THE IMPACT OF IRANIAN TEACHERS CULTURAL VALUES ON COMPUTER TECHNOLOGY ACCEPTANCE

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ABSTRACT
This study was conducted with the aim of testing the technology acceptance model and the impact of Hofstede cultural values (masculinity/femininity, uncertainty avoidance, individualism/collectivism, and power distance) on computer technology acceptance among teachers at Urmia city (Iran) using the structural equation modeling approach. From among these teachers, 275 were sampled. Research results suggested that masculinity/femininity cultural values have a positive impact on variables of the technology acceptance model (perceived usefulness and perceived ease of use). The effect of uncertainty avoidance on these variables was also negative. Individualism/collectivism produced a positive effect on perceived usefulness but power distance created a negative impact on perceived usefulness and ease of use. Also the effect of individualism/collectivism on perceived ease of use wasn't significant. Research results and implications are discussed in the paper.

KEYWORDS: Technology Acceptance Model, Cultural Values, Hofstede Cultural Dimensions.

INTRODUCTION
Emergence of computers has brought about a change in societies which can be compared to the one produced by the Industrial Revolution. Some sociologists have suggested that what is happening today is a transition to a new society which is no longer based mainly on material production. Various terms have been coined for describing such a new social order, such as 'the age of information' and 'modern economy'; but the most commonly used term is 'information economy'. Information economy is the type of economy in which the majority of workforce works not in production sector or distributing material commodities but in designing and optimizing them, production technology, marketing, sales and after-sales services. The relevant staff can be called 'information staff'. Information economy is influenced by the constant flow of information and ideas as well as by the enormous capacity of science and technology (Giddens, 2007). In keeping with new changes in the age of information, education should also undergo some evolution in order to find its effective place in growth, progress and preparation of pupils and students as the prospective information staff in the information society.

Teachers are the most important human factor to integrate computer and information technology in educational system. As the teacher has his or her own way to use blackboard in instruction, also the use and integration of information technology in instruction depend on his or her attitudes and experiences. The International Society for Technology in Education (ISTE) emphasizes that teachers must ready to prepare technology based learning opportunities for their students. Indeed, teacher is the most important person to help students for access to the capabilities of information technology. Readiness for application of information technology and having the knowledge about how information technology could support students learning must be the one of basic teacher's skills. But Despite research findings showing the capability of information technology to transform teaching and learning processes, the use of computer systems in the classrooms remains peripheral and minimal and teachers do not use technology effectively (Ejei, Amani Sari Baglou, Khezri azar, & Gholami, 2012).

In a comprehensive study, Ayati, Attaran and Mehr Mohammadi (2005) investigated the actions taken to extend the application of information technology in Iran's educational system as well as the associated problems. These actions included creating the Internet network in schools, creating national network of growth in order to facilitate schools' access to a comprehensive bank of educational information, communication-information

literacy training, holding relevant seminars and workshops as well as international collaboration and conducting studies on the acceptance of technology in the educational system. Their findings indicated that there is a big gap between the standard of educational technology used in Iran's educational system and international standards. They categorized the causes of this mismatch and the relevant problems into four classes: The problems associated with information technology's strategic development, infra-structure problems, structural problems and problems associated with human resources.

An in-depth analysis of the problems identified as causes of inappropriate information technology development by these researchers indicates that the main factor leading to such problems is the cultural values dominating Iran's or other developing societies. Because information technology is a culture-dependent phenomenon, following cultural presuppositions of the West or developed countries. Therefore, when this technology enters developing countries, such as Iran, a kind of cultural gap often comes into existence, since these cultures are different in methods of teaching and accepting technology from the methods devised and tested in developed countries (Akour, 2006). Fandy (2000) points to many studies focusing on transfer of computer technology to developing countries, but little research has been carried out to discover how cultural variables and values affect acceptance and use of technologies. Nowadays, information technology researchers pay special attention to culture because neglecting cultural differences can hinder information technology acceptance and raise the level of risk of failure to do so (Akour, 2006).

Information technology had a very slow growth rate in developing and less developed countries like Iran before 1990s. With developments in global trade, these countries recognized the importance of the application of such a technology, which in turn led to its growing use in these countries. However, compared to that in developed countries, this growth has had little effect on the organizational output in these countries. Studies have indicated that the use of information technology in such countries has been very low and without any significant effect on the performance of organizations (Anandarajan, Igbaria & Anakwe, 2002).

Just as culture can be revealed by individuals, research suggests that cultural values shape cognitive processes, thereby influencing people's beliefs about and behaviors toward computers (Kedia & Bhagat, 1998). As regards computer technology, Hofstede's cultural values model (Hofstede, Hofstede & Minkov, 2010) has caught the attention of numerous researchers due to its comprehensiveness and experimental support (Srite, Thatcher & Galy, 2008). This model is used in this study as the underlying theoretical framework and the dimensions examined in this study include masculinity/femininity, uncertainty avoidance, individualism/collectivism, and power distance. These concepts are further explained in the following section.

Culture and Cultural Values

Masculinity/Femininity: This dimension refers to the extent to which one believes in the distinction between gender roles in society. In masculine cultures, people are of the opinion that men's and women's roles should be separated. In such cultures, men are expected to be bold and aggressive and to emphasize material success, whereas women are expected to be demure and sensitive and to care about the quality of life. In contrast, people in feminine cultures believe in overlap and association between gender roles (Hofstede, Hofstede & Minkov, 2010), i.e. both genders are expected to underlie the interpersonal relationships, quality of life, to help others, and to pay less attention to oneself (Hofstede, 1980).

Uncertainty Avoidance: This is concerned with how people face the unknown aspects of the future, referring to the degree to which members of a culture feel danger because of vague and uncertain situations. The cultures scoring high in this dimension are worried about future and avoid danger through developing controlling mechanisms such as religion, rules, social plans, and written and unwritten roles. On the contrary, the cultures feeling secure about their own future avoid uncertainty to a lesser degree (Hofstede, 1980).

