Contagion Aspects of Implementing E-commerce: A Case Study of B2C

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ABSTRACT

E-commerce is becoming an important business trade resource throughout the globe. In Iran, B2C electronic commerce is still in its early stage of development. The lack of basic information and some required tools have delayed the development of e-commerce in many countries. The objective of this study is to identify and assess the significant barriers in business-to-consumer (B2C) electronic commerce in city of Yazd in Iran, and then find solutions for its improvement.

The study found that lack of required knowledge (Internet, computer, education and English) toward B2C method of ecommerce are the main barriers of the intention to shop on the Net. The current study also revealed that adoption of ecommerce requires trust to suppliers (Vendors) and low speed of internet. Discussions of the study's implications are also provided.

Keywords

Contagion; Electronic commerce; Trust; Yazd; Iran.

1. INTRODUCTION

There have been tremendous increasing transactions between suppliers and customers over the internet during past few decades. Clearly, electronic commerce (EC) applications are limited to the use of the Internet as the technological infrastructure to communicate [1].

"E-commerce businesses have long struggled with finding the best strategies for optimizing the performance of their sites in terms of minimizing shopping cart abandonment and maximizing overall site conversions. These are laudable goals, but for many sites, focusing only on these issues and not looking at the bigger picture means leaving money on the table [2]."

"In recent years profound technological changes among which is the advent of e-commerce or the exchange of products and services and payments through telecommunication systems have been witnessed [3]."

Clearly, "E-commerce has a tremendous capability to add a high value to businesses and consumers in developing countries [4-9]."

Foxall et al. believed that influence of e-commerce in industrial sectors have been enormous [10].

"Electronic commerce (EC) is familiar in today's articles, businesses, trades, public Medias, and many other sectors. It is related to marketing, sale, finance, law, and economy. It is

necessary to analyze the factors that determine the sectors inclination towards deploying e-commerce technologies because this would help firms design appropriate interventions in order to control it. E-commerce is the process of doing business electronically among different entities for satisfying an organizational or individual objective purpose. E-commerce and World Wide Web play an important role in contemporary societies today. Requirement for better communication is one of the major factors for development of e-commerce in many countries. Rapidly developing communications technology and increasing internet penetration have contributed to the growth of e-commerce worldwide. The term "e-commerce" emerged only in recent years as businesses became aware of the potential role of the Internet as a powerful medium for conducting business. In the past decade, e-commerce has substantially affected the business world and is expected to increase in importance. Ecommerce has prompted the rise of virtual business relationships including business-supplier, business-client, business-to-end consumer and strategic alliance [11]".

Business-to-Customer (B2C) or Business-to-Business (B2B) were classified based upon involvement of the sectors [12].

Treese and Stewart [13] define e-commerce as the implementation of the Internet for selling and purchasing of services and products.

Kalakota and Whinston [14] believe e-commerce is also for delivery of information, products/services, or payments via telephone lines, computer networks or any other means. They do not limit their coverage to just Internet based means.

Zwass [15] introduces e-commerce as a min key for sharing of business information, maintaining business relationships, and conducting business transactions by means of telecommunications networks.

Kauffman and Walden [16] define the Internet as a tool for end-to-end business transactions.

"The emergence of Internet-based business has radically transformed the global economic and social landscape over the past decade [17, 18]." "E-commerce experienced a boom-and-bust in business cycle in its transition from the dotcom bubble in 2000 and 2001 back to an economy with more modest expectations for technology-led value. More recently, it has achieved steady growth in the global setting. The development of e-commerce and related technologies so far has mostly been limited to developed countries and has been relatively slower in the rest of the world [19-25]".

Internet has not been used in traditional business in many developing countries. There are many reasons for lack of internet use, but the most important factors are trust and knowledge.

Yazd is one of the most ancient cities in the world which is located in heart of Iranian desert with the population of almost 400000. Muslims live and trade together along with Zoroastrians and Jews peacefully for many centuries.

This paper attempts to gain an understanding of e-commerce barriers in city of Yazd for the first time.

As a matter of fact, most of the people in Yazd are Muslims, Jews, and Zoroastrians. Clearly, there is a common gesture for fare and honest trade among all of these people. It is worth to mention that these people are famous for being honest and smart in business regardless of their religion.

"Islam not only permitted and encouraged man to involve in all sorts of productive work (such as business), but also ordained it as a duty upon Muslims. Hence, the Quran regarded business as lawful, good and beneficial for both the individual and the society. Fair trade and honest business are praised, recommended and strongly extolled to by the Quran" [26]. Zoroastrians are also famous for being very honest and trusted not only in Iran but also in other countries like India in which there are many successful businessmen. Jews are also very smart in business, but most of them migrated to other countries after the Islamic revolution.

