Studying the Role of Perceived Risk, the Challenge of Purchasing Merchant and the Trust Expectation in the Customer’s Online-Commercial Merchant Selection Process (Case Study: Digikala Company)

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Abstract

In general, this research tries to provide the necessary potentials to increase sales and market share of Digikala Company through identifying and eliminating obstacles of trust on behalf of corporate clients as one of the successful virtual stores in Iran to purchase online; it also investigates a variety of raised risks such as identifying how financial risks related to transferring money, psychological and social risks, and the risk of sending the merchant to the customers by Digikala Company will be reduced; furthermore, it identifies environmental challenges of purchasing products by customers while online shopping through creating trust expectation in consumers. It also states that what other factors can influence on the customer’s purchase intention from virtual stores. In this study, partial least squares (PLS) modeling, which is used in structural equations modeling (SEM) discussion, is used. To analyze data, Excel, PLS software has been used. Structural equation modeling analysis test in PLS has been used to test the main hypotheses and the mediator role of variable, and the risks of expected performance; the results of correlation analysis contain considerable points of the relationship between research variables. The statistical sample of this study includes all those who have shopping experience from Digikala and online shopping. Findings from the investigation show that environmental challenge and perceived risk are two triggers on the reaction of buyers from online shops. Our findings also show that environmental involvement factors have a positive relationship with perceived risks such as financial, product, performance, transfer, social, and mental.

Keywords: Environmental Challenges, Perceived Risk, the Intention of Online Shopping, E-Commerce.

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1. Problem Statement

Today, the Internet has changed into an extensive domain for commercial transactions and a strong media for marketing. Statistics indicate that the number of Internet users and the tendency to buy and sell through the Internet have increased so that the amount of the purchase of e-buyers in the developed countries, such as the United States, by 2013, has been estimated to be about 213 billion dollars (Evans, 2009). Today, e-business is replacing old form of business and it is getting a new form day by day. One of the new aspects in this field is the emergence of the Internet store.

Past research on customer behavior has always focused on customer’s purchase intention as a primary and important factor in the decision to buy or not to buy the product while this investigation is a separate and unique approach in creating content for the purchase intention as a reference for e-retailers against the present market vendors. The choice of customers in e-business between the actual market and electronic market has always been indirectly related to the perceived risk level by the customers; it also directly depended to the expected level of customers’ trust in e-commerce.

In general, this research tries to provide the necessary potentials to increase sales and market share of Digikala Company through identifying and eliminating obstacles of trust on behalf of corporate clients; it also investigates a variety of raised risks such as identifying how financial risks related to transferring money, psychological and social risks, and the risk of sending the merchant to the customers by Digikala Company will be reduced; furthermore, it identifies environmental challenges of purchasing products by customers while online shopping through creating trust expectation in consumers. The findings of this research will be very effective in the development and compilation of e-commerce strategies related to Digikala Company, which has always been a major challenge of this company in Iran.

2. Literature Review

In this study, generally, the literature review related to the parameters of the proposed model is presented. Following that, examining the role of shopping challenges, perceived risk, and trust expectation in the process of choosing merchandise –Internet merchant is offered. Finally, presenting the existing literature, a summary of literature review is given.

2.1. Consumer’s Online Shopping Behavior

According to a study, it has been estimated that only in the United States and Canada, in 2007, 236 million people, in Western Europe, 290 million people, and 610 million people in Asia and Pacific have access to the Internet. While the number of Internet users in the United States is the most, many European countries have a higher percentage of users and it is forecasted that the number of Internet users exceed those of the United States. (Hawkins, 2011) Research also shows that women have a more personal connection to and use the Internet for scientific issues, and men use it for entertainment and spend their leisure time in the Internet-based e-commerce environment.
A lot of research in the field of consumer buying behavior focus mostly on purchase intention as a primary factor in the decision to buy or not to buy while the current research concentrates on a unique approach in structural content and measuring the intention for online buyers from the virtual stores in digital markets against other markets. The challenge to purchase merchant is among other important topics on consumer purchase intention which has attracted the attention of a lot of researchers to study in this field. Customers with a challenging mentally to purchase merchant are always trying to collect more detailed information and analyze it while consumers with lower intensity of challenge have a highly different and opposite behavior. According to Bloch and Richin (2010), challenge to purchase merchant always has a significant impact on consumers' reaction towards communication and word of mouth advertising. However, few studies has been done in this area to identify this kind of effective factors on virtual shopping behavior while this study, through identifying the perceived level of risk from the consumer, the amount of mental challenge to purchase, and trust expectation from the customer is trying to expand the analysis of these concepts in the process of online shopping.

