Technology Acceptance Model (TAM) As a Predictor Model for Explaining Agricultural Experts Behavior in Acceptance of ICT

Amir Alambaigi [1] and Ismael Ahangari [2*]

Abstract

This study aimed to develop Technology Acceptance Model (TAM) model to explain adoption of information technologies process. a Descriptive – correlation study was conducted and data were collected through a survey. Statistical population was West Azerbaijan Agricultural Extension agents who 120 of them were selected randomly using the Krejcie and Morgan table. A questionnaire was employed to measure the variables in the model. Its validity was confirmed by a panel of experts. The Cronbach's alpha coefficient ranged between from 0.704 to 0.816 show satisfied reliability. For data processing, partial least squares (PLS) method as a new approach to structural equation modeling was used. The results showed that among three variables for development of technology acceptance model including Job relevance, experience and organization willingness to invest, the first and second show significant effects. Thus, Job relevance and experience as an external variable was added to the basic TAM. Other relations between variables in basic technology acceptance model in current study were also seen significant. Our developed TAM can explain 64% of the actual behavior of employee in information technology utilization. TAM is one of the most influential extensions of Ajzen and Fishbein's theory of reasoned action (TRA) in the literature. The theories behind it assume that when a person forms an intention to act, that s/he will be free to act without limitation. While In the real world there will be many constraints, such as limited freedom to act. For example, people in organized working environments are forced to use most of the relevant applications irrespective of their opinion or attitude. In this research mentioned model was used as a strong model to predict actual use behavior that affected by three variables namely Job relevance, experience and organization willingness to invest.

[1] *Assistant Professor, Department of Agricultural Extension and Education, Faculty of Agricultural & Natural Resources, University of Tehran, Tehran, Iran*
[2] *PhD Student, Department of Agricultural Extension and Education, Faculty of Agricultural & Natural Resources, University of Tehran, Tehran, Iran*
* *Corresponding author's email: ahangari.tarvij@ut.ac.ir*

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INTRODUCTION

In recent decades technological innovation has become an integral part of modern life and the global economy and Identify the dominant patterns on adoption of this innovation has become the main goal of many researchers in academia and industry. In this respect, at least during the last twenty years many theoretical models to identify behavioral factors influencing the adoption of information and communication technologies have been proposed in which the technology acceptance model has been interested by researchers more than any other models in various areas of acceptance. Technology acceptance is important issues to agricultural extension systems at the world and many of extension studies have been directed to study resistance to change and technologies acceptance. The models with theatrical basis that often have been provided based on change theory or the overall based on the Theory of Planned Behavior (TPB), considered that adoption and implementation of a new technology is from an attitude, or a behavioral plan, and ultimately a behavior led to the adoption of change. Study of factors influencing the intention is one of the growing areas in the field of Motivating factors of adoption (Ahangari, 2014).

Technology Acceptance Model (TAM) was developed in the 1980s, and researchers such as Davis argued that the key of increasing use of information technology is in increase the rate of its adoption (Melas *et al.,* 2011). Information technology can be knowledge, skills and tools that helps to collect, manage, use and share information related activities of the organization and can be cause of promote them. The application of information processing involving both computer hardware and software that deals with the storage, retrieval, sharing, and use of health care information, data, and knowledge for communication and decision-making (Holden and Karsh, 2010).

In this regard, many methods and models has been applied to studying effective factors on information technology acceptance and the most reliable of them is technology acceptance model that studies factors at the individual level. This model has been applied through many researches in different countries and its applicability has been studied (Dillon and Morris, 1996). At recent decades, several models have been proposed in the context of technology adoption but what is indisputable is that the main and underlying concept of all models of technology acceptance by the user is presented in Figure 1 (Yaghoobi and Shakeri 2010).

