

Investigation the Relationship between Constructs of Online Shopping and Website/Internet Quality with Customer's Intention to Purchase Online in Iran

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ABSTRACT

The purpose of this paper is to investigate the relationship between constructs of online shopping (perceived advantages, perceived risk, perceived trust and computer/web knowledge/Experience) and customer's intention to shop online by considering the role of website/internet quality in Iran. The development of dot com companies in 90s opened a new door of sales and revenue generation for the businesses worldwide. The number of online shoppers increased dramatically within a very short span of time. While some people found it a convenient and sophisticated way of shopping, others remained reluctant to adopt this medium. Different factors are considered responsible for this variation in online behavior. Most of the researches on this topic are conducted in the developed countries so there is a need to study the phenomenon from the developing countries perspective. Based on existing literature on the topic a research model was developed which was further tested by means of a survey. Totally, 400 questionnaires were distributed to university students in Tehran area, that 384 questionnaires were used for the final analysis. Structural equation modeling was used for data analysis and to test the hypotheses. The results of the study show that the hypothesis H1 is proved that customer's intention to shop online is positively related to perceived advantages of online shopping and the result of this study not support H2 (A customer's perceived risk is negatively related to customer intention to shop online), whereas, H3 is supported by the results of the study. Further this study concludes (H5, H6 and H7) are valid and confirm that WB & INT, CK & TRS, and TRS & PRSK are positively and significantly related to the each other.

KEYWORDS: Computer/Web Knowledge/Experience, Electronic Commerce, Online Shopping, Perceived Advantages, Perceived Risk, Perceived Trust.

1. INTRODUCTION

The term "e-commerce", also referred to as "e-business", has been defined by many authors in different ways. It is defined as "an electronic environment that makes it possible to buy and sell products and services and information on the internet" [1]. A broader definition would be conducting business transactions, maintaining business relationships and sharing information over the internet [2, 3].

E-commerce has opened the doors of opportunities for virtually all businesses whether they are operating at national or international level. One of the most befitting uses of World Wide Web (WWW) is consumer retailing: Business-to-Consumer (B2C) selling. Using WWW retailers can offer their goods and services all over the globe by means of virtual stores. With the help of virtual stores, any business can offer goods and services to customers via electronic channel with pretty less cost as compared to what is required in traditional brick-and-mortar stores [4, 5].

A rapid growth is witnessed in the area of e-commerce, but online sales generated via this medium are still very low. The main benefits claimed for online shopping include convenience, competitive pricing, and variety of selection, borderless access to goods and services and better access to information [6, 7, 8]. Some of the important impediments to e-commerce growth include lack of internet experience, security and privacy concerns of the buyers and slow speed of downloading information [9, 10].

Jarvenpaa et al. [11] classified the studies conducted on e-commerce into two categories: technology-centered and consumer-centered. Technology-centered studies focuses on analyzing technical aspects of web-based stores and relate these aspects to the consumer acceptance of these stores. These technical specifications include its user interface [12, 13, 14], usability of its website [15], information sharing with consumers [6, 16, 17] and security measures [18, 19]. According to the technology centered view the low volume of online sales is primarily due to the unproductive use of technology by online vendors.

Alternatively consumer-centered view focuses on consumers' perception and beliefs about online shopping. A consumer's retail channel selection is very much effected by these salient features which include service quality, product perception, trust and shopping experience. According to consumer-centered view socio-demographic factors are important determinants of consumer acceptance of virtual stores: an idea supported by literature on consumer behavior with respect to face-to-face shopping [20, 21]. According to consumer's centered view the success of virtual stores depends upon the consumer's willingness to purchase online.

Various researchers have investigated the factors affecting online shopping behavior of customers [22, 23, 24]. Most of the researches conducted on the subject are carried out in developed countries of the world. In this study we have attempted to look at the phenomenon from the developing countries perspective. Developing countries have their own peculiar features which need to be considered while studying customers' intention to purchase online: low credit card and bank account penetration, wider digital divide, shortage of electricity supply, lack of trained manpower to develop and support web sites, low income, poor telecommunication infrastructure and lack of computer skills among the public [25, 26, 27]. Another important reason of conducting this research is the suggestion extracted from Kuan [28] that the relationship between actual website quality dimensions and customer intention to purchase need to be investigated, an aspect which is mostly ignored in previous researches covering website quality.

