Identification of factors influencing building initial trust in e-commerce

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Abstract

Nowadays, consumer trust is identified as one of the most important factors in electronic commerce (e-commerce) growth. This has led much research to investigate the role of trust in e-commerce and determine the factors which influence trust in this area. This paper explores factors which are engaged in building initial consumer trust in online shopping when a consumer wants to buy from a website for the first time. For developing the model and determining factors, data collection is conducted using questionnaire distribution for 325 respondents. After that, the validity of the proposed model is confirmed with Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). In EFA, variables are categorized into 6 factors and then using CFA which is based on Structural Equations Model (SEM) the relationship between variables and factors is investigated. The results of research show that factors of Product Characteristics, Security & Reputation, Website Design Quality, Support, Purchase Characteristic, and Advertising are effective factors for building initial trust. In this study the statistical population is students of Damghan University.

Keywords

E-commerce, E-trust, Initial trust, Online shopping.

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Introduction

Regarding the development of information technology in the modern world, many activities are done in a way different from before. This development also affects business and economic exchanges and creates a new economic ecosystem and electronic marketplace which is named electronic commerce (e-commerce). There are different meanings of e-commerce in the literature. Simply stated, e-commerce is buying and selling via the Internet (Chaffey, 2002). Generally, e-commerce is buying, selling, transforming, and trading products, services, or information via computer networks especially the Internet (Fathian & Molanapor, 2011). E-commerce is beneficial for several reasons. For example, it provides convenient access to products that may not otherwise be accessible, which is particularly important in rural areas. It is an efficient way of entering into transactions, both for consumers and e-retailers. Further, e-commerce has made possible low value cross-border transactions on a scale that was previously unimaginable (Svantesson & Clarke, 2010).

E-commerce business models can generally be categorized in different models one of which is B2C (Business to Consumer). In B2C model, a customer can view a product and order the same. In this model, in addition to business organizations, online shopping websites are useful and are growing day by day at an unprecedented rate and the volume of transactions in e-marketplaces is expanding. This development in e-commerce and especially in the volume of transactions in online shopping websites is related to consumer trust, and the future of e-commerce depends on trust (Lee & Turban, 2001; Wang & Emurian, 2005). In e-commerce, trust is a critical issue (Yoon & Ocenna, 2015) because consumers face the challenge of buying online from an unfamiliar merchant a product or service that they cannot actually see or touch (Hong & Cho, 2011). Trust plays a central role in helping consumers overcome perceptions of risk and insecurity (McKnight, Choudhury & Kacmar, 2002; Mayer, Davis & Schoorman, 1995; Pavlou, 2003) and provides expectations of successful transactions (Schurr & Ozanne, 1985). Thus, trust building

is still attracting the attention of information sciences researchers nowadays (Jai, Cegielski & Zhang, 2014). In this paper, factors which affect building consumer initial trust when they want to buy in online shopping websites for the first time are considered and a new model for the detection and categorization of these factors is presented.

This paper is organized as follows: Literature review section describes various factors which have been introduced in relation to trust in the literature and reviews different papers. In Initial trust section the conception of initial trust is explained. In Research methodology section the problem and model with all its variables are presented and research methodology is described. Then the analysis of extracted data from the questionnaire is investigated in Data analysis section and finally the Conclusion section describes the final results of the model.

Literature review

Because of the rapid development of e-commerce in modern business, e-commerce is a necessity for entering the business world. Nowadays e-commerce is rapidly penetrating into organizations and has profound impacts on businesses as well as the ordinary lives of people (Jafarzadeh & Aghabarar, 2013). E-commerce provides a unique environment in which trust has an outstanding importance. Therefore, it is important to understand how to promote consumer trust in online shopping. In addition, because of the absence of human touch and communication in e-commerce, comparing the situation of traditional transaction with real environment when consumers give their satisfaction of products by experiencing them physically, trust has a basic role in e-commerce.