Among the models of Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB) have been most widely used in studies of information technologies adoption (Yaghoobi and Shakeri 2010). The personal and social factors have been considered as two important constructs and their effects has been analyzed on intention or plan to use different technologies. According to the Logical action theory of Fishbein and Ajzens (1975), person's behavior is follower of intention or plan that affected on their attitudes are formed due to the normative influences. In fact acceptance technology model has been used to explanation this event that why some people accept one technology but some of them reject that and two variable, perceive of usefulness and perceive of ease of use have been introduced as basic elements of this process (Cothran, 2011). However at the recent decades high efforts have been noticed to introduce the other effective variables, that Kulviwat *et al.* (2009) by studying this process have saturated Technology Accept-
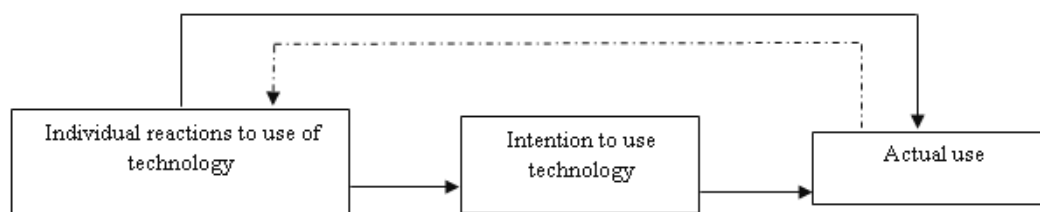

Figure 1: Underlying factors of the technology acceptance model by the user (Venkatesh *et al.*, 2003)
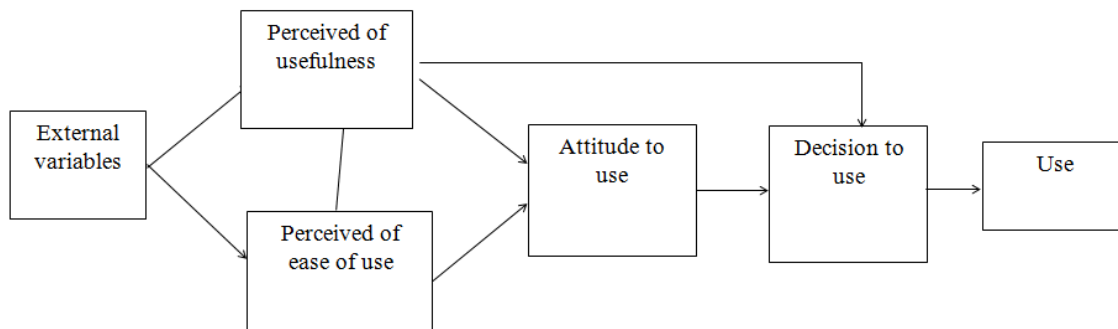
Figure 2: Technology acceptance model (Davis *et al.,* 1989)

ance model by adding variables such as trust, experience and job relevance.

Technology acceptance model is an influencing techno-social model that aimed at describe the adoption of an information system by user (Letho and Lee, 2013). Also this model is applying to explain technology acceptance decisions among a large number of different technologies, different contexts and different samples users (Hu *et al.*, 2003). Generally, the model has been analyzed relationships of effective factors on computer acceptance by users and it's a model on individual level. The efforts taken to develop TAM has been noticed Mainly in the form of three research approach include derived from similar models and complete core of basic model, Introducing alternative or added important factors of view and finally, using some of the intermediate factors those effect on perceive of usefulness and perceive of ease of use (Wixom and Todd, 2005). Figure 2 shows process and performance of the model.

As is seen, two factors (perceive of usefulness and perceive of ease of use) comprise the base of model. These two factors affect the attitude of people toward using technology, because of the decision to use the technology, and ultimately using is done. Also, perceived ease of use effects on the perceived of usefulness. The external factors could include any factor such as organizational factors; social factors, how to teach, helping from other people and etc. (Davis *el al*., 1989).

The results of their researches showed that TAM could predict about 40 percent of influencing factors on information technology acceptance and this model has been recognized as a useful theorical model to understanding and

explaining behavior of IT using. Perceived of ease of use is defined as the extent to which a person believes that using a system would be free of mental effort. Perceived of usefulness is defined the extent that a person believes that using a system would his or her job performance (Davis, 1989). Behavioral intention or purpose is the intensity of individual's intention and will to perform the target behavior (Morris and Dillon, 1997). The model of Davis has this advantage than the before descriptive model that is based on a theory. This model has elements of many previous studies in itself (Lucas and Spilter, 2000). Gyampah and Salam (2004) showed that both training and project communication influence the shared beliefs that users form about the benefits of the technology and that the shared beliefs influence the perceived usefulness and ease of use of technology. The perceived usefulness of electronic services in general is the main determinant of the intention to use e-government services. Risk perception, personal experience, perceived behavioral control and subjective norm were found to significantly predict the perceived usefulness of electronic services in general, while trust in e-government was the main determinant of the perceived usefulness of e-government services (Kuttschreuter *et al.*, 2007). System attributes, perceived usefulness and perceived ease of use, indeed, positively engender motorists' attitudes towards ETC (Electronic Toll Colection) service adoption (Chen *et al.*, 2007).