The purpose of this paper is to find out the customer perceptions about business to consumer e-commerce in developing countries particularly Iran. Further this study investigates the relationship between constructs of online shopping and website and internet quality upon customer's intention to purchase online.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Customer's intention to purchase online

Customer's intention to purchase online used in this study refers to a customer's willingness to use internet for making an actual purchase of goods and services or comparing prices. This variable is operationalized keeping in view the previous researches on this topic [29].

2.2 Perceived Advantages

In many of the previous studies Technology Acceptance Model (TAM) is used to study this behavior. TAM identified two main variables i.e., perceived usefulness (PU) and perceived ease of use (PEOU) affecting a consumers decision to adopt a new technology. The former is "the degree to which a person believes that using a particular system would enhance his or her job performance" [30], while the latter is "the degree to which a person believes that using a particular system would be free of effort" [30].

Validity and reliability of the two constructs (PU and PEOU) of TAM is supported in a number of studies [31, 32, 33, 34]. PEOU in context of e-commerce is consumer's expectation to effortlessly use WWW for online shopping [22]. Previous researches have shown that PEOU is an important factor affecting consumer attitude towards adoption of a certain technology [33, 35]. PU in context of e-commerce is the customer's perception that shopping via WWW will be more beneficial as compared to face-to-face shopping and will ultimately result in better selection of products with respect to quality and prices. Combining these two variables of TAM with time saving, another advantage claimed for online shopping, we came up with our first variable affecting online shopping i.e., Perceived advantage of online shopping. Thus:

H1: Perceived advantages of online shopping will be positively related to customer's intention to purchase online in Iran.

2.3 Perceived Risk

Risks in online shopping can be divided into two categories: Product risk and Information security and privacy risk. Product risk "is allied with the consumers' belief whether the product would function according to their expectations" [36]. They assert that this risk is high when the product is technologically complex, high priced or ego satisfying i.e., its use is observed by others. Previous researches show that people prefer face to face buying in case of those products where fashion, size and price of the product matters [37]. In case of online shopping a consumer has a fear that the color of the product or quality may not be the same as it appears on the computer screen. Bhatnagar et al. [36] found that the decision to purchase goods or services online largely depends upon the perception of risk. They also concluded that costly and ego-centric items i.e., those items that reflects someone's personality e.g. clothing and cologne, are less likely to be purchased online.

In several studies conducted on e-commerce it was found that the privacy and security concerns are important factors influencing a consumer's decision to purchase online. Some of these studies show that these concerns are an important barrier restricting customers from shopping online whereas in some studies this relationship could not be established. Helander and Khalid [38] discovered that online shoppers did considered information security an important factor affecting their decision to shop online but there were some other factors affecting their decision as well e.g., cost of the item, product availability and convenience. Similarly, in another study it was concluded that security concerns did not affected either the decision to purchase online or the amount spent in online shopping [39].

Online sellers collect detailed information about a buyer. This information includes personal as well as financial data, which is used by the online companies in formulating their marketing strategies [40]. The information collected from the buyers provides a marketing edge to the online sellers, but this act is often viewed by the buyers as an invasion of privacy [41]. There are two types of concerns for the buyers about information provided to online sellers: (1) The personal information provided may be leaked out to others due to improper seller controls [42]; (2) the personal information may be sold to third parties without the consent of the buyer [43]. Some customers will not be interested in engaging online transactions due to these concerns. Thus:

H2: Perceived risk of online shopping will be negatively related to customer's intention to purchase online in Iran.

2.4 Perceived Trust

A lot of research is made on trust with respect to e-commerce but review of trust related literature reveals that there is no universally accepted scholarly definition of trust [44]. Trust has been defined in context of organization theory, economics, social networks and information systems [45]. For the purposes of e-commerce trust can be defined as “a trustor’s expectations about the motives and behaviors of a trustee [46]. A consumer’s trust in online seller is one of the most important factors affecting the decision to purchase online or not [7, 47, 48]. Generally people abstain from purchasing online from a vendor whom they do not trust [47].

