An Investigation of Factors Influencing the Adoption of Electronic Management based on the Theory of Reasoned Action (TRA): A Case Study in the University of Technology / IRAQ

Khalid Naser Alzubi Assistant Professor Department of Management Information Systems, Albalqa Applied University Salt, Jordan Fairouz Mosleh Aldhmour Associate Professor Department of Management information Systems, Muta'h University Karak, Jordan Haydir Basil Ali ALattraqchi Baghdad, Iraq

ABSTRACT

This study is concerned with investigation of the factors that influence the adoption of electronic management (e-Management) based on the Theory of Reasoned Action (TRA) in the University Of Technology (UOT) in IRAQ. To achieve this aim the researcher investigated a set of factors: University Readiness (UR), Top management Support (TMS), Financial Resources (FR), Subjective Norms (SNKS) and Attitudes (A).

A questionnaire was developed and distributed to a sample of (240) respondents to collect primary data, and based on a convenience sample the response rate was about 75%. Furthermore, the findings were analyzed using the Statistical Package for Social Software (SPSS) and Amos program to analyze the path of the independent variables with an R2 of 35.5%, linear Multiple Regression analysis revealed that all research variables have a significant effect on the adoption of e-Management in the UOT.

The results indicated that UR, TMS, FR, SNKS and Attitudes have a positive and significant influence on the adoption of e-Management based on (TRA) in the UOT in IRAQ. Based on the research findings and conclusions, a number of recommendations and future research suggestions were proposed such as: The UOT should keep a consistent rate of growth and development for the University Readiness, because of its important role in e-Management and the positive effect it has on the adoption of e-Management in the UOT.

Keywords

Electronic Management, University Readiness, Top Management Support, Financial Resources, Subjective Norm of Knowledge Sharing & Attitudes

1. INTRODUCTION

The rapid changes in the business environment lead to the need for technologies and their acceptance at an accelerating rate; organizations are becoming more flexible using various Information Systems (IS) to support more strategic and complex procedures in order to achieve competitive advantage. Information and Communication Technology (ICT) is a facilitator of organizational activities, processes and assistant tool. It has been used to support management in achieving the organization's goals. Many types of Computer-Based Information Systems (CBIS) have been developed to support the organizational performance, such as Electronic Management (Martin, Brown, Dehayes, Hoffer & Perkins, 2002; Turban, Rainer & Potter 2001).

Currently, many universities globally have adopted e-Management and they have recognized that it has made a positive effect on their performance (Cordella, Martin, Shaikh, & Smithson, 2011). The e-Management enables universities to link their internal and external data processing systems more efficiently and flexibly, to work more closely with their students and staff, and to better satisfy the needs and expectations of their clients (Paul, 2000).

In practice, e-Management refers to an emphasis on the functions that occur using electronic capabilities, this can be partially explained by the e-Management use of ICT solutions in improving the university's performance (Jeong, 2007). In addition, e-Management helps to simplify routine procedures, and to make data and information more easily accessible to all beneficiaries regardless of time and place. Another benefit and important contribution of the e-Management on the universities have been in reducing the transaction times and costs. (Jeong, 2007).

Therefore, the main aim of this research is to investigate the factors influencing the adoption of e-Management based on the Theory of Reasoned Action (TRA) in the University of Technology UOT in IRAQ. These factors are: University Readiness, Top Management Support, Financial Resources, Subjective Norm of Knowledge Sharing & Attitudes.

1.1 Adoption of e-Management

Many organizations continue to invest large amounts of resources in new IT, & determining the potential acceptance of these new technologies is important (Andrew Rhodes, 2010). If the new IT is accepted & adopted by users, the chances of the system & investments' success greatly increase (Addison, Stephen, Yang, Wu-Yuin & Jia, 2010).

Rogers (1995) defines the adoption process as: "The process through which an individual or other decision-making unit passes from first knowledge of an innovation, forming an attitude towards the innovation, to a decision to adopt or reject the implementation of the new idea, & to confirm this decision". Premkumar & Roberts (1999) agreed with Rogers (1995) as they considered five phases in the adoption process: Awareness stage of acquiring information about the innovation, persuasion stage of being persuaded to adopt the innovation, decision stage of deciding to adopt, implementation stage of implementing the innovation & using it & finally confirmation stage of evaluating the actual outcomes with expectations.

The need for businesses to adopt new system is the anticipated benefits from this system that would be brought to the organization. If users are not willing to accept the IS, it will not provide full benefits to the organization (Benamati & Lederer 2008). In this research, it is proposed that there are several factors influencing the adoption of e-Management for the UOT.