Theoretical framework development

As was expressed in addition to the basic core model, various researchers to develop original

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technology acceptance model, studied other variables under the title external variables and have been analyzed its effect on the variables of the original model. In this study we use of three variables (job relevance, company's willingness to fund to establishment IT and individual experience factor) to reach the organizational information technology acceptance model among users based on Kim's pattern. Company's willing to fund is defined here as the degree to which a company believes that funding would enhance an individual's adoption of technology. Without adequate funding, it is virtually impossible for individuals, employees, or organizations to adopt and use new technologies.

Experience refers to the effect of Company's willing to fund might change with prior experience, the level of an individual's satisfaction when adopting prior technology. Experience has been regarded as important in identifying individual differences (Kim, 2008). For example, prior experience with a similar technology was found to be a major factor influencing an individual's attitude in adoption decisions (Dabholkar, 1996). Job relevance means that individuals have different perceptions of outcomes they expect obtain from technology because of the different nature of their job; also they are exposed to external information, which may affect them in choosing which technology they need. This means that organization in its tasks has defined use of intended technology to everyone explicitly and also its effects on improving the performance of job duties is absolutely clear. In other words, being dependent job tasks to a particular technology under the title defined communication technology of career and indicates the intensity of employees need to a particular technology to increase performance. Two dimensions of fitness of the technology to perform job duties and being common in organization are two key dimensions (Kim, 2008).

Ozkan and Kanat (2011) noticed that the model of e-Government was an improvement over TAM in terms of predictive power. The constructs trust, perceived behavioral control and attitudes successfully explained the intention to use an e-Government service. Nasri and Charfeddine (2012) examined empirically the factors that affect the adoption of Internet banking by Tunisian bank customers. They used the Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB) as base model. The results showed that perceived of usefulness is a significant determinant influencing factor to predict intention of Internet banking using. Yi et al. (2006) explained 57% of the physician's intention to accept an innovation, is dependent on status of variables included in the model. Lee and Wu (2011) in a study in Taiwan paid to understanding aspects of technology acceptance model on e-service quality formation. The results illustrate that perceived trust and usefulness, which are the factors of the technology acceptance perspective, positively moderate the relationship between e-service quality, perceived service value, and service satisfaction. Holden and Karsh (2010) believe improving job performance, easier to perform job duties, improving the quality of job operations and related technologies with some important aspects of job responsibilities all are determinants factors of technology usefulness feeling that can affect employee behavior.

Lehto and Lee (2013) arrived at this result that behavioral intention was significantly influenced by both perceived usefulness and user satisfaction. The results of study of Yen et al. (2011) indicated that TAM, either original or parsimonious, is successful in explaining user intention to use wireless technology in organizations. Lin et al. (2011) presented that the core constructs of the TAM have strong influences on user-intention towards e-Government products. Kim et al. (2009) showed that path magnitudes were significantly changed by technology features and complexity. Perceived usefulness had more influence on feature acceptance when basic features were used, and perceived ease of use had more impact on feature acceptance when advanced features were used. According to the study of Melas et al. (2011) in Greece, TAM predicts a substantial proportion of the intention to use clinical information systems. Also they presented that public knowledge has a significant positive effect on perceived ease of use. Their

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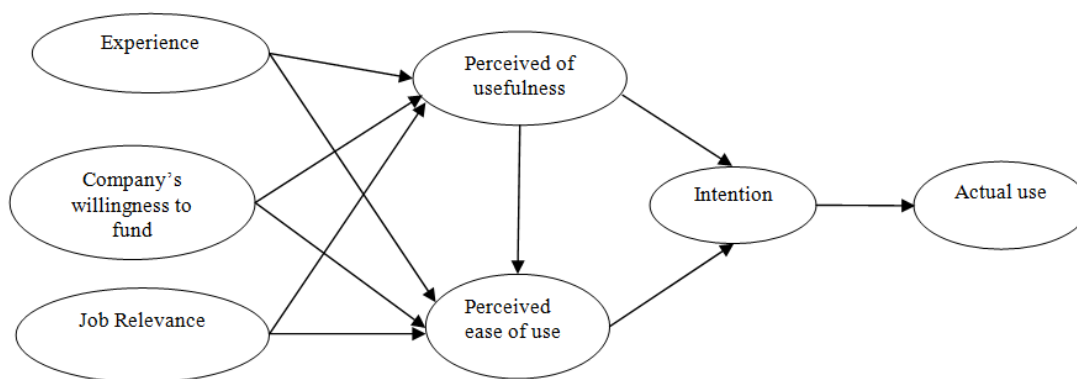
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Figure 3: Research framework

result showed that job relevance, prior experience and knowledge are influencing variables toward perceived ease of use and perceived usefulness of information and communication technologies that finally, led to attitude to use of that. Based on the literature review this study aimed at investigating the role of external variables in technology acceptance with organizational context that its conceptual model is as follows.

