INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES

Vol 3, Issue 9, (2013) E-ISSN: 2222-6990

A survey on the level of Information Technology Acceptance and proposition of a Comprehensive model (The Case of Nir Pars Company)

Mitra Kooche moshki

Corresponding Author, M.S. Candidate of Master Business Administration (MBA)
Isfahan Science and Research branch, Islamic Azad University, Isfahan, Iran

Hadi Teimouri

Assistant Professor, Management Department, University of Isfahan, Isfahan, Iran

Reza Ansari

Assistant Professor, Management Department, University of Isfahan, Isfahan, Iran

DOI Link: http://dx.doi.org/10.6007/IJARBSS/v3-i9/204

Published Date: 16 September 2013

Abstract

Nowadays, the rapid expansion of Information and Communication Technology has changed the ways of delivering services in different industries. Many organizations attempt to increase the variety of their services. However, accepting new ideas may lead to innovative proposals and new technologies in manufacturing products or delivering services, but in turn requires investing and taking risks by innovative organization. Therefore, identification of various factors affecting adoption of new technologies is a favorite field of study for researchers.

The purpose of this article is to explore the level of information technology acceptance and propose a comprehensive model for Nir Pars Company. This is an applied, descriptive-correlation research, conducted by survey methodology. A collection of 400 experts and managers of different organizational levels of Nir Company were selected as the statistical population of the study and a batch of 240 persons were chosen by simple random sampling. Library method was used for Data collection to form the theoretical foundations of the research, and we used our own questionnaire to confirm or refute the research hypotheses; which has the required reliability and validity (Cronbach's alpha coefficient of 0.946). To explore the relationships between the elements of the Model, factor analysis and structural equation modeling techniques were used. According to achieved results, the acceptance of information technology exceeds 0.79 (for all parameters of the model).

Keywords: Perceived Usefulness, Perceived ease of use, Actual use, Attitude towards using, Acceptance of information technology

1. Introduction

Rapid technological changes and transitions in our competitive world on the one hand, and the condition institutions face inside the country and outside in international arias on the other hand needs that required arrangements to be considered to compete in the global arena. As a result of this intense competition, the quick reply to changing and increasing customer demands needs acquiring competitive advantage for the organization. In order to make organizations operate more flexibility and quickly, the use of updated technology and information systems, investment on knowledge workers, business process integration, alignment with the Virtual forms of organization, internal and external partners and achieving an integrated supply chain are required[11]. Since the information technology leads to enrichment of organizational foundations, increase of organizational capabilities for competitive operations in the market and the ability to adapt to constantly changing external environment for organization, therefore information technology with the benefit of modern tools for data collection and processing is considered as one of the most efficient organizational technology.

The use of information technology is closely related to its acceptance. Many researchers believe that the acceptance process affects the successful application of information systems. Basam stressed that although computer programs are now easier for users, yet many have difficulty accepting information technology. Acceptance of information technology is vital for organizations who want to benefit from listed advantages of its use. Resistance against the use of information technology is a dangerous potential factor for the loss of investment in this field. Therefore, identifying and understanding the factors that influence user acceptance of information technology is very important. When these factors are known, organizations can use the most appropriate programs to increase the use of information technology and improve their performance and productivity [13]. Identifying these factors is important for organizations who try to procure the suitable computer systems for their employees which seem to have the highest acceptance among them. So organizations can achieve their desired interests using information technology and promote these interests by performing the right activities [10]. However, organizations do not always get the benefits of information technology. Inadequate acceptance of this technology may be one of the reasons for this problem [13].

Acceptance of IT systems plays an important role in the investment in this valuable technology. Acceptance of the people who apply this technology is one of the factors that affect its success, results and positive effects on the organization. The effectiveness of the technology is positively related to its acceptance. So if the potential users of this technology resist against using it, the desired targets could not be achieved [19]. In other words, the question why individuals adopt and use one information technology, or on the contrary, refute to use it is one of the most important issues in information systems for organizations.

This research is aimed at assessing the acceptance of information technology and providing comprehensive model of IT acceptance in Nir Pars Company in Tehran. Resources analysis shows that great efforts have been made to assess the acceptance of information technology in recent years. None of the previous researches in Iran have provided a model which includes all the variables affecting the acceptance of information technology. Thus, we have sought to provide a conceptual model for "IT the acceptance" in Nir Pars Company.