In light of what mentioned above, the researcher defines the e-Management as: Based on the above, the researcher concluded the e-Management is the ability to use ICT for the implementation of administrative activities electronically via the Internet and providing electronic services anywhere and at any time.

The successful adoption of the e-Management relies on a number of different considerations such as being able to provide a set of requirements that is needed for the implementation of the e-Management. Those requirements can be achieved through referring to the strategic program and the integrated approach to Business Process Reengineering BPR in the UOT. The factors for that influence to the application of the e-Management are:

1.2 University Readiness (UR)

The e-Management requires a modern and flexible organizational structure based on the IT. It needs to emphasize as well on the innovation and initiatives, leadership in performance and completing work with the greatest efficiency (Ana, Del & Antonio, 2006). The University Readiness consists of

1.2.1 Developing Strategies and Establishing Plans

This requires the formation of management to ensure comprehensive planning strategies. Thereafter, implementation of the plans for e-Management can occur. During this process, consultants will also be involved to assist in helping the university develop specifications and standards of e-Management (Saad, 2010).

1.2.2 The Organization Structure

The organizational structures for the e-Management are matrix, networks and communications. The changes made in the organizational structure, procedures and methods, must match the principles of e-Management. This can be actualized through the development of new departments or the cancelling or merging of some existing departments to make sure that there are the appropriate conditions for the application of the e-Management in making the organization more efficiency and effectiveness (Grover, 1998).

1.2.3 Education and Training

The e-Management requires radical changes in their procedures, so that the quality of Human Resources HR is raised to the highest standards. This means rethinking education and keeping the current training systems in order that the requirements of new shift to the e-Management. Other changes include the preparation of new plans, programs, methods of education and training at all levels in the university. Furthermore, to raise awareness to the members of the UOT about the nature of the e-Management, psychological, behavioral, technical, material needs to be provided to successfully transition the requirements of the e-Management (Fink, 1998).

1.2.4 Update the Laws and Regulations in Accordance to Latest Developments

The shift to the e-Management requires changes be made to the legal and regulatory environment to help facilitate the e-Management. Any legislation that impedes the progress of e-Management transition should be replaced and legal texts should reflect the management shift from traditional management to e-Management (Premkumar & Roberts, 1999).

1.2.5 Information Technology Infrastructure

IT infrastructure requires that it be developed and improvements are made in communication networks so that they can be integrated and ready for use to accommodate the high number of connections at the same time. In addition, it is important to signal in this aspect need to link the e-Management of all of the modern electronic systems and Information and Communication Networks together because it is one of the most important and necessary considerations that ensure the success of the e-Management (Caldeira & Ward, 2002).

1.3 Top Management Support (TMS)

Several previous studies have shown that TMS is a significant predictor of technology adoption and leads to more successful IT use in many organizations (Seyal, & Rahman, 2003). It is important to create a supportive climate and adequate resources for the adoption of new technology (Premkumar & Roberts, 1999). Top management would be able to identify business opportunities for the exploitation of IT and their active involvement and support would provide appropriate strategic vision and direction for the adoption of new innovations (Thong, Yap & Raman, 1996). Moreover, this characteristic would also send signals about the importance of the innovation and succeed in overcoming organizational resistance to accept the IS. As a result, TMS will lead to obtaining necessary assistance related to required capital spending and labor support and the cooperation to complete for resources in the project-planning and development stage (Grover, 1998).

1.4 Financial Resources (FR)

The e-Management project must have sufficient funding where it will be able to cover the financial demands in improving the level of infrastructure, providing the necessary hardware and tools and software and technical maintenance, facilitating the training courses in Human Resources for the staff development. In order to continue and achieve the goal in e-Management implementation, funding needs to be available and sufficient (Forgionne & Kohli, 2000). Thus, it becomes clear that funding is a major consideration that is necessary for the application of systems within the e-Management. Hart & Porter (2004) suggested the there needs to be an independent budget of the project so that it can review periodically how the money is being spent and thereafter justify providing funding.

1.5 Subjective Norms of knowledge Sharing (SNKS)

According to Fishbein & Ajzen (1975), subjective norms refer to "perceived pressures on a person to perform a given behavior and the person's motivation to comply with those pressures". Thus, subjective norms reflect how the customer is affected by the perception of some significant referents (e.g., family, friends, and colleagues, among others) of his/her behavior. Many studies in psychology have theorized that subjective norms are an important determinant of perceived usefulness (e.g., Yi, Wu & Tung, 2005) and behavioral intention (e.g., Dezhi, Samuel & Han, 2008; Luarn & Lin, 2005; Taylor & Todd, 1995; Yi, et al., 2005). As stated previously, the TRA identified subjective norms and attitude as determinants of behavioral intention (David Arnott, 2010). The Innovation Diffusion Theory (IDT) by Rogers (1995) demonstrated that subjective norms and the interpersonal communication networks performed significant functions in the adoption decision.

