A Conceptual Model for E-Government Success Factors in Developing Countries

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Abstract- This paper presents a study which examines several e-government success factors in developing countries. Developing countries in the Middle East have a history of commitment to good governance and ICT-related initiatives. But still there is very little research that examines what businesses use in terms of e-government and issues and constraints that they face, plus that e-government projects failure cases mostly happen in developing countries, hence there is a need to give a great deal of attention to these countries to make e-government projects successful. For a better understanding of e-government and its influence on the society as all and on the business society in particular the researchers carried out a study to propose a conceptual model for e-government success and to identify the success factors which affect e-government success from a business perspective in developing countries, and to investigate the factors that determine business organization satisfaction towards e-government in developing countries. In this paper the researchers will discuss four factors that affect the success of e-government services from businesses perspective in developing countries as followed: information quality, perceived ease of use, personalization and trust.

Index Terms- E-government success, information quality, personalization, perceived ease of use, trust, developing countries e-government

I. INTRODUCTION

E-government phenomenon began in the 1990s and refers to the use of information and communication technologies (ICT) to improve the activities of public sector organizations. ICT has revolutionized the way governments, organizations and individuals used to carry out their work. Due to the important position of the government, it has implemented ICT and information systems for serving the citizens and businesses efficiently and effectively, when the concept of e-government was born at that time (Meftah et al. 2015). Over time services through internet have become the primary interfaces between government and stakeholders (citizens, business and with other government (Karkin & Janssen, 2014). Nowadays rather using traditional services governments are serving to the citizens, business organizations and other stakeholders through the internet. Serving through the internet governments have taken several initiatives to enhance the effectiveness and efficiency of the services providing through the introduction of e-Government (Alanezi, Kamil & Basri, 2010).

Information and communication technologies (ICT) have revolutionized the processes, operations and structures of public sectors in both developed and developing countries (Alshibly & Al-Dmour, 2011; Rana et al. 2015). Nowadays, the e-government plays an important role in serving societies and businesses by providing to them different kinds of transactions and services at anytime and anywhere using a device that is capable to be connected to the internet (Meftah, Gharleghi, & Samadi, 2015). This paper thus intends to examine several success factors of e-government application adoption for business organizations in developing countries and propose a conceptual model for e-government success. Several scholars addressed that e-government projects failure cases belong to developing countries and there is a need to give a great deal of attention to these countries to make e-government projects successful. For a better understanding of e-government and its influence on the society as all and on the business society in particular the researchers carried out this study to identify the success factors which affect e-government application adoption in developing countries, also to investigate the factors that determine business organization satisfaction towards e-government adoption in developing countries. In this paper the researchers will discuss four factors that affect the success of e-government services from businesses perspective in developing countries as followed: information quality, perceived ease of use, personalization and trust.

II. PROBLEM STATEMENT

It is suggested by the literature that many initiatives of the e-government have not been completed successfully, especially in the developing countries. Nearly 60% to 80% of e-government projects fail or do not reach their objectives (Heeks, 2003; UN, 2008; Mkude & Wimmer, 2013; UN, 2012; Rabaai, 2015). Thus there is very little research that examines what businesses use in terms of e-government and the issues and constraints that they face (Reddick, & Roy, 2013). As Alawneh *et al.* (2013) declared that, in order to increase citizen satisfaction, the e-government authorities in developing countries need to develop e-government portals with good accessibility capabilities, awareness aspects, and service quality measures; this will influence usage behavior, satisfaction evaluation and their positive feelings towards adopting the e-government portals. Komba and Ngulube, (2014) asserted that in order for e-government adoption to succeed; a high level of satisfaction with the online service provided by the government is required.

III. SUCCESS FACTORS OF E-GOVERNMENT

Information Quality as a Success Measure

In the Internet environment, Information Quality measures some aspects that are related to Information Quality such as timeliness, accuracy of the information generated by an information system and the relevance (DeLone & McLean, 2003; 2004). Several quality assessment aspects are essential, including the comprehensiveness of the output information content, the correctness of the output information, and the availability of the output information at a time suitable for its use (Bailey & Pearson, 1983). It is also important to consider issues such as relatedness, clearness, and goodness of the information (McKinney et al., 2002).