Research hypotheses

1) Company's willingness to fund has a significant effect on perceived usefulness of information technologies.

2) Company's willingness to fund has a significant effect on perceived ease of use of information technologies.

3) Job relevance has a significant effect on perceived usefulness of information technologies.

4) Job relevance has a significant effect on perceived ease of use of information technologies.

5) Perceived usefulness has a significant effect on perceived ease of use of information technologies.

6) Perceived usefulness has a significant effect on using intention of information technologies.

7) Perceived ease of use has a significant effect on using intention of information technologies.

8) Experience has a significant effect on perceived usefulness of information technologies.

9) Experience has a significant effect on actual use of information technologies.

10) Intention has a significant effect on actual use of information technologies.

MATERIALS AND METHODS

Research method was descriptive – correlational. Data have been collected through a survey. Statistical population was West Azerbaijan Agricultural Extension agents that 120 of them were selected randomly using the Krejcie and Morgan table. A questionnaire was designed to measure the variables in the model and the views of individuals were collected in a five pints scale. In which library studies, questionnaire were designed. Its validity was confirmed by a panel of experts. The Cronbach's alpha coefficient was used to assess the reliability and values ranged between from 0.704 to 0.816. The variables have been investigated in this study were contains three types of variables; independent external variables (job relevance, company's willingness to fund and experience), mediator variables (perceived ease of use, perceived of usefulness and behavioral intention) and dependent variable (actual use). Partial least squares method was dominant statistical method to test research hypotheses. This method is prediction causal method that considering a multivariate approach. When the problem is multi-faceted and complex, and knowledge about that is little, this method has high efficiency. The Partial Least Squares Method as a variance-based approach in structural equation modeling that is considered a second-generation method and has overcome on the weaknesses of the first generation of multivariate techniques (e.g, including multiple linear regression, diagnostic analysis, logistic regression, factor analysis and cluster analysis), such as simple look at the linear

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stage, especially in linear regression, exist the default based on visibility of the studied variables and ignoring measurement error of variables. The Partial Least Squares Method provides possibility of structures factor formation to measurement latent traits by relevant markers and the same time modeling of relationships between independent and dependent latent traits (Haenlein and Kaplan, 2004). New approach of structural equation modeling in Partial Least Squares format generally, is used when the sample size is not sufficient to estimate the significant of parameters and researcher without concern about the number of parameters and their fit with sample size can evaluate the model. To estimate structural equation models by partial least squares method, the sample size for estimating a model should be five to ten times than number of existing paths in the model (Majchrzak *et al.*, 2005). Given that the present sample size was 120 and 10 paths has been studied in the Model, then the sample size is sufficient to estimate the model. In this study to estimate the significant of parameters of the model, especially path coefficients the bootstrap method used that tests significant of parameters through the simulation and by resampling method. In order to exact estimating of models, minimum number of resampling equivalent to 500 provides reliable results (Newsted, 1996). In this study, is also used 800 beside 500 to increase the accuracy of estimate.

RESULTS AND DISCUSSION

According to findings 65.8 percent (n=79) of respondents had a bachelor's degree. Also 81.7 percent (n = 98) were in formal employment status. The average of respondent's age was 43.14 years with 8.04 years standard deviation. Minimum age was 22 years, maximum age was 58 years. Average of job experience was 18.87 years with 7.74 years standard deviation and minimum and maximum of experience was between one to 30 years. Based on the conducted literature review to measure the variables of the model relevant markers were used. As is discussed in structural equation modeling approach, in the first should investigate the validity of selected measures to measuring latent variables and con-

firmatory factor analysis is performed for this purpose that the results of observations are shown in Table 1.