The concept of e-commerce is crucial for the people in city of Yazd, because it affects some parameters including privacy, security, quality, cost, and physical separation between buyers and sellers. With the global business method moving towards productivity by using information technology, people have to reposition their traditional 'retail' role and change their methods of doing business.

The rest of this paper is structured as follows: Section 2 describes research methodology. In Sections 3, demographic characteristic and general issues are discussed. In Section 4, analysis of the questionnaire is discussed. Then in Section 6, relationship between parameters is presented. Conclusion is drawn in Section 6.

2. METHODOLOGY

As outlined in section 1 the findings presented in this work are based on the results from four independent studies undertaken in city of Yazd in Iran. The objective of this research is to identify barriers and contagion aspects of implementing B2C method of E-commerce. For this purpose, a survey targeted at regular users was utilized to collect data. To improve data reliability and validity, the questionnaires were evaluated rigorously by pilot testing prior to administration. Rigorous statistical tests for reliability and validity as described below were performed on the data eventually collected. The preliminary instrument was reviewed by nine professional researchers with more than 12 years of teaching experience, eleven professional businessmen familiar with e-commerce, and seven regular users. Of the 37 questionnaires, 7 were discarded due to missing values. The questionnaire was pre-tested with 30 users and there were no major problems with understanding, wording, etc. The Cronbach's alpha (α) coefficients of all constructs were above 0.85 in acceptable range. Therefore, total amounts of 150 questionnaires were provided for distribution in which only 96 were completed well by respondents and were chosen for final analysis in this survey.

2.1 Data collection

Due to cost considerations, we conducted data by some college students. The research population was the entire body of residing people in Yazd city. It is usually common not to apply only one method of collecting data to do a research. The researchers apply different means for data collection to make their output more reliable. Therefore, this study is not an exception applying three different methods to collect data:

- The library research which includes books, magazines, the project, websites and the articles
- The interview with the e-commerce experts.
- Survey (the provision and distribution of the questionnaires).

The application of several methods brings about different advantages such as:

- Improvement of the quality of data analysis, and the high quality of the data.
- Increase of the accuracy of the basic data.
- The coverage of the vast majority of the society.

2.2 Questionnaire preparation

It is required to do a pilot study done in order to assess the feasibility of the survey. The questionnaire is common way to collect data, and it must be prepared in accordance with particular principles. The questionnaire is to analyze the purpose and hypotheses of the research, and meet the researcher's needs. The questionnaire is certainly aimed at assisting the researchers to achieve the goal of the research; otherwise it will reduce, in vain, to a bunch of questions merely bringing no results. The purpose of the questionnaire preparation is to recognize the advantages, disadvantages, problems and solutions of the research.

After obtaining the information concerning e-commerce and its techniques, a group of nine researchers was set to arrange the questionnaire which took for weeks. The first copy was given to the IT and e-commerce experts to put their comments on. After taking their comments into consideration, the questionnaire was given to nine members of research team for distribution to the population. The questionnaire was prepared for the people living in Yazd keeping in view that the number of people residing wherein is 368,412 according to the census. Therefore, 96 samples were required for the interview.

2.3 Sample determination

Due to the limitation of time, human resource and financial parameters, it is necessary to use sampling method, but in order to generalize the conclusion to the whole society it is a must to obtain numbers of samples through a scientific and reasonable method. In this study, the following method was applied through a scientific and reasonable method to obtain the necessary samples:

For two words function the probability of its acceptance is p=0.5 and is expected to represent the whole population with the confidence level of 95%. The accuracy included in the research indicates as to how much the expected value is different from

the value estimated and whether the difference meets our purpose or not.

The level of the accuracy shows a distance which is expected to indicate the value obtained in the population is higher or lower than the value estimated.

In order to do the sampling, we want to sample in a way such that the real proportion of the population is not different from the percentage of the sample by 10%. The level of the accuracyneed is estimated to be equal to 0.1%. In the light of above pointes, the numbers of samples are obtained by the following equations:

$$n=(N.Z^{2}\alpha/2. pq) / (Nd. Z^{2} \alpha/2. pq)$$
 (1)

$$Z^2 \alpha / 2 = 1.96$$
 (2)

$$P=q=0.5$$
 (3)

$$D=0.1$$
 (4)

The questionnaire was prepared for the people living in Yazd keeping in view that the number of people residing wherein is 368,412 according to the census. If we put the above-said number in the sampling formula, 96 samples would be required for this purpose.