The lexical meaning of trust in dictionaries is assured reliance on the character, ability, strength, or truth of someone or something. In spite of this meaning, trust is perhaps one of the most highly challenging terms whose meaning is hardly agreed upon by researchers within diverse academic disciplines (Hong & Cho, 2011). Trust in marketing involves a consumer's perceived reliability on the brand, products, or services of a merchant (Flavian, Guinaliu &

Gurrea, 2006). Generally trust is defined as the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party (Chai & Kim, 2010; Mayer, Davis & Schoorman, 1995).Trust is a governance mechanism in exchange relationships characterized by uncertainty, vulnerability, and dependence (Bradach & Eccles, 1989; Jarvenpaa, Tractinsky & Vitale, 2000). Because trust is a key determinant of long term orientation in buyer-seller relationships (Ganesan, 1994), it has become crucial for online merchants to build consumers' trust. Often the definition of trust is followed by introducing three characteristics that are the main characteristics of trust (especially electronic trust). These characteristics include ability (or competence), benevolence, and integrity. Besides these factors, some researchers add predictability, too. Competence in the context of e-commerce may include good product knowledge, fast delivery, and quality customer service among others. Benevolence according to Mayer, Davis & Schoorman, 1995, refers to the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive. Integrity is the belief that the trusted party adheres to accepted rules of conduct, such as honesty and keeping promises (Gefen, 2002). Also predictability indicates the perceived reputation of vendor to service consumer continuously (Rahimnia, Amini & Nabizadeh, 2011).

There are several papers in the literature with the subject of investigation of trust in e-commerce. Among these papers some researchers consider external and contextual factors such as demographic variables. For example, these variables can be seen in the papers of Lee and Turban and Corritore *et al*. (Lee & Turban, 2001; Corritore, Kracher & Wiedenbeck, 2003). Some others such as Wang and Emurian (2005) investigate factors which are related to design and content of shopping websites as the main factors affecting trust. Some researchers such as Hemphill (2002) present suitable legal infrastructure in e-commerce as a necessity to build consumer trust. Some researches investigate the role of security and privacy factors in

e-trust such as Thaw, Mahmood & Dominic (2009) and Wang *et al.* (2012). Other researchers consider the four mentioned characteristics of e-trust in the literature such as Gefen (2002) and Yu, Balaji & Khong (2015). Table 1 describes different papers in e-trust in the literature.

Table 1. Review of selected studies on e-trust

Researchers	Summary	Studied variables
Lee & Turban (2001)	They describe a theoretical model for investigating the four main antecedent influences on consumer trust in Internet shopping, a major form B2C e-commerce.	Trustworthiness of the Internet merchant, Trustworthiness of the Internet shopping medium, Infrastructural (contextual) factors and Other factors
Shankar, Urban, & Sultan (2002)	In addition to the investigation of factors on online trust, they consider the relationship between online trust and factors such as satisfaction and loyalty of customers and Customer Relationship Management (CRM).	Web Site Characteristics, User Characteristics, Other Characteristics
McKnight & Chervany (2002)	This paper justifies a parsimonious interdisciplinary typology and relates trust constructs to e-commerce consumer actions, defining both conceptual-level and operational-level trust constructs.	Disposition to Trust, Institution based Trust, Trusting Beliefs, Seller website variables
Gefen (2002)	This study proposes a three-dimensional scale of trustworthiness dealing with integrity, benevolence, and ability.	Integrity, Benevolence, and Ability
Corbitt, Thanasankit & Yi (2003)	This research identifies a number of key factors related to trust in the B2C context and proposes a framework based on a series of underpinning relationships among these factors.	User's web experience, Perceived market orientation, Perceived technology trust, Perceived risk, Perceived site quality
Corritore, Kracher, & Wiedenbeck (2003)	This paper examines online trust, specifically trust between people and informational or transactional websites, and a model of online trust between users and websites is presented.	Perceived factor: (credibility, ease of use, risk) External factors (e.g., environment, both physical and psychological)
Hassanein & Head (2004)	This study sought to examine the impact of product type on trust and trust antecedents relating to Website experience.	Perceived usefulness, Perceived ease of use, Enjoyment of a Website, The type of product (tangible/intangible)
Kim *et al.* (2005)	Regarding the four important effective groups in Internet	Consumer-behavioural, Institutional, Information