2. Theoretical Foundations

2.1. Technology Acceptance Model

To design a conceptual model for the study, first some researches on the Technology Acceptance Model were analyzed, for example: Holden RJ & Karsh BT. Model (2010) [12] , Park N, Roman R & Lee S. model (2009)[16], Lu Y, Zhou T& Wang B. Model (2009)[13], Raitoharju R. Model (2007)[17], Burton JA & Hubona GS. Model (2005)[4], Ong CS, Lai JY & Wang YS. Model (2004)[15], Abdullah I, Che Rose R, Masrom M & Zain M. Model (2005)[1], Venkatesh V & Davis FD. Model (TAM2) (2000)[22], Adams D, Nelson R & Todd P. Model (1992)[2], Mathieson K. Model (1991)[14]and Davis FD, Bagozzi RP& Warshaw PR. Molel (1989)[8]. Then by combining some of the variables of mentioned information technology acceptance in the aforementioned researches according to the facts of statistical population under study, the conceptual model was developed.

2.2. Dimensions of "IT acceptance" model

- **Perceived efficiency:** The degree to which a person believes that using a particular system would enhance efficiency and improve performance. (Davis, 1989, quoted from Shine, 1980). In fact this variable reflects the people's attitude towards this issue that the effective use of technology will improve their performance. [20,21]
- **Perceived ease of use:** shows that people believe that the use of technology won't require hard work and exerting too much effort and the degree to which a person believes that using a particular system, improves the his career performance. [20, 21] In fact this variable shows the amount of lift off mental and physical burden in the use of system.
- **Using real system:** is the amount of time that people interact with technology and use it and its frequency.[8,20,21,22] This variable is used to determine the actual daily use, frequency of application and the number of the business functions that used computer systems.[1]
- **Attitude toward using:** Positive or negative feelings about the evaluation of an action or a behavior is called attitude. [9] Mathieson (1991) concluded that the structure of attitude is statistically valid to explain the purpose of use. [14]
- **Expected functionality:** Expectation that the acting person expects to improve his performance in other areas.
- **Social Impact:** Any impact of the development projects on lifestyle, work, social relationships, and the organization. In this context it is possible to mention to change in values, norms and people's beliefs.

3 - Conceptual Model and Hypotheses

Hypotheses that can be derived from the conceptual model of information technology acceptance are as follows:

H1: The acceptance of information technology in terms of the "perceived ease of use" variable in Nir Pars Company is above average.

H2: The acceptance of information technology in terms of the "perceived efficiency" variable in Nir Pars Company is above average.
H3: The acceptance of information technology in terms of the "attitude toward using" variable in Nir Pars Company is above average.
H4: The acceptance of information technology in terms of the "using real systems" variable in Nir Pars Company is above average.
H5: The acceptance of information technology in terms of the "expected functionality" variable in Nir Pars Company is above average.
H6: The acceptance of information technology in terms of the "social impact" variable in Nir Pars Company is above average.

The conceptual model including research hypotheses are shown in Figure 1.

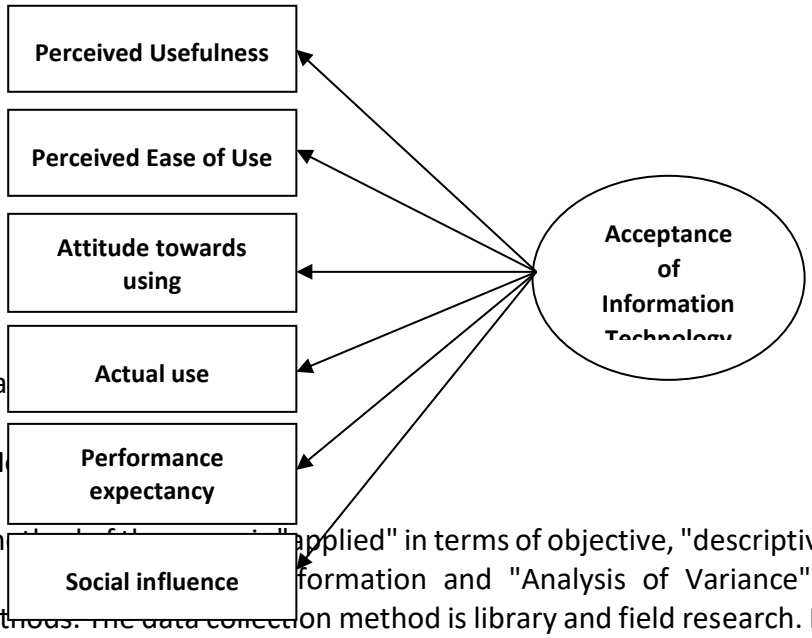


Figure 1: Resea

4 - Research M

The research m applied" in terms of objective, "descriptive - correlation" regarding the formation and "Analysis of Variance" regarding the correlation methods. The data collection method is library and field research. First, the library studies of literature review and the opinions about "IT Acceptance" were performed. After the identification of indicators, 240 questionnaires were distributed to a random sample of experts and executives of Nir Pars Company, 230 completed questionnaires were returned. Finally, using Exploratory Factor Analysis (EFA) and Structural Equation Modeling (SEM), the proposed conceptual model of research was analyzed.

