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## **A Study in the Effect of Individual and Environmental Factors and Readiness for E-Business in Developing Countries' Universities**

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### **Abstract**

Faculty members of the universities and higher education institutions are considered as the most influential social classes in the development of public culture. This important feature do achieves more importance in development of social competencies. One of the important social competencies in contemporary society is the use of electronic resources that are directly related to the level of preparedness of the people. This study examines the level of readiness for e-business activities among the Universities' faculty members in Iran and the related influential factors. The research method is of descriptive-survey type. The statistical population of this study included all faculty members of Iranian University among which 122 units were selected for data collection through stratified random sampling based on Cochran formula. According to the results of this study, the readiness for e-business among the faculty members at initial application stage was obtained. Direct influence of individual factors (risk, perceived benefits, trust, knowledge, experience, function perception) and environmental factors (E's infrastructure of the country and socio-cultural factors) over readiness for e-business activities amongst the faculty members were confirmed and the related impact for each of the factors was obtained as 0.524% and 0.323% respectively.

**Keywords:** Readiness for e-Business, Readiness Level, Individual Factors, Environmental Factors, Faculty Members

### **Introduction**

In the late 1990s, the global economy was facing with fundamental and structural changes caused by globalization and the revolution in information and communication technology (ICT). Some economic analysts have called the outcome of these two phenomena as the "new economy". Widespread improvements in information and

communication technology in recent decades have introduced transformation in many fields including world trade and consequently, many processes of business, economy, banking, customs, etc., activities have experienced abundant developments (Khani Jazany, 2007). These changes boomed a kind of trade in the world, which it called electronic commerce. E-commerce is one of all-inclusive concepts of the economy, enjoying considerable importance in various countries due to such developments. Scholars have defined E-business as buying and selling through the Internet network (Chafy, 2002). A variety of categories have been presented for this type of business. Report and Javrsky (2001) considering the beginning and the end point of transaction have identified four different e-commerce types in cyberspace, including exchange between business to business (B2B), exchange between client to business (C2B), exchange between company and client (B2C) and exchange between client and client (C2C). The best known type of e-commerce transactions is the exchange between the business and the client; in this process, the customers satisfy their needs and wants through electronic buying from the suppliers (B2C). In this business, the consumers often collect data or buy products and services such as books, music, computer software, airline tickets, hotel reservations, etc. (Cutler, 2003). Applications such as electronic government, Electronic Learning, Mobile Commerce and Electronic Partnership have also been added by others to the above listing (Athitakis, M., 2003; Mullaney, T.J., 2004). According to the results obtained from the researches undertaken by Turban et al. (2006), about 80% of new jobs in developed countries are dependent to the computer, Internet and information technology. The development of this category of jobs has direct relationship with way the customers welcome them; something that can be considered as the factors or barriers to expanding such business (Hanafizadeh, 2010). Researches have shown that various factors affect the development of electronic commerce among the consumers (Sanayei, 2008). These factors can be classified in two general categories of individual and environmental factors. Lee (2009) believes that the major obstacles in the way of using e-commerce relates to such individual factors as risk. Turban (2006) considers perceived trust, national electronic infrastructure, knowledge and factors associated with Internet service providers and the government performance as the factors effective in e-commerce adoption by most people. Other studies have divided the factors into technical and non-technical categories (Shafei and others, 2010). In a study conducted by Sanayei and others (2010), the security, perceived advantages and usability have had the greatest impact on the acceptance of e-payment system. Parsaiee Manesh (2010) believes that the corporate brand and the company performance affect the customers' welcome of the business to business (b2b). In this study, given the various factors and dimensions recognized as major influential in readiness for e-business activities, attempt has been made –through considering each of the individual and environmental factors– suitable solutions for promoting the readiness for e-business activities among the

university faculty members are proposed. Hong Kong Productivity Council (HKPC) (2004) introduced its six-step maturity model in a report of implementation and acceptance plan of electronic commerce. The electronic maturity steps in this model includes: nonuse and non-willingness level, willingness level, primary application level, marketing level, business integration level and business development level. Martin and Maltay (2001) have introduced a five-step e-commerce implementing model to identify e-commerce adoption process. The steps of the mentioned model include electronic mail, website, e-commerce, e-business and the developed organization. In Iran also a number of studies have been undertaken about the electronic maturity. Fathi and Azizi (2006) surveying 36 active internet stores have introduced the four steps of e-maturity as follows: static, dynamic, interaction and exchange. Farrokhzad and et al (2004) in a research project with more than 30 models of electronic commerce models, believes that the electronic business processes include package, access, initial presence, realized presence, institutionalized presence and optimization. Phillis et al (2004), considers the negative attitudes such as conservatism, fear of change / technology, lack of drive and motivation, lack of interest, depression and lethargy in making decisions, fear of loss of security in Internet, financial and other resource constraints and lack of tendency to new skills as the barriers to the use of e-business. Porcel and Tolnd (2004), poor telecommunications infrastructure, high costs, lack of skills and knowledge to reduce the power of the Internet, including e-commerce adoption barriers to expression. Researchers have classified the factors affecting utilization of information and communications technology (ICT) in two internal and external factors: Internal factors Include: Organizational characteristics (size, type of business, business background history) and the attitudes and previous experiences. Factors relating to infrastructure and business and factors relating to competition make up the external factors (Dulakiya and Shatri, 2004).