1.6 Attitudes (A)

Attitude (A) explains a person's favorable or unfavorable assessment regarding the behavior. Furthermore, attitude directly influences the strength of the behavior and beliefs regarding the likely outcome. Accordingly, attitude (A) is equated with attitudinal belief (ab) linking the behavior to a certain outcome weighted by an evaluation of the desirability of that outcome. Attitudes and perceived usefulness are also affected by perceived ease of use. Perceived usefulness and reflecting a person's salient belief in the use of the technology will be helpful in improving performance. Perceived ease of use is a person's salient belief that using the technology will be free of effort (Taylor & Todd, 1995).

2. PREVIOUS STUDIES

Sattam & Sami (2011) focused to the factors affecting e-Commerce adoption in Jordanian SMEs. This study presents the results of a study investigating environment, organization readiness and technological factors that influence adoption of e-Commerce in small and medium size enterprises in Jordan. The results show several attention-grabbing similarities and few variations between the assorted sectors in Jordan. The organizational factors affecting e-Commerce adoption in these sectors in Jordan are the CEO and employees' knowledge and attitude. The questionnaire findings also showed that diverse technology in their respective organizations has an effect on e-Commerce adoption by SMEs in Jordan. Technological factors play an important role in e-Commerce adoption by SMEs in Jordan. Fatimah & Saedah (2010) emphasized the ICT for participatory based decision-making-E-management for administrative efficiency in Higher Education. E-Management in the context of this study has been shown to facilitate participatory decision making in an organization while ensuring tight quality control and monitoring procedures. Ethical and confidentiality issues are addressed as well. The model, called QuESt (Quality E-management System). As the main aim was to increase administrative efficiency, the system has a built in mechanism for minimizing wastage of resources, staff time as well as workload. As such it can maximize accountability, staff participation and to a certain extent, commitment. These being the case, in a small way, QuESt has managed to advance knowledge in e-management systems. It has implications for policy making in that policy makers can look to this system to perhaps improve management efficiency as well as staff commitment to achieving institutional aims. In as far as the efficiency of the system itself, commitment from top management especially in terms of monitoring. (2009) attempted to explore the Factors Influencing the Adoption of Internet Banking: Ming-Chi Lee An integration of TAM and TPB with Perceived Risk and Perceived Benefit / China. This

study explores and integrates the various advantages of online banking to form a positive factor named perceived benefit. In addition, drawing from perceived risk theory, five specific risk facets (financial, security/privacy, performance, social and time risk) are synthesized with perceived benefit as well as integrated with the Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB) model to propose a theoretical model to explain the customers' intention to use online banking. The results indicated that the intention to use online banking is adversely affected primarily by the security/privacy risk, as well as financial risk and is positively affected mainly by perceived benefit, attitude and perceived usefulness. Chong Yee Ling (2009) conducted a model of factors influences on e-Commerce adoption and diffusion in SMEs. This study aimed to develop a model of e-Commerce adoption to assist those SMEs that are considering currently conducting their business using the Internet. Building on an examination of current technology diffusion literature, a model of e-Commerce adoption has been developed. It investigated factors that potentially influence the adoption of e-Commerce. The findings indicated that many of SMEs have the support of their top management and its own high organizational readiness and best use of communication channels. Hong-Bumm Kim et al. (2009) examined the modeling roles of subjective norms and e-Trust in Customers' Acceptance of Airline B2C e-Commerce Websites. In this study, Kim described an extended Technology Acceptance Model (TAM), which integrates "subjective norms of knowledge sharing" and e-Trust into the model in order to determine their relevance to the acceptance of "Airline e-Commerce Websites Business-to-Customer System (AB2CEWS)". The proposed research model was tested empirically using data collected from a survey of customers who had utilized B2C e-Commerce websites of two representative airline companies in South Korea for the purpose of purchasing air tickets. Kim's findings provide general support for an extended (TAM), and also confirmed its robustness in predicting customers' intention to reuse (AB2CEWS). Valuable information was found from the findings regarding the management of (AB2CEWS) in the formulation of airlines' Internet marketing strategies. In addition, Seonghee & Boryung (2008) sought to an analysis of faculty perceptions: Attitudes toward knowledge Sharing and collaboration in an Academic Institution. The purpose of this study was to examine and analyze the major factors influencing knowledge sharing and to provide useful and practical insights for academic institutions as they develop knowledge repositories. In order to achieve the objectives of the study. The results show that 'perception' is the most influential factor and 'reward systems' is the second most influential factor for faculty knowledge sharing. Respondents did not consider other factors such as trust, collaboration, and communication channels based on IT infrastructure to be the main factors, its finding also concluded that perception was the most influential factor affecting faculty knowledge sharing. By its very nature, faculty jobs deal with creating, disseminating, and utilizing knowledge for research and teaching purposes.