Continue Table 1. Review of selected studies on e-trust

Researchers	Summary	Studied variables
	shopping, namely seller, consumer, technology, and third-party, the study introduces a Process-Oriented Multidimensional Trust Formation Model in B2C Electronic Commerce.	content, Product, Transaction, Technology
Wang & Emurian (2005)	This paper provides an overview of the nature and concepts of trust from multi-disciplinary perspectives, and it reviews relevant studies that investigate the elements of online trust.	Graphic design, Structure design, Content design and Social-cue design
Liao, Palvia & Lin (2006)	This article includes habit as a primary construct along with perceived usefulness and trust to predict and explain consumers' continued behaviour of using a B2C website.	User-perceived, Web quality (Appearance, Content quality, Specific content, Technical adequacy), Habit.
Thaw, Mahmood, & Dominic (2009)	This study addresses the role of security, privacy and risk perceptions of consumers to shop online in order to establish a consensus among them.	Perceived Information security, Trustworthiness of Web Vendor, Perceived Information privacy
Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)	In this paper factors affecting e-trust in e-commerce are investigated. In this regard, some hypotheses of the paper about individual factors, infrastructural, and organization factors are deliberated.	Customer individual's Factors, Organization factors, Infrastructure factors
Ghalandari (2012)	This study aims to investigate the effects of e-service quality in three aspects of information, system, and web-service on e-trust and e-satisfaction as key factors influencing creation of e-loyalty of Iranian customers in e-business context.	Information quality, System quality, Web-service quality
Wang *et al.* (2012)	This paper investigates the factors and their impacts on customer e-trust in online retail (B2C, C2C) in China. The analytical results demonstrated that customer perceived reputation has a direct positive influence on e-trust.	Perceived reputation, Perceived security
Chang, Cheung, & Tang (2013)	In this study, three trust building mechanisms were examined. Results showed that all three trust building mechanisms had significant positive effects on trust of the online vendor.	Third-party certification, Reputation and Return policy
Safa & Ismail (2013)	In this research, a conceptual framework has been presented that	Technological factors, Organization factors,

Continue Table 1. Review of selected studies on e-trust

Researchers	Summary	Studied variables
	shows e-loyalty formation based on e-trust and e-satisfaction. The important aspect of this study is derived from the inclusion of different dimensions of technological, organizational, and customer factors.	Customer factors
Miremadi, Hassanian-Esfahani & Aminilari (2013)	This paper investigates the functionality and capabilities of 3D graphical user interfaces in regard to trust building in the customers of next generation of B2C e-commerce websites. It expands the McKnight and Chervaney's "Trust Model in E-Commerce" and proposes a new trust model based on 3D user interfaces functionality.	3D user interface (e.g., the appeal of 3D user interfaces , Virtual 3D interaction with other customers)
Susanto & Chang (2014)	This study offers a model for exploring the formation of consumer's initial trust in electronic commerce, which in turn, intends to use its services in Indonesia to investigate factors influencing technology use and acceptance.	Government support, Firm reputation, Website usability, Perceived security, Perceived privacy, Trust propensity, Relative benefits
Yoon & Occena (2015)	In this study, a trust model in C2C e-commerce was developed which incorporates four perspectives; this study also investigated the role of gender and age toward trust in C2C e-commerce. Results show that trust in C2C e-commerce can be moderated by age factor.	Natural propensity to trust (NPT), Perception of website quality (PWSQ), Other's trust of buyers/sellers (OTBS), Third party recognition (TPR), Control variables (Gender and Age).

Regarding the studied variables of different papers about trust in the literature, it is seen that there are few papers that investigate factors affecting initial trust and in each paper only some groups of variables are considered. In this research with regard to a few models about the conception of initial trust for purchasing in shopping websites for the first time, using several models and different papers in the literature, a new model is presented to identify and categorize effective factors of building initial trust in e-commerce. It is notable that in this proposed model in addition to different factors mentioned in the literature, advertising policies that are less heeded in the previous studies are introduced and investigated.

Initial trust

Various papers on trust imply the importance and complexity of trust conception in e-commerce. This has led researchers to investigate different factors that are engaged in trust in different levels. Regarding the literature, these levels can be categorized into 3 Levels. In level 1 there are some factors such as personal factors which are related to the intention of a consumer to connect with Internet vendors. Level 2 is about factors that should be considered for building initial trust of consumers such as characteristics about shopping websites, security, privacy, etc. Another level can be related to stability of trust of consumers during the time. It should be noted that there are some researchers in the literature who have categorized different factors (Mc Knight, Choudhury & Kacmar, 2002) in some levels.

