DOI:10.26524/jms.2014.16

Proposed model for the successful implementation of management information systems in yemeni organizations

Yaser Hasan Al-Mamary [a] , Alina Shamsuddin [b], and Nor Aziati [c]
[a, b, c] Universiti Tun Hussein Onn Malaysia, Faculty of Technology Management and Business , 86400 Malaysia

ABSTRACT: In information systems era, data have become one of the most important resources to organizations .Management information system one of the most important tools in any organization , which aims to provide reliable ,complete ,accessible, and understandable information in a timely manner to the users of the system .In addition increase the organizational performance and labor productivity .There are several characteristics to the success or failure of the implementation of management information systems in organizations. Most of existing model focus heavily on technology characteristics or compared to organizational characteristics and human characteristics . This study will focus on all the characteristics for MIS success. This study combines four theories namely as technology acceptance model ,information system success model , computer usage model ,and personal computing acceptance model .The aim of this study to develop proposed model for successful adoption of MIS in Yemeni organizations.

Keywords: proposed model,successful implementation, MIS,Yemeni organization.

1. INTRODUCTION

For the last twenty years, different kinds of information systems are developed for different purposes, depending on the need of the business. Each plays a different role in organizational hierarchy and management operations [1]. There are a lot of organizations in Yemen that is used management information systems, such as banks and telecommunications companies, ministries and universities. The use of management information systems has become necessary for any organization to facilitate the work procedures and improve efficiency and productivity and improve performance in general.
In case of telecommunication companies, there are different types of MIS used in telecommunication companies such as marketing IS ,accounting IS, human resources IS, and customer relationship management system. The most common management information system used in telecommunication companies in Yemen are human resource IS and customers system. The human resource system contains of personal details such as salary, and attendance etc. Meanwhile, the customers' management system includes all the information that related to the customers [2].
A great number of organizations could not operate properly and successfully without the implementation of MIS .Management information systems make it possible for organizations to get the right information to the right people at the right time in the right form by enhancing the interaction between the organization's people. In addition MIS allows information to move between departments instantly, reducing the need for face-to-face communications among employees, thus increasing the responsiveness of the organization [3].

According to Babu [4] the primary purpose of MIS is to help an organization achieve its goals by providing managers with insight into the regular operations of the organization so that they can control, organize, and plan more effectively .According to ramachandra [5] MIS supplies accurate, relevant and timely information to the manager of an organization. Yeser Hasan [6] defined MIS as type of information systems that transform data to information and summarized the information to Meaningful and useful forms as management reports to use it to support management activities and decision making.

2. PROBLEM OF THE STUDY

The successful adoption of technologies in companies are much depending on technology characteristics ,project and organizational characteristics , user and social characteristics , and task characteristics [7] .However in reality these factors are much neglected by organizations especially among small companies.

There are three main issues related to MIS adoption in Yemeni organizations (technological, organizational, and people).Technological issue include (system quality ,information quality, and service quality) .That's where the system that is ease of use and easy of learn , quality of information provided by the system, and the prompt service provided by the technical support department all these issues related to technology and have a significant impact on the success adoption of the Management Information Systems. Organizational issue include (top management support, and end-user training).The support of the top management of important issues for the success adoption of management information systems. The management should to provide the adequate budget for training and encourage staff to use management information systems, and provide them with support and assistance that they need .People issue includes (computer self-efficacy, and user experience). The self-efficacy and experience is the important issues that affect the success of the adoption of management information systems. Therefore the organizations must to employ people who have the self- efficiency in the use of computers. Where the employees that have self-efficacy in using the computer don't need experience in using the system.

3. SIGNIFICANT OF THE STUDY

From the database of National Information Center in the Republic of Yemen, this study is the first attempt focuses on main characteristics that effect the success or failure of MIS adoption in Yemeni organizations. This study attempt to identify the characteristics that lead to the successful or failure adoption of management information systems in Yemeni organization. Terms that identify the characteristics accurately, will have positive role on successful adoption of technology in Yemeni organizations in general.

4. LITERATURE REVIEW

4.1 Theories in IS Adoption and acceptance of technology

Information systems are essential tool affect on the organization as a whole. There are many theories in information systems adoption such as Technology Acceptance Model (TAM), Delone and McLean IS success model , Theory of Planned Behavior, unified theory of acceptance and use of technology (UTAUT), diffusion on innovation theory (DOI), technology organization and environment framework (TOF), computer usage model, and personal computing acceptance model. In this study, we will use the theories that focus only on technology characteristics, organizational characteristics, and people characteristics .The used theories in this study are technology acceptance model ,IS success model ,computer usage model, and personal computing acceptance model . Optional reason for TAM model and Delone and Mclean model is these models is the popular models in information system success and technology adoption. Optional reason for personal computing acceptance model ,and computer usage model is these model is most related to this study.