3. PROBLEM STATEMENT

The problem of this research stems from detecting the factors that influence the adoption of e-Management based on the Theory of Reasoned Action TRA in the UOT in IRAQ. Correspondingly, this research attempts to answer the following main question: "What are the impacts of the internal factors on the adoption of e-Management at the UOT in IRAQ"?

4. RESEARCH AIM AND OBJECTIVES

The main aim of this study is to determine the factors influencing adoption of the e-Management based on the TRA by achieving the following objectives.

- Explaining the impact of the internal factors on the adoption of the e-Management at the UOT in IRAQ.
- Investigating the impact of the internal factors on the Attitude.
- Explaining the impact of the internal factors on the adoption of e-Management at the UOT / IRAQ through the Attitude.
- Providing significant recommendations based on the results that will be resulted in this study.

5. RESEARCH MODEL

To study the main factors influencing adoption of e-Management based on the Theory of Reasoned Action TRA in the UOT in IRAQ, the researcher relies on previous studies, the TRA model & his observations in building the proposed model below.

6. RESEARCH IMPORTANCE

The importance of this research can be derived from the following:

- The lack of studies that focus on e-Management in the Arab country, & particularly in IRAQ. Therefore, this research may represent a starting point for further research to cover other factors affecting e-Management adoption (which are not discussed in this research).
- This study aims to investigate the factors influencing adoption of the e-Management based on the TRA in the UOT in IRAQ.
- The findings of this research will be useful not only for academics, but also for UOT & any other university's managers & decision makers.

7. DESIGN AND METHODOLOGY

The researcher uses a deductive approach which is more likely to work with quantitative data in order to answer the questions about the relationships among measured variables with the purpose of explaining, predicting and controlling phenomena. Thus, the aim of a deductive approach is to generalize from a sample to a population (Leedy & Ormrod, 2001).

The design was quantitative because the data took a numerical form. That is, by employing a deductive approach with a quantitative research method, the researcher has been able to measure & analyze the relationship between influencing factors & the adoption of e-Management. This approach also allows for testing the research hypotheses & generalizing the research findings to the population (Zikmund, 2003).

The methodological approach in this research is a Descriptive Analytical Approach, because the researcher attempts to identify, explain variables of this research and to describe the relationships between these variables in order to provide a picture of a particular phenomenon, but not to ferret out cause-effect relationships.

The nature of questions in this research being investigated, for instance is "What are the main factors that influence the adoption of e-Management based on TRA in the UOTin IRAQ"? & according to the previous study it is appropriate to use a case study strategy. This can yield the following advantages: the case study strategy is flexible, useful for the discovery of new insights as well as for pointing out typical responses, can be applied to many people and provides data about the present and about what people are thinking, doing and anticipating (Zikmund, 2003).

The procedure of selecting (240) members in the UOT was based on the convenience sampling method, as it is considered the best way of getting some basic information quickly & efficiently (Sekaran, 2006). In addition, the researcher considered this procedure for its compatibility with the distinctiveness of e-Management for the members. The researcher distributed (240) questionnaires, (180) questionnaires were returned & were valid for analysis; these questionnaires were distributed to all of UOT's managers.

8. DATA ANALYSIS

Construct validity has been assessed by using correlation analysis, the result of testing the validity showed in Table (1). It implies that items that are indicators of a specific construct should converge or share a high proportion of variance (Hair et al, 2006). In other words, it assesses the degree to which measures of the same concept are correlated, with high correlation indicating that the scale is measuring its intended concept.

The item-to-total correlations in this research all exceed (0.5) & all items were significant because (Sig= .000<0.01); with each dimension demonstrating properties of good validity, the fitness of these models can now be assessed.

The reliability of the scales was established by utilizing Cronbach's alpha (Table 2). Considering the present research as a whole, Cronbach's alpha varied from (0.81 - 0.88), which is considered acceptable for this type of research.