The concentration of this study is on level 2 which is building initial trust. About the difference of factors in level 2 and 3 it is notable that in level 2 the customer is searching and investigating different websites to select a good website for shopping. Therefore, initial trust begins when a person does not have firsthand knowledge and decides to rely on his/her propensity to trust others or institutional cues (Susanto & Chang, 2014). But in level 3 customers have bought at least one time from a specific online shopping website and factors in this level cause a customer to shop from the mentioned website for the next time and this process builds consumer Loyalty (Kim, Jin & Swinney, 2009; Dehdashti Shahrokh, Oveisi & Timasi, 2013). The factors in this level are generally related to the process of shopping in the website and the quality of after sale services of websites such as the behaviors of vendor for refunding or changing the commodity, receiving the purchased goods through the Internet on time, lack of complexity in the shopping process, etc. All these variables in level 3 will be investigated after or during the shopping process. It is remarkable that the conception of initial trust is different from online purchase intention because according to the studies of Nazari, Hajiheidari & Nasri (2012) and Ganguly *et al*. (2010), trust is a factor which influences online purchase intention.

Research method

The current study is an applied and descriptive one which is specifically Structural Equations Model (SEM). As stated earlier, this research only discusses factors which affect initial trust when the consumer wants to connect with an Internet store after making a decision to shop. For this purpose 27 variables which are effective factors in initial trust are detected and investigated. The variables are described in Table 2. The main question of this research may be worded as follows:

what are the effective factors which influence building the initial trust of consumers?

Table2. Variables which affect building initial trust

Item	Wording	Literature sources
Var1	Finding products/services details	Liao, Palvia & Lin (2006); Wang & Emurian (2005); Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)
Var2	Updated products, services, and information in the website	Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)
Var3	Products/services brand	Shanker, Urban & Sultan (2002); Khodadadhoseini, Shirkhodaei & Kordnaeij (2010); Kim *et al*. (2005)
Var4	The variety of Products/services	Khodadadhoseini, Shirkhodaei & Kordnaeij (2010), Kim *et al*. (2005)
Var5	Finding information privacy policies	Thaw, Mahmood & Dominic (2009); Liao, Palvia & Lin (2006); Wang & Emurian (2005); Wang *et al*. (2012); Khodadadhoseini, Shirkhodaei & Kordnaeij (2010); Kim *et al*. (2005); Shanker, Urban & Sultan (2002); Corbitt, Thanasankit & Yi (2003); Mc Knight *et al*. (2002); McKnight & Chervany (2002)
Var6	Website payment systems security	Kim *et al*. (2005); Shanker, Urban & Sultan (2002); Corbitt, Thanasankit, & Yi (2003); Thaw, Mahmood & Dominic (2009), Wang & Emurian (2005), Khodadadhoseini, Shirkhodaei & Kordnaeij (2010); Wang *et al*. (2012)
Var7	Finding valid link	Mc Knight & Chervany (2002); Liao, Palvia & Lin (2006); Wang & Emurian (2005); Shanker, Urban & Sultan (2002)
Var8	Finding seals of approval or third-party certificate	Shanker, Urban & Sultan (2002); Mc Knight & Chervany (2002); Kim *et al*. (2005); Khodadadhoseini, Shirkhodaei & Kordnaeij (2010); Wang & Emurian (2005); Chang, Cheung & Tang (2013)