4-1- Validity and reliability of questionnaire

Cronbach's alpha was used to assess the reliability of measuring instruments. The result of Cronbach's alpha of the 30 pre-test questionnaires was 0.946. To examine the validity of the questionnaire, "content validity" and "structural validity" were used.

Content validity
Experts' judgment about how the questions of a test represent content and purpose of a program or content scope is used to determine the content validity of a test. For this purpose and to evaluate the research questionnaire, after establishing the basic framework, viewpoints of 9 persons (including 7 managers and experts in NIR Pars and 2 university

teachers) were presented and put to the vote. In fact, this evaluation was focused on the content validity of proposed indicators to measure the desired aspects in research design. Therefore, in the initial stage content validity has been used for assessing the credibility of the questionnaire and to correct it if necessary.

Structural validity

We use factor analysis to make sure about the structural validity of this study. Exploratory factor analysis and particularly factorial validity index were used to assess structural validity of questionnaire. Factor analysis can be used to determine whether the questionnaire measures the desired indices or not. In factor analysis the questions that were designed to evaluate an attribute or indicator should have common load factor. Since the confirmatory factor analysis is analyzed in terms of a measurement model, and the fitness and validity of the model are discussed in its results, so the results of fitting measurement model are presented in what follows.

4-2- population and statistical sample of research

The statistical population of this research consists of 400 experts and managers at various levels of Nir Pars Company. Simple random sampling method was used. In this method sample size is obtained using Cochran's formula [6].

In this formula, δ is the primary sample standard deviation for the entire questionnaire, ε is the amount of allowable error, Z=0.05 is the unit normal variable corresponding to confidence level of 95%; (Zα/2=1.96) and statistical population N is 400.

$$n = \frac{N \times Z^2 \alpha/2 \times \sigma^2}{Z^2 \alpha/2 \times \sigma^2 + (N-1) \times \varepsilon^2} \Rightarrow n = \frac{400 \times (1.96)^2 \times (0.62504)^2}{(1.96)^2 \times (0.62504)^2 + (400-1) \times (0.05)^2} \Rightarrow n = 240.292 \sim 240$$

Given that the statistical population of this research is 400, according to Morgan table (1969) the desired sample size is 196. And Given that estimated standard deviation of the pilot sample(n=30) equals 0.62504; and the other hand, due to the size of staff population based on Cochran's formula, sample size is at least 240 questionnaire. In this regard, 240 randomly selected questionnaires among experts and managers at various levels of Nir Pars Mapna Company were distributed. Finally, 233 questionnaires were returned which only 230 of them were completed. Also to fit the sample size in Exploratory Factor Analysis, KMO indicator was used which is mentioned in the following.

5 - Data Analysis

Inferential statistical techniques, especially exploratory factor analysis and confirmatory factor analysis were used for data analysis. First a set of 30 items related to "IT acceptance" are factored using factor analysis. These outputs can be used for confirmatory factor analysis. In fact during the exploratory factor analysis, items are classified by the appropriate style. Then this factorization during the confirmatory factor analysis can be approved or rejected in structural equation modeling technique. The first part of the analysis was done by SPSS 19 and the second part by LISREL 8.8. The outputs of exploratory factor analysis and structural equation modeling will be presented.

5-1- Data Analysis Using factor analysis

Factor analysis tries to identify the underlying variables or factors to explain the pattern of correlations between observed variables. Factor analysis can be divided into two types of Exploratory and confirmatory categories. In exploratory factor analysis, the researcher seeks to discover the underlying structure of a relatively large set of variables and researcher's presumption is that any variable may be associated with any factor. To perform a factor analysis the following four major steps are essential: 1 – Forming a matrix of Correlation coefficients from all the variables used in the analysis and estimation of subscription 2- Extracting factors from correlation matrix, 3- Factor rotation in order to maximize the relationship between variables and factors, 4 - Analyzing the results, calculating the score of factors (load of factors) whose value must be greater than 0.3[18].

After a Factor analysis of 30-item questionnaire, based on data collected from 230 questionnaires, the KMO test index is 0.935, which is greater than 0.6 and indicates the adequacy of sample size. Also given that the sig value of Bartlett test is smaller than 5%. Plus, a total number of 6 factors with the total explained variance of %77.552 make "IT Compliance" measurement possible.