To analyze Multi-collinearity, two types of measurements can be used: Variation Inflation Factor (VIF) & Tolerance. The VIF, measures the extent the variance of the estimated regression coefficients are inflated as a result of being related to the other independent variables, & Tolerance is the amount of variability of the selected independent variables not explained by other independent variables.

Results in Table below (3) shows that VIF for all independent variables ranged between (1.286-1.749), which are less than the limited valued (10) & Tolerance for all independent variables ranged between (0.550 -0.729), which are greater than (0.10). This indicates that there was no high correlation among the independent variables (Multi-collinearity).

The ratio of Skewness to its standard error can be used as a test of normality (that is, you can reject normality if the ratio is less than -2 or greater than +2). A large positive value for Skewness indicates a long right tail; an extreme negative value indicates a long left tail" (SPSS Base 16.0 users Guide, 2007). Table (4) presents the Skewness normality distribution test:

The reading of the Skewness test findings, all variables are normally distributed, ranging from (-0.263 to +0.713) falling within the interval of (2,-2).

Fitness of the Model: the linear regression analysis of the original model reveals that the R-square of the model is (0.340). This means that the model explains 34% of the variance in the dependent variable as shown in Table (5) below. The model is statistically significant, as the p-value for

the model is 0.000 which is less than the limit for statistical significance limit in same Table, which is 0.10 for weak significance & 0.05 for significance. This level is good; meaning that the fitness of the model in explaining the adoption process is high.

From the results showed in Table (6), UR has a significant effect on the adoption of e-Management based on the TRA in the UOT (t = 2.879; sig = 0.004). While TMS has a significant impact on the adoption of e-Management based on the TRA in the UOT (t = 2.478; sig = 0.014). Furthermore, FR has a significant impact on the adoption of e-Management based on the TRA in the UOT (t = 4.220; sig = 0.000). SNKS has a significant impact on the adoption of e-Management based on the TRA in the UOT (t = 3.709; sig = 0.000). In addition, A has a significant impact on the adoption of e-Management based on the TRA in the UOT (t = 5.270; sig = 0.000).

9. DISCUSSION

The research findings indicated that managers in UOT appear to make their adoption of e-Management in the UOT in IRAQ based on its UR, TMS, FR, SN & A. These results are somewhat consistent with the findings of previous studies. In light of the research objectives & the hypotheses testing the researcher has revealed the following overall conclusions:

9.1 System Characteristics

9.1.1 University Readiness (UR)

Through examining H0(1-1), meanwhile the UR explained (24.9%) of the total variance of the variable the adoption of the e-Management, while the value of (t) calculated (8.876) and (Sig. = 0.00) and that less than of (α), hence H0(1-1) is rejected. However, Chong (2009) indicated that the existence of high organizational readiness does influence the adoption of the electronic commerce and diffusion in Small and Medium Sized Enterprises (SMEs).

9.1.2 Top Management Support (TMS)

Through examining H0(1-2), the TMS explained (11.8%) of the total variance of the variable 'The adoption of the e-Management', while the value of (t) calculated (5.656) and (Sig. = 0.00) and that less than of (α), hence H0(1-2) is rejected. However, Sattam (2011) indicated that a high degree of the TMS affects the adoption of e-Commerce in Jordanian SMEs. This result is related to the respondents' personal opinions of individuals determining UOT's top management policies. However, it is indicated several research literatures that TMS is a key factor affecting the adoption of new ICT applications and has the greatest effect on e-Management usage.

9.1.3 Financial Resources (FR)

Through examining H0(1-3), the FR explained (15.2%) of the total variance of the variable the Adoption of the e-Management, while the value of (t) calculated (6.536) and (Sig. = 0.00) and that less than of (α), hence H0(1-3) is rejected. The researcher found FR had a positive role in the adoption of the e-Management in the UOT, and had a negative role on the Attitude of the respondents. This result can be explained by the respondents' point of view that the heterogeneous FR in the UOT contains different departments. However, several studies have also shown that (FR) is necessary for the successful introduction of new technology adoption and it is an important factor to be considered when implementing any technology. Ming (2009) indicated that impact of the FR can best be appreciated when understands how it helps in the development online banking through the

integration of TAM and TPB with perceived risk and perceived benefit.

9.1.4 Subjective Norms of Knowledge Sharing (SNKS)

Through examining H0(1-4), while the SNKS explained (24.7%) of the total variance of the variable the adoption of the e-Management, while the value of (t) calculated (8.841) and (Sig. = 0.00) and that less than of (α), hence H0(1-4) is rejected. This finding is similar to the results noted by Hong (2008) that indicated that the existence of a high degree of SNKS affects the modeling roles of subjective norms and e-Trust in customers' acceptance of airline B2C e-Commerce websites.

