimat, Omnia, Itisaluna and IBN. Meanwhile, few WiMAX providers are operating in Kurdistan without a license. The Iraqi Telecommunications and Post Company (ITPC) announced in 2011 that fixed-line users could access the internet without a fee until the end of the year. The ITPC is contemplating the deployment and operation of two Fiber To The House (FTTH) access network projects in Iraq. The first will be initiated in Baghdad with 45,000 FTTH lines, while the second provides 55,000 FTTH lines which is intended to serve: Basra, Wasit, Missan, Najaf and Niniva. The ITPC has plans to connect the rest of Iraq by the end of 2012. In general, ITU estimates the internet users in Iraq to be around 792,000 with a penetration rate of 2.5%. Table (1) presents the licensed and unlicensed fixed-wireless providers in Iraq, while Table (2) provides ICT subscribers and penetration rates in Iraq.

Table 1: Licensed and unlicensed fixed-wireless providers in Iraq

Licensed (by CMC)	
Company	**License**
Itisaluna	National
Kalimat	National
ITPC (represented by the Ministry of Communic	National
IBN (Banks)	Regional
Fanous	Regional
Unlicensed (by CMC)	
Company	**Region**
Media Telecom	Kurdistan
ZOZAK	Kurdistan
TeleTech	Kurdistan
Zaniar	Kurdistan
Al Awsat	Kurdistan
Al Zard	Kurdistan

Source: ITU, 2012, p.52.

Table 2: Subscription and Penetration Rates of ITC in Iraq-2011

Communication Media	Subscribers	Penetration Rate
Fixed Telephone	1 600 000	5.1%
Cellular Phones	24 000 000	75%
Internet	792 000	2.5%

Source: ITU, 2012

Pavel (2009) indicates that due to Iraq's long isolation until 2003 and subsequent lack of infrastructure, in addition to political instability and security, it will take considerable time before the country can reach the level of neighbouring countries vis-à-vis the degree of internet penetration and usage. The Iraqi youth (about 45% of the population) is eager to access and use ICT. While the country continues to achieve considerable progress in terms of stability and the functioning of governmental institutions, the internet will start to play a considerable role in the lives of citizens in general, and in the deployment and adoption of e-commerce in specific. Table (3) provides the most visited websites in Iraq as of December, 2011. It appears evident from this table that Iraqis do not visit websites such as amazon.com or e-buy or auction sites to shop electronically.

4. Research Methodology

4.1. Research Problem:

The developed countries have successfully adopted e-Commerce and have made it an integral part of business transactions. Despite the fact that developed countries are able to bridge economic and digital gap between developing and developed countries, the developing countries are still lagging behind in e-Commerce adoption. In the present time there is still a lack of evidence about e-Commerce readiness in developing countries, in general and in Iraq in specific, to fully assess the relevance of e-Commerce in the Iraqi environment. The present research shall shed light into the e-Commerce readiness in Iraq by exploring the views of a sample of university students who are internet users. This research is similar to other studies conducted in foreign and Arab countries such as that of Humphry et. al. (2003), Molla (2007), Lawrance (2011), Johar & Awalluddine (2011), and Eid (2011). Despite the fact that the similarity exists in the objectives of these studies, however, the present work is different in the domain conducted and in the behavioral traits of the Iraqi consumers surveyed. No attempt is made here to test any hypothesis or to verify any relationships between variables. Our interest in this work is pure explorative.

Table 3: Most visited websites in Iraq, December 2011

Rank	Website	Target users	Default language	Description
1	Facebook.com	Global	English	Online social networking
2	Youtube.com	Global	English	Video sharing and broadcasting portal
3	Google.iq	Global	Arabic	Global web search portal
4	google.com	Global	English	Global web search portal
5	yahoo.com	Global	English	Miscellaneous online services
6	Kooora.com	Regional	Arabic	Sports
7	maktoob.com	Regional	Arabic	Miscellaneous online services
8	xnxx.com I	Global	English	Adult content
9	4shared.com	Global	English	Online storage
10	blogspot.com	Local	English	Online blogging service
11	wikipedia.org	Global	English	Encyclopedia
12	babylon.com	Global	English	Translation software
13	Mediafire.com	Global	English	File sharing services
14	live.com	Global	English	Miscellaneous online services
15	Google.ae	Global	Arabic	Global web search portal
16	Conduit.com	Global	English	File sharing
17	Yariga.net	Local	Kurdish	Sports
18	microsoft.com	Global	English	Microsoft products
19	Earthlinktele.com	Local	English	Telecom services
20	Traidnt.net	Regional	Arabic	File sharing/Forum

Source: ITU, 2012, p.55.