Continue Table2. Variables which affect building initial trust

Item	Wording	Literature sources
Var9	Ease of Use and navigation	Kim *et al*. (2005), Liao, Palvia & Lin (2006); Wang & Emurian (2005); Corritore, Kracher & Wiedenbeck (2003); Hassanein & Head (2004)
Var10	Speed of page loading	Liao, Palvia & Lin (2006); Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)
Var11	Web site design and web pages Organizing	Kim *et al*. (2005); Liao, Palvia & Lin (2006); Wang & Emurian (2005); Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)
Var12	Search facilities	Liao, Palvia & Lin (2006)
Var13	Finding vendor (company) information	Wang & Emurian (2005); Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)
Var14	Use of interactive communication media	Wang & Emurian (2005); Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)
Var15	Information of After sales services in website	Kim *et al*. (2005); Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)
Var16	Information of Return policies in website	Wang *et al*. (2012); Kim *et al*. (2005); Khodadadhoseini, Shirkhodaei & Kordnaeij (2010); Shanker, Urban & Sultan (2002); Chang, Cheung & Tang (2013)
Var17	Guidance and training on the web	Wang & Emurian (2005); Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)
Var18	Using discount and gifts in the website	New measure
Var19	Products/services price	Kim *et al*. (2005), Khodadadhoseini, Shirkhodaei & Kordnaeij (2010); Thaw, Mahmood & Dominic (2009)
Var20	Payment methods	Kim *et al*. (2005); Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)
Var21	Characteristics of Delivery system	Kim *et al*. (2005); Wang *et al*. (2012)
Var22	Online advertising (e.g., in Virtual Social Networks)	Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)
Var23	Advertising in other media (e.g., radio, newspapers)	Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)
Var24	Satisfaction and good evaluation of past consumers	New measure
Var25	Recommendation of relatives and friends to shop in shopping website	Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)
Var26	Registration and Personalization facilities	Liao, Palvia & Lin (2006); Shanker, Urban & Sultan (2002)
Var27	Using Colourful and attractive designs and fonts	Khodadadhoseini, Shirkhodaei & Kordnaeij (2010)

To test the mentioned variables of this research a questionnaire was employed. At first, by studying different papers and books, numerous variables for designing the questionnaire were collected. After

detection of key variables, the final questionnaire was designed. The questionnaire is divided into two sections. The first section with five questions is about the demographic attributes of respondents, and the second section consisting of 27 questions is related to the goal of research. These questions are measured on 1 (strongly disagree) to 5 (strongly agree) point Likert scale. Thus, the first section's questions are about the statistical population of interest for our study, and they ask for respondents to provide information on their gender, age, education, the number of online shopping experience, and the level of access to the Internet. Other questions follow the main question of the paper.

The reliability shows the stability of measures in different conditions (Nunnally, 1978). To determine the amount of error in every construct, the Cronbach's alpha test was applied. The constructs with a higher Cronbach's alpha are more reliable in terms of internal compatibility among variables. There are different definitions for interpreting Cronbach's alpha. In this research, the Cronbach's alpha was 0.925, which was close to Brown's recommendation and more than Nunnally's standard. Therefore, the reliability of the measures is satisfactory.

In order to examine the validity of conception of the questionnaire, some experts and professors of universities investigated and confirmed the variables of the questionnaire. Also, investigation of the validity of questionnaire was checked using exploratory factor analysis and confirmatory factor analysis. The results are explained in the next section.

To choose the statistical population of the study regarding the aim of research, the two following conditions are considered. At first avoiding invalid data from questionnaires, the questionnaires of study were distributed among students of Damghan University, because students are familiar with Internet and online shopping (Olfat, Khosravani & Jalali, 2011; Hasangholipor *et al.*, 2013). To explain the second condition, it can be said that to follow the purpose of the research and identify the factors affecting building initial trust in buying for the first time from a website, in addition to viewpoints of

people who had Internet shopping experience, the opinions of people who hadn't any experience are also necessary. By investigating these two groups of people, we can help managers and owners of online shopping websites attract customers to do their first shopping. Thus, in this research the limitation of having Internet shopping experience is not considered. The size of population in this study is 3500 students, and according to Morgan table, 350 people have been selected using simple random sampling. 325 usable questionnaires were returned. The demographic profile of the respondents is shown in Table 3.