### **Conceptualization**

Public usage of Internet in Iran is mostly in universities for research purposes and the centers provided in the cities are also active to some extent. The users in cities often use Internet for chatting or making remote phone calls. Many regulations and infrastructures required for e-commerce have not yet been provided. At present a good trend of progress can be seen in scope of e-commerce of the country. Establishment of numerous private banks and the related electronic branches has encouraged other banks to invest in this sector. Internet purchasing through using debit cards has now been provided for by a number of banks like Parsian bank, Saman bank and Mellat bank. Obviously this growing trend requires frequent academic research in fields of implementing e-commerce and the related issues (Hanafizadeh and Rezaee, 2010). In B2c models, the customers' trust is regarded a key factor and fundamental elements of trade success, so that to some experts,

the success key in e-commerce lies in establishment of a reliable and secure process for the purchaser. Orion et al. (2000) explains that a customer decides to purchase via internet on the trust basis. One of the influential factors for the individuals to welcome the e-commerce is their readiness for taking part in electronic business (e-business). Few studies have been undertaken directly on the issue of the individual readiness for electronic based trade activities. In a definition by Parasuraman (2000), Berthon et al (2008) and Glantz (1999), individual readiness for electronic commerce has been defined as the individual ability in admission and use of technology for achieving personal career goals including e-commerce; the same definition has been used as the basis for considerations in this study. In different studies, the readiness for e-business depends on the usage and acceptance of the e-commerce amongst individuals (Ong and Lay, 2010). According to some research results, the electronic readiness level of the people depends on a number of factors such as the “risk factor”, “trust factor” (Cousins, & Robey, 2005) and a category of environmental factors including the country infrastructure (Economist, 2006). From the management perspective, the concept of readiness for change is defined through the three principles of health care, marketing and information management. Other factors effective in development and acceptance of e-commerce among the customers have been discussed by the researchers. From the important cases, the “internet trust” can be mentioned. Trust is a service marketing necessity for maintaining relationship between the customers and service providers; for the customers, often before true experiencing the service, must decide for purchasing (Kazemi, Barid Nazif, 2010). Numerous studies have been undertaken concerning the positive consequences of trust in customer relationships. Studies have shown that trust –one of the important predictors of commitment– is an important element in long term relationships (Banker, Ball, 2005). As error-free provisioning of services is nearly impossible, effective restoration of the imperfect services is necessary for customer satisfaction, eliminating negative word-of-mouth propaganda and promotion of frontier employees. Internet growth and attaching importance to users has been in fact a serious phenomenon during the recent years. In most of the developing countries, the internet users account for 20 to 50% of total population; in United States, the number of people who have internet access via home computers reached to 136 million people in September 2000 and the growth rate has grown up similarly ever since (Li, Turban, 2001). E-commerce is a quick reconstruction of trade process based on internet technology and is a key component of it (Laudon & Laudon, 2004). There is abundant potential for using internet to purchase goods and services (Li, Turban, 2001). Berry cites trust as the most powerful relationship based marketing tool, and the customers–according to Foui-Hone studies–decide for internet purchasing only based on trust basis (Hone, 2002). Trusting the Internet sellers means accepting potential harms accompanied with a Sense of security (Jifen, 2000). Previous studies have shown that lack of trust is the biggest obstacle to build relationship

between the consumers and internet sellers (Chong, Li, 2004). In any case, as the current market studies have shown, many of the users are uninterested in purchasing from the Internet. Customer mistrust in Internet purchasing is one of the major factors in electronic transactions (Lopez, Rioz, 2003). Mistrust is the most frequent reason mentioned for the buyers avoiding from buying things from the e-shops (Li, Turban, 2001). Further, results from the studies indicate that “trust” produces positive effect on profitability, hence causing harm to the customer trust toward the internet seller; so the customer must be persuaded that profitability can be expected in interaction with the seller (Pavlo, 2003). Levy and Powell (2003) have presented the 4 step model of electronic maturity. The steps include: adjusted traditional commerce, electronic commerce and electronic business. Haj Karimi (2008) have divided the organizational e-maturity level into the following steps:

1. Level Zero: At present the company makes no use of EC and does not want to use it.
2. Tendency level: Currently the company makes no use of the EC, but tends to use it.
3. Initial application level: Currently the company uses e-mail and electronic searching.
4. Simple informative website level: the company has a website in which general information about the company and its products, history, addresses, prices, etc. are displayed.
5. Dynamic informative website level: In addition to information, there is the possibility of communication or sending and receiving data between the website and others.
6. The exchange website level: in this type of website there is the required facilities for Internet ordering by the customers and providing them with online services (Azizi and Haj Karimi, 2008).

In experts’ opinion, the barriers to the use of electronic commerce in Iranian organizations are as follows in order of priority:

1. Lack of readiness and willingness of customers,
2. Lack of readiness and capability of the partners,
3. Behavioral and cultural barriers,
4. Cultural problems and
5. The lack of an appropriate competitive environment. (Azizi, Khdadadhosseyni, Elahi, 2005), Burton and others (2008)

Culture plays a significant role in the development of electronic B2B relationships. This article emphasizes the importance of electronic commerce, and makes attempt to find the interactions between the readiness level and cultural values and tries to answer the following questions:

- How the cultural values encourage e-commerce?
- What factors make connections between the cultural values and the e-commerce

failures?