Review of e-commerce literature reveals the following three dimensions of trust: Integrity, Benevolence and ability [49, 50]. Integrity with reference to business to consumer (B2C) commerce means that online vendor will be fair, consistent and reliable in fulfilling his commitment to the buyer. Benevolence refers to the company’s intention to keep customer’s interest ahead of its own and to work for the welfare of the customers [44]. Ability means the online company has the appropriate skills and competence to fulfill the customers’ demand [51]. In several studies on e-commerce it was revealed that lack of trust on online seller is one of the major reasons why people do not shop online [4, 23]. People are reluctant to provide their personal information over the internet. They fear that this information may be misuse or shared with unwanted people and agencies. Thus:

H3: Perceived trust of online shopping will be positively related to customer’s intention to purchase online in Iran.

Risk and trust are knitted together [52]. One of the consequences of trust is that it reduces the consumers’ perception of risk [53]. It is observed that trust reduces the perceived risk of a customer of being mistreated by an online vendor [54], whereas lower perceived risk influence the attitude of customers towards online stores [11]. Thus:

H4: A customer’s perceive trust in online shopping reduces his perceived risk.

2.5 Computer/Web Knowledge/Experience

It has been concluded in some previous studies that income level, gender, computer experience, and use of other face to face shopping methods affects a consumer’s decision to purchase online [39]. Lack of internet experience restricts the buyers from engaging in online transactions [45]. Liao and Cheung [55] in their study on Singaporean market studied the effect of education, internet experience and network speed on the willingness to shop online. They found computer education and internet experience as important factors affecting online shopping, whereas internet speed was not found to have significant affect on online shopping behavior. Thus:

H5: The computer/web knowledge/experience has a positive influence on customer’s intention to purchase online in Iran.

It has been found in prior studies on e-commerce that people’s predisposition towards computers is an important factor affecting adoption and usage of online [56, 57]. A consumer’s past experience on the internet in general or shopping on the internet in particular might have generated knowledge and consequences that affect his behavior and belief with respect to online shopping [11]. Thus:

H6: The computer/web knowledge/experience has a positive influence on perceived trust of online shopping in Iran.

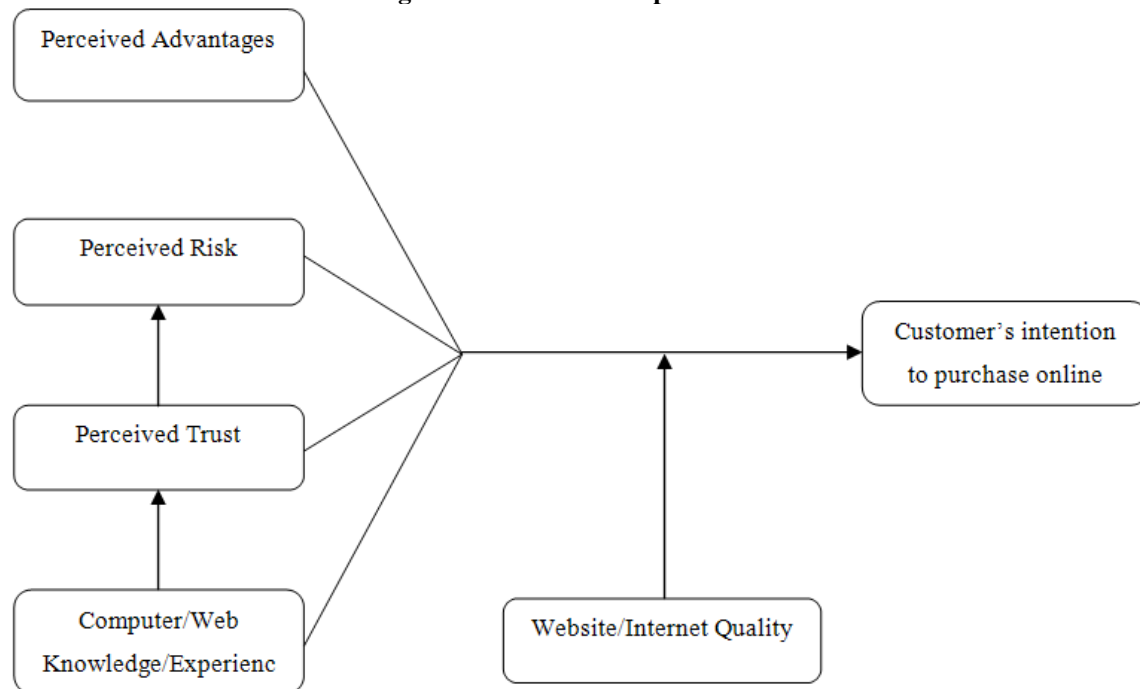
2.6 Moderating Role of Website/Internet Quality