2.2. Environmental Challenge to Purchase of Merchant

Despite most differences in past research, many of them just focus on the specification of buying the merchant while environmental challenge to purchase the merchant depend on consumer’s perceptions of the appearance and the importance of the specification and classification of merchant on the basis of the needs, the values, and interests of consumers (Zaichkowsky et al; 2001). The extent of the challenge and conflict to purchase merchant cause mental arousal in consumers; this psychological conflict mode is possible with high intensity in relation to the purchase of merchant that need collecting extensive information to buy merchant; the merchant that can be bought in this assortment include luxury, high-tech, expensive merchant and the ones that are associated directly with the health of people; in contrast, a variety of commodities are proposed that have low mental challenge for shopping, i.e. deciding whether to buy or not is more convenient such as daily consumer merchant and clothes (Radder and Huang, 2008). Environmental challenge to purchase merchant has a direct relation with the amount of previous experience of the consumer in purchasing merchant so that as this experience is high, it has less challenge for shopping vice versa; in fact, to analyze such a case, the repetition rate and frequency of purchasing merchant should be considered as a factor (Houston and Rothschild, 2009). Richins and Bloch, in their studies, refer to the fact that environmental challenges to purchase merchant result from the perceived risk rate (Richins and Bloch, 1983). Environmental challenge to purchase merchant can have a significant effect on cognitive and behavioral reactions in stimuli marketing. Consumers who involve in purchasing merchant have a lot of motivation to collect and process information and have prudent decisions in order to provide the appropriate conditions (Bian and Moutinho, 2008). In addition to the information processing for the shopping, such consumers transfer most of the commodity-related information through word of mouth advertising to others.
2.2. Perceived Risk

Perceived risk is known as a key consumer behavior trigger. One of the earliest consumer behavior scholars, Bauer announces that consumer behavior contains dimensions of the risk so that every activity from the consumer in order to purchase creates uncertainty in person. Based on the studies by Bauer, consumers through collecting appropriate information about the product want to minimize the risk of buying; also, they want to do shopping with more confidence in uncertainty condition. (Bauer, 1960)

E-commerce always creates more perceived risks and uncertainty than the traditional trade does (Huang et al., 2012). Online exchanges are always under the terms of a secret, non-private and non-visual communications so that the consumer cannot test the product and make sure of its performance before purchasing. Such exchanges can eventually lead to some kind of flows and feeling of risk by consumer. Based on the studies by Pavlou and Gefen (2004), in Internet exchanges, some sellers are highly prone to providing risk conditions for consumers through not sending proper merchant and not sending it on time (Pavlov and Gefen, 2004). Increases in Heterogeneous information between the seller and the buyer increases the perceived risk on behalf of the customer which will finally lower his intent to buy (Verhagen et al., 2006).

Financial risk: it refers to the probability of losing money in a financial exchange on the Internet; since in this type of purchase, the seller's behavior does not warranty the complete executive process, buying is always a concern for the customer to lose his money in this virtual shopping (Hong and Cho, 2011). Pavlov et al (2007) suggest that since the behavior of the online vendors is not easily controlled, buyer always have a sort of concern than to be cheated by sellers in providing the desired quality and delivery of inappropriate products; in this case, they are doubtful about transferring money which consequently increases the risk the financial exchanges.

Performance risk: it refers to the lack of proper functioning of the merchant after online shopping so that the buyer has a sort of concern in shopping till the time he gets the product and be aware of the accuracy of its performance. (Ilyoo B. Hong, 2015).

Delivery risk: it refers to non-delivery of merchant after doing an online shopping; in this case, it is possible that the specification of merchant bought does not match with the buyer's expectations and, as a result, it accompanies with perceived risk by buyer (Bloch and Richins, 2010). The fact that the merchant purchased from a virtual store is delivered to a wrong address or does not reach to the destination on time will always create delivery risk from the seller (Laurent and Capperfer, 2010).

Psychological risks: it always refers to mental mismatch of purchased product from the Internet with the mental image of the consumer. The purchased merchant in an online store will always create a sort of mental and psychological conflict for the buyer because it is impossible to test and try merchant before shopping (Jacoby and Kaplan 2010).

Social risk: it refers to the effect of other’s attitude in buying inappropriate product by the consumer on the Internet that can affect his shopping; as this risk is felt more, it causes the consumer to have more control on perceived risk. (Olivero and Lunt, 2004)

2.3. Perceived Risk and Environmental Challenge to Purchase Merchant
Since risk always happens while attempting to buy, it cannot affect environmental challenge to purchase merchant in the long term. In general, the more the customer enjoys the merchant and has more knowledge about it, the less it is likely that he feels the perceived risk of buying merchant. Many studies suggest that perceived risk affect environmental challenge of purchasing merchant. Based on the studies by Bloch (2011), the higher the risk of shopping, the more important this shopping will be for the buyer in the future. Also, when a consumer can predict the negative consequences of shopping, it will have more mental and environmental challenges to buy these merchant. (Bloch, 2011)

Risks and challenges of purchasing merchant always exist in the nature of the process of buying and when shopping action finishes, they will disappear (Laurent and Capferer, 2008). When the consumer gets aware of social risks and personal goals about the consequences of his poor choice for the consumption merchant, environmental challenge to reelect the same merchant increases for him that, finally, makes him more caution in his next shopping (Rothchild, 1979).