According to the results of the studies, North American and Western European countries had the highest percentage of e-business readiness and the countries of Latin America and Africa had the lowest level of readiness. Tansy and Wang (2000) identified the three factors of:

1. Benefits and costs (perceived benefits and perceived costs)
2. Organization (readiness, product variety)
3. Environment (healthy exchange, competitive pressure and customer needs), as the effective factors in use of e-commerce. Li et al. explained that what is crucial in a company is an applied network of distributed and integrated information technology in intra-organizational resources.

Organizations use e-commerce for the purpose of facilitating the readiness environment among the staff. Also in his paper, he suggests a structure for the enterprise employees' e-readiness (EREB), an imaging system which evaluates the staff e-readiness in organizations

### **Methodology**

Given the studies previously undertaken and the importance of e-readiness among university faculty members and the related various influential factors, this study follows the aim of assessing the maturity of e-readiness among the mentioned population and determining the effects of a number of individual and environmental factors in the strength and weakness of such readiness. Therefore the following hypotheses are examined in this study:

#### ***Hypotheses***

Hypothesis 1: e-business readiness level of university faculty members is not acceptable by any means.

Hypothesis 2: there is a significant relationship between the individual factors and the level of e-business readiness of faculty members.

Hypothesis 3: there is a significant relationship between the environmental factors and the level of e-business readiness of faculty members.

Hypothesis 4: the individual and environmental factors differ in the way and extent they affect the e-business readiness of the university faculty members.

#### ***Research method***

This applied research study aims at examining the readiness for e-business activities and the related influential factors among the faculty members of Iranian University, adopting survey descriptive research methodology. Faculty members in all departments of Iranian University include 301 people among them 122 people were selected as the final

research sample using Cochran formula. To collect the effects of the individual factors (risk, perceived benefit, trust, knowledge, attitude, experience, education major and certificate, function perception) and environmental factors (electronic infrastructure, e-service provider companies, socio-cultural factors, supportive organizations), questionnaires designed by Lee (2009), Azizi and Haj Karimi (2008) and a researcher made questionnaire were used. Also for the purpose of determining the validity and reliability and eliminating the possible ambiguities of the questionnaire, a pilot test was given to a sample group of 30 faculty members. The face and content validity of the questionnaire were confirmed by a group of 10 experts, and the structural validity of the scales like demographic, individual and environmental factors and the e-business readiness was obtained through confirmatory factor analysis. Fitness characteristics of confirmatory factor analysis of the above scales are presented in Table 1.

Table 1

Fitness characteristics of confirmatory factor analysis of the questionnaire scales.

Subscales Characteristics	Demographic characteristics	Individual factors	Environmental factors	Electronic readiness
Chi-square to degree of freedom ratio ( $\chi^2/df$ )	2.5	2.11	2.232	2.887
Approximation error variance estimation square	0.0443	0.0434	0.656	0.032
Goodness of Fit Index(GFI)	0.87	0.78	0.90	0.73
Adjusted Goodness of Fit Index(AGFI)	0.91	0.92	0.84	0.86

Lisrel program after presenting the measurement pattern and covariance structure model, in order to answer the question whether the data are consistent with the model, calculates a number of fitness indexes. None of the indexes alone can be considered as proof of fitness, but they should be interpreted together. Table 1 contains some of the goodness of fit indices, showing suitable fitness of patterns with the data. It's noteworthy that since the chi-square test for perfect fit of the model provides an alternative determination strategy, does not show the fit rate on a continuum (Hovyl, 1995). Furthermore, as the chi-square test is sensitive to sample size and abnormal distribution of scores, descriptive fit statistics is often used for evaluating the overall fitness of the model with the data. RAMSEA value for models with good fitness are equal to or less than 0.05 and values higher than 0.05 to 0.08 represent a reasonable error in the sample society. GFI and AGFI values for models with good fitness, is equal to or greater than 0.9 (Homan, 2006). As the characteristics of fitness show in Table 1, the study data has suitable fitness

with the factorial structure and theoretical basis of the said structures, indicating the consistency of questions with the theoretical structure.

**H<sub>1</sub>:** The level of e-Business readiness among university faculty members is not acceptable by any means.

H<sub>0</sub>: E-business readiness of faculty members is at acceptable level.

H<sub>1</sub>: E-business readiness of faculty members is not an acceptable level.

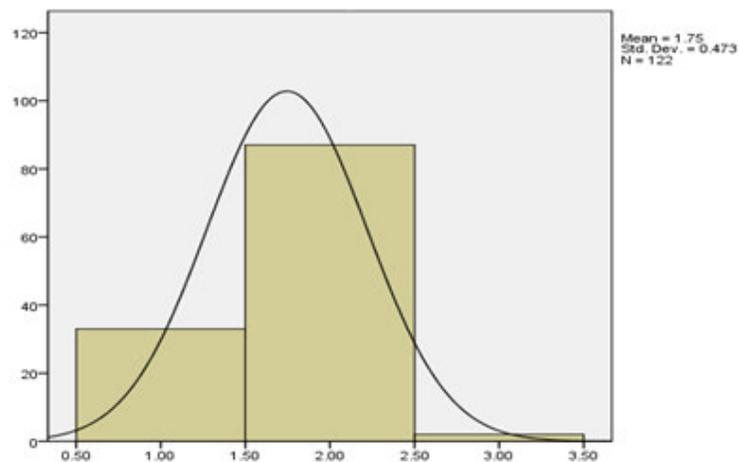
Table 2

Binomial test results about individual factors.