Composite reliability coefficients indicator and Cronbach's alpha coefficient for all the structures of the study were higher from 0.6 and 0.7. It explains that structures reliability was satisfied. To calculate the validity was used of structures validity method. In format of structure validity this issue is studying that do selected markers have sufficient accuracy to measure the desired structures or not? Confirmatory Factor Analysis is used. If critical value of t-value for factor loading of each indicator be higher than 1.96, satisfied constructing validity otherwise drop this indicator. In this case, this structure has sufficient accuracy to measure that construct or latent trait. The results of factor loading show that all indicators have a significant p-level at 0.01. In structural equation modeling, in addition to structure validity to examine the importance of the selected markers, the diagnostic validity is intended in the sense that markers of each structure finally provide an appropriate separation in terms of measurement in related to the other structures of the model. In simple terms, each markers only measure its structure and combining them must be in a manner that all structures are well separated. To investigation diagnostic validity, square roots of Average Variances Extracted (AVE's) has been used (Hair *et al.*, 1998). To this purpose, square roots of average variances extracted should be more than other correlations of the other factors with this structure. The results of discriminate validity shows that selected markers to measure the structures have a good diagnostic validity because the AVE's for each structure that in the diameter of matrix in table 2 has been showed is higher than all of the Correlations of other factors with that factor.

After ensuring that the structures are measured correctly, then by using the structural model, causal relations between structures will be reviewed. In fact considering the results of relationship between dependent and independent structures, we can study significant relation between the structures of research by using the re-

Table 1: Actor loading of each indicator of model structures

Latent variables	Indicators	Factor loading	CR	CA	AVE	VIF
Actual behavior	If technology be available I will actual use of it	0.845	0.833	0.799	0.714	1.435
	If technology not available I will ask from managers or Supervisor to take it	0.844				
	According to the IT's benefits I'll use it to perform my job duties	0.820				
Behavioral intentions	I'll recommend use of IT to my colleagues	0.922	0.902	0.801	0.755	1.335
	Always I'll search to finding new capabilities of IT to perform my job duties.	0.863				
Perceived usefulness	Using of IT in my job would increase my productivity	0.867	0.889	0.815	0.619	1.354
	I would find a smartphone useful in my job	0.861				
	Using of IT in my job be able me to perform my duties rapidly	0.636				
Perceived ease of use	Using of IT would enhance my effectiveness on the job		0.901	0.816	0.698	1.225
	Using of IT improve my job efficiency	0.806				
	I would find IT is easy to use	0.743				
Experience of using	The prospect of using this technology and what it could offer me is conceivable for me	0.799	0.775	0.730	0.633	1.204
	Learning to operate IT would be easy for me	0.875				
	The process of IT using is tangibles for me	0.714				
	I want to see the benefits of IT before I apply it	0.939				
	The IT provides me a more efficient and organized tool in my job	0.806				
	If i have access to the IT, i will use it always	0.786				
	My organization with having experts in case of any problem with the technology urgently take action to fix it	0.519				
		0.853				
Company's willingness to fund	To update an existing and related needs technology, my organization has taken appropriate measures	0.928	0.896	0.704	0.642	2.073
	In my job, if a company pays for any cost to use a smartphone, I will definitely use it	0.784				
	When I need to particular help in related to IT, my organization is willing to meet that through investment	0.859				
	Applying IT in our organization is tangibles	0.852				
	application of IT is appropriate to the nature and duties of my job	0.797				
Job relevance	I feel this technology could facilitate my job processes	0.717	0.902	0.762	0.609	2.551
	For those who wish to enter into the organization as a partner, it is necessary to be familiar with the IT	0.663				
	In my job, usage of a IT is high	0.733				
	In my job, usage of a IT is relevant	0.898				

Table 2: The matrix of the square roots of average variances extracted and correlation

	1	2	3	4	5	6	7
Actual behavior (1)	**0.844**						
Behavioral intentions (2)	0.345	**0.880**					
Perceived usefulness (3)	0.252	0.334	**0.786**				
Perceived ease of use (4)	0.158	0.237	0.356	**0.835**			
Experience of using (5)	0.264	0.350	0.261	0.078	**0.795**		
Company's willingness to fund (6)	0.228	0.224	0.295	0.279	0.083	**0.801**	
Job relevance (7)	0.457	0.267	0.362	0.321	0.125	0.706	**0.780**

* Diagonal is square roots of average variances extracted

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lated coefficient. To study significant of path coefficients, bootstrap method has been used as a simulation statistical method. To this mean, the resembling method was used at two statuses 500 and 800 of sample that recommended in partial least squares method. The result show in both cases, being meaningful or not of the parameters, was no change and the results have strong validity (Table 2 and Table 3)

The first hypothesis of research indicates the Company's willingness to fund has a significant effect on perceived usefulness of information technologies from statistical aspect. Studying path coefficients is explaining that effect of company's willing to fund on perceived usefulness is calculated 0.08 that has significant level higher than 0.05. Therefore, there was not sufficient evidence to reject the null hypothesis. In other words, enough evidence to prove that the company's willing to fund has significant effect on perceived usefulness of information technologies were not presented. Studying significant of coefficient to this path in different moods of statistical simulation is not reported.