Individualism/Collectivism: This deals with the relationship common between an individual and a group in a specific society. In individualistic cultures, people have a fragile relationship with each other, and everyone is expected to consider their own personal interests; but in collectivist cultures, people have a close-knit relationship with members of the society, pursuing collective and group interests (Hofstede, 1980).

Power Distance: This dimension refers to the extent to which less powerful members of institutes and organizations (such as families) accept and expect that power be distributed unequally. People in cultures with large power distance accept dominance and authority more easily than those living in cultures with small power distance, in which equality of classes and people is regarded as a value (Hofstede, 1980). Based on Hofstede's (1980) findings, the Iranian culture is determined by medium-plus power distance, medium-plus uncertainty avoidance, medium collectivism, and femininity. Hedayati (2006), of course, claimed that the Iranian culture has

experienced some changes. In his study, the Iranian culture scored 64 for power distance, indicating vast power distance, 87 for uncertainty avoidance, suggesting high level of uncertainty avoidance, 82 for collectivism/individualism, demonstrating a significant degree of collectivism, and 67 for masculinity/femininity, reflecting tendency toward masculinity. Some researchers have argued that this change has been caused by the difficult economic status following the 8-year-long war with Iraq (Hadizadeh Moghadam & Assar, 2008).

Hofstede (1980) mentions that although these dimensions and the scores achieved by each country show general patterns existing in a particular culture, there are numerous differences between people in terms of each dimension. In other words, no society is entirely collectivist, individualist, or feminist. Hofstede applies the garden metaphor for each culture, treating people as garden flowers. The flower which exists most in number in a garden determines the name of that garden, yet this does not mean that there are not other flowers in the garden. Trandis (2001) also argues that the cultures with appropriate functions enjoy a combination of these dimensions but the cultures placed at the end of the continuum, e.g. individualism/collectivism, suffer dysfunctions. These intracultural differences are significant because they provide the variance required for drawing intracultural comparisons in terms of the extent to which these dimensions influence people's attitudes and beliefs (Srite, 2000).

Iran cultural values may influence on users information technology acceptance in educational setting. For example, the centralization of the educational system (which is the main factor behind the lack of growth and development of new technology in Iran's educational system) indicates the values of power distance and uncertainty avoidance (Srite, 2000). According to Srite (2000), in cultures with high levels of uncertainty avoidance, the members opt for overuse of traditional tools rather than favoring new technologies such as information technology and adapting themselves to the changing environment. Furthermore, a high power distance leads to the creation of a hierarchical and bureaucratic structure in organizations which in turn leads to a strict resistance against change and innovation. In addition, a high collectivism profile also leads to group ideas to be regarded as superior to individual ideas and these results in a lack of attention to the innovative and pioneering ideas of individuals on the applications of new technologies such as information technology. As far as cultural changes in Iran in terms of masculinity/femininity are concerned, with the trend moving towards masculinity, it can be claimed that this change has had a positive influence on the development of information technology (since masculine cultures put more emphasis on development). However, taking the facts in Iran's educational system into account (where this technology does not seem to have been properly developed), it can be concluded that the masculinity/femininity dimension has not been instrumental in affecting development and growth in information technology. Although many studies have been conducted on the impact of cultural values on computer technology acceptance in developed western countries (e.g. Srite, 2000; Thatcher, Srite, Stepina, & Liu, 2003; Srite & Karahanna, 2006; Srite, Thatcher & Galy, 2008), no research, except for one in Jordan, seems to have been carried out in the Middle East, particularly in Iran, with cultural values quite different from those of western countries. In addition, studies have mostly focused on trade organizations, and research into the effect of cultural values on users of educational environments (e.g. teachers) is scarce.

THEORETICAL MODEL OF RESEARCH

The theoretical model of this study is based on the technology acceptance model (Davis, Bagozzi & Warshaw, 1989). This model is shown in Figure 1 below.