Variable levels		Group	Number	Observed ratio	Test ratio	Significance level
Readiness	Low level	3	95	0.78	0.50	0.026
	Acceptable level	3	27	0.22		
Total			122	1		

Reference: Research findings

As Table 1 shows, the significance level value (sig = 0.526) is greater than 0.05 (P-V <  $\alpha = 5%$ ). The zero assumption therefore is accepted at 0.05 level and the research hypothesis, that is, e-business readiness of faculty members, is rejected. This means that the under study samples do not have an acceptable level of readiness. The following chart describes the mentioned ratio in question:



Readiness level, frequency

Figure 1. The readiness level of the faculty members for e-business activities

The above chart shows that the e-business readiness of the faculty members is not at acceptable level and is lower than what is expected. In the above division, the rates of less than 2.99 has been considered as below acceptable.

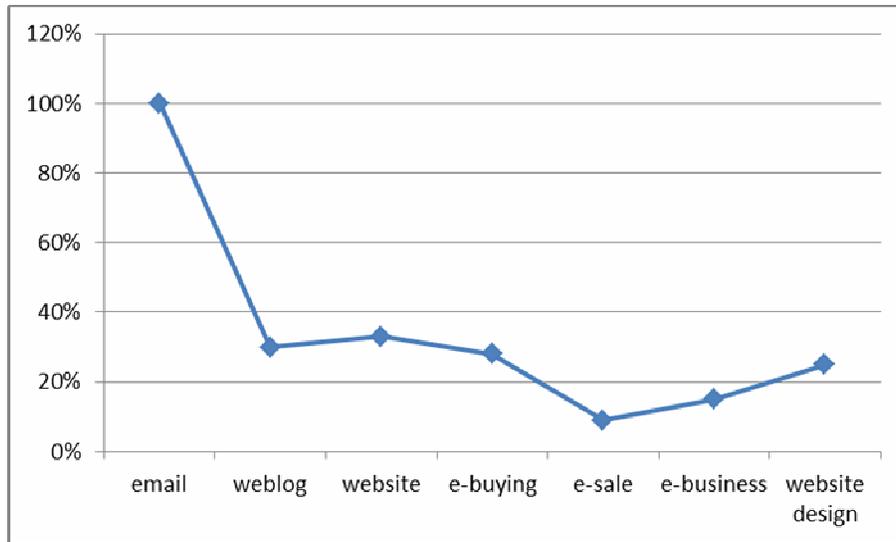


Figure 2. Representation of enjoying the e-business advantages by the under study subjects

In the above chart it can be seen that the greatest enjoyment of the e-business advantages among the university faculty members, is having electronic mail and the lowest one is benefiting from electronic sales skills. In chart 3, the level of e-business readiness of faculty members has been obtained. According to previous studies and inspired by Azizi, Haj Karimi (2008) and Fathi, Azizi (2006), the chart below shows the individual readiness level of the faculty members for e-business activities as follows:

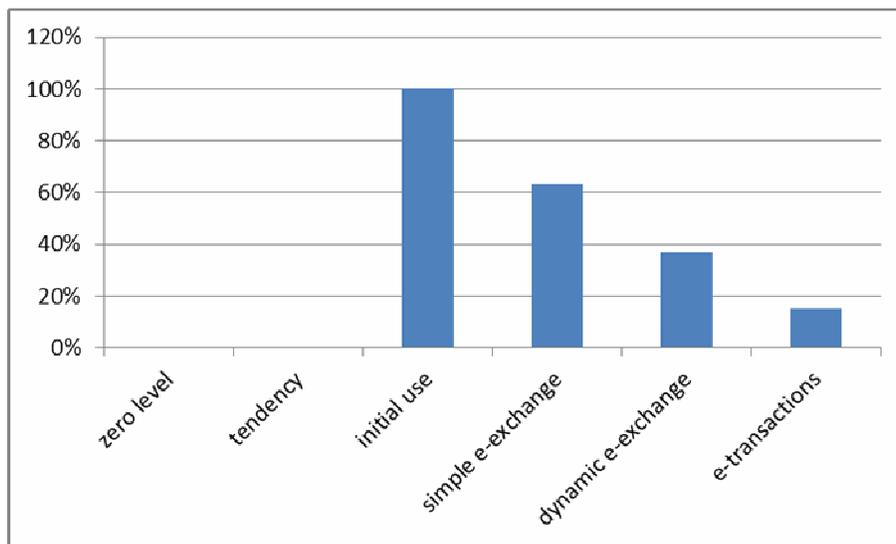


Figure 3. Representation of the readiness level of the faculty members for e-business activities

The above chart shows that e-business readiness level of faculty members of Iranian University is at initial adoption stage of e-commerce.

**H<sub>2</sub>:** There is a significant relationship between the individual factors and the level of e-business readiness of faculty members.