2.4. Customer Trust and Risk Perception

Traditional marketing literature of the researchers claim that trust can reduce customer's perception of risk associated with the opportunistic behavior of seller (Huang, 2012). One of the challenging issues between researchers of consumer behavior has always been trust in Internet shopping and its association with the perceived risk by the customer (Hong and Cho, 2011). The relationship between trust and perceived risk, like the relationship between environmental challenge to purchase merchant and the perceived risk, is an ambiguous relationship although a number of studies confirm the negative effects of trust on perceived risks; for example, Pavlov (2003) and Vitale et al. (2000) believed that an increase in the level of consumer’s trust to Internet shop and online shopping can somehow reduce the amount of the perceived risk whereas Mayer et al. (2010) refers to the fact that the risk relationship, as a prerequisite or outgoing of trust, is still unclear.

On the other hand, Johnston (2008) stated that the desire to take risk is one of the distinguishing and normal characteristics of in all trusting situations; so, as it was mentioned, the perceived risk can be regarded as one of the important predicting factors of the consumer to trust to purchase; moreover, a person trusts on virtual store to do shopping only when the probability of positive output to the negative ones is more (Hong and Cho, 2013). Also, when the rate of the perceived risk is felt more than the amount of achieved benefits in an online shopping, the process of trusting will not form (Laurent and Kapferer, 2008). All in all, it can be understood that the perceived risk has a considerable negative impact on trust.

2.5. Internet Purchase Intention

When the buyer selects his desired commercial name and store, he should terminate his shopping process; this stage is buying or shopping, purchase intention or product permission in which many consumers begin their Internet shopping and, without completing their buying process, leave it. This problem may be due to a lack of trust about the ways of completing shopping process and his concern about related security issues about providing the credit card...
number and password and his negative attitude towards the costs. Increasing the number of potential buyers who complete their order process is one of the challenges that most Internet retailers are facing nowadays; (Hawkins, 2006) consumers who intend to do online shopping accept more risk of buying online because of the ambiguity of shopping environment which should be reduced through applying online shopping risk reduction strategies including product performance, transaction security, spending time, mental and financial losses which can be reduced for consumers through the degree of their risk in searching strategies such as selling with products with a good reputation (Cyr and Bonanni, 2005). Internet shopping intention, as an important variable that determines the final shopping behavior, is itself the evaluation consequence of factors including the Internet website quality, information search and evaluation of the product by the customer (Pedro, 2008). In fact, Internet purchase intention reflects the tendency of the customer in buying through the website. Previous studies have identified triggering factors of Internet shopping intentions. The research by Liang et al. (2000) showed that customers have a higher tendency to shop online when the shopping website has proper functions such as product catalog, search engine, price comparison, shopping cart, e-payment, including credit cards and order follow-up system; they realized that the design of Internet shopping website affects Internet shopping intention.

Table 2.1. Literature Review

<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Researcher(s)</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigating the effective factors on purchasing intention in e-commerce</td>
<td>Ghaffari et al. 2011</td>
<td>The perceived ease of use has a positive effect on perceived productivity and the attitude to use e-commerce website. Mental norm has a positive effect on perceived productivity and the attitude to use and reuse e-commerce website. Electronic trust has a positive effect on the intention of reusing e-commerce website.</td>
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<tr>
<td>2</td>
<td>Presenting behavioral model of consumer in Internet shopping</td>
<td>Shafizadeh et al. 2013</td>
<td>Through using electronic consumer behavior literature and experimental research of the past and offering several new factors affecting the behavior of this type of consumer, this study tries to assist retailers to understand consumer behavior and presents an integrated model of</td>
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<td>Page</td>
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<td>4</td>
<td>Factors affecting Costumer’s trust in E-commerce (B2C) model</td>
<td>Khodad Hosseini et al. 2008</td>
<td>The result of this research suggests that a positive relationship between variables related to the company and customer trust in e-commerce is confirmed; in fact, this issue shows the abundant effect of the tools of company, such as the website and also the factors related to marketing, such as the product, promotion, distribution and price in creating trust in customers.</td>
</tr>
<tr>
<td>5</td>
<td>Determining related factors with purchasing intention in e-commerce</td>
<td>Ghazizadeh et al. 2011</td>
<td>There is a significant relationship between variables of an individual's attitude to e-commerce, subjective norm, overall perceived risk of e-commerce and innovation with the intention of shopping online.</td>
</tr>
<tr>
<td>6</td>
<td>Investigating effective factors on purchasing intention in e-commerce</td>
<td>Hong 2015</td>
<td>The findings of this research are widely used in the development of topics related to e-commerce strategies and also provide potential capabilities through controlling and identifying the level of risk and trust expectation in Internet sales of merchant.</td>
</tr>
<tr>
<td>7</td>
<td>Investigating Effective factors on online shopping of costumers in China</td>
<td>Gonguly et al. 2010</td>
<td>They examined the demographic characteristics of buyers and found that factors such as age, income, marriage, education, and the amount of perceived risk of these factors can be used as predictor variables of online buying behavior of customers.</td>
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<td>8</td>
<td>Background and content investigation of customer’s trust in online shopping behavior</td>
<td>Sangnita &amp; et al. 2013</td>
<td>They found that all structures and variables of the study connecting with trust have extraordinary connection with online shopping of customers especially in the area of online shopping for ground and air.</td>
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<td>Page</td>
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<td>9</td>
<td>Investigating Internet shopping behavior of consumers in e-commerce</td>
<td>Dholakia. 2012</td>
<td>In this study, they expanded and developed the thematic literature in relation to cognitive categories, demographic characteristics of customers and market segmentation based on consumers, online social networks and communication, the amount of income and its impact on the volume of purchase by consumers and ultimately the amount to achieve purchase information via the Internet.</td>
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<td>10</td>
<td>Investigation the reasons and consequences of consumers to Internet shopping security in e-commerce</td>
<td>Richard 2005</td>
<td>The results of this study showed that the political and commercial support of the Government through legislation on e-commerce and website reduced the amount of accepted risk by buyers to amount of online shopping and increased trust between the consumer and commercial online networks.</td>
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<tr>
<td>11</td>
<td>Investigating Customer Satisfaction in virtual space under promotion factors</td>
<td>Zeitamel et al. 2011</td>
<td>In this study, through using the factor analysis technique, it was found that customer satisfaction in virtual space is affected by promotion (volume of information, number of products offered and quality of information), security, the possibility of providing the service, website design (ease of use, ease of the procedure, the required time for shopping and the ease of browsing) and board (its age and popularity).</td>
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<td>12</td>
<td>Investigating the intermediating role of social presence and trust among past Internet shopping experiences and purchasing intention</td>
<td>Weisberg et al. 2012</td>
<td>Using multivariate regression analysis, along with confirming the relationship, it was concluded that online store design should improve the signs of presence and trust to</td>
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3.1. Significance of Study