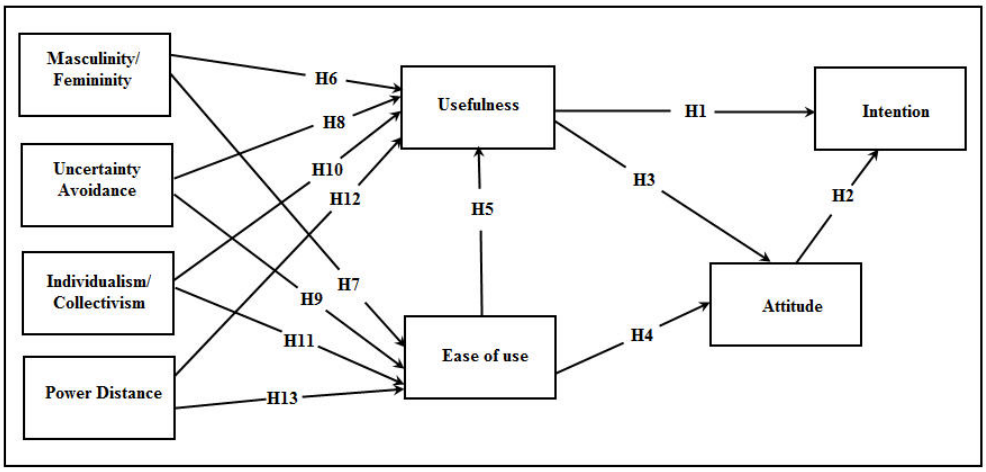

Figure 1*:* Theoretical Model of Research

The model is founded on the theory of reasoned action, put forward for modeling information technology acceptance by the users (Davis, Bagozzi & Warshaw, 1989). This model is based on two factors, namely perceived usefulness and perceived ease of use. Perceived ease of use refers to the extent to which one believes that using the computer system will not require their physical and mental efforts, and perceived usefulness refers to the extent to which one believes that using computer will enhance their business performance. These two factors influence people's attitudes toward use of the technology, their intentions to use that technology, and eventually, to use it in practice. In the technology acceptance model, the degree of technology acceptance is measured by the intention to use (Teo, 2008). Moreover, perceived ease of use affects perceived usefulness. The studies conducted on the basis of this model both in Iran and in other countries have provided it with much experimental support (Dorani & Rashidi, 2007; Akour, 2006; Teo, 2009; Kim, Chun & Song, 2009, Amani Sari Bagloo, Lavasani, Ejei and Khezri Azar, 2011; Ejei, Amani Sari Baglou, Khezri Azar & Gholami, 2012). Given the foregoing, the following hypotheses are formulated concerning the technology acceptance model.

Hypothesis 1: Perceived usefulness has a direct and positive impact on the intention to use.
Hypothesis 2: Attitudes toward use have a direct and positive impact on the intention to use.
Hypothesis 3: Perceived usefulness has a direct and positive impact on the attitudes toward use.
Hypothesis 4: Perceived ease of use has a direct and positive impact on the attitudes toward use.
Hypothesis 5: Perceived ease of use has a direct and positive impact on perceived usefulness.

1. Predictors of Perceived Usefulness and Perceived Ease of Use: Davis (1989) proposed that external factors such as organizational factors, social factors, mode of education, and other variables should be incorporated into the technology acceptance model and their effects on technology acceptance should be explored. Based on this model, external factors predict perceived usefulness and perceived ease of use. As a mental software which shapes people's understanding and personalities, culture is the most important external factor which may influence people's beliefs and behaviors in terms of information technology (Akour, 2006). Furthermore, Hofstede, Hofstede & Minkov (2010) remarks that major cultural values are shaped in people's minds in childhood. Their beliefs and behaviors are a representation of the culture governing their environments which is rooted in their minds and is transferred from one generation to another over time. This changes culture into a dynamic power (Schien, 1991). Researchers have recently begun to investigate the relationship between values and cultural dimensions and people's personal and organizational beliefs as well as their beliefs about and behaviors toward computers (Srite, 2000; Srite, 2006; Akour, 2006; Srite, Thatcher & Galy, 2008).

2. The Impact of Cultural Values on Technology Acceptance: The Effect of Masculinity/Femininity on Perceived Usefulness and Perceived Ease of Use: A high degree of masculinity may have a positive impact on teachers' beliefs about perceived usefulness and perceived ease of use of computers because this technology is more compatible with masculine values (Akour, 2006). Characteristics of computer technology are correlated with those of masculine cultures, including progress, diligence, high level of performance and purposefulness in tasks, long working hours, and the working environments which lay stress on individualism, competitiveness, and technicality. The study carried out by Akour (2006) showed that there was a relationship between perceived usefulness and masculinity. Considering the foregoing discussion and the fact that the Iranian culture is masculine, the hypotheses below are developed:

Hypothesis 6: Masculinity has a direct and positive effect on perceived usefulness.
Hypothesis 7: Masculinity has a direct and positive effect on perceived ease of use.

The Impact of Uncertainty Avoidance on Perceived Usefulness and Perceived Ease of Use: The effect of uncertainty avoidance on teachers' perception of usefulness and ease of use of computers pertains to how they respond to uncertain and unstructured situations (Hofstede, Hofstede & Minkov, 2010). Research indicates that in cultures with a high level of uncertainty avoidance, information technology is learnt and applied to a lesser degree, since uncertainty and vagueness are correlated with this technology (Hasan & Ditsa, 1998). As a result, even though people regard computers as useful and user-friendly devices, they still may avoid using them due to their vague nature (Veiga, Floyd & Dechant, 2001). Although most teachers learn about capabilities of computers and how to work with them during their studies in university, the tendency toward usefulness and ease of use of computers is influenced by their degree of uncertainty avoidance. The study by Akour (2006) demonstrated that there was a relationship between uncertainty avoidance and perceived usefulness as well as perceived ease of use. Given the foregoing and the fact that there is a high level of uncertainty avoidance in Iran, the following hypotheses are proposed:

Hypothesis 8: High degree of uncertainty avoidance has a direct and negative effect on perceived usefulness.

Hypothesis 9: High degree of uncertainty avoidance has a direct and negative effect on perceived ease of use.

The Impact of Individualism/Collectivism on Perceived Usefulness and Perceived Ease of Use: Although less individualist cultures such as the Iranian culture encourage team work, they may produce a negative impact on people's perception of usefulness and ease of use of computers. Individualist and collectivist cultures differ in the way in which people view themselves in the society (Hofstede, Hofstede & Minkov, 2010), and this eventually brings about differences in modes of information technology acceptance in these two types of culture. One may find that using a particular computer software program raises the level of business output in an organization (Davis, Bagozzi & Warshaw, 1989). Still, they will not apply such a software program because collectivist cultures attach little value to people's computer skills and encourage them to a lesser degree (Hill, Loch, Straub, & El-Sheshai, 1998). In collectivist countries, such as Iran, computer technology is treated as an individualist technology, which may negatively affect social structures and norms (Hill et al., 1998). The impact of individualism on teachers' beliefs about usefulness and ease of use of computers is correlated with their perception of the group and how to respond to the uncertain and unstructured situation (Hofstede, Hofstede & Minkov, 2010). The study by Akour revealed that there was a relationship between individualism and perceived usefulness as well as perceived ease of use. Considering the foregoing and the fact that Iran is a collectivist community, the following hypotheses are put forth:

Hypothesis 10: High level of individualism has a positive impact on perceived usefulness.
Hypothesis 11: High level of individualism has a positive impact on perceived ease of use.