User satisfaction is affected by both information quality and system quality (DeLone & McLean, 1992; 2004; McKinney et al., 2002; Seddon, 1997; Seddon & Kiew, 1996; Molla & Licker, 2001). Szymanski and Hise (2000) found that, product information aspects and website design issues are important for determining customer satisfaction. Information quality and system quality are related positively with satisfaction. That indicates the higher information quality and system quality are perceived by users, the more satisfaction is gained out of them towards the system (DeLone & McLean, 2004).

Personalization as a Success Measure

Within the e-government context, the lack of physical contact inherent in the online experience causes customers to depend greatly on information technology (IT) behind the e-government system. IS researchers generally regarded personalization to be a highly important characteristic of all web-based ISs (Komiak and Benbasat 2006), independent of the specific application a system was designed to support. In the e-commerce context, Komiak and Benbasat (2006) found that personalization influences trust in a positive way by facilitating the perceived competence of the IT artifact and the user. In turn, this study suggests that the greater the extent to which an e-government website understands and represents the personal needs of the user and the degree to which information is tailored to meet the needs of an individual user, the higher is the customer's trust. However, there has been little empirical research about the impact of personalization provided by e-government websites on trust. Therefore, this work contributes to the current knowledge about the impact of personalization on trust. In the context of studying e-government success, a critical issue has hampered empirical investigations of the impact of customer trust on e-government success: the confusion between interpersonal trust and system trust. With interpersonal trust, trust is with a person or business, whereas system trust is about the reliability and security of the system (Alshibly & Chiong, 2015). Successful use of (ICT) creates the chance for governments to increase citizen satisfaction through government delivery of e-services. Citizen satisfaction with e-government service is related to the use of an e-government website, and citizen satisfaction is positively associated with trust in government. So by the increasing of citizen trust in their government that will lead to citizen satisfaction in government e-service delivery (Alshibly & Chiong, 2015; Welch et al., 2004). Citizens perceived quality of public service delivery increases citizen satisfaction, so business

users' satisfaction is strongly connected and related to trust in government service delivery (Bouckaert et al., 2002).

Perceived Ease of Use as a Success Measure

It has also been claimed that system quality can influence the perceived ease of use, and that is by the factors behind the system quality can lessen the effort users have to make in their usage of information technology. Personalization is the process of customizing an IS's functionalities, interfaces, and contents to a user's demand based on knowledge obtained through services and user interactions (Sundar & Marathe, 2010; Park, 2014; Pappas *et al.* 2014). It is also widely known that personalization benefits users with more suitable added value offerings (Kwon & Kim, 2012). Thus, perceived ease of use has effect on personalization of the IS and lead to the better usefulness to users. Accessibility is related to how the system is available, if the user wants to access the site; whether there are fewer impediments towards the user using the system as needed. This takes the user to use the system to perceive usage to be easier. Lucas and Spitler (1999) found that the system quality has an influence on the perceived usefulness and perceived ease of use. Rai et al., (2002), extended the Seddon model and identified perceived usefulness and perceived ease of use as antecedents of satisfaction. According to Davis et al., (1989), defined perceived ease of use "refers to the degree to which a person believes that using a particular system would be free of effort" (Davis 1989, p. 320). They also stated that perceived ease of use is an antecedent of perceived usefulness. Other researchers have offered the same finding that "perceived usefulness is influenced by perceived ease of use (Igbaria et al., 1996; Gefen & Keil, 1998).

Trust as a Success measure

Another area of research that has received a lot of attention is business' use of e-government and trust and confidence in government (Morgeson, VanAmburg, & Mithas, 2010). Trust in government has long been studied in the political science literature. Trust essentially means that citizens have confidence that their government will make the right decisions. The role of government is normally and traditionally that of protector and provider of services to its citizens. Citizen satisfaction is developed in terms of the quality of this protection by the government, and this also applies in the context of e-government systems. On the government side, its ability to perform its service as a protector, depends on their ability to gather intelligence or information on the needs of citizens, and based on such information; provide services that can help citizens in their activities. However, this requires that citizens are willing to be told by the government, receive instructions and exchange information on the e-government system. The proper functioning of these steps can ensure the success of e-government. Thus, trust becomes one of key components in enabling citizens to become willing to receive information and provide information to the e-government system in return (Lee and Rao, 2003).