The four variables discussed above i.e. perceived advantage, perceived risk, trust and computer/web knowledge/experience are the ones which are related to the customers’ personality. But based on our observation and review of existing literature website/internet quality is also an important factor affecting customer’s intention to purchase online. We have treated as a mediating variable as it is something which is not related to the customer’s personality like the four variables we discussed above.

Online vendors can communicate with their customers through their websites, therefore, the appearance as well as information contents can influence a consumers purchase intentions [44]. Different features of a website have been identified in marketing literature that affects the frequency of visits to a website such as: layout, readability, graphics, appeal and ease of use [58]. The customers are comfortable with those web sites which offer ease of navigation [59] and poorly designed web sites had a negative impact on sales [39]. Web site designs play a very crucial role in attracting as well as retaining customers [60]. Thus:

H7: The Website/internet quality of online shopping has a positive influence on customer’s intention to purchase online in Iran.

Therefore, based on the hypothesis, figure 1 is a conceptual model to this study.

Figure1. Research conceptual model

3. METHODOLOGY

3.1 Procedure and Questionnaire Design

A questionnaire based survey was used in this study. All the questions (other than related to demographic characteristics) were measured on a seven-point Likert scale where 1 was the least level agreement and 7 was the highest level of agreement. The scale was adopted from the previous researches such as perceived advantages [61, 62], perceived risk [36, 42], trust [50], computer/web knowledge, website and internet quality [60] and intention to purchase [29]. To check the reliability and validity of questionnaire a pre-test was conducted where this questionnaire was distributed among 45 respondents. Once the results of pre-test were found satisfactory the questionnaire was distributed among the target population.

Reliability of the data was checked by means of Cronbach Alpha which was found to be 0.863 was above the general acceptable limit (0.70) described by Hair et al. [63]. The data was analyzed by Statistical Package for Social Sciences (SPSS 16.0) and AMOS 7 software. For testing of hypothesis structural equation modeling (SEM) was used.

3.2 Sampling Target

In this study, information was collected in September 2012, from 384 college students in 5 management faculties of Islamic Azad University in Tehran area. According to Shouli [64], in every society college students and consumers belong to the middle and high class, and their education, revenue, social status and social interactions make them more involved. Therefore, college students who are in different age ranges with varying income levels were selected as the sample of this research.

3.3 Sampling Method and Sample Size

Selective university is comprised of five colleges and eighty majors are taught in that. Totally, 26420 students study there. According to Krejcie and Morgan's table [65], sample size was defined 379. Proportional Stratified sampling and systematic random sampling were utilized. In the first place, based on Proportional Stratified sampling, sharing and distribution of questionnaires was done relative to the numbers of colleges. Afterwards, systematic random sampling was done in front of the college entrance gate to choose the respondents. With regard to the size of sample, 400 questionnaires were distributed and in total 384 completed questionnaires were obtained.