3. GENERAL ISSUES AND DEMOGRAPHICS

The survey questionnaire consisted of two sections wherein this first section, respondent's demographic information was asked and in the second main questions along with required information were asked for further analysis of the survey. The questionnaires were handed out to people and after a few minutes they were collected. Some other questionnaires were filled in an interview which turned out to be better than the previous one. Since in the previous method few people didn't answer some questions or they weren't aware of the importance of the issue, the second method proved to be more effective where all the questions were answered. After collecting the questionnaires the data were inserted to the SPSS software and the analysis was done by the said software. Based upon the information gathered for this survey, 65 percent of persons participated and answered the questions were men and 35 percents were women.

Table 1. Gender of participants

Sex	Male	Female
% answered	65	35

It is observed that respondents with the age between 20 and 30 had participated more (29.1%) than other age groups. But older people with the age of 40 and above had the lowest participation in this survey (11.6%). However, 23.2% of interviewees were from 15 to 20 years old. Only 15.1% had the ages of between 30 and 40. Therefore, majority of the respondents for this survey were up to 30 years old.

Table 2. Age of persons participated

Age	15-20	20-30	30-40	>40
% Answered	23.2	29.1	15.1	11.6

Most of the participants had diploma and bachelor college degrees with 43% and 41.9% respectively. But persons with higher degrees like master and PhD were only 3.5 percent of the total. Only 10.5% of the groups were under diploma category.

Table 3. Education of persons participated

Degree	Under diploma	Diploma	Bachelor	Master & PhD
% Answered	10.5	43	41.9	3.5

According to the survey, 15.1 % of respondents use internet up to 1 hour a week, 37.2 % mentioned using internet 1 to 3 hours a week and 14 % said they use the internet 3 to 7 hours a week. Only 5.8 % use internet more than 7 hour a week. It is interesting that 25.6% never work with internet. While in the developed countries, higher percentages of people use internet. The internet and phone charges, the lack of internet usage, the lack of Persian websites and the people's inability to use English may be the reasons why Iranians don't use it as much as others do.

Table 4. Weekly internet access and use

Total hours	Up to 1	1 -3	3-7	>7	Never
% Answered	15.1	37.2	14	5.8	25.6

The web-sites and credit cards are usually applied for purpose of electronic commerce and e- mail is of limited use in the trade worldwide. However, due to lack of knowledge of the electronic trading, and inattention to this question by the participants, 35.9% of the participants made the e-mail as their choice for trade in this survey.

12.5 % of those using e-commerce said that they used the web sites to do their job while 35.9 % of mentioned that they used email in order to do commerce, and 48 % used credit cards for trade. It goes without saying that these figures are for people who are familiar with internet and also implement methods of electronic commerce. It is interesting to know that major international credit cards are prohibited in Iran, because of economic sanctions and political matters. Therefore, many people are using domestic credit cards for purchasing goods or products.

Table 5. Method of using E-commerce service

Method	Web site	E-mail	Credit card
% Answered	12.5	35.9	48.8

Electronic banking is the only use of electronic commerce in Iran, but other uses of the electronic commerce are not common. The important point is that withdrawing money from the automatic teller machines is usually common. People have to stand in long lines, and most of the time the machines are out of

order. The banking authorities had to improve the system, because there are many people who are willing to use e-banking.

8.5% of respondents taking part in the survey stated that they used electronic commerce in their everyday life to pay the bills. 32.2% preferred to pay by credit cards, and 11.9 % mentioned they used credit cards to do shopping. Surprisingly, 41.5% of respondents used the electronic services of banks to withdraw money. Results show that majority of persons use e-banking in order to get cash for purchasing. It is an indirect use of electronic commerce for B2C trade.

Table 6. Field of E-commerce use

Field	Bill payment	Card payment	Buy from stores	Get money from bank
% Answered	8.5	32.2	11.9	47.5

The most important aspect is to inform and advertise to make people familiar with the new technology and if one fails to advertise the technology, he should expect failure. The electronic commerce is not an exception, it needs advertising too. In order to make the electronic commerce well known, we need to apply a capable information service. Unfortunately people are found to have been poorly informed about the electronic commerce in Iran. The conclusions obtained from the survey shows that most people are not familiar with it. There are different types of advertising (Table 7) available in survey; the people were asked which one they preferred. 10.8% people participating in the survey said that reading a book was a suitable way for them to learn about the e-commerce. 63.1% mentioned that they acquired the necessary information concerning the services of e-commerce from the radio and the television. May be the higher percentage of the use of mass media persuades the authorities of the e-commerce to take it more seriously to advertise e-commerce and make its use common in Iran. The 13.8% of participants considered the newspaper as means of advertising while 7.1% stated that they used the catalogues and the information kiosk to learn about ecommerce.