9.1.5 Attitudes (A)

Through examining H03, while the Attitude explained (27.9%) of the total variance of the variable the adoption of the e-Management, the value of (t) calculated (5.270) and (Sig. = 0.00) and that less than of (α), hence H03 is rejected. This finding is similar to the results by Seonghee & Boryung (2008) which indicated that there was a high degree of Attitude toward knowledge sharing and collaboration in an academic institution.

10. CONCLUSIONS AND RECOMMENDATIONS

In light of the research objectives and empirical results, and in order to answer the research questions outlined at the beginning of this research, the researcher has reached the following overall conclusions:

- 1. University Readiness, Top Management Support, Financial Resources, Subjective Norms of Knowledge Sharing and Attitudes have an effect on the adoption of the e-Management at the UOT in IRAQ and the relationship between them and the adoption of e-Management is positive.
- 2. UOT in IRAQ has a very strong base of University Readiness that is capable of adopting e-Management.
- 3. The researcher noted that there was a negative relationship between the Financial Resources and the Attitudes to adoption of e-Management in the UOT.
- 4. UOT managers also share a collective opinion regarding accepting the e-Management as a new system using technologies, and this is considered as a rare case especially in a big university.

11. RECOMMENDATIONS OF THE RESEARCH

In light of the research results and conclusions, the researcher recommends that:

- 1. UOT in IRAQ must maintain the actual level of orientation towards technology and needs to clarify the purposes of its adoption as a helping tool in order to raise their administrative efficiency.
- 2. The UOT should also keep a consistent rate of growth and development for the University Readiness especially the IT infrastructure, because of its important role in e-Management and the positive effect it has on the adoption of e-Management in the UOT.
- 3. UOT in IRAQ must by pay more attention to the Top Management Support, Financial Resources, Subjective

Norms of Knowledge Sharing and Attitudes towards adopting the e-Management.

4. UOT in IRAQ needs to clarify the strategic purposes and goals of using such systems through comprehensive and continuous trainings and workshops for the employees in the Middle Management and Operation Management Level.

12. RESEARCH LIMITATIONS

This research study has a number of limitations that should be taken into account when evaluating and generalizing its conclusions. However, the limitations discussed below can also provide the starting point for future research:

- 1. The scarcity of Arab and foreign resources which specializes in the e-Management. Most of the research focus is on e-Government and not on e-Management.
- 2. In this research, the researcher used a single method in data collection (questionnaires) to test a number of hypothesized relationships.
- 3. This study was conducted in one public university in IRAQ, more specifically in UOT. In some countries, the findings of this study may not be applicable due to having a different organizational culture.

13. REFERENCES

- Addison Y.S. Su, Stephen J.H. Yang, Wu-Yuin Hwang & Jia Zhang, (2010), "A Web 2.0-Based Collaborative Annotation System for Enhancing Knowledge Sharing in Collaborative Learning Environments".
- [2] Ana, Del, & Antonio (2006), "Organizational Factors Affecting Internet Technology Adoption", Internet Research, Vol. 16, N.1, pp.94-110.
- [3] Andrew Rhodes, (2010), "The Fundamentals of Electronic Document Management", Available on: WWW.BENTLEY.COM.
- [4] Benamati & Lederer (2008), "Decision Support Systems Infrastructure: The root problems of the management of changing IT". Decision Support Systems, Vol. 12, N.4, pp.833–844.
- [5] Caldeira & Ward (2002), "Understanding The Successful Adoption and Use of IS/IT in SMEs: an explanation from Portuguese manufacturing industries". Information Systems Journal, Vol.12, N.2, pp.121-152.
- [6] Chong Yee Ling, (2009), "Model of Factors Influences on Electronic Commerce Adoption and Diffusion in Small & Medium-Sized Enterprises", School of Information Systems, Curtin University of Technology, Australia.
- [7] Cordella, Martin, Shaikh & Smithson, (2011), "Management and innovation of e-business, Undergraduate study in Economics, Management, Finance and the Social Sciences", University of London International Programmers.
- [8] David Arnott (2010), "Research on Trust a Bibliography and Brief Bibliometric Analysis of The Special Issue Submissions", Warwick Business School, University of Warwick, Coventry, UK.
- [9] Dezhi, Samuel & Han (2008), "Trust or Not Exploring the Dark Side of Trust in E-Commerce Dezhi (Denny)",

College of Management, Georgia Institute of Technology, West Peachtree Street NW, Atlanta.