4.1.1 Technology Acceptance Model

The Technology Acceptance Model, developed by Davis [8] is one of the most influential research model in studies of the determinates of information systems and information technology acceptance to predict intention to use and acceptance of information systems and information technology by individuals. In the Technology Acceptance Model, there are two determinants including perceived ease of use and perceived usefulness [9].

4.1.2 Delone and Mclean's IS Model

Delone [10] performed a review of the research published during the period 1981–1987, and created taxonomy of IS success based upon this review. In their 1992 paper, they identified six variables or components of IS success: system quality, information quality, use, user satisfaction, individual impact, and organizational impact [11]. Delone & McLean [12] proposed an updated model again based on a literature review. They added service quality as one important dimension. In addition, they added Intention to Use as an alternative measure because an attitude is worthwhile to measure in some context. Finally, they combined Individual and Organizational Impact to one dimension, named net benefits.

4.1.3 Computer Usage Model

The theoretical grounding for this theory comes from social cognitive theory (SCT), theory of reasoned action (TRA), theory of planned behavior (TPB); and technology acceptance model (TAM). This model introduces an extended technology acceptance model (TAM) that explicitly incorporates self-efficacy and its determinants (experience and organizational support) as factors affecting computer anxiety, perceived ease of use, perceived usefulness and the use of computer technology [13].

4.1.4 Personal Computing Acceptance Model

This model posits that personal computing acceptance in small firms is a function of perceived ease of use and perceived usefulness. These two factors are hypothesized to have a direct effect on personal computing acceptance in small firms. The model also proposes that these two factors mediate the effects of the intra and extra-organizational factors on personal computing acceptance. The theory shows that the intra- and extra-organizational factors are expected to influence personal computing acceptance indirectly through their effects on perceived ease of use and perceived usefulness [15].

5. DEVELOP INTEGRATED MODEL

There are many theories that define the key factors for the successful adoption of information systems and the acceptance of the use of technology in organizations. Some of these theories believe that the quality of the system and its ease of use, quality of information provided by the system, and service of technical support team are the main reasons for the success. Some of the other theories focus on organizational characteristics as management support, and internal and external training as the main reason for the acceptance of usage. And others believe that the characteristics of humans such as experience and self-efficacy, and get rid of computer anxiety of the main reasons for the success. Through we saw the reality in Yemen and found that all the previous characteristics influenced by the success of the adoption of information systems and the acceptance of the use of technology. So it was necessary to bridge this gap through the development of an integrated model that combines all the theories related to the present study. Where the adoption of this model in the Yemeni organizations will ensure that the successful adoption of information systems and the acceptance of the use of technology in organizations of Yemen.

6. PROPOSED MODEL

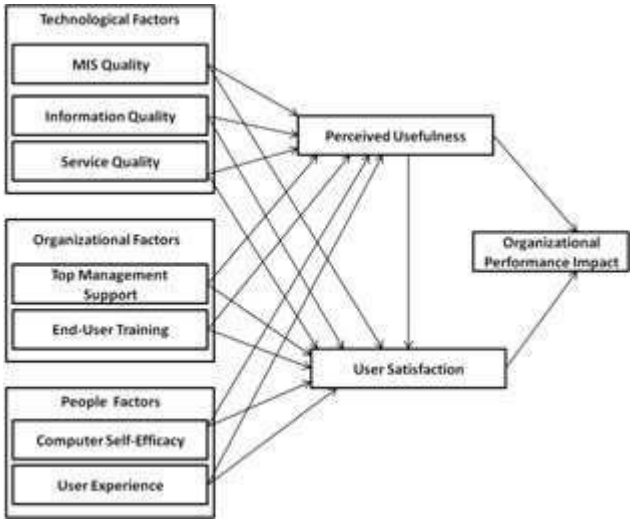

Fig 1: Proposed Model

7. DEFINITION OF THE VARIABLES

Listed below are definitions and explanations of terms that are used throughout this proposed model:

MIS Quality is the desirable characteristics of any information system. The common measures for system quality that used/adopted by previous researchers are ease of use, flexibility, response time and reliability [6].

Information Quality is the desirable characteristics of the system outputs. For example: relevance, understandability, accuracy, conciseness, completeness, understandability, currency, timeliness, and usability [11].

Service Quality is the quality of the support that system users receive from the technical support department (IS department) [11].

Top Management Support refers to the extent that top management encourages, and allocations of necessary resources for use MIS [15].

End-User Training refers to the amount of training provided by computer specialists in the company, friends, consultants, or educational institutions external to the company [14].

Computer Self-Efficacy refers to an individual's belief that he or she has the skills and abilities to use computing technology to perform specific tasks [16].

User Experience prior experience of an individual with a specific technology [17].

User Satisfaction is Users' level of satisfaction with the MIS [7].

Perceived Usefulness the degree to which a person believes that using a particular system would enhance his or her job performance [8].

Organizational Impact is the effect of management information system on organizational performance [10].