For the purpose of estimating and predicting the effect of individual factors on the readiness level of each faculty member, the analysis of variance method has been used to assess the significance differences among the three levels of low, moderate and acceptable readiness. In each of the variables in which a significance level of less than 0.05 has been obtained, there is a significant relationship between the individual factors and the level of e-business readiness of the university faculty members.

*Table 3*

Analysis of the individual factors' effects on readiness level of the faculty members for e-business activities

Variable levels		Sum of squares	Degree of freedom	Mean	F	Significance	$\beta$ Coefficient
Perceived risk	Between the Groups	7.477	2	3.783	6.946	0.001	-0.231
	Within the Groups	64.050	119	0.538			
	Total	71.527	121				
Perceived benefit	Between the Groups	8.279	2	4.114	16.039	0.000	0.141
	Within the Groups	30.713	119	0.258			
	Total	38.992	121				
Trust	Between the Groups	3.250	2	1.625	5.730	0.004	0.124
	Within the Groups	33.746	119	0.248			
	Total	36.995	121				
Knowledge	Between the Groups	2.111	2	1.055	3.509	0.033	0.335
	Within the Groups	35.792	119	0.301			
	Total	37.903	121				
Attitude	Between the Groups	0.529	2	0.264	0.706	0.496	Meaningless
	Within the	44.588	119	0.375			

Variable levels		Sum of squares	Degree of freedom	Mean	F	Significance	$\beta$ Coefficient
	Groups						
	Total	45.117	121				
Experience	Between the Groups	9.870	2	4.935	5.834	0.004	0.341
	Within the Groups	100.655	119	0.846			
	Total	110.525	121				
Function Perception	Between the Groups	0.564	2	0.282	1.0747	0.354	Meaningless
	Within the Groups	32.0242	119	0.269			
	Total	32.607	121				

The above table shows that individual factors such as Perceived benefit, trust, knowledge, expected risk and direct experience have significant effect on the readiness for e-business among the people under study. The beta coefficient obtained from regression method is shown for each of the factors said above:

*Table 4*

Pearson correlation coefficient of the individual factors with readiness level of the faculty members for e-business activities

Readiness	Risk	Perceived benefit	Trust	Knowledge	Attitude	Experience	Education major and certificate	Function perception
	*-0.252	**0.232	**0.284	**0.332	0.068	**0.364	0.095	0.106

**H<sub>3</sub>:** There is a significant relationship between the environmental factors and the level of e-business readiness of faculty members.

For the purpose of estimating and predicting the effect of environmental factors on the readiness level of each faculty member, the analysis of variance method has been used to assess the significance differences among the three levels of low, moderate and acceptable readiness. In each of the variables in which a significance level of less than 0.05 has been obtained, there is a significant relationship between the environmental factors and the level of e-business readiness of the university faculty members.

Table 5

Analysis of the environmental factors' effects on readiness level of the faculty members for e-business activities

Variable levels		Sum of squares	Degree of freedom	Mean	F	Significance	$\beta$ Coefficient
E-service provider companies	Between the Groups	3.124	2	1.526	0.957	0.746	Meaningless
	Within the Groups	94.982	119	0.798			
	Total	98.107	121				
Electronic infrastructures of the country	Between the Groups	0.388	2	3.194	4.541	0.0356	0.272
	Within the Groups	42.172	119	0.359			
	Total	43.100	121				
Socio-cultural factors	Between the Groups	0.036	2	4.018	6.078	0.011	0.255
	Within the Groups	25.425	119	0.214			
	Total	25.461	121				
Supportive organizations	Between the Groups	1.108	2	0.554	1.425	0.245	Meaningless
	Within the Groups	46.239	119	0.389			
	Total	47.346	121				

The above table shows that environmental factors such as electronic infrastructure of the country, and socio-cultural factors have significant effect on the readiness for e-business among the people under study.

The beta coefficient obtained from regression method is shown for each of the factors said above:

Table 6

Pearson correlation coefficient of the environmental factors with e-business acceptance and usage by the faculty members

Readiness	E-service provider companies	Electronic infrastructures of the country	Socio-cultural factors	Supportive organizations
	0.031	**0.456	**0.344	0.120

### Discussion about the Model

The main model of the research has been estimated through the Structural Equation Model (SEM) which is a very strong multivariate analysis from the multivariate regression family; More exactly, an expansion of the General Linear Model (GLM) that allows the researcher to test a set of regression equations simultaneously. The SEM analysis can be performed using two techniques: covariance structural analysis or Linear Structural Relations (Lisrel) and Partial Least Squares (PLS). The first technique, in which the analyses performed are set in the framework of structural linear relationships, is known as the Lisrel structural equation model. The structural equation models are composed of two parts: the 'measurement model' and 'structural model'; the measurement model is meant, the relationships between the measured and hidden variables and also we mean by the structural model, only the causal relationships between the hidden variables. General structural model and the measurement model according to the Lisrel technique are written as follows:

$$\eta = B\eta + \Gamma\xi + \zeta \quad \begin{cases} y = \Lambda_y \eta + \varepsilon \\ x = \Lambda_x \xi + \delta \end{cases}$$

$$E(\zeta) = 0; \text{COV}(\zeta) = \Psi \quad \begin{cases} E(\varepsilon) = 0; \text{COV}(\varepsilon) = \Theta_\varepsilon \\ E(\delta) = 0; \text{COV}(\delta) = \Theta_\delta \end{cases}$$

The Lisrel technique is a combination of two analyses: confirmatory factor analysis and path analysis. In this study, using Lisrel software, the relationships between the dependent variables (the electronic readiness including acceptance and use) and the independent variables (individual and environmental factors) are examined through identification of hidden variables (intangible factors). In other words, this model defines that the rotated hidden variables are associated with visible variables and can be measured by them. As it was mentioned before, we mean by the structural model, only the causal relationships between hidden variables. In other words, the main goal of this model is discovering the both direct and indirect effects of the exogenous hidden variables, on the endogenous variables (Homan, 2008). Also in continuation of the work, the causal relationships of the study main variables are investigated using path analysis and finally, the coefficient of the

factors affecting e-business readiness is calculated separately.