This research implies that environmental challenges to purchase merchant from the virtual space as well as the amount of perceived risk by the buyer can be motivational factors to purchase or not from Internet websites; it also discusses about the other factors which can influence on the customer purchase intention form virtual stores. In fact, in this research, through reviewing trust expectation factors, different elements of perceived risk by the customers including financial risk, functional risk, social risk, psychological and delivery risk of products and the challenge to purchase merchant as well as the intention of customers to buy a special make, tries to achieve a proper strategy in the e-commerce. Digikala Company has always been facing with a major challenge to sell its merchant properly via the Internet and develop the capacity of its customers’ shopping. The greatest environmental challenges relates to the risks discussed above, which have been felt by online customer customers, and created some sorts of lack of trust in tendency to do shopping from Digikala Company. This research, through helping Digikala Company to identify these types of risks, tries to increase the trust of buyers towards Internet shopping and provide a good strategy for the company to sell online.
4.1. Research Model

According to the proposed issues, a model such as table 1-1 can be provided based on which the objectives and hypotheses will be raised:

![Research Model Diagram](image)

**Figure 1-1: Research Model: Ilyoo B. Hong (2015)**

5.1. Objectives

5.1.1. Main Objectives
Investigating the role of purchasing challenge, perceived risk, and trust expectation in the process of choosing Internet-commercial merchant of customers.

5.1.2. Secondary Objectives

1. Investigating the effects of environmental challenge to purchase merchant on the amount of financial risk of merchant.
2. Investigating the effects of environmental challenge to purchase merchant on the amount of performance risk of merchant.
3. Investigating the effects of environmental challenge to purchase merchant on the amount of delivery risk of merchant.
4. Investigating the effects of environmental challenge to purchase merchant on the amount of psychological risk of buying merchant.
5. Investigating the effects of environmental challenge to purchase merchant on the amount of the social risk of shopping.
6. Investigating the effect of financial risk on trust expectation from the consumer.
7. Investigating the effect of functional risk on trust expectation from the consumer.
8. Investigating the effect of delivery risk on trust expectation from the consumer.
9. Investigating the effect of the psychological risk on trust expectation from the consumer.
10. Investigating the effect of social risk on trust expectation from the consumer.
11. Investigating the effects of environmental challenge to purchase merchant on trust expectation from the consumer.
12. Investigating the effect of trust expectation on consumer purchase intention from virtual store.

6.1. Research Hypotheses
6.1.1. Main Hypotheses

The challenge of purchasing merchant, perceived risk, and trust expectation have a significant impact in the process of choosing Internet-commercial merchandise of customers.

6.1.2. Secondary Hypotheses

H1-1: Environmental challenge to purchase merchant has a significant impact on the amount of the financial risk of the merchant.
H1-2: Environmental challenge to purchase merchant has a significant impact on the amount of the performance risk of merchant.
H1-3: Environmental challenge to purchase merchant has a significant impact on the amount of the delivery risk of merchant.
H1-4: Environmental challenge to purchase merchant has a significant impact on the amount of the psychological risk of purchasing merchant.
H1-5: Environmental challenge to purchase merchant has a significant impact on the amount of the social risk of buying merchant.
H2-1: Financial risk has a significant effect on the expectation of trust from the consumer.
H2-2: Performance risk of purchasing merchant has a significant effect on the expectation of trust from the consumer.
H2-3: Delivery risk of purchasing merchant has a significant effect on the expectation of trust from the consumer.
H2-4: Psychological risk of purchasing merchant has a significant effect on the expectation of trust from the consumer.
H2-5: Social risk has a significant effect on the expectation of trust from the consumer.
H3: Environmental challenge to purchase merchant has a significant effect on the expectation of trust from the consumer.
H4: Trust expectation has a significant effect on purchasing intention from a virtual store.