The second hypothesis of research explains the Company's willingness to fund has a significant effect on perceived ease of use of information technologies from statistical aspect. Studying path coefficients is explaining that effect of company's willing to fund on perceived ease of use is calculated 0.08 that has significant level higher 0.05. Therefore, there was not sufficient evidence to reject the null hypothesis. In other words, enough evidence to prove this the company's willing to fund has significant effect on perceived ease of use of information technologies were not presented. Studying significant

of coefficient to this path in different moods of statistical simulation is not reported.

The third hypothesis of research explains the job relevance has a significant effect on perceived usefulness of information technologies from statistical aspect. Studying path coefficients is explaining that effect of job relevance on perceived usefulness is calculated 0.28 that has significant level higher 0.02. Therefore, there was sufficient evidence to reject the null hypothesis. In other words, enough evidence to prove this the job relevance has significant effect on perceived usefulness of information technologies were presented. According to the above findings is characterized that the job relevance is the reason to perceived usefulness of IT application and whatever scope of the use of information technology be more relevant to the desired job, the staff will evaluate using of it more advantageous.

The fourth hypothesis of research explains the job relevance has a significant effect on perceived ease of use of information technologies from statistical view. Studying path coefficients is explaining that effect of job relevance on perceived ease of use is calculated 0.26 that has significant level higher 0.02. Therefore, there was sufficient evidence to reject the null hypothesis. According to the above findings is characterized that the job relevance is the reason to perceived ease of IT application and whatever area of the use of information technology be more relevant to the desired job, the staff will evaluate using of it easier. Thus we can know that perceived ease of technology using in organizational studies as a function of job relevance.

The fifth hypothesis of research explains the

Table 3: Path coefficients and significant of direct path

Studied path		Path coefficient	p-value	S.E	R²	VIF	Resampling rate	
							BT = 500	BT = 800
Company's willingness	Perceived usefulness	0.08	0.26	0.124		1.995	0.645	0.501
Job Relevance	Perceived usefulness	0.28	0.02	0.136	0.58	2.013	2.05	2.18
Experience of using	Perceived usefulness	0.72	< 0.01	0.085		1.016	8.47	8.68
Job Relevance	Perceived ease of use	0.26	0.02	0.117		2.104	2.22	2.34
Company's willingness	Perceived ease of use	0.08	0.25	0.126	0.27	2.002	0.634	0.689
Perceived usefulness	Perceived ease of use	0.37	< 0.01	0.076		1.155	4.86	5.05
Perceived usefulness	behavior intention	0.29	< 0.01	0.092		1.145	3.15	3.23
Experience of using	Actual behavior	0.36	0.03	0.088	0.43	1.139	4.09	4.17
Perceived ease of use	behavior intention	0.27	0.03	0.102		1.145	2.64	2.84
behavior intention	Actual behavior	0.79	< 0.01	0.078	0.64	1.139	10.12	10.25

perceived usefulness has a significant effect on perceived ease of use of information technologies from statistical aspect. Studying path coefficients is explaining that effect of perceived usefulness on perceived ease of use is calculated 0.37 that has significant level lower 0.01. Therefore, there was sufficient evidence to reject the null hypothesis. According to the above findings is characterized that the perceived usefulness is the reason to perceive ease of IT application and whatever perceived usefulness be higher, the staff will evaluate using of it easier. Thus we can know that perceived ease of technology using in organizational studies as a function of staff's perception from perceived usefulness.

The sixth hypothesis of research explains the perceived usefulness has a significant effect on using intention of information technologies from statistical aspect. Studying path coefficients is explaining that effect of perceived usefulness on using intention is calculated 0.29 that has significant level lower 0.01. Therefore, there was sufficient evidence to reject the null hypothesis. According to the above findings is characterized that the perceived usefulness is the reason to using intention of IT application and whatever perceived usefulness be more, the staff have higher intention to use. Thus we can know that intention of technology using in organizational studies as a function of staff's perception from perceived usefulness.