The Effect of Power Distance on Perceived Usefulness and Perceived Ease of Use: Power distance may hinder people's beliefs about and perceptions of usefulness and easy use of computers in cultures with vast power distance, such as Iran. Major values in cultures with large power distance may forge strong connection between current business skills and traditional social relationships (Hofstede, 1980). Thus, arbitrary and typical values of the society hamper acceptance of any technology, which causes fundamental changes in the working environment. Computer technology too has a tendency toward presenting new methods of fulfilling tasks, which makes people in such cultures consider computers as means which negatively affect well-established methods of doing tasks. In addition, even if people regard computers as useful and user-friendly devices, they wait for them to be approved by their chiefs, managers, and role models (Veiga, Floyd & Dechant, 2001). The role models of these people are primarily traditional people, treating computers as the means which interfere with their normal working conditions (Akour, 2006). Given the foregoing and the fact that there is a huge power distance in Iran, the following hypotheses are formed:

Hypothesis 12: Vast power distance has a direct and negative effect on perceived usefulness.
Hypothesis 13: Vast power distance has a direct and negative effect on perceived ease of use.

METHODOLOGY

Research design

This study employs a structural equation modeling (SEM) approach to develop a model that represents the relationships among the eight variables in this study: behavioral intention to use of computer, attitudes towards computer use, perceived usefulness, perceived ease of use, masculinity/ femininity, uncertainty avoidance, individualism/ collectivism and power distance. Data were collected through using a survey questionnaire comprising questions on demographics and multiple items for each variable in current research. Partial Least Squares (PLS) method was used for testing research model. PLS has been regarded as a powerful structural equation tool because of its less dependence on sample size, normal distribution of residuals and interval measurement scales (Chin, Marcolin & Newsted, 1996). In this study, PLS was used for testing the theoretical model since the sample size was low (N = 275) and since there was no strong literature on the relationship between culture values and beliefs about information technology in Middle East countries.

Research participants and data collection

Participants in this study were 275 teachers in Urmia's (Iran) Education District 2. Among the participants, 172 (62.5%) were male and 103 (37.5%) were female, and the mean age of all participants was 34.74 years (SD = 5.21). also the mean work experience was 12.92 (SD= 5.77). 262 (95.3%) had access to a computer at home and 13 (4.7%) hadn't access. The majority of the participants had 4 years and upper computer experience (63.3%). The reported mean hours of daily computer use by teachers was 2.54 (SD = 2.07). In order for the questionnaire to be used in this study, it was first translated into Persian by an experienced English teacher in Tehran. It was then translated back into English by another English teacher and any discrepancies were sorted out so that the translated version was ensured to reflect the original version. The translated version was then given to a psychometric expert in Tehran University to be checked against its suitability for the Iranian culture. The

questionnaire required 5 to 10 minutes time on average for completion. In order to motivate the participants to take part in the research and have their fullest cooperation, small gifts were also given to the participants. Table 1 shows the demographic properties of the participants.

Measures

A survey instrument was designed to measure the eight constructs in this study. Comprising two sections, the first required participants to provide their demographic information and the second contained 29 items on the eight constructs in this study. These constructs are: Intention to Use Computer (BI) (two items), perceived usefulness (PU) (four items), perceived ease of use (PEU) (four items), attitudes towards computer use (ATD) (four items), masculinity/ femininity (MF) (four items), uncertainty avoidance (UIA) (four items), individualism/ collectivism (IDV) (three items) and power distance (PD) (four items). Each item was measured on a seven-point Likert scale with 1 = strongly disagree to 7 = strongly agree. These items were adapted from various articles and these are listed in Appendix 1.

Table 1: Demographic information of the Research Sample (n=275)

Variable	Category	Frequency	Frequency Percentage
Gender	Male	172	62.5
	Female	103	37.5
Age	34.74 (SD= 5.21)		
Work experience	12.92 (SD= 5.77)		
Home computer ownership	Yes	262	95.3
	No	13	4.7
Experience of Working with Computer	Less than one year	29	10.5
	2 to 3 years	72	26.2
	More than 4 years	174	63.3
Mean hours of daily computer usage	2.54 (SD= 2.07)		

RESULTS

The statistical analyses in this section include examining the descriptive statistics and assessing the measurement model (reliability and validity of research constructs) and finally this is followed by assessment of structural model (testing of the hypotheses).

Descriptive statistics of research constructs

The descriptive statistics of the research constructs are reported in Table 2. Except for power distance (mean = 2.23), all means are above the midpoint of 4.00. The standard deviations show a narrow spread around the mean and skewness and kurtosis indices reflect an acceptable degree of normality for applying structural equation modeling (Kline, 2011).

Table 2: Descriptive statistics of study constructs

Construct	item	Mean	S.D	Skewedness	Kurtosis
Masculinity/Femininity	4	4.92	1.36	-0.46	-0.11
Uncertainty Avoidance	4	3.60	1.60	0.01	-0.97
Individualism/Collectivism	3	3.51	1.51	0.56	-0.12
Power Distance	4	2.23	1.11	1.17	1.52
Perceived Usefulness	4	5.71	1.10	-0.74	0.18
Perceived Ease of Use	4	5.48	1.08	-0.87	1.03
Attitudes toward Use of Computer	4	5.98	0.90	-1.16	1.29
Intention to Use Computer	2	6.35	0.94	-2.06	1.25

Examining Measurement Model

In order to test the measurement model, i.e. investigating construct validity and reliability of the measurement tools, Fornell and Larcker (1981) propose three criteria for the study of the reliability of the constructs: 1. reliability for each statement; 2. Composite reliability (CR) for each construct; and 3. Average Variance Extracted (AVE). The factor loading of 0.6 and above for each statement using confirmatory factor analysis indicates a good construct (Gefen & Straub, 2005). In this study, the composite reliability index of Fornell and Larcker (1981) was used to study the composite reliability of each statement. Acceptable level of ρc should be

0.7 or more (Fornell & Larcker, 1981). The third indicator of reliability is AVE (Chin, 1988). Chin suggests that AVE should be 0.5 or higher, which means that the relevant construct explains 50 per cent or more of the variance of its indicators. Tables 3 and 4 indicate information of factor loadings, CR and AVE for each construct. The items which had a lower factor loading than 0.6 (expect for IDV2) have been dropped from the analysis. The figures in these tables indicate that the constructs enjoyed acceptable reliability.