7.1. Variables
7.1.1. Dependent Variable(s)

The intention to purchase from a virtual store: it refers to the amount of consumer’s tendency and his final decision about purchasing merchant from a virtual shop on the Internet.

7.1.2. Independent variable(s)

Environmental challenge to purchase merchant: it refers to the importance of temporary understanding the process of buying so that when the buying process is over, its environmental effect on the consumer is neutralized; in other words, the effect disappears.

7.1.3. Mediator (Adjusting) Variable(s)

1) Financial risk: it refers to the probability of losing money in an Internet financial exchange.
2) Performance risk: it refers to the lack of proper functioning of the merchant after Internet shopping.
3. Delivery risk: it refers to the non-delivery of merchant after and Internet shopping.
4) Psychological risk: it refers to mental mismatch of purchased product from the Internet with the mental image of the consumer.
5) Social risk: it refers to effectiveness of the attitude of others from inappropriate shopping by the consumer from the Internet.
6) Expecting Trust: it refers to the measurement and understanding of the extent and applicability of consumer trust in online shopping from cyberspace.

8.1. Methodology

The present study, regarding type and methodology, is a descriptive-survey research because it analyzes the current status of subject (what is) including the writings, dimensions, and the components relevant to the subject matter; in terms of the objective, it is an applicable research because it uses questionnaire for data collection. Applicable research is used to satisfy human needs and improve and optimize the tools, methods, and patterns to develop welfare and promote human life. A development approach is doing research for the design and invention of new efficient systems to improve and replace the traditional system to enhance capabilities to meet the needs of the users (Hafeznia, 1389, pp. 61-62). Also, in order to collect data and information, a combination approach of the library and the field studies will be used. Based on the approach, the current research is a quantitative type.
8.2. Method of Collecting Information

The method of gathering information is a field survey. Data collection is a compilation of qualitative and quantitative methods. In quantitative method, random sampling and structured interviews are used. In a qualitative study, sampling methods and tools such as mining, studying documents and interview, and view have been used. In data collection, the questionnaire technique has been used which, according to the desired variable and corresponding reagents, attitude assessment test through Likert five-point spectrum. In order to ensure the validity of the questions and the options of the questionnaire, a number of them were presented to the supervisor and some other experts in the pre-test of questionnaire for authentication of the content (validity). A number of 37 questions were raised in the questionnaire 6 of which related to environmental challenge variable of purchasing the merchant, 3 questions about the financial risk variable, 2 questions about delivery risk variable, 4 questions about psychological risks, 3 questions about social risks, 7 questions about trust expectation variable, 6 questions about purchasing intention, and 3 questions about sex and age groups and income level of the participants. At the end, to determine the reliability, the questionnaire will be distributed and Cronbach’s alpha will be calculated for all research variables and questionnaire at the end.

8.3. Information Analysis Method

In this study, partial least squares (PLS) modeling is used in the structural equation modeling (SEM). This method is considered as one of the multivariate methods by which, in spite of some constraints such as unknown normal distribution of response variable and low number of observations, it is possible to simultaneously create one or more response variables against several explanatory variable for modeling. Therefore, according to what has been discussed, PLS is an attitude based on variance that is suitable for real applications and, especially when the models are sophisticated and have several mediator confounding variables, using this approach is optimal. This second generation approach contains structural equation modeling; according to the above mentioned discussion, while facing with limited statistical sample or the permanent problem of all studies, i.e. lack of all variables being normal, this approach of structural equation modeling is applied as a solution.

To analyze data of Excel software, PLS will be applied. Structural equation modeling analysis test in PLS software will be used to test the main hypotheses and the mediator role of the risk variable and performance expectation. The findings of correlation analysis include significant points about the relationship between research variables. The mean test of extracted variance and Cronbach’s alpha and reliability of structures will be used to determine the reliability and validity of the questionnaire. In addition, factor loaders of each of the structures are the first prerequisite for the validity of the desired converge (Azar, 2011). To check the fit of the model, $R^2$ value has been used to verify the quality of the fit of the model as the power of changes show the independent variables and its explanation in checking the concept of dependent variable. Of course, this factor must not be taken into consideration alone but it has been presented along with F2 in this research. This measure determine the intensity of the relationship between structures of...
the model. Also, in the later part, low, medium and high impact of a structure over the other structure, which represent the fitted quality model, will be mentioned (Azar, 2012).

8.4. Statistical Sample

Since the present study is to examine the role of purchasing challenge, perceived risk, and expectation of trust in the process of choosing Internet-commercial customers, therefore, the statistical sample of the study includes all those people who have experienced shopping from Digikala virtual store in Iran and all those who can do Internet shopping.

9.1. Checking the Credibility and Validity of the Model

In this study, firstly, the validity and reliability of the model have been measured; secondly, the evaluation of the structural model through estimating the path between variables and determining the indicators of the fitted model is presented. The sequence of these two stages ensures the validity and reliability of measuring structures before any attempt is done to conclude about the relationships between structures (Azar, 2012).