Table 7. Method of learning e-commerce

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Method	Book	Medi Newspaper Catal		Catalogue	Other		
Method	S	a	S	S	S		
% Answere	10.8	63.1	13.8	7.7	3.1		
d							

24.3% participants in (Table 8) the survey said that they used e-commerce due to its accuracy. 50% stated that they enjoyed the services of e-commerce due to its high-speed.18.6% mentioned they used e-commerce due to low charges. 7.2% of participants stated that they preferred to use e-commerce due to its quality and security measures respectively. It should be mentioned that some people have easy access to high speed internet services like ADSL which off coarse is costly.

Table 8: Reason for using e-commerce

Factor	Accuracy	Speed	Cost	Quality	Security
% Answered	24.3	50	18.6	2.9	4.3

People participating in the survey mentioned that lack of sufficiency of training impeded them from using the ecommerce. 27.1% believed that accuracy in e-Commerce is a major threat to this service in Yazd (Table 9). 40% percent of the people taking part in the survey mentioned that the lack of facilities made the people unable to use the e-commerce in Iran. 21.4% of participants stated that weakness in qualities had been a bar to the improvement of the e-commerce in Iran.

2.9% mentioned that the services of the provided in Iran didn't meet their requirements; this might have been the reason why the e-commerce hadn't improved yet. 8.6% mentioned that the charges of services had made e-commerce unviable to develop In Iran. Therefore, there are still many problems which must be solved in order to make EC popular in Yazd and Iran as well.

Table 9: Disadvantages of e-commerce

Factor	Accuracy	Availability	Quality	Field	Cost
% Answered	27.1	40	21.4	2.9	8.6

4. ANALYSIS

For this part, the analysis was done on 10 following questions in table 10. These items were scored on a five point Likert-type scale ranging from (1) Very high to (5) Very low (Table 10).

Table 10: Percentage of answers to each question

Tuble 10.1 erechtage of answers to each question					
Subject	A	В	C	D	E
Familiarity of persons with computer and internet	07.0	33.7	32.6	15.1	11.7
Familiarity of persons with EC	14.0	27.9	25.6	11.6	20.9
Trust to e-commerce	04.3	33.3	43.5	10.1	08.7
Level of using e- commerce for own activities	07.0	24.2	20.9	23.3	23.3
E-commerce service satisfaction	03.9	42.2	37.5	10.5	06.3
Using e-commerce and amount of time saving	09.7	56.6	25.8	04.8	03.2
Using e-commerce and level of cost reduction	08.1	35.5	41.9	09.7	04.8
Using e-commerce and lowering errors	06.1	34.8	36.4	07.6	15.2
Familiarity with World e-commerce services	05.4	17.4	15.1	25.6	26.7
Access to computer and internet	10.5	37.2	27.9	14.0	10.5

 $A = Very \ high$ B = High C = Moderate D = Low $E = Very \ low$

The survey questionnaire consisted of two sections. In the first section, respondent's demographic information was asked. In second section, main questions and required information were asked for analysis of the survey.

4.1 Familiarity with internet and computer

"Although there are many potential advantages of ecommerce, the use of it in small businesses remains limited. A study by Forrester Research finds that only two in five small businesses use the Internet to sell products and services. It seems that top managers and owners of SMEs recognize the importance of having an Internet presence, however, only a small portion of them use the Internet for commercial purposes [27-33]."

Over 40.7 % of participants know how to use internet and computer to a great to very great extent. Since more than half of the people participating in the survey possess degrees higher than diplomas; the statistical value of 40.7% seems to be reasonably low. The majority of those taking part in the survey are educated. They are expected to know how to use computer and internet very well. Unfortunately the result is not so interesting. Therefore, the authorities have to take a step forward for enhancement of this field in city of Yazd in Iran. School and university students must learn how to use computer and internet desirably.19.8% know how to use computer and internet to a little or quite a little extent. 32.6% know how to use computer to some extent .7% do not know how to use computer and internet at all.

4.2 Familiarity with e-commerce

Familiarity with electronic commerce is the first step toward its use, which requires being familiar with the internet and providing information in this field. Unfortunately, regarding the statistics of the survey, most people are not familiar with EC, while over half of the participants in the survey have higher education. This is because the educational centers like schools and universities have not provided the students with necessary information concerning e-commerce which has developed drastically world wide. 14% of the participants said they were familiar with e-commerce well. 27.9% of the people got familiar with the e-commerce to some extent and 37.2% had a little knowledge and finally 20.9% didn't get familiar with it at all.

4.3 E-commerce for personal activities

Only 7% of the participants mentioned using the facilities of e-commerce to a great extent, which shows e-commerce in city has been obscure. The reasons must be recognized and examined. 24.4% of participants said they used facilities of e-commerce in their business to some extent, and 44.2% stated that they used the services of e-commerce a little and finally 23.3% of participants in the survey stated that they didn't use the facilities of the e-commerce at all. It shows there are still many people who are familiar with the method and use it in some extent.