Table3. Demography of participants

Characteristics	Category	Frequency	Percentage
Gender	Male	189	58.2
	Female	136	41.8
Age	20 or below	47	14.5
	21-25	251	77.2
	26 or above	27	8.3
Education	Bachelor Std	287	88.3
	Master Std	38	11.7
Internet Accessibility in day	All hours of the day	131	40.3
	Most hours of the day	81	24.9
	Only during office hours	13	4.0
	Limited hours of day	37	11.4
	Lack of access or sporadic access	63	19.4
Online shopping experiences in the previous 6 months	Never	129	39.7
	1-2	94	28.9
	3-6	35	10.8
	7 or above	67	20.6

Data analysis

After gathering data from questionnaires, exploratory factor analysis was used to guide the process of grouping factors into their component or to check that the proposed grouping structure is consistent with the data. IBM SPSS Statistics version 22 was used for data analysis. The first output of SPSS exploratory factor analysis is Kaiser-Meyer measure of sampling adequacy and Bartlett's test. The value of KMO should be greater than 0.5 to show if the sample is adequate and suitable for conducting factor analysis. In this paper, the value of KMO is 0.924 which is greater than 0.5 which indicates that this sample survey is appropriate for further conducting factor analysis.

Principal Component Analysis (PCA) was used for extraction of the variables whose measure in the communalities table and in the extraction column is less than 0.5. The extraction column shows the amount of variance that is common with the other variables' variance. In other words, the variance and effects on variance of a particular variable by all factors are shown in the communality table (Gaur & Gaur, 2006). Variables with more than 50% (more than 0.5) common variance with the other variables are suitable for factor analysis and should not be omitted (HabibporGetabi & SafariShali, 2006). EFA results show that variables with numbers of 25, 26 and 27 have very low extraction value compared with others and should be omitted from the model in this step. Table 4 shows the results of exploratory factor analysis. According to the results, 24 variables were categorized into 6 groups.

Table 4. Results of EFA (Rotated Component Matrix)

Factors / Items	X1 Product Characteristics	X2 Security & Reputation	X3 WebsiteDesign Quality	X4 Support	X5 Purchase Characteristic	X6 Advertising
Var1	0.656					
Var2	0.590					
Var3	0.560					
Var4	0.508					
Var5		0.748				
Var6		0.711				
Var7		0.682				
Var8		0.568				
Var9			0.735			
Var10			0.706			
Var11			0.662			
Var12			0.605			
Var13				0.787		
Var14				0.690		
Var15				0.638		
Var16				0.390		
Var17				0.382		
Var18					0.791	
Var19					0.571	
Var20					0.344	
Var21					0.219	
Var22						0.832
Var23						0.644
Var24						0.405

After extracting 6 factors using exploratory factor analysis, confirmatory factor analysis (CFA) with Lisrel 8.8 was used to test the measurement model and establish convergent and discriminate validity of the constructs. Convergent validity means the extent to which the measures for a variable act as if they are measuring the underlying theoretical construct because they share variance (Schwab, 1980). In Figure 1 standardized solutions of confirmatory factor analysis are shown. In this figure standardized factor loadings indicate the effect of each factor on variable's variance.
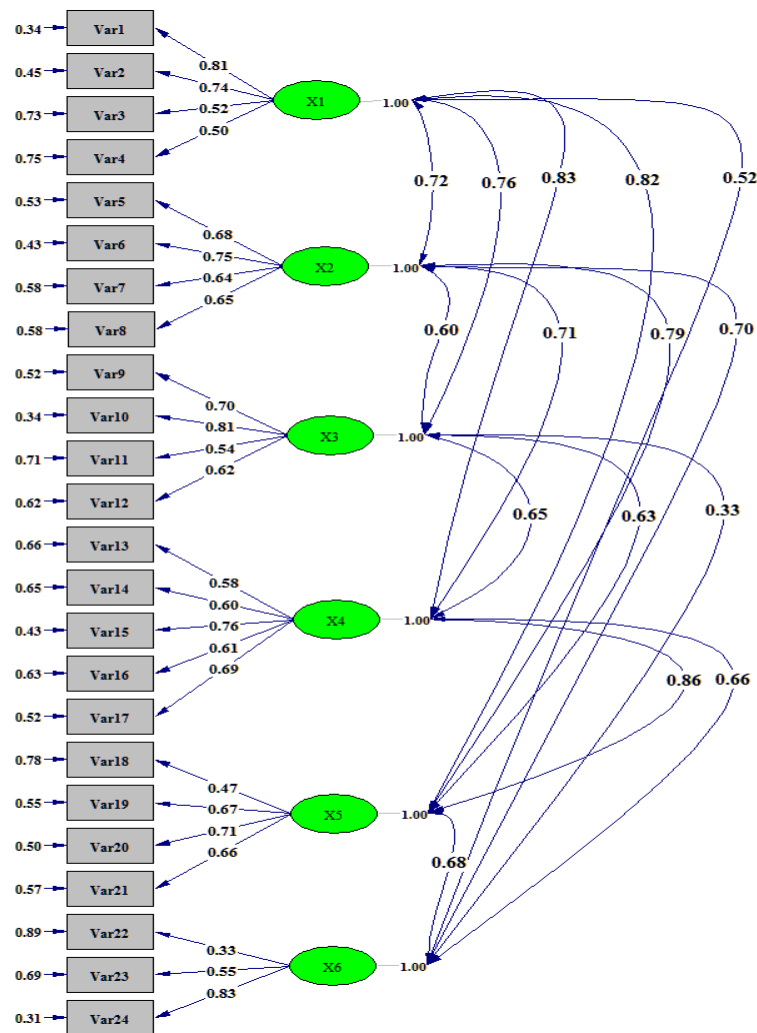