Table 3: Factor Loadings, AVE and Composite Reliability of Cultural Constructs

Masculinity/ Femininity		Uncertainty avoidance		Individualism / collectivism		Power distance	
Item	Loading	Item	Loading	Item	Loading	Item	Loading
MF1	0.87	UA1	0.84	IDV2	0.51	PD1	0.72
MF2	0.60	UA2	0.88	IDV3	0.99	PD2	0.84
MF3	0.83	UA3	0.84			PD3	0.82
		UA4	0.85			PD4	0.79
CR	0.82		0.91		0.75		0.87
AVE	0.61		0.73		0.63		0.63

Table 4: Factor Loadings, AVE and Composite Validity of Structures of Technology Acceptance Model

Perceived Usefulness		Perceived Ease of Use		Attitudes toward Use of Computer		Intention to Use Computer	
Item	Loading	Item	Loading	Item	Loading	Item	Loading
PU1	0.86	PEU1	0.86	ATD1	0.85	BI1	0.81
PU2	0.86	PEU2	0.89	ATD2	0.65	BI2	0.92
PU3	0.92	PEU3	0.84	ATD3	0.79		
PU4	0.91	PEU4	0.89	ATD4	0.83		
CR	0.94		0.92		0.86		0.86
AVE	0.79		0.76		0.62		0.75

For investigating the discriminant validity of the constructs, Fornell and Larcker (1981) suggest that a construct's square of AVE should exceed its correlations with other constructs. This means that the correlation between that construct and its indicators should be more than its correlation with other constructs. Furthermore, Gefen and Straub (2005) suggest that the cross loading of each item on its relevant construct should exceed its loading on other constructs. These scholars propose a factor loading criterion of more than 0.1. Tables 5 and 6 report the relevant information, which show acceptable discriminant validity for the constructs.

Table 5: Matrix of Correlation, mean square root of the average variance extracted (AVE)

No	Variable	1	2	3	4	5	6	7	8
1	Masculinity/Femininity	**0.78**							
2	Uncertainty Avoidance	0.16**	**0.85**						
3	Individualism/Collectivism	-0.07	0.09	**0.79**					
4	Power Distance	-0.11*	-0.33**	0.08	**0.79**				
5	Perceived Usefulness	0.13**	-0.21**	-0.11*	-0.24**	**0.89**			
6	Perceived Ease of Use	0.19**	-0.23**	0.08	-0.21**	0.23**	**0.87**		
7	Attitudes toward Use of Computer	0.13*	-0.13*	-0.03	-0.25**	0.46**	0.35**	**0.79**	
8	Intention to Use of Computer	-0.15**	0.04	-0.03	-0.22**	0.43**	0.19**	0.44**	**0.87**

The numbers on the matrix diameter are the correlation of mean square root of the average variance extracted.* p<0.05 ,**p<0.01

As the correlation matrix in table 5 shows, the relationship between perceived usefulness/attitudes toward use and intention to use is positive and significant at 0.01. Also, the relationship between perceived usefulness/ease of use and attitudes is positive and significant at 0.01. In addition, the relationship between uncertainty avoidance and perceived usefulness and ease of use is negative at 0.01; the relationship between masculinity / femininity and perceived usefulness and ease of use is positive; but the relationship between power distance and perceived usefulness and ease of use is negative at 0.01. Also the relationship between individualism and perceived usefulness is negative at 0.05.

Table 6: Factor Structure Matrix of Loadings and Cross-Loadings

Scale Items	MF	UIA	IDV	PD	PU	PEU	ATD	BI
MF1	**0.88**	0.16	0.12	0.11	0.14	0.17	0.06	0.10
MF2	**0.60**	0.13	0.00	0.10	0.01	0.04	0.03	0.01
MF3	**0.84**	0.11	0.01	0.07	0.10	0.17	0.17	0.19
UA1	0.11	**0.85**	0.04	0.29	-0.19	-0.22	-0.08	-0.01
UA2	0.16	**0.89**	0.08	0.26	-0.19	-0.19	-0.09	-0.07
UA3	0.15	**0.84**	0.12	0.32	-0.18	-0.19	-0.15	-0.08
UA4	0.13	**0.85**	0.08	0.26	-0.16	-0.18	-0.14	0.01
IDV2	0.18	0.22	**0.51**	0.23	0.00	-0.02	-0.03	-0.02
IDV3	0.06	0.08	**1.00**	0.07	0.12	-0.08	0.03	-0.03
PD1	0.13	0.37	0.11	**0.72**	-0.20	-0.19	-0.17	-0.07
PD2	0.09	0.26	0.07	**0.85**	-0.17	-0.16	-0.16	-0.14
PD3	0.08	0.24	0.07	**0.83**	-0.22	-0.17	-0.23	-0.25
PD4	0.04	0.15	0.00	**0.79**	-0.18	-0.14	-0.24	-0.25
PU1	0.15	-0.15	0.13	-0.26	**0.86**	0.24	0.42	0.32
PU2	0.06	-0.26	0.08	-0.18	**0.87**	0.22	0.47	0.41
PU3	0.15	-0.18	0.10	-0.21	**0.92**	0.18	0.39	0.41
PU4	0.12	-0.15	0.10	-0.22	**0.91**	0.20	0.36	0.40
PEU1	0.19	-0.18	-0.06	-0.17	0.22	**0.86**	0.33	0.18
PEU2	0.12	-0.21	-0.13	-0.13	0.16	**0.89**	0.27	0.13
PEU3	0.19	-0.21	-0.07	-0.20	0.21	**0.85**	0.30	0.15
PEU4	0.15	-0.21	-0.03	-0.23	0.22	**0.89**	0.32	0.21
ATD1	0.14	-0.05	0.03	-0.19	0.43	0.30	**0.86**	0.42
ATD2	0.10	-0.01	0.09	-0.06	0.16	0.21	**0.65**	0.26
ATD3	0.08	-0.16	-0.01	-0.25	0.28	0.19	**0.80**	0.32
ATD4	0.08	-0.18	0.01	-0.25	0.49	0.37	**0.83**	0.36
BI1	0.12	0.03	-0.02	-0.12	0.28	0.15	0.31	**0.81**
BI2	0.15	-0.08	-0.03	-0.24	0.45	0.19	0.44	**0.92**