4.4 E-commerce service satisfaction

45.3% of participants who were familiar with EC believed they were pleased about the services of e-commerce. 17.2% mentioned they were not pleased with it. 37.5% said they were somehow pleased with e-commerce facilities. Since majority of participants use the facilities of the electronic banking, their tendency to use e-commerce is likely to be rooted in their

satisfaction from using e-banking. If such a generalization is accepted, the electronic banking servers have not greatly made their customers satisfied.

4.5 Time saving

Time consumption follows the electronic commerce, which makes this technology common and favorable. 66.2% of the participants said that the e-commerce had been a time saving technology, that is, in comparison with traditional commerce; it gave them time saving efficiency (9.7% a very high degree, 56.5% a high degree). 8% of the participants mentioned that they managed to save their time to a little extent. 25.8% said that they managed to save their time to some extent.

It can be concluded that people got satisfaction from the ecommerce due to its time-saving technique.

4.6 Cost reduction

"In real life, a buyer and a seller usually bargain over the price of a product to maximize their own interests. People bargaining on the Internet may face a lot of barriers, such as anxiety from competition, communication difficulties over the Internet, and lack of bargaining experience [34]. In order to remove these bargaining impediments, there is a need to implement an automated bargaining mechanism in online stores.[35]"

One of the advantages of the use of e-commerce was to make reduction in charges which involves transportation, paperwork, and even the waste of time.43.6% of participants said that use of e-commerce caused their charges to reduce noticeably (8.1% to a very high degree and 35.5% to a high degree). 41.9% of participants mentioned that e-commerce made a relative reduction in their expenses.14.5% of participants said that e-commerce made a slight reduction in their costs (9.7% a low degree, 4.8% a very low degree).

4.7 Error reduction

31.4% of participants said the use of e-commerce led to the error reduction dramatically. (6.1% to a very high degree and 34.8% to a high degree).36.4% of participants said that the e-commerce contributed to the error reduction to a certain extent. 22.8% of people mentioned that there was a slight reduction of errors due to the e-commerce (15.2% to a very low degree and 7.6% to a low degree). As a matter of fact, based upon the data most of the participants are not sure whether EC would lower the errors.

4.8 Familiarity with global services

"Nowadays, firms, both large, and small and medium sized enterprises (SME), are teaming up more than ever to enhance their competitiveness in the marketplace and follow the rapid changes of technological innovation. In today's business environment more and more transactions are mediated between suppliers and customers over the internet [36]."

23.2 % of familiar people with EC mentioned that they were well-informed about the e-commerce services around the world (5.8% to a very high degree and 17.4% to a high degree).15.2% stated that they were relatively informed about the e-commerce services worldwide and 52.3 % mentioned they were a little informed about the e-commerce service around the world (25.6% to a very low degree, 26.7% to a low degree). It shows that majority of people are not familiar with World EC, so

government should pay more attention in order to make people to be familiar with this service.

4.9 Access to computer and internet

The access to internet and computer is mainly based on the technical, economical, and cultural issues. The fact that people can afford to buy a computer and gain the advantage of using internet is of importance. Development of computer technology as well as technical improvement of devices has made internet and computer accessible recently, so there has been growing number of users.

Only half of people mentioned have easy access to computer and internet, so there is a long way to reach a favorable goal. Better facilities must be provided for people, such as increase of internet and computer subsidy for students. Development of computer and internet services like coffee nets should be in priority. 47.7% of the participants said they had an easy access to computer and internet (10.5% of the people very easy access and 37.2% of the people easy access). 27.9% mentioned access to computer and internet to some extent. Only 24.5% mentioned that they did not have acceptable access. There should be more attention in order to provide easy access to internet and computer in the city.

4.10 Trust

A key element for the success of any trade is the development of trust and cooperation between parties.

Method of payment is very important for B2C. "Unavailability of credit cards is a major hurdle for many developing countries [37, 38, 39-40]. Past studies have found such problems for B2C e-commerce in Russia, India and Latin America [37, 41, and 42]. In Asia, 35–40% of transactions are cash-based [37, 40]. Other aspects of financial systems are also underdeveloped [37, 41]. In the Caribbean, local banks do not process online credit card transactions [37, 44] or other forms of electronic payment systems [37, 45]."

Trust is one variable which is receiving considerable attention since it seems likely that consumers will prefer to buy from sites which they trust; indeed lack of trust is often cited as a significant barrier to e-commerce adoption [46-48]. Trust plays an important role in many social and economic interactions involving uncertainty and dependency. Since uncertainties exist in transactions over the internet, many researchers have stated that trust is a critical factor influencing the successful proliferation of e-commerce [49].