4. RESULT AND DISCUSSION

4.1 Results

Table 1 shows a seven (7) model fitness criteria. The model chi-Square (Chi) and associated significant value indicates that this criteria does not fulfill the minimum requirement of model fitness as the significant value is less than level of significance ($P < 0.05$) indicating discrepancies factors in the model. Another fitness measure is goodness of Fit index (GFI), by convention the value of GFI equal to or greater 0.90 is acceptable. This criteria fulfill the minimum acceptance level of Model Fit ($GFI > 0.90$) and AGFI is variant of goodness of fit which adjusted goodness of fit index for degree of freedom. Further criteria includes CFI

(Comparative Fit Index) is revised form of NFI (Norm Fit Index). The suggested value for NFI and CFI is equal or greater 0.90. According to Gefen et al. [66] RMSEA value below 0.05 show good fit of the model. Based upon the aforementioned criteria five model fit indices fulfill the criteria of proposed model fitness.

Figure 2: Results of the Proposed Model (SEM) - with Mediating Variable

(PAD=Perceived Advantages; PRSK=Perceived Risk; TRS=Trust; CK=Computer Knowledge, WB=Website/Internet Quality and INT=Intention to Purchase Online)

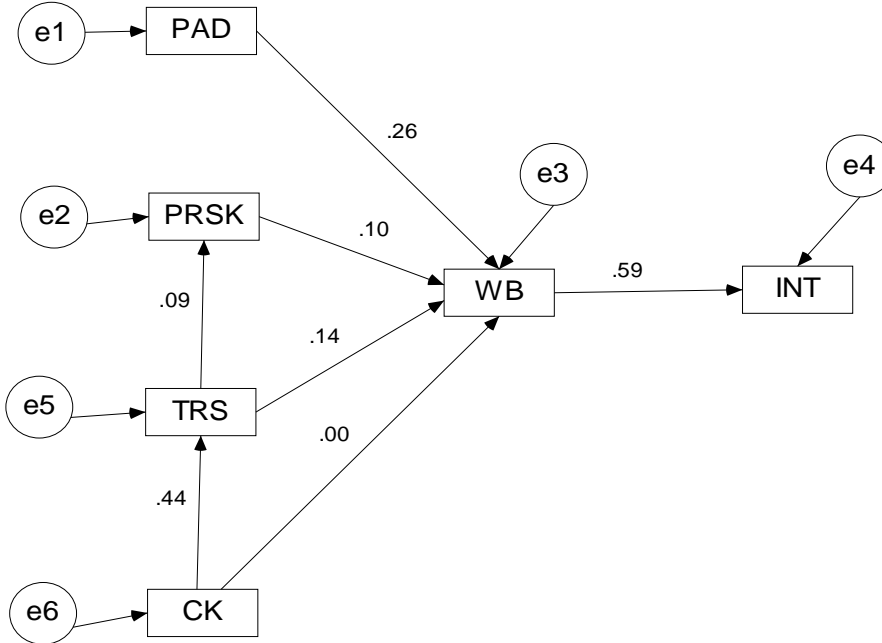


Table 1: Proposed Model Fit Indices – With Mediating Variable

(GFI= Goodness of Fit Index, AGFI = Adjusted goodness of Fit Index, NFI = Norms Fit Index, CFI= Comparative Fit Index, RMSEA = Root mean Square Error of Approximation)

CMIN	DF	P	CMIN/DF	GFI	AGFI	NFI	CFI	RMSEA
41.168	8	0.000	5.146	0.977	0.962	0.900	0.934	0.045

Table 2 shows the result of hypotheses testing after the introduction of mediating variable. The analysis highlights the relationships between PAD & WB, PRSK & WB, TRS & WB, WB & INT, CK & TRS, and TRS & PRSK are statistically significant (P<.05). However, the relationship between Ck & WB, and is insignificant (P>0.05). The result further reveals that perceived advantages, website and internet quality and customer knowledge/experience play a very important role in customer’s online shopping intention. Perceived advantages of online shopping greatly influence people intention to purchase online. Customer knowledge/previous experience play a very important role in establishing trust which enforces the previous researches on the issue. Trust usually results in reduction of perceived risk which is weakly supported in this research.