Hypothesis testing

PLS structural modeling and testing research hypotheses are made possible through the study of path coefficients as well as explained R^2variance (Vinzi, Chin, Henseler & Wang, 2010). Since the distribution format of PLS was unknown, the bootstrap method (with 500 sub samples) was used to estimate t statistic in order to indicate the significance of path coefficients. According to Vinzi, et al. (2010), path coefficients are used as criteria to determine the share of each predictor variable in explaining the variable variance and the amount of R^2 is an indicator of the explained variance of criterion variable by predictor variables.

Table 7 shows the results of the hypothesis test and figure 2 shows the tested research model. Twelve out of thirteen hypotheses were supported by the gathered data. All the hypotheses relating to the technology acceptance model (TAM) variables were supported. Among the cultural variables, individualism\ collectivism did not significantly influence perceived ease of use but was a significant and positive influence on perceived usefulness (β=0.14, $p<0.05$). Power distance was a negative significant influence on perceived usefulness (β= -0.19, $p<0.01$) and perceived ease of use (β= -0.17, $p<0.01$). Uncertainty avoidance had a negative significant effect on perceived usefulness (β= -0.15, $p<0.01$) and perceived ease of use (β= -0.21, $p<0.001$). Finally, masculinity / femininity has a significant and positive effect on perceived usefulness (β= 0.14, $p<0.05$) and perceived ease of use (β=0.24, $p<0.001$).

Table 7: Hypothesis testing results

Hypothesis	path	β	standard error	t	p	result
H1	PU->INT	0.29	0.08	3.49	0.001	supported
H2	ATD->INT	0.31	0.08	3.77	0.001	supported
H3	PU->ATD	0.40	0.07	5.97	0.001	supported
H4	PEU->ATD	0.26	0.06	4.05	0.001	supported
H5	PEU->PU	0.14	0.07	1.99	0.05	supported
H6	MF->PU	0.14	0.06	2.16	0.05	supported
H7	MF->PEU	0.25	0.08	3.16	0.001	supported
H8	UIA->PU	-0.15	0.07	-2.16	0.05	supported
H9	UIA->PEU	-0.21	0.06	-3.63	0.001	supported
H10	IDV->PU	0.15	0.06	2.36	0.05	supported
H11	IDV->PEU	-0.06	0.05	-1.27	0.20	not supported
H12	PD->PU	-0.19	0.07	-2.74	0.01	supported
H13	PD->PEU	-0.17	0.06	-2.66	0.01	supported

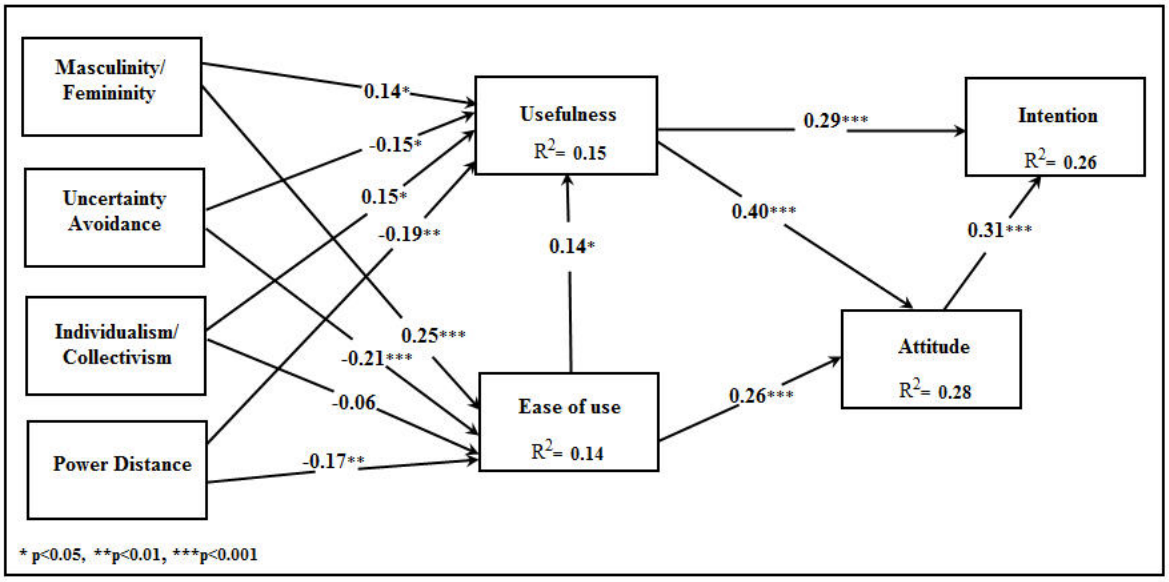

Figure 2: Tested Research Model

In this study four endogenous variables were tested using PLS approach. Intention to use of computer was found to be significantly determined by perceived usefulness and attitude towards use of computer, resulting in squared multiple correlations (R2) of 0.26. This means that perceived usefulness and attitude towards use of computer explained 26% of the variance in intention to use of computer. The other three endogenous variables, attitude towards computer use, perceived usefulness, and perceived ease of use were explained by their determinants in amounts of 28%, 15%, and 14%, respectively. The determinants of Attitude toward use of were perceived usefulness, and perceived ease of use, and the determinants of perceived usefulness, and perceived ease of use were cultural values.