As shown in Table 1 in this case factors 1 to 6 have eigenvalues greater than 1 and remained in the analysis. In fact, the table suggests that the questionnaire, together with 6 factors and total explained variance higher than 77.552%, could assess the "information technology acceptance" model. This shows the appropriate construct validity of the questions.

Table 1: Total Variance Explained for "Acceptance of Information Technology"

Dimensions of Acceptance of Information Technology	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
Performance Expectancy (PE)	**16.363**	54.544	54.544	16.363	54.544	54.544	4.905	**16.349**	16.349
Attitude towards using (ATU)	**2.037**	6.788	61.332	2.037	6.778	61.332	4.367	**14.556**	30.905
Social Influence(SI)	**1.418**	4.725	66.058	1.418	4.725	66.058	4.228	**14.092**	44.997
Perceived Ease of Use (PEU)	**1.331**	4.437	70.494	1.331	4.437	70.494	3.501	**11.671**	56.668
Actual Use (AU)	**1.140**	3.798	74.292	1.140	3.798	74.292	3.237	**10.789**	67.457
Perceived Usefulness (PU)	**1.078**	3.260	77.552	1.078	3.260	77.552	3.028	**10.095**	77.552

Extraction Method: Principal Component Analysis.

According to Table (1), the first factor, i.e. "performance expectation (PE)" explains 16.349%; the second factor, "attitudes toward use (ATU)" about 14.556%; the third factor, "social impact (SI) " about 14.092%; the fourth factor "perceived ease of use (PEU)" about 11.671%; the fifth factor "actual use (AU)" about 10.789% and the sixth factor, "perceived usefulness(PU)" about 10.095% variance of “information technology acceptance”, which actually indicates the importance of factors in formation of the "IT acceptance" structure.

The rotated factor matrix of these fields will be presented which indicates what questions and at what factor load are related to these factors. Table (2)

Table 2: Rotated component matrix [a] for "Acceptance of Information Technology" Model

variables	component					
	Performance Expectancy (PE)	Attitude towards using (ATU)	Social Influence(SI)	Perceived Ease of Use (PEU)	Actual Use (AU)	Perceived Usefulness (PU)
AU1	.289	.329	.194	.211	.704	.083
AU2	.295	.299	.127	.204	.716	.163
AU3	.112	.160	.204	.081	.743	.295
AU4	.192	.250	.186	.157	.757	.096
ATU1	.104	.761	.184	.207	.258	.165
ATU2	.179	.733	.204	.160	.283	.238
ATU3	.180	.771	.269	.170	.126	.134
ATU4	.252	.774	.157	.118	.192	.216
ATU5	.206	.803	.203	.128	.214	.200
PE1	.750	.216	.248	.207	.183	.203
PE2	.752	.216	.215	.215	.208	.246
PE3	.728	.148	.266	.278	.224	.172
PE4	.748	.192	.249	.188	.139	.174
PE5	.752	.232	.299	.231	.090	.149
PE6	.695	.112	.242	.210	.368	.213
SI1	.166	.232	.783	.181	.107	.143
SI2	.340	.266	.695	.192	.224	.151
SI3	.260	.183	.695	.220	.205	.227
SI4	.275	.179	.703	.197	.184	.129
SI5	.338	.135	.646	.221	.191	.245
SI6	.234	.283	.605	.260	.103	.294
PU1	.305	.261	.257	.223	.168	.735
PU2	.377	.315	.333	.131	.210	.657
PU3	.370	.273	.325	.244	.171	.605
PU4	.215	.381	.276	.240	.269	.613
PU5	.206	.317	.206	.401	.303	.592
PEU1	.234	.186	.197	.744	.241	.231
PEU2	.267	.170	.303	.787	.130	.092
PEU3	.228	.188	.214	.762	.183	.286
PEU4	.299	.180	.245	.766	.104	.121

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

According to Table 2, we can come to the conclusion that the factors affecting "IT acceptance" are classified in 6 groups which examine "IT acceptance" considering "total converted variance" of 77.552%.

5-2- Data Analysis by Structural Equation Modeling

After extracting and explaining the relevant factors related to "IT acceptance", it is necessary to put them to hypothesis test and verification by confirmatory factor and structure analysis and factors relating to "IT acceptance". Structural equation modeling is one of the statistical modeling techniques which recently entered the behavioral field of management, organization and economics. This method is a statistical modeling technique that includes other methods like multiple regression, factor analysis, and path analysis. Its main focus is on latent variables which are defined by measurable indicators and observable variables. Using this method and by considering errors one can discover the causal relationships between variables that are not directly observable, and analyze the correlation and the intensity of effects of each variable on the others. Unlike the regression parameters which represent the empirical correlation, structural parameters explain the causal correlation. Standard estimation model of "IT acceptance" is shown in figure 2 [18].