The seventh hypothesis of research explains the perceived ease of use has a significant effect on using intention of information technologies from statistical aspect. Studying path coefficients is explaining that effect of perceived ease of use on using intention is calculated 0.27 that has significant level 0.03. Therefore, there was sufficient evidence to reject the null hypothesis. According to the above finding is characterized that the perceived ease of use is the reason to using intention toward IT application and whatever perceived ease of use be more, the staff have higher intention to use. Thus we can know that using intention as a function of staff's perception from perceived ease of use.

The eighth hypothesis of research explains the experience has a significant effect on perceived

usefulness of information technologies from statistical aspect. Studying path coefficients is explaining that effect of experience variable on perceived usefulness is calculated 0.72 that has significant level lower 0.01. Therefore, there were sufficient evidence to reject the null hypothesis. According to the above finding is characterized that the experience is the reason to perceived usefulness toward IT application and whatever experience be more, the staff will evaluate using of that more useful.

The ninth hypothesis of research explains that experience has a significant effect on actual use of information technologies from statistical aspect. Studying path coefficients is explaining that effect of experience on actual use is calculated 0.36 that has significant level 0.03. Therefore, there were sufficient evidence to reject the null hypothesis. In other words, enough evidence to prove the experience has significant effect on actual use of information technologies were presented. According to the above findings is characterized that the experience is the reason to actual use of IT application and whatever experience be more, the staff will use that more.

The tenth hypothesis of research explains that intention has a significant effect on actual use of information technologies from statistical aspect. Studying path coefficients is explaining that effect of the intention variable on actual use is calculated 0.79 that has significant level lower 0.01. Therefore, there were sufficient evidence to reject the null hypothesis. In other words, enough evidence to prove the intention has significant effect on actual use of information technologies were presented. According to the above findings is characterized that the intention is the reason to actual use of IT application and whatever user intention toward technology using be more, the staff will have more actual use (Figure 4).

To demonstrate the validity of the results of research model, specifically fitness indexes of structural equation models was used in format of partial least squares method. Average Variance Inflation Factor index was 1.485. This result shows multiple alignment of the model is controlled well and the model accuracy to predict
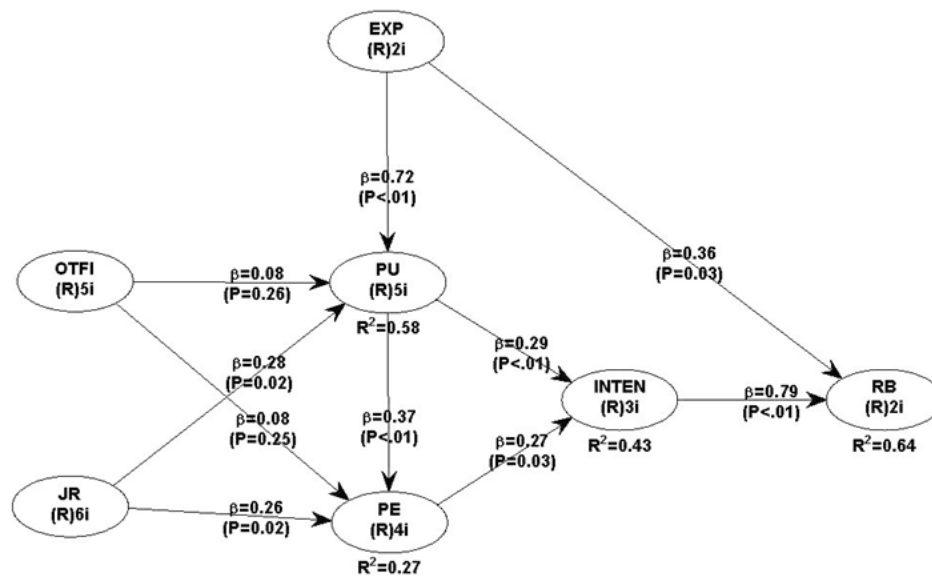
Figure4: The path model of effects of research variables based on partial least squares estimation

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the dependent variable has a good reliability. In other words, each of the independent structures that effect on independent variables, account unique part of the variance of the dependent variable associated with it. The Variance Inflation status for predictive independent variables of study shows each of the independent variables has their unique role and in formation of amount of variance accounted by the model, there is no a significant interferes. Because the VIF index for all structures in the direction having predictor variables have been measured below the critical 5 that this critical values is the maximum coefficient of the overlap tolerance of explained variance and lower values of that indicate no replacement property among independent variables and that is the main assumptions of simultaneous equations systems. Values of explained variance mean and path coefficients mean show that the relationship between variables is well known. The amount of explained variance average index was 0.482 and significance level of that was 0.01 and Suggests that a significant proportion of the variance in the data expressed by existing relationships. Also the path coefficients average index with 0.351 value and significance level of that was 0.01. These shows existing coefficients to explain related causal relationship are repeatable and they have required accuracy to explain relations. Eventually it became clear that this model can estimate 64 percent of real behavior changes,

43 percent of use intention changes, 58 percent of perceived usefulness changes and 27 percent of perceived ease of use.