Fig. 1. Lisrel output (standardized solutions)

In Figure 2 t-values of confirmatory factor analysis are shown. According to this figure, because all t-values are more than 1.96, all determined paths in the model are significant (Mohammadi & Amiri, 2014). In other words, six extracted factors from exploratory factor analysis describe variance of their variables.
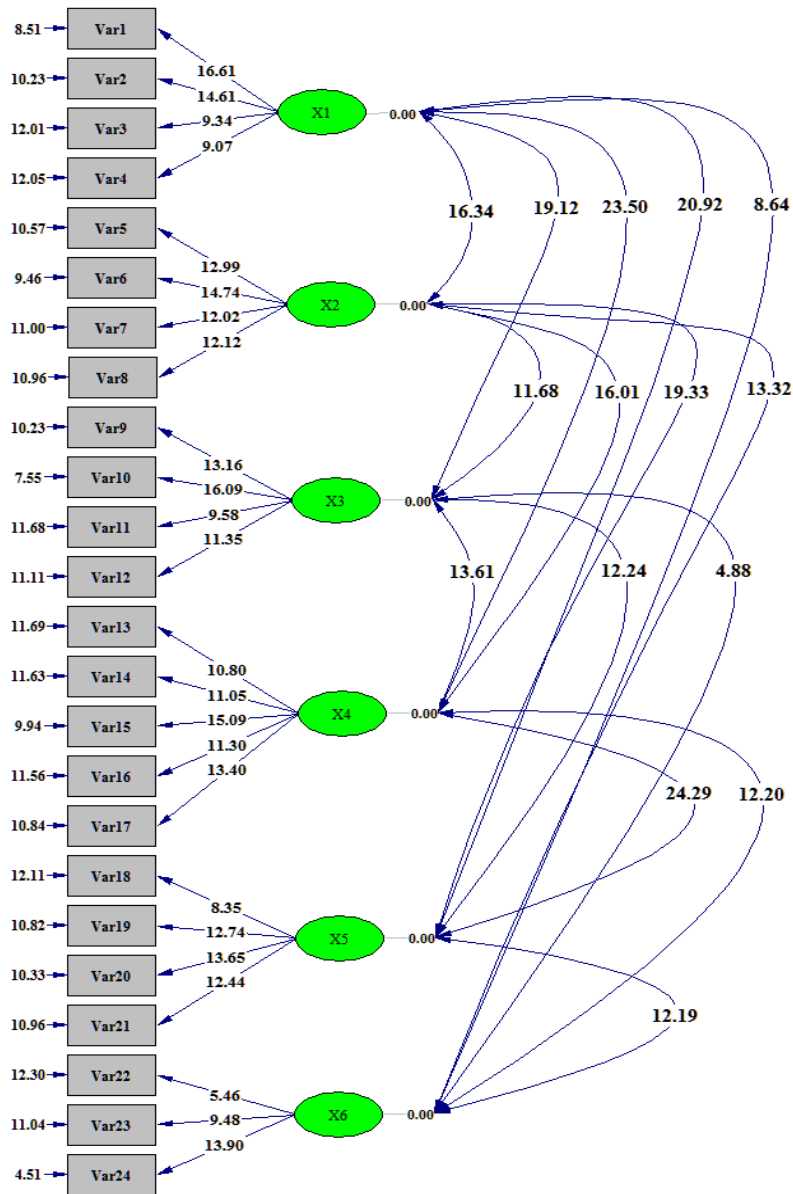