It is evident from the analysis that perceived advantage intensifies website/internet quality by 26%. The critical ratio (CR=4.961) indicates that perceived advantage is believed as an important determinant in ensuring web/internet quality in online-shopping. The table further depicts the regression co-efficient (Beta) value is 0.101 between perceived risk (PRSK) and website/internet quality (WB) and the relationship is pointed from the analysis that if there is one degree change in perceived risk there would be almost 10% change in website/internet quality and p-value (p<0.05) suggests that there is significant and positive relationship between these two variables. The results further demonstrate that trust and web/internet quality (β= 0.046, P<.05) remain positive and significant. There is a strong positive relationship between website/internet quality and intention to purchase online shopping as (β= 0.594). Whereas, the relationship between computer knowledge and trust is the second highest regression co-efficient (β= 0.437).

The results of the study show that the hypothesis H1 is proved that customer’s intention to shop online is positively related to perceived advantages of online shopping and the result of this study not support H2 (A customer’s perceived risk is negatively related to customer intention to shop online), whereas, H3 is supported by the results of the study. Further this study concludes (H5, H6 and H7) are valid and confirm that WB & INT, CK & TRS, and TRS & PRSK are positively and significantly related to the each other.

Table 2: Hypotheses Testing Based on Regression Weights – With Mediating Variable

(PAD=Perceived Advantages; PRSK=Perceived Risk; TRS=Trust; CK=Computer Knowledge, WB=Website/Internet Quality and INT=Intention to Purchase Online)

Variables	Estimates	S.E.	Critical Ratio	P-value	Results
WB <--- PAD	0.256	0.042	4.961	0.000	Supported
WB <--- PRSK	0.101	0.033	3.947	0.012	Supported
WB <--- TRS	0.137	0.046	2.390	0.017	Supported
WB <--- CK	0.001	2.050	.009	0.993	Not Supported
INT <--- WB	0.594	0.060	13.629	0.000	Supported
TRS <--- CK	0.437	0.027	8.955	0.000	Supported
PRSK <--- TRS	0.091	0.068	2.685	0.042	Supported

4.2 Discussion

The constructs used in perceived advantages (perceived ease of use and perceived usefulness) have been studied with reference to e-commerce adoption in different studies and different conclusions are drawn about them. In a study conducted by Pechtl [67] conducted the research on online shopping among grocers in Germany perceived advantages and found the significant impact on adoption behavior and also concluded that there was no significant influence of perceived risk on online shopping intention. In a study conducted by Lokken et al. [68] compared the online shoppers with non-online shoppers. Online shoppers revealed several perceived advantages of shopping online including product reviews, saving time and convenience. Credit card security was the main concern for non online shoppers.

Martin and Camarero [69] study results indicated that, as the respondents' sense of computer competency increased to the level of expert, the more likely they were to make purchases online. This study shows that some characteristics of online trade firms, such as security and privacy policies, service quality, and warranties, have a more direct influence on trust, while the quality of the Web site has an indirect influence on consumers' satisfaction. Among all these variables, satisfaction with the previous purchases is undoubtedly the main determinant for trust, which reinforces findings of previous studies.

The results obtained confirm that, for both analyzed samples, the intention to shop on the Internet is positively influenced by general attitude toward the system and negatively influenced by the risk associated with the Web. In addition, perceived usefulness is the main determinant of attitude toward e-commerce, for both Internet buyers and non-buyers. However, some significant differences can be seen between both considered samples [70].

4.3 Practical Implications

It is concluded that a customer's perception about advantages of online shopping and his trust on online vendor are the two most important variables affecting his intention to purchase online. Online vendors should focus on developing trust by adopting different steps. Another important finding of this research is that customer's knowledge and experience with computers and specifically with internet is very much helpful in building their trust on this medium.

4.4 Limitations and Future Research

This research is conducted in Iran which is one of the developing countries. Shopping online is not very much common though it is becoming popular. Majority of the population doesn't own a credit card and therefore, they are not able to shop online. People mostly are accustomed to face to face shopping in which they can see and feel the item as well as they can bargain over the prices. The results of this model might not be the same when used in a developed country or where people have more tendencies to use credit cards.

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