4.2. Research Objectives:

This research work has four objectives:

- Identify how Iraqi consumers perceive e-commerce.
- Examine Iraqi consumers' readiness to do transactions by electronic means.
- Rank the variables that influence the customers' decision to do e-commerce.
- Identify the barriers that impede the adoption of e-commerce in Iraq.

4.3. Research Significance:

This research is significant because it contributes to the body of knowledge in the area of e-commerce with particular interest on Iraq. The research could also trigger the attention of vendors who contemplate to market their products and services via e-commerce in Iraq. The findings of this work are limited by the sample surveyed and the geographical limits, but the results have many implications for policy- makers in Iraq.

4.4. Research Model:

To conduct the practical part of this research, a conceptual model was developed to obtain some reflections on the perceptions of a sample of university students (College of Administration and Economics/ University of Baghdad) regarding their readiness and acceptance to use e-commerce. The research model is depicted in Figure (1). The model contains five constructs that are believed to be responsible for shaping the attitudes of the sample studied to deal with e-commerce. The model's constructs are based on the studies of Park & Kim (2003), Kolsaker & Payne (2002), Kelley & Erickson (2005), Giese and Cote 2000.

4.5. Research Instrument & Data Collection:

To achieve the objectives of this research, an instrument was designed to obtain evidence about the readiness and acceptance of the sample surveyed to adopt e-ecommerce. The instrument was derived from the literature review performed in this study and was adjusted to add more clarity to the questions. The instrument used a five-point Likert scale ranged from: strongly agree (5), to strongly disagree (1).

Prior to the actual distribution of the survey, the questionnaire was pre-tested using 15 members randomly chosen at the College of Administration and Economics. The purpose of the test was to remove any misunderstandings in the items of the questionnaire in addition to evaluating respondents' comprehension. Further, the results of the study were then used in order to modify and finalize the research questionnaire.

The research instrument contained twenty four questions, and was divided on the five constructs as follows:

- Perceived cost, four questions
- Perceived security, six questions
- Perceived usefulness, six questions
- Perceived quality, four questions
- Perceived privacy, four question

We shall provide next a brief definition of each variable:

Perceived Cost refers to the degree to which the customer feels that the price paid for using the internet is less than the value materialized from buying over the internet.

The issue of Perceived **security** to the acceptance of e-commerce has been noted in many studies. It is defined as the customer's perception of security of an electronic commerce transaction, and it is basically an important factor usually taken into consideration by online customers. Security is related highly to customer satisfaction and trust. However, a high level of security provided by an e-commerce website can lead to satisfying intentions which influence customers' behavior.

Perceived usefulness is defined as how clear and understandable interaction with the system is, ease of getting the system to do what is required, mental effort required to interact with the system, and ease of use of the system (Guriting & Ndubisi, 2006).

Perceived quality refers the degree to which the characteristics of the products and services provided by the website meet and exceed the expectations of the customer.

Perceived privacy is the degree to which the customer feels that his private information (address and e-mail address, age, gender, income, education, hobbies, etc) will not be penetrated and used by internet piracy, or will be used by the vendor for other purposes.