Figure 2: Standardized Solutions Model for “Acceptance of Information Technology”

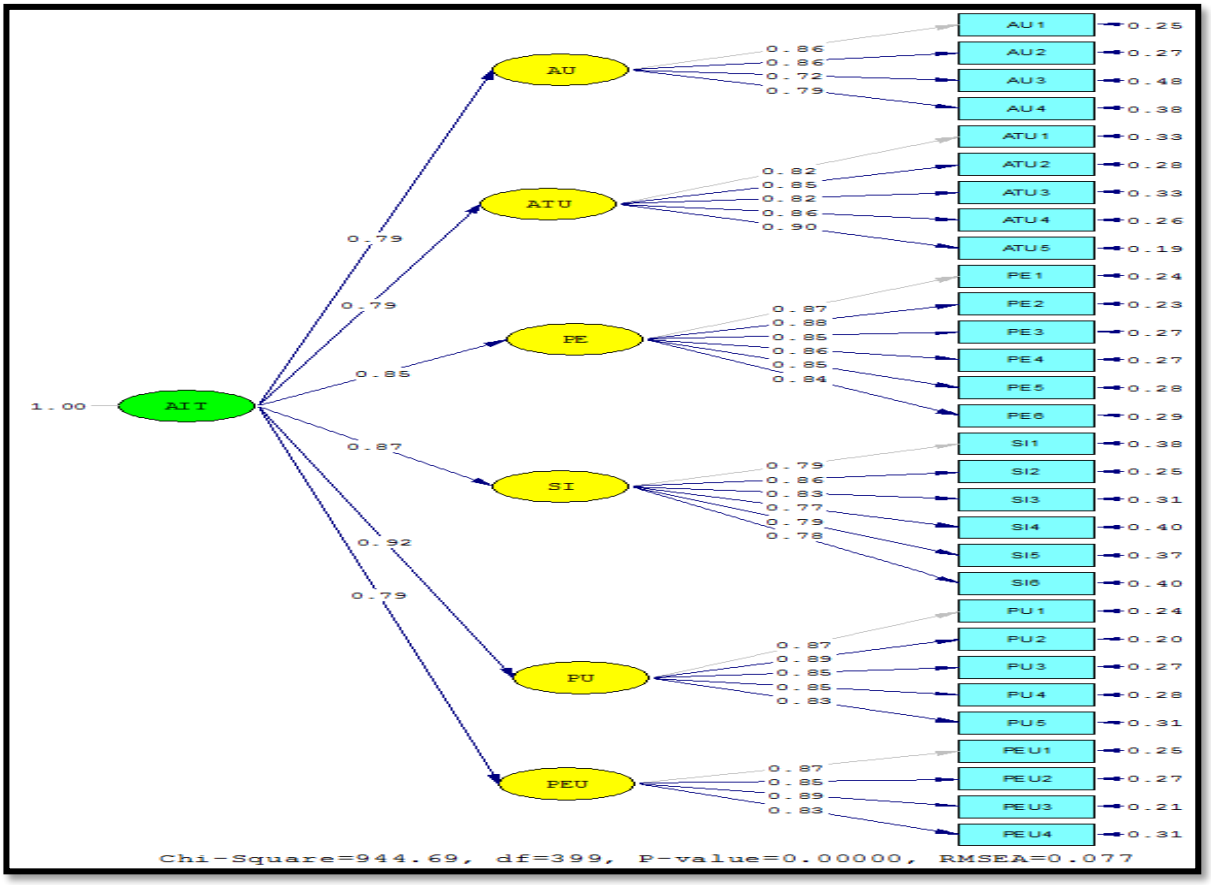


Figure 2 indicates that to what extents each of these factors explain the "information technology acceptance" in the final model. The priority of these factors is as follows:

1. Perceived usefulness (PU) with 0.92 path factor,
2. Social impact (SI) with 0.87 path factor,

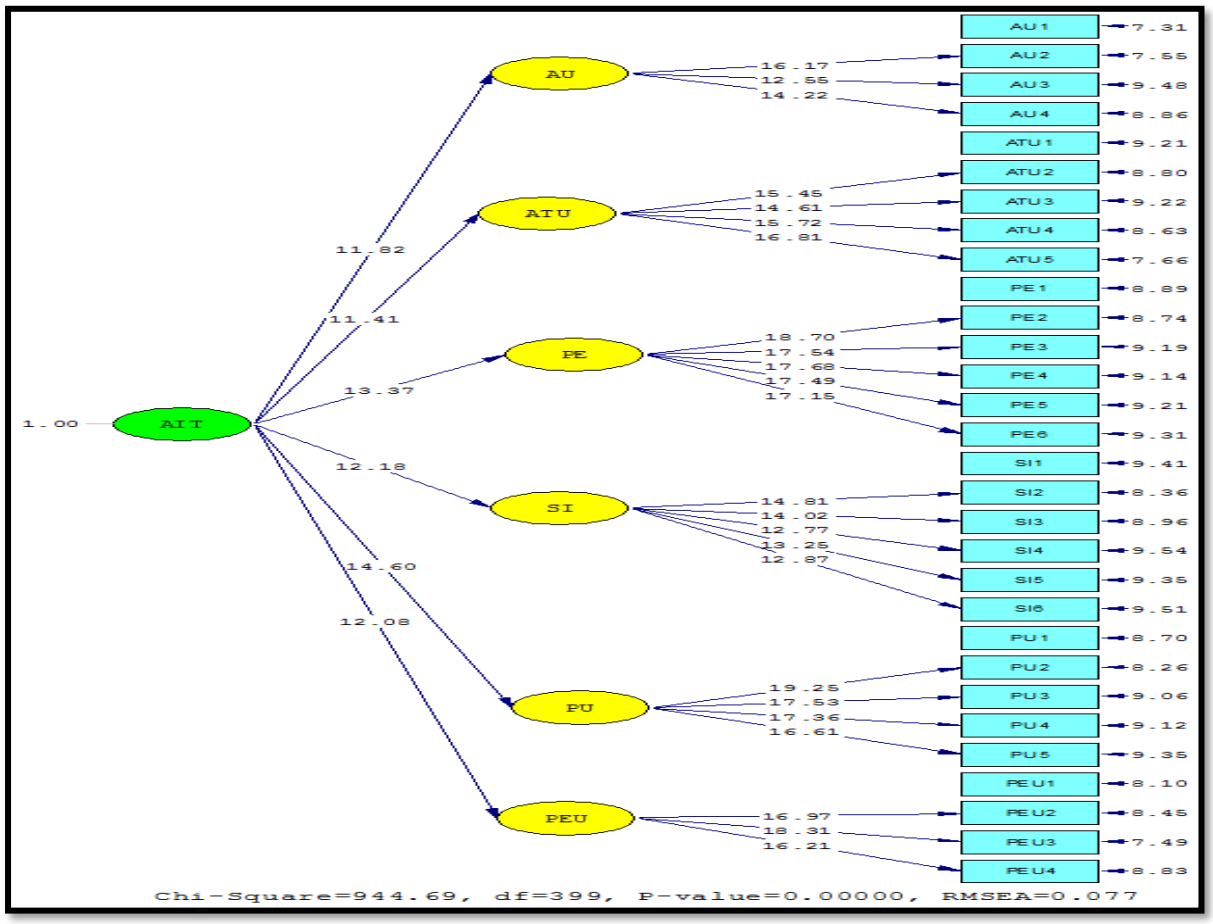
3. Performance expectation (PE) with 0.85 path factor,
4. Actual use (AU), Attitude toward use (ATU) and Perceived ease of use (PEU) with 0.79 path factor

Also, based on figure (2), the most important indicators in each aspect are:

- The most important indicators in “Actual Use (AU)” are "Using information technology in performing tasks" and "continuous use of information technology" (with AU1 and AU2 codes respectively) which both have a correlation coefficient of 86%.
- The most important indicators in “Attitude Toward Use (ATU)” are " effective increase of providing information to the others" and "improving organizational learning capability"(with ATU4 and ATU5 codes respectively) with correlation coefficients of 90% and 86% respectively.
- The most important indicators in “Performance Expectation (PE)” are "Empowering employees to make decisions independently," and "making interactions between functional units of the organization effective" (with PE1 and PE2 codes respectively) with correlation coefficients of 88% and 87%.
- The most important indicators in “Social Impact (SI)” are "increasing organizational efficiency" and "reduction of production cycle time" (with SI2 and SI3 codes respectively) with correlation coefficients of 86% and 83%.
- The most important indictors in “Perceived Usefulness (PU)” are "Appropriate reaction to changes in the business and market environment" and "suitable respond to changing customer needs and expectations."(With PU1 and PU2 codes respectively) with correlation coefficients of 89% and 87%.
- Finally the most important indicators in “Perceived Ease of Use (PEU)” are "Ease of storing, organizing and distributing organizational knowledge" and "facilitating communication between different units within the organization" (with PEU3 and PEU1 codes respectively) with correlation coefficients of 89% and 87%.

Figure (3) shows the model of meaningful number of "information technology acceptance".