DISCUSSION AND CONCLUSION

Findings of this piece of research suggest that intracultural differences in Iran among teachers at the Urmia city have a significant impact on beliefs about and perceptions of use of the computer technology, particularly perceived ease of use. Masculinity/femininity had positive effects on perceived usefulness and ease of use, and power distance along with uncertainty avoidance had negative impacts on this variables. Also the impact of individualism/collectivism on perceived usefulness was positive.

In addition to these cultural values of Hofstede, results of the test of technology acceptance model showed that this model is substantiated as far as teachers are concerned. Given the findings of the present study, perceived

usefulness had a significant effect on the intention to use. According to the technology acceptance model, teachers decide to make use of computer technology when they regard it as a useful means which enhances their performance output. Increased importance of computers in educational environments in Iran and much attention paid by educational and business environments to computers and computer skills may raise the level of this perception of usefulness of computers. Nowadays in Iran, most job success is available for those who are more fluent in computer skills. This makes people treat computers as useful means. Besides, the significant impact of perceived ease of use on perceived usefulness and, through it, the indirect effect on the intention to use demonstrate that even though computer and its practical software programs are provided with high level of simplicity and user-friendly graphic interface, people apply them only if they promote their working performance (Davis, Bagozzi & Warshaw, 1989). Given the fact that teachers' English language skills are being broadened and some software programs are being translated into Persian, it can be stated that most teachers consider computers user-friendly devices.

Significance of the direct effect of the attitudes toward use of computers on the intention to use is compatible with the theoretical foundation of the theory of reasoned action, proposing that power attitude is among the most important factors affecting people's decision to exhibit specific behaviors. Furthermore, significance of the direct impacts of perceived usefulness and perceived ease of use on attitudes also suggests that people form positive attitudes toward computers when they treat them as useful and easy-to-use tools. It can be said that perceived usefulness and perceived ease of use are among the most important factors in the intention to use and in the development of positive attitudes toward computers. Results of this study match those reported by Dorani and Rashidi (2007), Akour (2006), Teo (2009), Kim, Chun and Song (2009), Amani Sari Bagloo, Lavasani, Ejei and Khezri Azar (2011) and Ejei, Amani Sari Baglou, Khezri Azar and Gholami (2012).

Formation of positive or negative beliefs about computers is influenced by diverse personal and environmental-social factors. Cultural values are among the external factors which may affect emergence of such beliefs. These values are in preference, as Hofstede, Hofstede and Minkov (2010) claims, to people's secondary beliefs about technology in general. Although culture is considered to be an external factor, it can be stated that cultural values are internalized in individuals. These values are deemed external in that they manifest themselves in a particular situation or context, e.g. Iran, and in presence of special stimulators, such as managers or administrators. The cultural values examined in this study were masculinity/femininity, uncertainty avoidance, individualism/collectivism, and power distance.

Masculinity/femininity had a positive and significant effect on perceived usefulness and perceived ease of use. Given cultural changes occurred during the Iran-Iraq war and shifting of the Iranian culture from feminism to masculinity, this culture heavily emphasizes masculine values such as progress-seeking, boldness, competitiveness, and materialism (Hadizadeh Moghadam & Assar, 2008). These values are correlated with features of computer technology. It can therefore be concluded that people who enjoy high degree of masculinity in Iran naturally care more about progress-seeking. Since computer technology is a means for satisfying such desires in this age, these people view computers as useful means. Their boldness and diligence also help them not be afraid of computers and regard computers as easy-to-use tools. Findings of this study match those by Akour (2006).

Uncertainty avoidance also had a significant and negative effect on perceived usefulness and perceived ease of use. The Iranian culture is characterized by high level of uncertainty avoidance. Thus, people who avoid uncertainty to a considerable extent in this country are less willing to treat computers as useful and easy-to-use devices. This may be caused by their fear of uncertain and unfamiliar situations (Hofstede, Hofstede and Minkov, 2010). Computer technology is a fast-changing technology. This technology has undergone many changes during this short period since its advent, which has been continuing at a rapid pace up to now. This raises the uncertainty feature of this technology. People with high degree of uncertainty avoidance do not view it as a useful, easy-to-use means given its feature of variability. As the researchers have observed personally, these people do not even upgrade their operating systems because they fear changes. Findings of this study concur with those by Akour (2006) as far as uncertainty avoidance is concerned.

Individualism/collectivism also had a positive and significant effect on perceived usefulness. The Iranian culture is described as collectivist. Therefore, those who are less collectivist tend more to regard computers as usefulness instruments. Their enjoying freedom of action and less dependence on group and social norms may be the reason. Group and social norms largely represent the past developments of a society. These norms are resistant to change. Computer technology lays the emphasis on individualism, challenging such norms. Those who are dependent on the group are less inclined to abandon group support. They therefore view it as an unnecessary or dangerous technology which challenges the cultural norms. Therefore these beliefs may affect on

teacher perception of computer usefulness. In this study, individualism had no significant impact on perceived ease of use. Existence of social support in collectivist societies may influence on peoples self- efficacy and therefore they be able to see computers as eath instruments.