CONCLUSIONS

Although different models for technology acceptance have been proposed, the Theory of Planned Behavior as a heart of TAM continues to be the one most widely used and a generally accepted theory to explain intention to technology acceptance. Nevertheless, new questions have emerged with respect to its specific configuration in the case of actual behavior. There is a call by some researchers to advance our understanding of how the TAM may be improved or modified to better reflect the full complexity of acceptance processes.

Results of this study showed among the three added variables to TAM the organization's willingness to fund, job relevance and previous experience in using the technology, the company's willingness to fund's variable did not show a significant role on perceived usefulness and perceived ease of use. However, job relevance variable showed a significant role on perceived usefulness and perceived ease of use. These results indicate that one of the suggested variables in organizational studies, which can help to develop technology acceptance model, is job relevance variables that directly have effects on perception of usefulness and ease of use, and indirectly on the actual application of information

technology in doing the responsibility of the job. Therefore determine the technology abilities to staff and demonstrate the capabilities of technology to doing job duties better can be one solutions of breaking down resistance to technology acceptance by the employees.

The third added variable to the technology acceptance model as previous experience in using technology has a very substantial effect on perceived usefulness and actual behavior variable too. This result shows that any organizational attempt to providing learning experience opportunities for employees and job rotation in addition that can also provide the opportunity to learning experience, will increases employees readiness to technology acceptance from their perceptions of usefulness aspect. The above result is obtained in studies such as Kim (2008). Therefore step by step implementation of the organization required technologies it will be appropriate approach for the promotion of its basic functionality and mentally prepared formation to accept. This finding is consistent with Ecceles theory, stating that attitude mediates relationship between past performance and future success (Ecceles, 1990). In fact, this theory explains what one gets is a function of past experience and shaping his related attitude. The study also showed that experiencing is a major factor among the studied factors of technology acceptance model. Other results of studied paths those were also considered in other models of technology acceptance have significant path coefficient, this would mean that proposed relationships in the primary model of technology acceptance also in this study had significant path coefficients, in this face that perceived usefulness has a direct effect on ease of use and also perceived usefulness and perceived ease of use have a significant effect on acceptance intention. On the other it was found using intention is one of the important predictor variables of behavior in real condition. This finding corresponded with the results of its previous similar studies (Holden and Karsh, 2010; Hu *et al.,* 2003; Kim *et al.,* 2009; Legris *et al.*, 2003; Melas *et al.*, 2011; Ozkan and Kanat, 2011). Based on the research findings can provide the

following suggestions:

• It is suggested that while providing opportunities related to job rotations to this mean that staff be familiar with backgrounds of application of IT, the extent of its application to staff be more transparent. Also in providing the technology, need context in the staff be considered and in inadequacy of that by introducing aspects of the new technology those are more tangible and has a greater proximity with job context of each employee's be gained need experience for them.

• On the other hand before providing any technology, in the first be investigated the point of view of staff and if there are negative perceptions provide appropriate strategies to solve them. Being IT departments active in the organization can will be an important role to gain this positive experience and also one of the responsibilities of this unit will be identifying the amount and type of information technology use among staff.

• Since in the present study, external variables are in the organization level it suggests that can be use variables such as trust, perceived self-efficacy of computer and self-image as an individual variable to predicting behavior in other studies.

• Standardization scales for measuring the shape and usage amount of information technology in regards to job relevance variable can be noted as a research context in the area of technologies acceptance.

• As regards to significant role of experience and job relevance should be used variables such as age, work experience and education level as moderator variables in the relationships of acceptance model.

• As regards company's willingness variable did not show significant effect the pathology in the studied organizations should be done. It seems that the trend that organization is ahead in terms of investment in information technology is Contrary to the employees perceptions of usefulness and ease of use and finally having appropriate intention to necessary using in job context.

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