The convergent validity refers to the fact that index of each structure should have a middle solidarity together; in other words, do the applied tools for the measurement have strong correlation? The mean factor of the extractive variance with the minimum amount of 0.5 by Fornell and Larcker (1981) in the form of cross loadings has been introduced to determine the validity of converge. Therefore, to obtain converge validity rate from extracted variance, and the validity of the compound tests, compound validity and Cronbach's alpha evaluations were performed. In the first method, with the help of the mean index and the extracted variance, it was determined that all studied structures had higher extracted mean variance than 0.5.

Therefore, to check the validity of converge in model, partial least squares were analyzed by extracted variance mean criteria. In other words, AVE shows the solidarity of a structure with the branches; the more the solidarity, the more the amount of fitness. Fornell and Larcker proposed a higher value than 0.5 because this amount guarantees that at least 50% of the structural variance are defined by their indicators.

Based on the results of the output of the PLS analysis, the average output variance rate for all variables is from 0.5 to 0.7, showing that the measurement tool has appropriate validity. Validity of the tool is in two measure parts, one relating to the composite reliability of reflective index with corresponding structure used for inner solidarity of measuring tool and, eventually, Cronbach's alpha coefficient. The amount of appropriate validity for each index with corresponding structure with it, i.e. minimum load factor of 0.6 and minimum coefficient of Cronbach's alpha of 0.7 (Azar, 2012). The findings indicated that the load of all structural indicators with the corresponding with the reflective structures between 0.60 to 0.93 and the value of the composite reliability is more than 0.7 which shows that the reliability of the measurement tool is confirmed.

Research findings also show that all structures do not have diagnostic validity interacting with each other, i.e. structures are unrelated to each other in understanding the main issue of the
research and the size of heterotrait–monomethod is higher than 0.8. In other words, in assessing the interaction of structure with each other and in conjunction with each other have high correlation and overlap.

Following this, cross loadings are examined as the first prerequisite of convergent validity, since cross loading is a numerical value that determines the level of intensity of the relationship between a hidden and clear variable during the process of analyzing the specific path. The higher the value of the index in relation to the cross load of a specific structure, the more it plays a part in explaining its structure. Therefore, as it was mentioned, the cross loads is approved to be greater than 0.6.

In this study, the cross loads are all approved, therefore, according to table, one of the criteria of the converged validity which is a cross load is examined. Cross load of each of the structural indicators has a value higher than 0.6 which means they enter the process of analysis.

10.1. Second Stage: Evaluation of Structural Model

Validity and reliability estimation of measurement model allows the assessment of the structural model. In this study, to assess the structural model, two methods of determining factor criteria and criteria for the size of the effect are used. The value of $R^2$ is only calculated for inner structures (dependent) of the model and fitting; for outer structures, this value is zero. Chou (2005) determined the values of 0.19, 0.33, 0.67 as the criterion value for weak, medium and strong $R^2$. The value of the coefficient of determination for financial risk, delivery risk, and trust expectation risk is in the strong domain or fitted level; but in some low or weak structures, as Hansler (2010) believes, $R^2$ coefficient changes of inner structures are influenced by some outer structures which affect the outer variable or structure. So the value of 0.119 coefficient of determination or $R^2$ for social risk structures could be due to the low number of outer variables, but this value is perfectly acceptable. Therefore, with respect to the values related to the structures that have dependencies and are inner, it can be concluded that it has a good fit model. The size of the impact ($f^2$) has been introduced by zeithamal (2011). This measure determine the intensity of the relationship between structures of the model. The values 0.02, 0.15 0.35 show small, medium and large impact of one structure over the other structures, respectively. Based on the table (10-1), it is seen that most indicators reflect the quality of the fitted model.

<table>
<thead>
<tr>
<th>Structures</th>
<th>The Effect of $f^2$</th>
<th>Structure/Variable</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Challenge to Financial Risk</td>
<td>1.763</td>
<td>Financial Risk</td>
<td>0.893</td>
</tr>
</tbody>
</table>
11.1. Investigating Research Hypotheses

Research hypotheses were studied in the form of structural equations modeling and the direction of the structural model was evaluated. Any direction corresponds with one of the hypotheses of the model. Testing each hypothesis depends on studying the sign, size, and statistical significance of coefficient between each hidden variable and dependent variable. The higher the direction coefficient, the more the effect of prediction of hidden variable to dependent variable will be. Taking into account the results of a study on relationship between dependent and
independent structures using a relevant coefficient, the significance of the effects between research structures can be studied. In order to test hypotheses, the significant amount of T-value and P-value must be calculated for each path. Significant numbers of T if the values of these numbers are more than 1.96 and the values of P-Value is less than 0.05, the accuracy of the relationship between structures is approved and, as a result, the research hypotheses are confirmed in 95 percent confidence level. It should be mentioned that to achieve the above values, Bootstrap test with 500 repetitions was used.