Organizational Performance is accumulated end results of all the organization's work processes and activities [18].

8. CONCLUSION

This study presented the literature review on IS adoption theories , and concept on management information systems .The study is attempt to integrate some of the important theories of success and acceptance of the technology , where each model focuses on the type of characteristics. Technology

acceptance model variables (ease of use) focus on system quality characteristics. In addition information system success model variables (system quality, information quality, service quality) focus on technology characteristics .While computer usage model variables (computer self-efficacy, user experience, management support, and computer anxiety) focus on people and organizational characteristics. Personal computer acceptance model variables (top management support, and user training) focus on organizational characteristics.

Based on above models and literature review we proposed theoretical model. This model consists of ten variables or components: MIS quality, information quality, service quality, top management support, end user training, computer self-efficacy, user experience, perceived usefulness, user satisfaction, and organizational performance.

Where the adoption of this model in Yemeni organizations will ensure that the successful adoption of information systems and the acceptance of the use of technology in organizations of Yemen.

9. ACKNOWLEDGMENTS

The authors would like to thank Faculty of Technology Management and Business UTHM for help. In addition thank ministry of Higher Education and Scientific Research in Yemen for support.

10. REFERENCES

[1] Al-Mamary ,Y.H. , & Shamsuddin,A., & Aziati ,N. (2014), The Role of Different Types of Information Systems in Business Organizations : A Review, International Journal of Research ,Vol.1 ,Issue.7,pp.333-339.

[2] Al-Mamary ,Y.H. , & Shamsuddin,A., & Nor Aziati, A.H. (2014) Key factors enhancing acceptance of management information systems in Yemeni companies, Journal of Business and Management Research, Volume. 5 , pp. 108-111.

[3] Nath ,R.P. ,& Badgujar ,M. (2013) Use of Management Information System in an Organization for Decision Making ,ASM's International E-Journal of Ongoing Research in Management And IT.

[4] Babu , K.V.S.N.J. ,& Sekhar ,B.M.R (2012). MIS. Vs. DSSS in Decision Making, Global Journal of Management and Business Research , Volume 12 Issue 16 Version 1.0.

[5] Ramachandra , C.G. ,& Srinivas ,T.R. (2012). Acceptance and usage of management information system in small scale and medium to large scale industries International Conference On Advances In Engineering, Science And Management.

[6] Hasan,Y., & Shamsuddin,A., & Aziati ,N. (2013), Impact of Management Information Systems adoption in Managerial Decision Making : A Review, The International Scientific Journal of Management Information Systems ,Vol.8 ,No.4,pp.010-017.

[7] Petter , S., DeLone, W., & McLean, E. R. (2013). Information Systems Success: The Quest for the Independent Variables. Journal of Management Information Systems, Vol. 29, No. 4, pp. 7–61.

[8] Davis, F.D. (1989). Perceived usefulness, Perceived ease of use , and user acceptance of information technology. MIS Quarterly, 13,pp.319-340.

[9] Chen ,S-C.,& Li ,S-H ,& Li ,C-Y (2011) Recent related research in technology acceptance model: a literature review, Australian Journal of Business and Management Research , vol.1,no.9, 124–127.

[10] Delone, W. H., & Mclean, E. R. (1992). Information Systems Success: The Quest for the Dependent Variable, pp.60-95.

[11] Petter ,S., & DeLone, W., & McLean,E. (2008). Measuring information systems success: models, dimensions, measures, and interrelationships. European Journal of Information Systems, vol.17,pp. 236–263.

[12] DeLone, W. H. ,& McLean , E. R. (2003). The DeLone and McLean Model of Information Systems Success : A Ten-Year Update, Journal of Management Information Systems, Vol. 19, No. 4, pp. 9–30.

[13] Igbaria, M., & Iivari, J. (1995). The Effects of Self-efficacy on Computer Usage, Omega, Int. J. Mgmt Sci. Vol. 23, No. 6, pp. 587-605.

[14] Igbaria ,M., & Zinatelli,N., & Zinatelli,P., & Cavaye, A. L.M.(1997) Personal Computing Acceptance Factors in Small Firms: A Structural Equation Model, MIS Quarteriy.

[15] Igbaria,M. ,Guimaraes,T., and Davis ,G.B.(1995) testing the determinates of micro computer usage via a structural equation model, Journal of management information systems, vol.11,no.4,pp.87-114.

[16] Al-shawabkeh , M., & Saudi ,M.M. (2012). Computer Security Self-Efficacy Effect, an Extention of Technology-to-Performance Chain Model, IEEE Control and System Graduate Research Colloquium,pp.64–69.

[17] Chuttur M.Y. (2009). "Overview of the Technology Acceptance Model: Origins, Developments and Future Directions ," Indiana University, USA . Sprouts: Working Papers on Information Systems, Vol.9,No.37.

[18] Robbins ,S.P., & Coulter, M. (2002) Management, 7 th edition, Prentice Hall.

*****