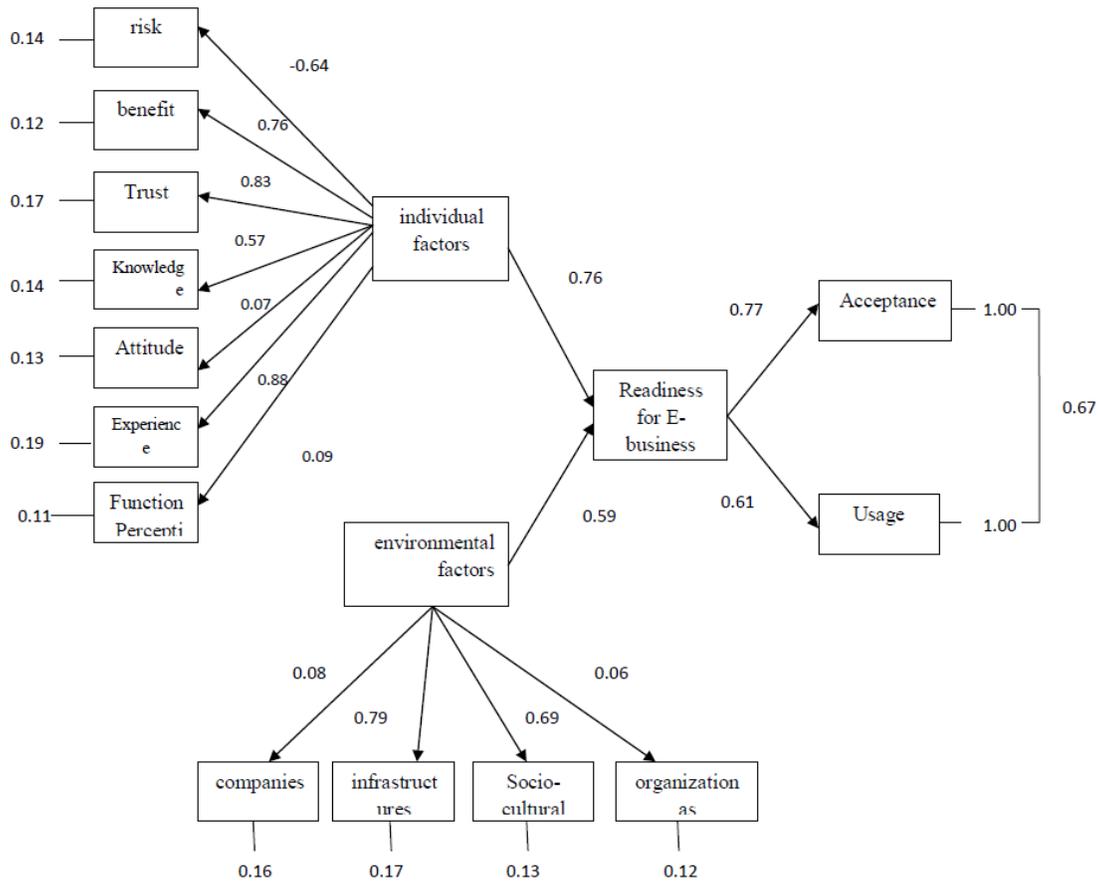


Figure 1. Testing the study model using SEM method

**Chi-square = 40.67 df= 21 P-value= 0.000 RMSEA= 0.0321**

The study model shows that it has adequate fitness. In this model, the individual factors with 0.76 are affected more by the environmental factors. Among the individual factors, the experience factor with 0.88 has assigned greater impact to itself compared with other factors. The function realization and attitude factors do not have a significant effect. Mainly this non-significance of factors is related to the under study society. For the study samples have largely identical function perception and attitude. Among the environmental factors, the infrastructure factor with 0.79 has higher impact than the socio-cultural factor. Two other factors did not show any significant effect. The model fitness values are shown in the table below.

Table 7

Model fitness measurement in standard approximation

AGFI	GFI	RMSEA	P-VALUE	DF	CHI-SQUARE
0.92	0.94	0.0321	0.000	21	40.67

### Research innovation: (User-Oriented Model of E-business Readiness)

Surveying the researchers conducted on the use of e-commerce and e-readiness shows that most studies have focused on reviewing the status of e-commerce and readiness for Internet based business in companies and organizations. So, fewer studies can be found—specifically in the field of human resources— capable of organizing and modeling a certain ranking system for assessment of e-readiness. In this paper, considering the acceptance and usage level of electronic means by the faculty members of Iranian University, a classification method has been introduced through which the e-readiness of the users can be evaluated. Its worth mentioning that this study was conducted in the academic community and to extend it to all people at different educational levels, further studies should be undertaken and other variables involved in the investigations.