Due to time and budget constraints, the authors distributed hundred questionnaires to a random sample of undergraduate students (day and night studies) at the college of Administration and Economics, University of Baghdad during the academic year 2010/2011. Eighty two questionnaires were returned. The usable questionnaires were only 66, so the response rate was about 80%. According to Saunders et al. (1997), a response rate between 30%-50% is appropriate. The responses were analyzed using descriptive statistics.
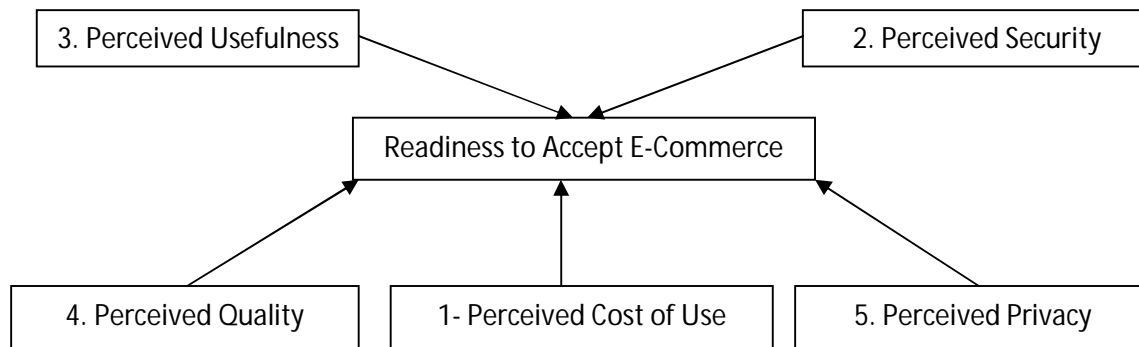

Figure 1: Research Model

Table (4) provides some descriptive statistics of the respondents' profiles (demographic characteristics) including age, gender, educational level, monthly income, and occupation. It shows that most of the respondents (71%) are students while 29% are employees studying in the night school. The sample members are originated from different regions and backgrounds in Iraq. Therefore, the sample can be considered a good representation of the population (at least) of Baghdad. Also, 70% of the respondents are male, and the rest are female. The percentage of respondents with a monthly income of less than IQD 500000 is 60%. This is due to the fact that most of the sample members, 71%, are students.

4.6. Research Findings and Discussion

The results presented in Table (5) provide some evidence which support the conceptual model offered in Figure (1). With respect to perceived cost, the majority of the respondents, 60%, believe that the cost of using the internet is relatively high. The mean achieved for this variable was 3.52, with a standard deviation of 1.09, the COV was 0.31. In fact, a regular subscription to a private web line is about $40-$60 per month. So with a sample made of 71% students and an average income of about

Table 4: Descriptive Statistics of Respondent Profiles

Measure	Item	Frequency	Percentage
Age	18-30 years	59	90
	31-	7	10
Gender	Male	46	70
	Female	20	30
Educational Level	High School	56	85
	Diploma	6	9
	Collage Graduate	4	6
Monthly Income (IQD)	< 500000	40	60
	500000<1000000	12	18
	1000000<2000000	10	15
	2000000-	4	7
Current Job	Student	47	71
	Student & Employee	19	29

$400 (or IQD 500000)/month, a subscription fee of $50/month makes about 10% of the respondent's monthly income which is very high. Therefore, the perceived cost may be considered as one of the determinants to accept dealing with e-commerce. With respect to perceived security, 70% of the respondents agree that security is an important factor in the decision to accept dealing with e-commerce. The mean for this variable was 3.9, with a standard deviation of 1.14 and a coefficient of variation that equals to 0.29. The results reveal that security is important to most respondents in creating e-commerce service trust. This means that perceived security in e-commerce trust is more important to respondents than cost.

Seventy seven percent of respondents agree that perceived usefulness is important to deal with e-commerce. The overall mean of this variable was 4.06 with a standard deviation of 1.08 and a COV equals to 0.27. This means that the ease of use of e-commerce can lead to accepting and satisfying intentions and then influence customer satisfaction behavior towards an e-commerce website. At the quality level, 73% of the respondents agree that the quality of goods and services provided by the website meet and exceed the expectations of the customer. The mean of this variable was 3.95 with a standard deviation 1.1 and a coefficient of variations equals to 0.28. The user interface and the quality of goods and services offered over the web are important factors that develop customer loyalty trust in e-commerce. This also means that the quality of the user interface of e-commerce