Figure 11.1. Structural Model in the mode of significant T values
Based on the data form Figures 1 and 2, the values were determined as follows in which the first hypothesis, i.e. the effect of environmental challenge to purchase merchant on the financial risk of the merchant with the amount of t-values = 3.49 and P-value=0.001; the second hypothesis, the effect of environmental challenge to purchase merchant on the amount of performance risk of merchant with the following values of t-value = 2.96 and P-value = 0.003; the third hypothesis, the effect of environmental challenge on the amount of delivery risk of merchant with the t-values = 2.08 and the amount of P-value = 0.038; the fourth hypothesis, the effect of environmental challenge of shopping merchant on psychological risk of purchasing merchant with a value of t= 1.968 and P-value = 0.003; the fifth hypothesis of environmental challenge effect on purchasing merchant on the amount of social risk of shopping with t-value= 2.401 and P-value= 0.017; the sixth hypothesis, the effect of financial risk on trust expectation from the consumer with the amount of t-value = 2.104 and P-value= 0.00; the eighth hypothesis, the effect of delivery merchant on trust expectation from the consumer with t-value= 2.834 and P-value=0.007; the eleventh hypothesis, the effect of environmental challenge to purchase merchant on trust expectation from the consumer with the amount of t-value = 2.304 and the amount of P-value = 0.003; and the twelfth hypothesis, the effect of trust expectation and shopping tendency of consumer with t-values=6.005 and P-value=0.00. It means that the mentioned research hypotheses were confirmed, therefore, there is a positive and significant relationship.
The seventh hypothesis shows the effect of functional risk of merchant on trust expectation by consumer with the values of $t=0.798$ and $P$-value=$0.425$; the ninth hypothesis shows the effect of psychological risk of buying merchant on trust expectation from the consumer with the values of $t=0.747$ and $P$-value=$0.455$; the tenth hypothesis shows the effect of social risk on trust expectation from the consumer with the values $t = 0.071$ and $P$-value $= 0.943$; all these show there is no positive and significant relation.

As it is seen, according to the values of the coefficients, the relationships between environmental challenges and risks are significant and positive. Also, from among the 5 existing relationships between the risks and expecting trust, only 2 were approved which the positive and significant relationship of financial risk and trust expectation and performance risk are both the most important and effective ones. In the meantime, positive and significant relationships between trust expectation and tendency to purchase in addition to environmental challenge and trust expectation are approved. So, finally, 9 out of 12 relationships were confirmed.

12.1. Discussion

12.1.2. Environmental Challenge and Perceived Risk

The results show that environmental challenge has positive effects on all five components of perceived risk showing that as the consumer is more engaged to the class of product in terms of the condition, it is more likely that he will understand related risks to financial issues, the performance of the product, and delivery issues. These findings are consistent with the results of previous studies. When considering purchasing a product, consumer is faced with uncertainty and the importance of the risks associated with the purchase (Bauer, 1967). Venkatraman (1989) believes that environmental challenge is significantly positively relates to uncertainty in purchasing and important of risk. Dholakia (2001) provided experimental evidence which showed environmental challenge has positive effects on the delivery risk of merchant, psychological risk, and social risk. The model included only these three components of the risk, therefore, the findings showed no relationship with the financial risks associated with delivery. In addition, online transactions occur through unidentified interactions; a rare exception in this situation is rural industries, where you may online sellers through blogs and e-mail orders history and in correspondence about them. And as a result, online consumers are more likely to concern about all stages of the transaction, from placing order to delivery, compared to their counterparts who are in a face to face environment. For example, those who are interested in information technology devices and communication devices to buy a smart watch online released recently and perceive much more powerful risk in connection with the purchased product. However, if the same consumer buys from the same product at a local retail store may perceive lower level of risk and buy the product with more confidence. For this reason, the findings in support of the above hypotheses suggest that the effect of environmental challenge on perceived risk in online stores is more than offline and local stores.
12.1.3. The Perceived risk and Expecting Trust

The results show that only the risks related to the performance of the product has a significant positive correlation with the level of trust in online shopping that is needed by the consumer. Internet consumers, due to the lack of ability for physical product before buying, are particularly exposed to the performance risk of product. When a consumer is highly concerned that this product may not be following the standard of quality, he needs a high level of trust to online seller to purchase with confidence. The performance risk of product relates with inner product characteristics (e.g. quality); risk can be minimized if the consumer chooses a trusted Internet seller who presents actual information about the quality of exclusive products. Why do other kinds of perceived risks not have a significant effect on the trust? Delivery risk, psychological and social risks relate to foreign elements of a commercial transaction (e.g. delivery truck drivers and consumers), thus, they are often out of the control of online trading. Because online trading does not have significant influence on these foreign elements, the consumers cannot effectively deal with these factor risk solely with a reliable vendor selection. In addition, e-commerce has grown and matured, to the extent that many e-commerce operators are now equipped with strong customer confidence that facilitate trading structure to the vendors. For example, online markets reflect a wide range of institutional mechanisms of information technology, such as feedback mechanisms, and third-party insurance service, credit card guarantee to ensure the trust of the buyers in the community of online retailers (Hong and Cho, 2011; Pavlov and Gefen, 2004). Therefore, the understanding of the consumers of the financial risks associated with online transactions has reduced considerably.