Table 8

The e-readiness levels and the related measurement indexes

Tendency level	Electronic exchange	Training courses passed	Usage level	Evaluation criteria	Readiness level	Acceptance level
No tendency	Zero	Zero	Zero	No previous familiarity with e-business	Zero	Non-acceptance
Little	Zero	Zero	Low	Sign up in Internet websites, using card readers, etc.	Desire	Low
Medium to low	Zero	Little	Medium	Having email, website use capability, using office automation systems, working with Internet websites	Initial application stage	Medium to low
Medium to high	Little	5 courses per year	High	Creating personal weblog, personal website. e-commerce level: E2G	Simple electronic exchange	Medium to high

Tendency level	Electronic exchange	Training courses passed	Usage level	Evaluation criteria	Readiness level	Acceptance level
High	Much	Up to date	High	Creating dynamic website, electronic sales and buy, Arranging and participating in online tenders. e-commerce level: B2B · B2C and C2C	Dynamic electronic exchange	High
Institutionalized	Extensive	Up to date	Very high	Data interaction with other organizations and individuals, website developing for organizations and individuals, creating social networks, network support. e-commerce level: P2P and all other popular relationships.	Advanced electronic interaction	Complete

### Conclusions

Faculty members of the universities and higher education institutions are considered as the most influential social classes in the development of public culture. This important feature achieves more importance in development of social competencies. One of the important social competencies in contemporary society is the use of electronic resources. This is while the e-commerce use is directly related to the level of preparedness of the people. In other words, those people with higher acceptance and tendency would enjoy more of the advantages of electronic business. According to the mentioned studies, lower levels of e-commerce usage– as the new bridge of communication between the sellers and consumers–is customary in our country, Iran. Based on the researches made, the main reason for not welcoming the internet transactions in Iran is rooted in individual and environmental factors. It seems that this mistrust has affected the university faculty members and has reduced acceptance of e-commerce.

According to the previous research results, the e-business readiness of university faculty members is not at acceptable level. According to the research findings, there is

significant relationship between the individual factors (risk and experience) and readiness level of the faculty members for e-business activities, consistent with KPGM findings (1999). Also based on the results gained from Pearson correlation coefficient, there is a significant relationship between the e-readiness of the faculty members from the one hand and risk and benefit factors from the other; this finding is also consistent with the results obtained by Wang and Tesani (2000). Analyses have shown that there is a significant relationship between the environmental factors (electronic infrastructure of the country and socio-cultural factors) and readiness level of the faculty members for e-commerce activities; this does not consistent with the findings by Azizi et al (2005) and Burton et al (2008). The final tested model showed that the individual factors have higher effects on the e-business readiness of the under study samples, among which the 'experience' has assigned higher effects to itself than other factors. This study presents a new model of determining the Internet maturity and electronic readiness level among the users.

### References

- 1) Berthon, pierre. pitt,leyiand. Berthon, jean-paul. Campbell, colin. Thwaites, des(2008) e-Relationship for e-Readiness: Culture and corruption in international e-B2B, *Industrial Marketing Management* 37, 83-91
- 2) Bunker, M. P., and Ball, D. (2005). Transference: the effect of relationship history on consumers' Relationships with Other Firms. *Advances in Consumer Research*, 32, 507-513.
- 3) Chaffey, D. (2002) "E-business and e-commerce management" *Financial Times/Prentice Hall*, Harlow, UK
- 4) Cousins, k. C. & Robey,d. (2005)The social shaping of electronic metals exchanges: An institutional theory perspective. *Information Technology & people*.18(3),212-229
- 5) Dubelaar, c., Sohal, A., Savic, V., (2005)Benefits .impediments and critical success factors in B2C e-business adoption. *Technovation* 25(11), 1251-1262.
- 6) Dong, B., Evans, K. R., and Zou, S. (2008). The effects of customer participation in co-created service recovery. *J. of the Acad. Mark. Sci.*, 36, 123-137.
- 7) Farrokhzad, et al. (2006), "Maturity model of Iranian exporting e-commerce companies", Institute for Business Studies. *Journal of Management culture*. 4<sup>th</sup> year, No. 13. Page 5 to 36.
- 8) Fathi, Saeed. Azizi, Shahriyar (2007), "Measuring the maturity level of active e-commerce e-shops in Iran", *Journal of New Economics and Commerce*, No. 4, pp. 61-44.
- 9) Fui-Hoon Nah, Fiona, Davis, Sid, (2002),HCI Research Issues in Electronic Commerce, *Journal of Electronic Commerce Research*
- 10) Gefen, (2000), E-commerce: the role of familiarity and trust,*Omega* 28 (6) 725 –737.