Shapiro (1987) identified two types of institutions based trust; the normality of the situation, which is the belief that when situations are normal, success is likely to follow; and structural assurances which, is the belief that the presence of promises, contracts, regulations, or possible solutions to increase the chances of success guarantees. The third type of trust,

knowledge based trust, is identified as familiarity with the e-vendor (Gefen, Karahanna, Straub, 2003). They argue that familiarity increases the understanding of present actions. They further state that knowledge based trust reduces the uncertainty and risk in online transactions and reduce any confusion on the use of procedures within a Web page. Trust that is invested in the website can be increased by perceived ease of use (Gefen, Karahanna & Straub 2003; Holsapple & Sasidharan, 2005). Four items will be used to measure trust that measure knowledge based trust. Relying on the different trust categorizations discussed in the literature, it will be decided that knowledge based trust best reflects the context of this research in the view of the organization.

IV. E-GOVERNMENT

"Electronic Government" refers to the use by government agencies of information technologies (such as Wide Area Network (WAN), Internet and mobile computing) that has the ability to transform relations with citizens, businesses and other branches of the government (Meftah *et al.*, 2015).

Santos et al. (2013) refer that the function of an Electronic Government is to restructure the organization of public services, adopting mechanisms that promote communication among different entities, thus simplifying processes. The characteristics of good public governance include improved transparency and accountability. The promise of greater government transparency and accountability is often the reason for developing countries to take part in e-government service (Chatfield & Alanazi, 2015; Chen, Jubilado, Capistrano, & Yen, 2015).

V. INFORMATION AND COMMUNICATION TECHNOLOGY IN DEVELOPING COUNTRIES

The context for this research is the business organizations in developing countries. A revolution in ICT has changed the way of interaction between government and their citizens. These changes have turned into a new form of government called e-government. E-government is defined as: The use of ICT and internet to enhance the access to and delivery of all facets of government services and operations for the benefits of its stakeholder groups which includes citizens, businesses, and government itself (Srivastava & Teo, 2008; 2009; 2010).
As Abdalla (2012), stated that some suggest that the gap between the context and the (economic, political or technical) goals and values could easily lead to failure, there is a lack of a model based on the context to better adopt the best developed e-government solution and identify the challenges and factors that influence the adoption process, as part of the context of key developing countries.

VI. DEVELOPING COUNTRIES AND E-GOVERNMENT

As Abdalla (2012), stated in his study that some suggest that the gap between the context and the (economic, political or technical) goals and values could easily lead to failure in developing countries, there is a lack of a model based on the context to better adopt the best developed e-government solution

and identify the challenges and factors that influence the adoption process, as part of the context of key developing countries. After the study that was carried out by Alawneh *et al.* (2013), in the area of e-government adoption in Jordan which is considered a developing country, they recommended for a more comprehensive study for future work, future researchers should focus on using more than the number of variables that they have used in their study, plus to increase the sample size and ensure the respondents constitute a balanced demographic, as to get a full explanation on the factors that influences developing countries citizens in general and Jordanian citizens in particular to adopt the e-government services and satisfaction of the provided services. A study carried out by Zakaria, (2012), in the area of e-government that was held in Egypt as a developing country to assess the practicality of the ESI model, he mentioned that an e-government program of a developing country is needed where there is an enormous opportunity for enhancement and change. Additionally, one of the objectives of such e-government program is to be citizen centric and been evaluated using an international accepted model that belongs to the family of normative models and shows improvement.