Fig. 2. Lisrel output (t-values)

Table 5 shows the overall model fit indices for CFA. It also shows the recommended values of each measure. As shown, all measures satisfied the recommended values, except for the χ^2 and GFI. However, the χ^2 is sensitive to large sample sizes, especially for cases in which the size exceeds 200 respondents (Hair *et al*., 1998). The GFI at 0.84 was slightly below the 0.9 benchmark, but it exceeds the recommended value of 0.80 suggested by Etezadi-Amoli and Farhoomand (1996). One may conclude that the index is marginally acceptable (Suh & Han, 2003). Therefore, there is a reasonable overall fit between the model and the observed data.

Table 5. Results of fit test

Measure	Recommended values	Value
χ^2 (Chi-square)	P > 0.05	570.82(P=0.00)
Chi-square/degrees freedom	1–3	2.40
Normed Fit Index (NFI)	0.90 or above	0.94
Non-Normed Fit Index (NNFI)	0.90 or above	0.96
Parsimony Normed Fit Index (PNFI)	0.60–0.90	0.81
Comparative Fit Index (CFI)	0.90 or above	0.97
Root Mean Square Error of Approximation (RMSEA)	0.050–0.080	0.066
Standardized Root Mean Square Residual (SRMR)	0.080 or below	0.058
Goodness of Fit Index (GFI)	0.90 or above	0.87
Adjusted Goodness of Fit Index (AGFI)	0.80 or above	0.84
Relative Fit Index (RFI)	0.90 or above	0.93
Incremental Fit Index (IFI)	0.90 or above	0.97

Conclusion

Regarding the importance of e-commerce in modern business world, many researchers have investigated various factors related to e-commerce. Among these factors, consumer trust is a significant factor for propagating e-commerce. In this paper, using different models and various papers in the literature, a new model for factors which affect the building of initial trust in e-commerce is proposed. In this model, at first 27 variables were extracted, then using exploratory factor analysis 6 general groups of variables were gained, and 3 variables from 27 variables were omitted. After that confirmatory factor analysis to test the measurement model was done. The results of CFA confirmed the proposed model of this paper.

Comparing this model with others in the literature, it can be said

that the results of this paper are in conformity with the results of other papers. Factors such as perceived vendor reputation and perceived site quality as factors affecting initial trust which were investigated in Mc Knight, Choudhury and Kacmar (2002) are two factors affecting initial trust in this paper. Also, in the study of Susanto and Chang (2014) in addition to the mentioned factors, security and privacy are introduced as important factors in initial trust which the results of this paper confirm. Besides these factors, advertisement, Product Characteristics, Purchase Characteristic, and Support are factors which are introduced and tested in this paper as effective factors on initial trust. In addition to resolutions of current studies in the literature about initial trust, the results of this paper confirm the results of research about e-commerce so that the factors that are investigated in this paper are introduced as effective factors in e-commerce in previous studies such as Lee and Turban (2001), Gefen (2002), Kim *et al*. (2005), Wang & Emurian (2005), Liao, Palvia & Lin (2006), Thaw, Mahmood & Dominic (2009), Khodadadhoseini, Shirkhodaei & Kordnaeij (2010), Wang *et al*. (2012), and Chang, Cheung & Tang (2013).

In addition, in the literature, the advertising factor is not investigated as an effective factor in initial trust and is less heeded in the field of e-commerce. In this paper, this factor with 3 variables of Online advertising, Advertising in other media, and Satisfaction and good evaluation of past consumers is identified as one of the six effective factors in building initial trust.

According to significant coefficient of the six factors, it is clear that these groups are not independent from each other. Thus, it is recommended that managers and owners of shopping websites consider all six groups together for designing shopping websites. Also, it is recommended that managers notice advertisements especially in virtual social networks as an important variable to build initial trust. Because of the dependency of these six groups of variables, the investigation of these factors can be done using system dynamics model for future work. System dynamics is efficient for showing the relationship of all variables better.

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