Table 5: Summary of Questionnaire Analysis

Variables	Question	Strongly Agree Frequency	%	Agree Frequency	%	Not Sure Frequency	%	Disagree Frequency	%	Strongly Disagree Frequency	%	Mean	St. Dev.	COV
	1	23	0.35	33	0.5	13	0.2	0	0	0	0	4.35	0.74	0.17
Perceived	2	23	0.35	20	0.3	10	0.15	9	0.14	4	0.05	3.74	1.24	0.33
Cost	3	7	0.1	17	0.25	10	0.15	16	0.24	16	0.25	2.67	1.36	0.51
	4	3	0.05	33	0.5	13	0.2	13	0.2	4	0.05	3.31	1.03	0.31
Mean			0.21		0.39		0.17		0.14		0.09	3.52	1.09	0.31
Total				0.60			0.17			0.23				
	5	17	0.25	23	0.35	17	0.25	7	0.1	3	0.05	3.65	1.06	0.29
	6	30	0.45	14	0.21	10	0.15	8	0.12	4	0.07	3.84	1.28	0.33
Perceived	7	27	0.41	21	0.32	8	0.12	6	0.09	4	0.06	3.93	1.21	0.31
Security	8	25	0.38	23	0.35	12	0.18	3	0.04	3	0.05	3.97	1.08	0.27
	9	28	0.42	16	0.24	13	0.2	5	0.08	4	0.06	3.88	1.21	0.31
	10	30	0.46	22	0.33	8	0.12	5	0.07	1	0.02	4.14	1.00	0.24
Mean			0.40		0.30		0.17		0.08		0.05	3.90	1.14	0.29
Total				0.7			0.17			0.13				
	11	31	0.48	23	0.35	6	0.09	4	0.06	2	0.02	4.17	1.03	0.25
	12	27	0.42	19	0.27	7	0.11	7	0.11	6	0.09	3.84	1.32	0.34
Perceived	13	26	0.39	20	0.31	9	0.14	9	0.13	2	0.03	3.92	1.16	0.30
Usefulness	14	27	0.41	23	0.36	11	0.16	3	0.04	2	0.03	4.03	1.02	0.25
	15	26	0.4	22	0.33	9	0.14	6	0.09	3	0.04	3.97	1.15	0.29
	16	37	0.56	24	0.38	3	0.04	1	0.02	1	0	4.43	0.78	0.18
Mean			0.44		0.33		0.11		0.08		0.04	4.06	1.08	0.27
Total				0.77			0.11			0.12				
	17	23	0.35	21	0.32	11	0.16	7	0.1	4	0.07	3.77	1.21	0.32
Perceived	18	29	0.44	21	0.31	9	0.14	5	0.08	2	0.03	4.08	1.08	0.26
Qualtiy	19	26	0.39	22	0.33	10	0.15	7	0.1	1	0.03	3.94	1.06	0.27
	20	27	0.41	24	0.36	8	0.12	5	0.07	2	0.04	4.02	1.06	0.26
Mean			0.40		0.33		0.14		0.09		0.04	3.95	1.10	0.28
Total				0.73			0.14			0.13				
	21	31	0.47	22	0.34	6	0.09	4	0.06	3	0.04	4.14	1.00	0.24
Perceived	22	28	0.42	24	0.36	9	0.15	3	0.04	2	0.03	4.06	1.06	0.26
Privacy	23	24	0.37	22	0.34	11	0.16	5	0.07	4	0.06	3.89	1.17	0.30
	24	36	0.55	22	0.34	4	0.06	3	0.04	1	0.01	4.38	0.93	0.21
Mean			0.45		0.35		0.12		0.05		0.03	4.12	1.04	0.25
Total				0.8			0.12			0.08				

Services viewed by the respondents are more important for an e-commerce service trust than the quality of the information content offered by the website of the vendor. With respect to perceived privacy, 80% of respondents agree that privacy is an important factor for them to deal with e-commerce. The overall mean was 4.12 with a standard deviation of 1.04 and a COV equals to 0.25. It seems that privacy is a top priority for the respondents. This feeling is justified by the fact that the security level in Baghdad is still fragile, and that respondents are still skeptical about providing their personal information to e-commerce vendors. In this case, customers fear that their personal information may be pirated and used for other purposes.