- 11) Glantz, d.,(1999). The national technology readiness survey: -executive summary .Retrieved December 2004 from [www.rockresearch.com](http://www.rockresearch.com)
- 12) HKPC(2004) " E-Commerce Adoption Campaign (ECAC)"project report,January
- 13) Hajkarimi, Abasali. Azizi, Shahriyar. Akhavan Kharaziyan, Maryam (2010), "Model design of the factors effective in implementing e-commerce in small and medium scale companies", scientific-research journal of Knowledge and Development, Year 16, Issue 27, Summer 1388
- 14) Hosseuni, Hamid Khodadad. Shirkhodae, Maysam and Kordnaeej, Asadollah (2009) "Factors affecting consumer trust in electronic commerce (B2C Model), Journal of Modares Ensani, Vol:2,12-23
- 15) Hanafizadeh, Payam. And Rezaee, Mehrdad (2011), "Definitions, barriers and solutions to e-commerce", Termeh Publications, Third Edition, Tehran
- 16) Javanmard, H and Soltanzadeh, Ali-Akbar (2010), "A survey of the characteristics of Internet brand and websites and their effect on customer trust and loyalty (Study: purchase of cultural products via Internet)", Journal of Commerce, No. 53
- 17) Kazemi, Mehdi. BariNazif, Yahya (2011), "Perceived justice of services restoration and its impact on consumer trust in domestic air passenger companies", research journal of Development Management Letter, 2<sup>nd</sup> year, No. 3,
- 18) Khani Jazani, Jamal (2008), "E-commerce", Journal of Payame Modiriyat, Issue 25, Summer 1386, pp 67-85,
- 19) Kim. Changsu, Tao. Wang, Shin. Namchul and Kim. Ki-Soo (2010) An empirical study of customers' perceptions of security and trust in e-payment systems Omega 35, 22 – 38
- 20) Kotler. P, (2003)"Marketing Management" prentice –Hall, London, p 340.
- 21) Koufaris, Marios, Hampton-Sosa, William,(2004),The development of initial trust in an online company by new customers
- 22) KPMG (1999) "Electronic commerce: the future is here!" Available from: <[www.kpmg.com.au](http://www.kpmg.com.au)> (Accessed September 2, 2000
- 23) Laudon, K.C., Laudon, J. P.,(2004)Management Information Systems, eight ed. Prentice-Hall.Upper Saddle River, NJ
- 24) Levy Margi . Powell, Philip (2003) "Exploring SME Internet Adoption: Towards a Contingent Model Internet adoption, in both large and small firms (SMEs), is promoted as a means to" *Electronic Markets*,vol13, no2, pp173-181
- 25) Lee. Matthew K.O. and Cheung. Christy M.K. (2004). An Integrative Model of Consumer Trust in Internet Shopping
- 26) Lee. Matthew K. O. and Turban, Efraim (2001). A Trust Model for Consumer Internet Shopping, International Journal of Electronic Commerce, Vol. 6, No. 1, pp. 75–91.
- 27) Martinez-Lopez. Francisco J. and Montoro-Rios. Francisco J.,(2003),Modelling Consumer Trust in Internet Shopping based on the Standard Learning Hierarchy: A

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- 28) Martin M. I., Maltay H. M., (2001) "Blanket approaches to promoting ICT in small firms:some lessons from the DTI ladder adoption model in the UK" *Internet Research*,vol11,no 5, pp 399-410
- 29) Parasuraman, A(2000) Technology readiness index: a multiple- item scale to measure readiness to embrace new technology .*Journal of Service Research* 2 (4),307-320
- 30) Pavlou. P.A. (2003), Consumer acceptance of electronic commerce-integrating trust and risk with the technology acceptance model, *International Journal of Electronic Commerce* 7 (3), pp. 69–103
- 31) Rayport j.f and Jaworski, B. j (2001)"Introduction to E-commerce" McGraw Hill,NewYork, pp 4-5
- 32) Urban. Sultan F,L. and W.J. Qualls(2000), " Placing trust at the center of your Internet strategy" *Sloan Management Review*, Vol 42, No 1,pp 39– 48
- 33) Roosta, Ahmad. Abolfazli, Seydabolfazl. Ghorbani, Hassan (2010), "A study of the oppressive role and the resulting avoidance of Internet advertising", *Journal of Information Technology Management*, No. 2
- 34) Sanayei, Ali. (2008), "E-commerce", University Jihad Publications, Isfahan
- 35) Sanayei, Ali. Ghazifard, Amirmehdi. Sobhanmanesh, Fariborz (2012), "Factors affecting the development of radio frequency identification (RFID) technology in supply chain management, e (E-SCM)", *scientific-research journal of New Marketing Researchs*, first year, Issue 1.
- 36) Shafei, Reza. Shojaee, Abdolnaser. Allahweisi, Bahareh (2011), "The role of organizational knowledge management in e-commerce adoption in Iranian companies", *Fifth International Conference on e-commerce*, Kish, Iran
- 37) Tan. Felix B, Sutherland. PauL(2004)" Online Consumer Trust: A Multi-Dimensional Model" *the Journal of Electronic Commerce in Organizations*, Vol. 2, No.3,PP:40-58.
- 38) *The Economist*. (2006).Bricks online: E-commerce, 378(8468),72.
- 39) Wilcoxa. Pauline A. (2003), C&alin Gur&au," Business modelling withUML: the implementation of CRM systems for online retailing", *Journal of Retailing and Consumer Services* 10, 181–191.
- 40) Yu Lai, Jung., Shyong Ong, Chorng (2010)Assessing and managing employees for embracing change: A multiple –item scale to measure employee readiness for e-business., *Technovation* 30, 76-85