As for a study that was held by Furuholt & Matotay (2013), they said that one of the main contributions in order to create development in poor countries is to give people access to information and communication. Most people in poor countries cannot afford to buy their own computer equipment, and access has therefore to be facilitated by arrangements for public use. Today, Internet cafes and tele-centres are the two main sources of public Internet access in developing countries. One area where information technology and public Internet access can be particularly useful for the development of poor countries is as a tool for promoting good governance through e-government systems. Generally, developing countries are lagging behind in e-government adoption

Relying on the previous literature review the presented research model was built. See Figure(1.0)
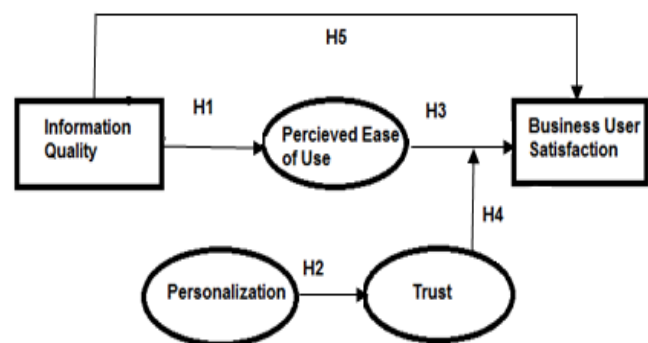

Figure 1.0: Presented Research Model

VII. METHODOLOGY

Research Goal

In this study, we aim to examine the effect of (Information Quality, Perceived ease of use, Personalization and Trust) on Business User Satisfaction in e-government by business users. A

structured questionnaire will be used in order to gather the data to develop the e-government service quality scale.

Sample and Data Collection

In the current study, the sample of this study will be the business companies that use e-government services. The data will be collected via the researchers. The questionnaire which is meant to measure the overall perceived service quality in e-government will be distributed to the targeted respondents. Based on a comprehensive review of previous literature in the area of e-government in developing countries, that have used the IS success model of Delone and Mclean plus the TAM theory using also Trust, and Personalization as success factors. The present study proposed a model of e-government adoption for business organizations in developing countries. In this model, which also includes the relationships between information quality and other significant constructs, it is proposed that a study should be done to test the model empirically.

In the process of developing this model, much attention is given to the measurement model of service quality in Information Systems based on the well-known Delone and Mclean IS success model, and the theory of Technology Acceptance Model. Nonetheless, the proposed model is developed based only on a theoretical perspective. The model will have to be tested empirically in order to measure its practicality and robustness. Henceforth, the model will be more conclusive and the contribution to the research area will be much more significant. Despite its limitation, this study provides understanding, specifically to the organizations, companies, and their respective clients, of the strengths and benefits of e-government service quality. Thus, it will help to create awareness and new knowledge regarding the importance of using e-government services through the business organizations in developing countries for the purposes among customers and vendors, hence serving as a long-term benefit to them. A better understanding and practice of e-government would increase ability in the adoption power of organizations usage and the efficiency of businesses. Moreover, this study could increase the understanding of the determinants of e-government service quality by customers and vendors, so that users' behavioral intention can benefit the e-government system. The users could also benefit from the research by knowing how to select the appropriate e-government service which can provide the e-government service quality that they seek. Other than this, the study can assist top management to develop and provide appropriate strategies to support e-government.

VIII. FINDINGS

DeLone and McLean Success Model

For the measurement of Information System Success, a model that was developed by DeLone and McLean (1992) that was a success measurement framework known as an IS success model. Thus, in their model, user satisfaction, system quality and information quality were identified as success criteria. The study of the IS (information system) efficiency is strongly influenced by DeLone and McLean (1992) IS success model. The model presented six key variables for success of the information system: Information Quality, User satisfaction, System Quality,

Information System use, Organizational Impact Use and Individual Impact. System quality and information quality, individually and jointly affect both use and user satisfaction.