Having viewed the respondent's opinions, it is possible now to rank the conceptual model's variable according to respondent's answers as follows: perceived privacy, perceived usefulness, perceived quality, perceived security, and perceived cost. Taking the above perceptions into consideration, several studies (Efendioglu et. al. (2004), Hawk (2004), Lawrence (2010), Pare (2002), & Uzoka et. al. 2007) stated that certain barriers should be eliminated before a large scale diffusion of e-commerce can take place in a developing country. First of all is the institution of a regulatory framework. It is necessary to allow users and further players in the market to gain confidence in the use of e-commerce solutions. This may be done not only by the use of adequate technologies to ensure technical security (thus preventing fraud, information leaks, and other forms of attacks), but also by strategic initiatives aiming at a change in user perspectives on the reliability of ICT in commercial transactions. Legal and regulatory development acts as a possible pre-condition for the promotion of such confidence. Second, e-payments, if users feel comfortable in making transactions online, they can save time and money.

E-payments directly support business growth and, according to some macroeconomic visions, annual savings of perhaps 1% of GDP can be realized, if a country is able to shift from an all paper-based to an all electronic-based payment system. However, bearing in mind the sensitivity of money and payment-related issues, the potential benefits are hardly achievable. Digital cash and low technology penetration creates problems in developing countries, such as Iraq, due to lack of trust in online transactions together with their questionable security.

These are major obstacles to the wide acceptance of e-payments. In the third place comes the building of trust. Building trust or confidence is a pre-condition for doing e-commerce in developing countries such as Iraq. Without trust or confidence, the very effort of promoting e-commerce in developing countries would be fruitless. Only if buyers and sellers trust that orders and payments are conducted with minimal risk of deceit and abuse of any information provided, will they accept the Internet for electronic obligations if they know that their rights and obligations will be enforced. The fourth barrier is technology. In general, there are serious infrastructural barriers that exist in developing countries such as Iraq. As we presented in Table (2) the penetration rate of internet in Iraq is about 2.5% at the end of 2011. This could be viewed as a major barrier hindering e-commerce adoption in Iraq. Among the most pressing infrastructure limitations are access to technology such as computers, connectivity, and gateway to Internet, limited bandwidth, poor telecommunications infrastructures, and unreliable electricity supply.

Fifth telecommunication, in most developing countries such as Iraq the internet connection is not very much reliable due to poor telephone communication and erratic power supply. Iraq does not seem to be ready now for e-commerce because there is a lack of network infrastructure especially among users and entrepreneurs. The last but not the least obstacle is the socio-cultural context of Iraq. As most cultures in developing countries, the socio-cultural context in Iraq does not support e-commerce because of the absence of confidence in technology and online culture. The socio-cultural features of Iraq do not coincide with online transaction and pose a much greater challenge and act as a major barrier to the adoption and diffusion of ecommerce. It could be said that among the most pressing primary cultural barriers are level of trust in institutions, shopping as a social place, limitation on personal contact and language/content.

5. Conclusions

Although an extensive body of research on e-commerce exists, very little empirical research has been conducted in the Arab countries in general, and on Iraq in specific. As a developing country, Iraq is facing a shortage of formal research to reflect customers' perception and readiness to deal with e-commerce. In general, the research has achieved its objectives. This work represents a step into the investigation of customers' perception about e-commerce in the context of the Iraqi culture.

The study's contribution is expressed in terms of confirming that perceived privacy and perceived usefulness come at the top of the respondents' priority compared to the other factors. We have also demonstrated that the extent of adopting e-commerce is hampered by several barriers that impede the diffusion of e-commerce in Iraq, such as e-payment, government regulation, telecommunication, trust, technology, and socio-cultural context. Combining respondent's perceptions with barriers of e-commerce it seems that e-commerce is in fact suitable to Iraq regardless of the current barriers with the existing infrastructure and the other problems that relate to socio-cultural conditions. In fact, e-commerce could be a beneficial instrument in Iraq provided that certain issues are resolved and given that the Iraqi government demonstrates that it has a political intention to resolve the barriers that hamper the widespread adoption of e-commerce in Iraq. Although this research is limited by the sample surveyed and the geographical limits, it still has many practical implications for the firms or vendors who intend to do e-commerce in Iraq. The results of this research should assist vendors to better understand the key factors that shape the Iraqi customer's perceptions about e-commerce, and what barriers hamper this mode of trade in Iraq. The results obtained here can help vendors in focusing their attention on the factors such as privacy, usefulness, security, quality, and cost for online customers, hence initiating and improving their e-commerce services in Iraq.

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