12.1.4. Trust expectation and Intention to Purchase from E-Commerce

Our findings indicate that there is a positive relationship between environmental challenges and trust expectation indicating that consumers who in terms of the position are involved with the class of product are likely to only purchase from online sellers. Environmental challenge reflects the level of interest arising from a particular situation like an occasion for shopping (Dholakia, 2001). Consumers who in terms of condition are involved with a complex product have the necessary motivation to avoid a mistake that may lead to the detriment of the consumer, therefore, he will be looking for ways to reduce the perceived risk which need a high level of trust in potential online commerce. The sense of immunity arising from the consumer's decision to purchase from a trusted seller can make him able to feel safe and get rid of the worries from the expected problems.

12.1.5. Environmental Challenge and Expecting Trust

Finally, the results indicate that trust expectation positively related to consumer’s intention from digital storefront. This shows that consumers who require a high level of trust to trade online are more likely prefer a digital storefront to an electronic market because, for consumer, a digital shop seems to be more preferable than an electronic market, as it was reviewed in literature review. Although online consumers are generally worried about the
legitimacy of the sellers and the accuracy of products or services, sellers who use the electronic market are likely to be exposed to the risks associated with the opportunistic behavior of sellers compared to those of online stores (Pavlov and Gefen, 2004). In addition, in an electronic market, buyers are typically involved in exchanges with individual sellers and unfamiliar business (Kim and Ahn, 2007). For this reason, electronic markets are usually more involved in risks than e-retailers. Therefore, an online consumer who demands a high level of trust must buy from a shop than an electronic market.

13.1. Findings and Research Results

In this study, the effects of the situational involvement, different types of perceived risk, and trust expectation on consumer’s choice in an online commerce have been investigated. To do this, a research model with a set of structures, including (1) environmental challenge, (2) five components of perceived risk, (3) trust expectation, (4) intention to purchase from and electronic e-retailer. An empirical analysis was done using data from the survey. The findings of this study contain important theoretical concepts.

First, it was shown that environmental challenge and perceived risk perform as an important stimulus response of consumer behavior, such as choosing online retailers to do shopping. An important part of the process of making a decision to buy online is to know who to buy from that is worth examining. Secondly, some sections or specific type of perceived risk may be more useful than the overall perceived risk as a structure of research when examining the resources of perceived risk for consumers and can provide valuable insight about the concerns of particular consumers used as a barrier in the production of the desired response (e.g. purchase decision). Through identifying key areas of perceiving risk, it is possible to choose effective ways to deal with the risks that consumers are threatened with in online transactions.

Third, the present study suggests a new method to measure purchase intention. In general, the current research refers to the measurement of purchase intention to an extent that a consumer is likely to purchase now or pay in the future. However, this study shows purchase intention as a priority for an online seller continuously between the e-shop and e-marketplace. This new approach may enable us to understand the decision of the consumer about the nature of a seller to purchase. In addition, the results represent important practical implications for online sellers.

First, active sellers in the e-marketplace have to pay attention to the ways to reduce the amount of functional risk of product perceived by online buyers. Timely reduction of this risk should reduce trust expectation to the extent that consumers who are willing to engage in online transactions have lower concerns. For example, a seller that sells online car scratch pen can reduce consumer’s perception from functional risk of product, for example, by providing an online video that shows the use and effectiveness of the product.

The second practical concept is that the online strategy to increase sales for a digital shop and electronic market must be based on the amount of the perceived risk and the perceived level of situational involvement. For example, consumers who have a high level of participation of the product, or those who have a high level of trust expectation to a seller, prefer a digital market to
an electronic shop. And so, digital shops are improved by setting up intensive marketing programs that focus on products which contain a high level of functional risk or a high level of product involvement (for example luxury handbags, fashions, or advanced audio/video equipment) to help them increase sales. Similarly, purchasing from online markets are in priority when a consumer does not expect a high level of trust from the seller to purchase a product with low challenge. Our findings suggest that low trust expectation relates with the purpose of purchasing from an electronic market.

Third, online sellers, both digital shops and electronic markets, need to provide an effective functional risk of product to attract consumers with top situational involvement and to gain the trust. For example, a customer who intends to buy an expensive Hi-Fi audio system online and perceives a high functional risk of product for shopping feels secure when the online seller provides a section for customers to share the reviews relating to the performance of the product.

14.1. Limitations and Future Research

The present study had some limitations. First, the research was done using buyers from the e-stores who may not be the representative of the entire online consumers; so, to generalizing it to other populations may be limited. Secondly, trust expectation created a new structure for the effects of environmental challenge and perceived risk was created by an online seller by the consumer. In this respect, more research should be done to credit this structure. Thirdly, the present study failed to statistically analyze the intermediation effect of the perceived risk in the relationship between environmental challenges and trust expectation. Finally, items used for the measurement of environmental challenges in particular did not focus to the negative consequences of an online purchase, but it was effective in a person's perceptions of the importance of shopping for a product. Therefore, it is possible to some extent that the used scale do not pay attention to the measurement of all the dimensions of environmental challenges of the product. In this research, we examined the relationship between trust expectation and the intention to purchase from the online store. The future research can investigate the relations between trust expectation and the right of choice of an online store through testing the effects of the level of trust expectation from an e-shop compared to a local shop; such research could provide better concepts in the field of theoretical relationships between two constructions of e-commerce concepts.
References