The cultural limitations have been a bar to progress of ecommerce and lack of trust is deeply rooted in such limitations. Especially, B2C model has some disadvantages like lack of security and trust. It is very difficult to trust e-commerce in Iran, because of financial corruptions which are so common. People want to see the product and also businessmen who are in charge of commerce. Most of the people believe that there is a big deal of trust to e-commerce.

B2C versions are believed to show signs of great weaknesses in the protection of privacy and the provision of security while the weaknesses in keeping privacy is not as low as it is thought to be. So, one of the most important problems that the e-commerce has to change is those false attitudes. The impalpable sorts of e-commerce technologies are difficult for the people to accept and rely on. People don't easily put their trust in visual shopping centers in which they don't pay paper documents or even the electronic cash. The feeling of mistrust is likely to enhance further in Iran, because people are not familiar with credit cards. This is because the economic instability advocates with a touch of mistrust.

In most cases, people like to touch their favorite products and also to be aware of some of their features. The reason why majority of participants in survey are pleased with the ecommerce is that people still are not aware of its services. They remember the services of the electronic banking like ATM and take it on trust.

37.6% who use e-commerce trust it completely (4.3% a very high degree, 33.3% a high degree). 43.5% roughly trust it. 18.8% said that they didn't put much trust in the e-commerce. (10.1% a little, 8.7% quite a little).

The survey showed the hope that a low percentage of people had a mistrust of the services of the e-commerce. It should be noted that many people think that e-banking is the only model of e-Commerce in which we see high percentage for this method all over Iran. As a matter of fact, E-Banking is very popular which many people have been using without any problem in Iran.

5. RELATIONSHIP BETWEEN PARAMETERS

We performed diagnostic checks of pair wise correlations in the data. Degree, to which two sets of variables vary together, can be estimated by calculating a correlation coefficient (a value between -1 and 1).

Such a coefficient can have a positive value as high as +1.0 if the relationship is perfectly direct (Table 11). It can have a negative value as low as -1.0 only if the relationship is in exactly the opposite order.

 Relationship
 Correlation coefficient

 Very High
 1 to 0.9

 High
 0.89 to 0.7

 Medium
 0.69 to 0.4

 Low
 0.39 to 0.2

 Very Low
 0.19 to 0.0

Table 11. Correlation coefficient

Now, we study the linear relationship between the descriptive and quantitative data which have been defined in the questionnaire.

5.1 Weekly internet uses and familiarity with internet and computer

There has been a direct relationship between familiarity with computer and the internet and weekly internet use. The more the people are familiar with computer and internet, the more they use it. So it is quite obvious that people must be provided with some training courses to learn how to use the computer. (Pearson correlation value is 0.464). Therefore, professionals

who know internet and computer are majority users of this technology.

5.2 Familiarity between computer, internet and e-commerce

The data indicate that there has been a strong linear relationship between familiarity with computer (internet) and the electronic commerce. That is, the more a person is familiar with the computer, the more he/she is aware of the e-commerce. May be that when a person knows how to use the computer, he/she is aware of its uses. It can be concluded that the first step to develop e-commerce is to enhance the people's knowledge about the computer and the internet. (Pearson correlation value is 0.748). It does not mean that these familiar people use e-commerce, but it shows that they have the knowledge of using it

5.3 Trust to e-commerce services and familiarity with e-commerce

The ongoing rapid growth in the popularity of the Internet is having a revolutionary impact on the way companies do business. Doing business online has become a necessity, not an option. However, some consumers are not completely comfortable using the Internet for transacting business because of concerns regarding security of their transactions [50].

The value of 0.632 (the correlation coefficient) indicates that there has been a direct and average relationship between ecommerce and trust in its services. That is, more a person is aware of e-commerce, a deeper trust he/she has toward this method. May be the mistrust is rooted in the lack of knowledge in this field, which has been proved earlier. It shows that it is not easy to implement and introduce e-commerce in Yazd.

5.4 Trust and satisfaction

Clearly, the very nature of satisfaction and trust indicates that it is understood differently by suppliers and consumers.

There are limited people who are using technique of e-commerce for trade. There has been an average linear relationship between trust to e-commerce and satisfaction. That is the deeper a person's trust is, the greater his/her satisfaction will be. It is quite obvious that gaining the trust of the clients is the first step towards making them feel satisfied with the e-commerce. To gain the trust, there is no alternative except train the people and enhance their skills. Acceptable business background is also very important to attract people in this field too (Pearson correlation value is 0.489).

5.5 Time saving and error reduction

During the past decades we have witnessed an increasing development of e-commerce and electronic services. There should be a direct and average linear relationship between time-saving and error reduction by the use of e-commerce, that is, the more time is saved, the more the errors are reduced (Pearson correlation value is 0.417). It also must be mentioned that this relationship is for those who are familiar and implemented this technique.