Figure 3: T-Values for “Acceptance of Information Technology”



Indices of Model fitness indicate that the model is in a good condition considering appropriateness and fitness indices; because the ratio of chi-square to its degrees of freedom equals to 2.3681 which is less than allowed amount of 3 and the mean squared error is equal to 0.077, which is less than allowed amount of 0.1. So it does not need to be modified. P-value is also less than 0.05. Optimum value of goodness of the fit indicator and its modified must be more than 90% so that goodness of the fit indicator in this model is 0.95 and its modified amount is equal to 0.92 which are appropriate. As shown in Figure 3 all significance numbers related to main aspects of the model are meaningful; because their significance number is greater than 1.96. In the hypothesis of confirmatory factor analysis, "IT Compliance" model is approved.

6 - Conclusion and Recommendations

The purpose of this study is to provide a model for analyzing IT acceptance and presenting a comprehensive model for Nir Pars Company of Tehran. Based on the conducted literature review, operational aspects of "IT Acceptance" are comprised of 30 items. After literature review and identification of its variables, six factors were recognized with the greatest role in "IT Acceptance". According to the analysis of results of SPSS 19 and LISREL 8.8; the priority of the variables are “Perceived usefulness”, “Social impact”, “Performance expectation”, “Actual

use", "Attitude toward use" and "Perceived ease of use" respectively. In most aspects, results of this research are consistent with results of other researches. For example, based on research results, the most important factor of "IT Acceptance" is perceived usefulness. Some researchers have also confirmed this issue in their investigations. For example, studies of Chan et al (2001) [5] showed that subjective norm (social impact) affects the use of information technology. Also according to the model of Venkatesh et al [23] (Integrated Theory of Acceptance and Using Technology, 2003), Venkatesh et al introduced performance expectation as a factor affecting the acceptance and use of technology. Based on Al-Gahtani [3], personal attitudes, perceived ease of use and perceived usefulness, are the most effective factors in information technology acceptance.

In general results of this research increased our knowledge about the determining factors of "IT Acceptance" and also identified effectiveness level of each factor. In this research, based on the results of standard estimation model, practical suggestions for improving the "IT Acceptance" are applicable to Nir pars Company:

1. To promote the "actual use" in Nir Pars Company, given that most important index in this dimension is the "application of information technology in tasks", we recommend providing facilities and training necessary for the use of IT to perform tasks for the staff and building the culture of using information technology in the organization with the aid of seminars and training classes.
2. To promote "attitudes toward use" in Nir Pars Company, it is recommended to enhance the effective Information delivery to others in the organization, and this effectiveness can be improved using action like: creating and supporting working groups teams, establishing formal and friendly relations among organization members, using information sharing meetings, etc.
3. For the promotion of "performance expectation" in Nir Pars Company, we recommend empowering employees to perform their tasks independently through giving appropriate authority in accordance with their responsibility, replacing hierarchy with autonomous teams, etc.
4. To promote "social impact" in Nir Pars Company, it is recommended to consider the increase of organizational productivity. To increase organizational productivity actions such as: Improving workforce quality, continuous Career Training of managers and employees, improving motivation among employees to work better, creating the appropriate context for the innovation and creativity among managers and employees, establishing appropriate performance-based payment system, using participatory management style, etc may be applied.
5. To promote "Perceived usefulness" in Nir Pars Company, it is recommended to consider providing appropriate reaction to changes in the business and market environment. To provide this reaction, we suggest managers to know how to overcome individuals' resistance to change, and how to transform Human resources' concerns into productivity in an innovative approach. On time staff briefing about market changes by the organization is also recommended to learn how to take advantage of changing environment.
6. To promote "Perceived ease of use" in Nir Pars Company, it is recommended to pay special attention to facilitate communication between different units within the organization. In this regard, we suggest strengthening relationships through daily face to face meetings and informal relationships, establishing a consulting service for

analyzing social relations and resolving human failure in workplace, holding open meetings between staff, etc.

Acknowledgement

The authors are indebted of kind assistance of managers and employees of Nir Pars Company, respected university professors, and senior executives and managers. We would like to acknowledge all those who share their knowledge and guide us through the research.