- [10] Fatimah & Saedah (2010), "Information and communication technology for participatory based decision-making-E-management for administrative efficiency in Higher Education", International Journal of Physical Sciences Vol. 5 (4), pp. 383-392, April, 2010.
- [11] Fink D., (1998), "Guidelines for Successful Adoption of Information Technology in Small & Medium Enterprises". International Journal of Information Management, Vol.18, N.4, pp.243-53.
- [12] Fishbein & Ajzen (1975), "Belief, Attitude, Intention & Behavior: An Introduction to Theory & Research", Addison-Wesley Publishing Company, Reading.
- [13] Forgionne & Kohli (2000). "Management support systems effectiveness: further empirical evidence". Journal of Association for Information Systems, Vol.1, N.3, pp.1-39.
- [14] Grover G., (1998), "Identification of Factors Affecting the Implementation of Data Warehousing". Unpublished PhD Dissertation, Auburn University at Montgomery.
- [15] Hair, Black, Babin, Berson & Tatham (2006), "Multivariate Data Analysis". 6th Ed, Pearson Education, Inc, Upper Saddle River, NJ.
- [16] Hart & Porter (2004). "The Impact of Cognitive & Other Factors on the Perceived Usefulness of OLAP". Journal of Computer Information Systems, Vol.45, N.1, pp.47-56.
- [17] Hong-Bumm Kim, Taegoo Kim & Sung Won Shin, (2009), "Modeling Roles of Subjective Norms and e-Trust in Customers' Acceptance of Airline B2C e-Commerce Websites", Tourism Management 30.
- [18] Jeong Chun Hai, (2007). Fundamental of Development Administration. Selangor: Scholar Press. ISBN 978-967-5-04508-0.
- [19] Leedy & Ormrod (2001), "Practical Research: Planning & design", 7th Ed, Pearson Educational International & Prentice Hall: New Jersey.
- [20] Luarn & Lin (2005), "Toward An Understanding of the Behavioral Intention to Use Mobile Banking", Computers in Human Behavior.
- [21] Martin, Brown, Dehayes, Hoffer, & Perkins (2002). "Managing information technology Pearson Education". Inc., Upper Saddle River, New Jersey.
- [22] Ming-Chi Lee, (2009), "Factors Influencing the Adoption of Internet Banking: An Integration of TAM and TPB with Perceived Risk and Perceived Benefit", Electronic Commerce Research and Applications 8.
- [23] Paul Timmers, (2000), Electronic Commerce strategies & models for business-to-business trading, pp.31, John Wiley & Sons, Ltd, ISBN 0-471-72029-1
- [24] Premkumar, G., & Roberts, M. (1999). "Adoption of new information technologies in rural small businesses". Omega, International Journal of Management Science, Vol.27, N.4, pp.467-484.
- [25] Rogers, E. (1995), "Diffusion of Innovation", 4th Ed, Free Press, New York.

International Journal of Computer Applications (0975 – 8887) Volume 123– No.18, August 2015

- [26] Saad G. Yassin, (2010), "The Electronic Management", Dar Yarouzri scientific, Amman, Jordan, p 31.
- [27] Sattam & Sami (2011), "Factors Affecting E-Commerce Adoption in Jordanian SMEs". Vol. 16, N02, pp.25-28.
- [28] Sekaran (2006), "Research Methods for Business: A Skill-Building Approach", 4th Ed, John Wiley & Sons, Inc, New Delhi.
- [29] Seonghee & Boryung (2008), "An Analysis of Faculty Perceptions Attitudes toward Knowledge Sharing and Collaboration in An Academic Institution, Library & Information", Science Research 30.
- [30] Seyal & Rahman (2003). "A preliminary investigation of Ecommerce adoption in small & medium enterprises in Bruni". Journal of Global Information Technology Management, Vol.6, N.2, pp.6-26.

- [31] Taylor & Todd (1995), "Understanding Information Technology Usage: A Test of Competing Models", Information Systems Research, Vol.6, N.2, pp.144-6.
- [32] Thong, Yap, & Raman (1996). "Top management support, external expertise & information systems implementation in small businesses". Information Systems Research, Vol.7, N.2, pp.248-267.
- [33] Turban, Rainer & Potter (2001). "Introduction to information technology". John Wiley & Sons, Inc.
- [34] Yi, Wu & Tung (2005), "How Individual Differences Influence Technology Usage Behavior? Toward an Integrated Framework", Journal of Computer Information Systems, Vol.46, N.2, pp.52-63.
- [35] Zikmund (2003), "Business Research Methods", Harcourt Brace Jovanovich: Fort Worth, Vol.6, N.2, pp.147-8.