6. CONCLUSION

This study was conducted to explore the public attitude towards contagion aspects of implementing B2C method of E-Commerce in city of Yazd in Iran. Clearly, there is much to be learned about e-commerce. Research was undertaken by the use of a survey questionnaire to identify barriers that are linked to both negative and positive perceptions using B2C methodology. This study has identified the barrier factors that people may face regarding the use of e-commerce.

E-commerce has not been well defined in city and most of the time it has been confused and considered identical with electronic banking which is a branch of the e-commerce. The findings indicate that many people did not have enough access to internet. Also the main problem was low speed of internet for users who were familiar with this technique. A major decision must be implemented in order to educate people and also lower cost for this service.

Media could be helpful in order to increase trust of people about e-commerce and also to encourage them to use this new method of business. Faster internet access is also a major problem which must be solved. Method of payment is also one of the major barriers to use B2C, mainly if consumers intend to purchase products from abroad, because international credit cards are prohibited in Iran. Finally, government must constantly review and adopt clear and relevant regulations that address the dynamic nature of e-commerce.

7. REFERENCES

- [1] Verónica Alderete, M. 2010. From traditional transactions to B2B: a contract theoretical analysis. Journal of theoretical and applied electronic commerce research. 5 (3), 17-26.
- [2] Enge, E. July 11, 2007. http://searchenginewatch.com/article/2067643/The-Role-of-Trust-in-E-Commerce-Sales.
- [3] Gikandi, J. W., and Bloor, C. 2010. Adoption and effectiveness of electronic banking in Kenya. Electronic Commerce Research and Applications. 9, 277–282.
- [4] Kshetri, N. 2007. Barriers to e-commerce and competitive business models in developing countries: A case study. Electronic Commerce Research and Applications. 6, 443– 452.
- [5] Arnold, D. J., and Quelch, J. A. 1998. New strategies in emerging markets. Sloan Management Review. Fall, 7–20.
- [6] Lituchy, T. R., and Rail, A. 2000. Bed and breakfast, small inns and the internet: the impact of technology on the globalization of small businesses. Journal of International Marketing. 8(2), 86–97.
- [7] Kshetri, N. 2001. Determinants of the locus of global ecommerce. Electronic Markets. 11(4), 250–257.
- [8] Annan, K. 2001. Development without borders: globalization in the 21st century. Harvard International Review. 23(2), P. 84
- [9] BBC News, Poor, 2003. Miss Out On Net Commerce. 20 November. Available: http://news.bbc.co.uk/2/hi/ technology/3223388.stm.

- [10] Foxall, G. R., Shumalla, Y. Y., and Pallister, J. G. 2003. A proposed model of E-trust for electronic banking. Technovation, 23, 847–860.
- [11] Speier, C., Harvey, M., and Palmer, J. 1998. Virtual management of global marketing relationships. Journal of World Business. 33(3), 263–276.
- [12] Wang, T. C., and Lin. Y. L. 2009. Accurately predicting the success of B2B e-commerce in small and medium enterprises. Expert Systems with Applications. 36, 2750– 2758.
- [13] Treese, G. W., and Stewart, L.C. 1998. Designing Systems for Internet Commerce; Addison-Wesley, Reading, MA.
- [14] Kalakota, R., and Whinston, A.B. 1996. Electronic Commerce: A Manager's Guide, Addison-Wesley, Reading, MA.
- [15] Zwass, V. 1996. Electronic commerce: structures and issues. International Journal of Electronic Commerce. 1(1), 13–23.
- [16] Kauffman, J., and Walden, E.A. 2001. Economics and electronic commerce: survey and directions for research. International Journal of Electronic Commerce. 5(4), 5–116.
- [17] Organization for Economic Cooperation and Development (OECD). The economic and social impact of electronic commerce: preliminary findings and research agenda, Discussion paper no. 50441, OECD Publications Office, Paris, France, 1999.
- [18] Ho, S. C., Kauffman, R. J., and Liang, T.P. 2007. A growth theory perspective on B2C e-commerce growth in Europe: An exploratory study. Electronic Commerce Research and Applications. 6(3), 237-259.
- [19] Brousseau, E., and Chaves, B. 2004. Diffusion and impact of e-commerce: the French, Working paper. Center for Research on Information Technology and Organizations (CRITO), University of California, Irvine, CA.
- [20] Dasgupta, S., and Lall, S. 2001. Wheeler, Policy reform, economic growth, and the digital divide: an econometric analysis. Working paper, Development Research Group, World Bank, Washington, DC.
- [21] Dewan, S., Ganley, D., and Kraemer, K.L. 2005. Across the digital divide: a cross-country multi-technology analysis of the determinants of IT penetration. Journal of the Association for Information Systems. 6(12)409–432.
- [22] Economist Intelligence Unit. 2003. The 2003 E-readiness Rankings. White Paper. The Economist Group, London, United Kingdom.
- [23] Economist Intelligence Unit. 2004. The 2004 E-learning Readiness Rankings. White Paper. The Economist Group, London, United Kingdom.
- [24] Gruber, H., and Verbove, F. The diffusion of mobile telecommunications services in the European Union. European Economic Review. 45(3), 577–589.