Corresponding Author

1. Mitra Kooche moshki
Corresponding Author, M.S. Candidate of Master Business Administration (MBA)
Isfahan Science and Research branch, Islamic Azad University, Isfahan, Iran
Email: mitrakoochemoshki@gmail.com
Address: Science and Research Branch of Islamic Azad University, Shahroz Alley, Before the Crossroads Abshar, Abshar First Street, Khajoo Bridge, Isfahan, Iran.
Tel: +98- 912-2405430 - +98- 311-6624961

2. Hadi Teimouri
Assistant Professor, Management Department, University of Isfahan, Isfahan, Iran
Email: hadi_teimouri@yahoo.com
Address: College of Economy and Management, University of Isfahan, University Avenue, Azadi Square, Isfahan, Iran.
P.O.Box: 8174673441
Tel: +98- 913-1690601- +98-311-7935205

3. Reza Ansari
Assistant Professor, Management Department, University of Isfahan, Isfahan, Iran
Email: rezaansar@yahoo.com
Address: College of Economy and Management, University of Isfahan, University Avenue, Azadi Square, Isfahan, Iran.
P.O.Box: 8174673441
Tel: +98- 912-1467036 - +98-311-7935224

References

1. Abdullah I, Che Rose R, Masrom M, Zain M. 2005. The relationship between information technology acceptance and organizational agility in Malaysia. Journal of Information & Management, 42: 829–839.
2. Adams D, Nelson R, Todd P. 1992. Perceived usefulness, ease of use, and usage of information technology: a replication. Mis Quarterly, V.16, 2: 224-227.
3. Al-Gahtani S. 2001. The applicability of tam outside North America: an empirical test in the United Kingdom. Information Resources Management Journal, V.14, 3: 37- 46.
4. Burton JA, Hubona GS. 2005. Individual differences and usage behavior: revisiting a technology acceptance model assumption. Database for Advances in Information Systems Vol. 36, 2: 58-77.
5. Chen L, Gillenson ML, Sherrell DL. 2002. Enticing online consumers: an extended technology acceptance perspective. Journal of Information & Management, 39: 705-719.
6. Cochran, W. G. (1977), Sampling Techniques, Third Edition, New York: John Wiley & Sons, Inc.
7. Davis FD. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, V.13, 3: 319-340.
8. Davis FD, Bagozzi RP, Warshaw PR. 1989. User acceptance of computer technology: a comparison of two theoretical models. Management Science, V.35, 8: 982-1003.
9. Fishbein M, Ajzen I. 1975. Belief, attitude, intention, and behavior: an introduction to theory and research. Reading, Mass, Don Mills, Ontario: Addison-Wesley Pub. Co., 89–114.
10. Grandon E.E. 2005. Extension and validation of the theory of planned behavior: the case of electronic commerce adoption in small and medium sized businesses in chile. Southern Illinois University at Carbondale, 213 p.
11. *Greis NP, Kasarda, JD. 1997. Enterprise logistics in the information era. California Management Review, V.39, 3: 55-78.*
12. Holden RJ, Karsh BT. 2010. The technology acceptance model: its past and its future in health care review article. Journal of Biomedical Informatics, V. 43, 1: 159-172.
13. Lu Y, Zhou T, Wang B. 2009. Exploring Chinese users' acceptance of instant messaging using the theory of planned behavior, the technology acceptance model, and the flow theory. Computers in Human Behavior, V. 25, 29-39.
14. Mathieson K. 1991. Predicting user intentions: comparing the technology acceptance model with the theory of planne behavior. Information Systems Research, V.2, 3: 173-191.
15. Ong CS, Lai JY, Wang YS. 2004. Factors affecting engineer's acceptance of asynchronouse e-learning systems in high technology companies. Information and Management, V.41, 795-804.
16. Park N, Roman R, Lee S. 2009. User acceptance of a digital library system in developing countries: an application of the technology acceptance model. International journal of information management. V. 29, 3: 196-209.
17. Raitoharju R. 2007. Information technology acceptance in the finish social and healthcare sector, exploring the effect of cultural factors. Publications of the Turku School of Economic. 57- 65.

18. Schumacker R. E, Lomax R. G. A .2010. Beginner's Guide to Structural Equation Modeling, Routledge; 3th edn, 536 p.
19. Siegel DM. 2008. Accepting technology and overcoming resistance to change using the motivation and acceptance, model. Phd Thesis, Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in the Department of Educational Research, Technology, and Leadership in the College of Education at the University of Central Florida Orlando. Available at: http://proquest.umi.com/login.
20. Taylor S, Todd PA. 1995a. Assessing IT usage: the role of prior experience. MIS Quarterly, V.19, 4: 561– 570.
21. Taylor S. Todd PA. 1995b. Understanding information technology usage: A test of competing models. Information Systems Research, v.6, 2: 144-176.
22. Venkatesh V, Davis FD. 2000. A theoretical extension of the technology acceptance model: four longitudinal field studies. Management Science, V.46, 2: 186. 206.
23. Venkatesh V, Morris MG, Davis GB, Davis FD. 2003. User acceptance of information technology: Toward a unified view. MIS Quarterly, V.27, 3: 425-478.