Power distance too had a negative effect on perceived usefulness and ease of use. The Iranian society is characterized by vast power distance. As a result, those who believe more in existence of power in the society are less willing to consider computers as useful and easy-to-use means. They define their identities within those of greater people who dominate them. Dominating people are, due to their traditional characteristics, afraid to use computers, viewing them as complex tools. Since they do not regard computers as easy-to-use means, their subordinates, as a result of following them, do not approach this technology either and regard it a complicate tool. As mentioned in above paragraph, computer technology challenges the social norms, so people in high power distance cultures tend to see this technology as inadvisable instrument and this beliefs may affect on perceived usefulness.

Geissler (2006) holds that culture and technology are interrelated both in meaning and practice. He further states that technology is basically a form of humans' interaction with their immediate environments -- some sort of manifestation of humans' communication with the world. Technology relates to humans' abilities to put ideas into practice through creating and applying tools for helping them adapt themselves to the environment when necessary. But technology is not separated from social–historical processes; they are embedded in each other, and both are influenced by developing lifestyles of the human society. Cultural nature of information and computer technology reveals the necessity for state managers and planners to take the national cultural infrastructures into consideration in order to accept information technology. One of these factors is the variable nature of this technology, which causes difficulty accepting it in the cultures with high level of uncertainty avoidance. In such cultures as Iran, characterized by collectivism, uncertainty avoidance, and power distance (Hofstede, 1980), which are entirely different from cultures of the western societies from which computer technology has originated, attempts should be made to adapt this technology with local values. According to Hofstede, Hofstede and Minkov (2010), in such cultures as Iran, roles of planners and managers are crystal clear, since they are a powerful source for eliminating uncertainty and leading the group. Although their roles in influencing values are minor due to the fact that they are persistent, have evolved over a long time and are constantly changing, managers and planners can dramatically affect changes in people's beliefs about computers. Therefore, teachers can be encouraged to make more use of computers through providing appropriate incentives, showing people who have achieved success by applying computers, offering training for effective utilization of computer in fulfilling instructional tasks. In addition, we can contribute to the promotion of teachers' beliefs about ease of use of computers through translating software programs into Persian, holding different courses for training on how to apply computers.

The present research indicated that cultural values affect individuals' attitudes toward technology; that is, the perceived usefulness and ease of use. It can be concluded based on the findings reported here that the more control members of a society feel in themselves (i.e., more uncertainty avoidance, collectivism, femininity and power distance), the less positive attitudes they will have toward technology. This can be due to the novel and changeable nature of such technology which threatens the peace a person enjoys because of adhering to traditional values. As it was noted above, in cultures with higher degrees of uncertainty avoidance and power distance, managers play an important role in pushing individuals to accepting new technologies. Further research is called for to reveal whether the organizational support offered to employees by employers and managers can moderate the relationship between cultural values and individuals' attitudes toward using information technology.

This study was also an attempt to clarify the effect of cultural values on a personal level on the individuals' attitudes toward information technology but it is still not clear what the nature of the interaction is between individual values and social values or the cultural values in the organization where individuals work. There is need for further research accordingly to reveal how individual values moderate the relationship between social values or organizational cultural values on individuals' attitudes toward information technology.

Limitations of the research can be discussed in two categories: those affecting the internal validity and the ones influencing external validity (generalizability of results). Questionnaires are part of the tools limiting internal validity of the study. This is more obvious concerning measurement of complex structures, such as culture. It is therefore essential that we should examine the relationship between culture and computer technology using qualitative research traditions as well. On the other hand, in addition to tendency toward innovation, other personality factors such as self-efficiency and computer anxiety also affect people's beliefs about computer, which can be explored in other studies. As for external validity, it can be said that results of this study can only

be generalized to teachers and, more narrowly, those at the Urmia city. It is thus necessary that other studies with other samples such as pupils, employees, etc. should be designed in order to make findings generalizable to more members of Iranian society.

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Appendix1: Questionnaire items (7 point Likert type)

Uncertainty avoidance: (Srite and Karahanna, 2006).
UAI1. When starting a new job, I fear doing it.
UAI2. I fear uncertainty about the future.
UAI3. I fear ambiguous situations and an unfamiliar adventure.
UAI4. It is risky to do something that has never been done before.
Power Distance (Srite and Karahanna, 2006).
PDI1. Teachers afraid to express disagreement with their managers.
PDI2. Teachers should follow their managers' decisions unconditionally.
PDI3. Teachers should make most decisions by themselves.
PDI4. Teachers should not question their managers' decisions.
Collectivism/Individualism (Srite and Karahanna, 2006).
IDV1. Individual rewards are more important than group welfare (Dropped).
IDV2. Individual success is more important than group success.
IDV3. Having autonomy and independence is more important than being accepted as a member of a group.
Masculinity/femininity (srite, 2000)
MF1. It is more important for men to have a professional career than it is for women to have a professional career.
MF2. Women do not value recognition and promotion in their work as much as men do.
MF3. It is preferable to have a man in high level position rather than a woman.
MF4. There are some jobs in which a man can always do better than a woman (Dropped).
Perceived usefulness (Davis, 1989).
PU1. Using computers enhances my productivity in instruction.
PU2. I find computers useful in my instructional activities.
PU3. Using computers enhances my effectiveness in instruction.
PU4. Using computers improves my performance in instruction.
Perceived ease of use (Davis, 1989).
PEU1. It is easy for me to become skillful in using computers.
PEU2. I find computers easy to use.
PEU3. I find it easy to get a computer to do what I want it to do.
PEU4. Learning to operate a computer is easy for me.
Attitude (Agarwal and Prasad, 1999).
ATD1. I like using Computers.
ATD2. Computer is fun to use.
ATD3. I dislike using computer (reversed).
ATD4. Computer provides an attractive working and learning environment.
Behavioral intention to use (srite, 2000)
INT1. I intend to use a computer during my instruction period.
INT2. I plan on using a computer frequently during my instruction period.