E- (Item of C i	Sig.	Correlation of		
Factor	Item of Question	(2-tailed)	item-to-total		
	UR 1	0.000	0.801**		
	UR 2	0.000	0.821**		
	UR 3	0.000	0.843**		
	UR 4	0.000	0.802**		
	UR 5	0.000	0.806**		
University	UR 6	0.000	0.803**		
Readiness	UR 7	0.000	0.802**		
	UR 8	0.000	0.790**		
	UR 9	0.000	0.754**		
	UR 10	0.000	0.736**		
	UR 11	0.000	0.753**		
	UR 12	0.000	0.691**		
	TMS 1	0.000	0.737**		
Тор	TMS 2	0.000	0.699**		
Management	TMS 3	0.000	0.748**		
Support	TMS 4	0.000	0.708**		
	TMS 5	0.000	0.639**		
	FR 1	0.000	0.873**		
Financial	FR 2	0.000	0.918**		
Pasouroos	FR 3	0.000	0.915**		
Resources	FR 4	0.000	0.804**		
	FR 5	0.000	0.848**		
	SNKS 1	0.000	0.823**		
Subjective	SNKS 2	0.000	0.819**		
Norms of	SNKS 3	0.000	0.562**		
knowledge	SNKS 4	0.000	0.827**		
sharing	SNKS 5	0.000	0.747**		
	SNKS 6	0.000	0.577**		
	A 1	0.000	0.571**		
	A 2	0.000	0.592**		
Attitude	A 3	0.000	0.685**		
	A 4	0.000	0.675**		
	A 5	0.000	0.633**		
	EM 1	0.000	0.810**		
	EM 2	0.000	0.812**		
	EM 3	0.000	0.820**		
	EM 4	0.000	0.805**		
Adoption the	EM 5	0.000	0.745**		
e-Management	EM 6	0.000	0.763**		
	EM 7	0.000	0.759**		
	EM 8	0.000	0.696**		
	EM 9	0.000	0.667**		
	EM 10	0.000	0.526**		

14. APPENDIX Table 1. Test of Construct Validity

EM 11	0.000	0.575**
EM 12	0.000	0.657**

** Correlation is significant at the 0.01 level (2-tailed)

Variables	No. of Cases	No. of Items (Question)	Cronbach's Alpha
University Readiness	180	1-12	0.82
Top Management Support	180	13-17	0.83
Financial Resources	180	18-22	0.86
Subjective Norms of Knowledge Sharing	180	23-28	0.81
Attitudes	180	29-33	0.84
Adoption of e-Management	180	34-45	0.88

Table 2. Cronbach's Alpha for the Scales

Table 3. The Multicollinearity Test					
Variables	Tolerance	VIF			
University Readiness (UR)	.5720	1.749			
Top Management Support (TMS)	.7120	1.404			
Financial Resources (FR)	.7780	1.286			
Subjective Norms of Knowledge Sharing (SNKS)	.5730	1.747			

Table 4. Skewness Coefficients

Variables	Skewness
University Readiness (UR)	.1010
Top Management Support (TMS)	.7130
Financial Resources (FR)	-0.263
Subjective Norms of Knowledge Sharing (SNKS)	-0.170

Table 5. Fitness of the Model for Regression Analysis

Mode	R	R2	Adjusted R2	S.D Error of the Estimate	Durbin- Watson	F	Sig
Adoption of e-Management	0.583a	0.340	0.322	0.308	2.037	30.20	0.000

a. Predictors: (Constant), UR, TMS, FR, SNKS, A.

b. Dependent Variable: adoption of the e-Management.

* Statistically significant at the level of significance ($\alpha \le 0.05$)

Table 6. T-Value & Significance Level (α)

	Unstandardized Coefficients		Standardized		
Independent Variables			Coefficients	t	Sig.
	b	Std. Error	Beta		
Constant	1.770	0.274		6.463	0.000
UR	0.209	0.073	0.197	2.879	0.004

International Journal of Computer Applications (0975 – 8887) Volume 123– No.18, August 2015

TMS	5 (0.134	0.054	0.152	2.478	0.014
FR	(0.103	0.024	0.247	4.220	0.000
SNK	s (0.188	0.051	0.253	3.709	0.000



Figure 1. The Proposed Model of the Research