- [25] Thompson, S.H., and Liu, T.J. 2007. Consumer trust in ecommerce in the United States, Singapore and China. Omega. 35, 22 – 38.
- [26] Zainul, N., Osman, F., and Mazlan, S. H. 2004. E-Commerce from an Islamic perspective. Electronic Commerce Research and Applications. 3, 280–293.
- [27] Awad, E.M. 2004. Electronic commerce: from vision to fulfillment. NJ: Pearson Prentice Hall.
- [28] Schneider, G. 2004. Electronic commerce: the second wave. MA: Course Technology, Thomson Learning, Inc.
- [29] Turban, E., King, D., Lee, J., and Viehland, D. 2004. Electronic commerce. A managerial perspective. NJ: Pearson, Prentice Hall.
- [30] Weiss, P. 2004. Small companies play catch-up on the Internet. Information Week. July 26, p. 70.
- [31] Cyber Atlas. 2000. Latin American e-commerce showing signs of growth. Retrieved March from: http://cyberatlas.internet.com/big_picture/geographics/article/0,,5911_348161,00.htm.
- [32] OPEN Small Business Network. 2002. Monitor. retrieved November, 2002, from http://www.americanexpress.com/homepage/smallbusiness. shtml? mtpers_home=smbustab.
- [33] Nasco, S. A., Toledo, E. G., and Mykytyn Jr. P. P. 2008. Predicting electronic commerce adoption in Chilean SMEs. Journal of Business Research. 61, 697–705.
- [34] Deitel, H. M., Deitel, P.J., and Steinbunhler, K. 2001. Ebusiness & e-commerce for manager, Prentice-Hall, New Jersey.
- [35] Henry Chan, C. C., Cheng, C. B., and Hsu, C. H. 2007. Bargaining strategy formulation with CRM for an e-commerce agent. Electronic Commerce Research and Applications 6, 490–498.
- [36] Chong, S. 2006. An empirical study of factors that influence the extent of deployment of electronic commerce for small and medium sized enterprises in Australia. Journal of Theoretical and Applied Electronic Commerce Research. 1(2), 45-57.
- [37] Kshetri, N. 2007. Barriers to e-commerce and competitive business models in developing countries: A case study. Electronic Commerce Research and Applications. 6, 443– 452.
- [38] Mercer, C. 2006. Telecentres and transformations: modernizing Tanzania through the Internet. African Affairs. 105, 243–264.
- [39] Kenny, C. 2003. Development's False Divide, Foreign Policy (January/ February), 76–77.
- [40] Biederman, D. 2000. Ecommerce comes to Asia, Traffic World. 26 (9), 23.
- [41] Hawk, C. 2004. Comparison of B2C e-commerce in developing countries. Electronic Commerce Research. 14 (3), 181.

- [42] Hilbert, M. 2001. Latin America on its Path into the Digital Age: Where are We? CEPAL/ECLAC, Santiago, Chile.
- [43] Kenny, C. 2003. The Internet and economic growth in less-developed countries: a case of managing expectations? Oxford Development Studies. 31 (1), 99–113.
- [44] Fraser, S., and Wresch, W. 2005. National competitive advantage in e-commerce efforts: a report from five Caribbean nations' perspectives. Global Development and Technology. 4 (1), 27–44.
- [45] Wresch, W., and Fraser, S. 2006. Managerial strategies used to overcome technological hurdles: a review of ecommerce efforts used by innovative Caribbean managers. Journal of Global Information Management. 14 (3), 1–16.

- [46] Zhuang, Y., and Lederer A. L. 2006. A resource-based view of electronic commerce. Information & Management. 43, 251–261.
- [47] Hoffman, D. L., Novak, T. P., and Peralta, M. 1999. Building consumer trust online. Communications of the ACM. 42, 80–85.
- [48] Egger, F.N. 2002. Trust me, I'm an online vendor: towards a model of trust for e-commerce system design. CHI.
- [49] Gefen, D. 2000. E-commerce: the role of familiarity and trust. Omega. 28(6), 725–37.
- [50] Runyan, B., Smith, K.T., and Murphy Smith, L. 2008. Implications of Web assurance services on e-commerce. Accounting Forum. 32, 46–61.