In addition, the amount of use can affect positively or negatively the degree of User Satisfaction and the opposite is also true. The use and user satisfaction are direct precursors of the individual effects; Moreover, this influence should be based on individual performance may affect the organization (DeLone and Maclean, 1992). In the DeLone & McLean IS Success model "System Quality" measures technical success, "Information Quality" measures semantic success and "Use, User satisfaction, Individual Impact and Organizational Impact" measures effectiveness success. DeLone and McLean updated their model and included service quality as a success measure, in the context of e-commerce based on support provided by (Pitt et al., 1995). Thus the researchers used factors from this model to carry out the study with the proper tools, the updated model for Delone and Mclean is shown in the followed figure (2.0).
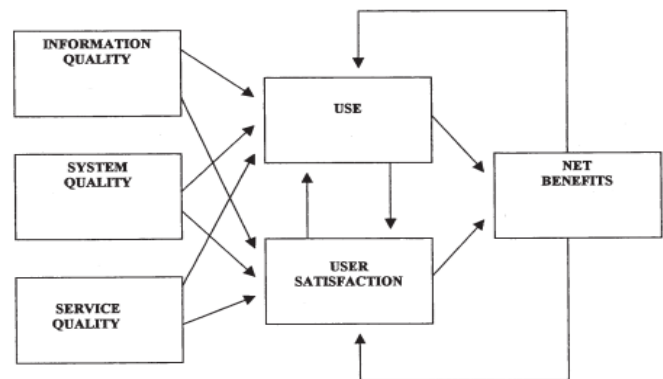

Figure 2.0: Updated IS success Model of DeLone&McLean

Source: DeLone&McLean(2003).

Technology Acceptance Model (TAM)

TAM (Davis, 1989) focuses in (on) the relationship between the causes and consequences of system design, demonstrates the usefulness, demonstrates comfort to use, attitude towards usage and the actual use behavior (Davis, Bagozzi, & Warshaw, 1989). TAM is widely used to identify and investigate the factors of user acceptance (Yaghoubi, et al., 2010). According to Davis et al. (1989), the goal of this model is to provide insights on the determinants of acceptance of computer technology by users. Furthermore, this model is able to explain user behavior across various populations and standard space for using computer technology through theoretical justification (Davis, et al., 1989). Use of TAM has been widely supported in empirical studies (Ajzen, 1991; Davis et al., 1989; Suki & Ramayah, 2010; Yaghoubi, et al., 2010). In summary, this model provides information on a mechanism in which the selection of the design can affect the user acceptance and it also serves to be applied in the context of forecasting and evaluation of a user acceptance of IT.

A study carried out by (Park, 2009), cited the development stages of the TAM theory, as during the years TAM has proven to be a theoretical model in helping to explain and predict user behavior when IT gets included in the research, TAM is considered an influential extension of the theory of reasoned action (TRA), it was also proposed that TAM can be included in a research were an explanation is needed to identify why a user accepts or rejects information technology by adapting TRA. TAM provides a basis with which one traces how external variables like attitude, intention to use, and influence belief. Two cognitive beliefs are posited by TAM: perceived usefulness and perceived ease of use. According to TAM, a users' actual use of a technology system is influenced either indirectly or directly by the users' perceived ease of use of the system, behavioral intentions, perceived usefulness of the system, and attitude. TAM also proposes that external factors affect intention and actual use through mediated effects on perceived usefulness and perceived ease of use. The researcher is going to choose the suitable factors to carry out this investigation, the TAM model shall be produced in the following figure (3.0).
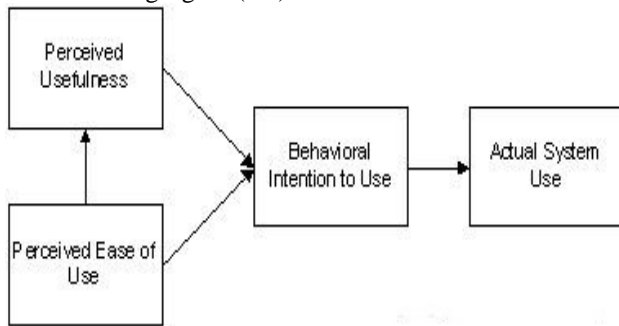

Figure 3.0: Theory of Technology Acceptance Model
Source: Davis et al. (1989)

IX.   Discussion and Conclusion

The main purpose of the study is proposing a conceptual model for e-government success that leads the business organizations in developing countries to adopt the e-government services. The results would help authorities and business organizations to understand the key issues that influence business need and satisfaction with the presented services and they can use these criteria to judge their services delivery process to achieve the goal of making the business organizations' adopt the e-government technology. After the comprehensive view of the study a future study must be carried out in order to test the model empirically, the government e-service website has offered users what technology has made possible to deliver, rather than first asking what is it the users want delivered to them. Therefore, the researchers has stressed the need to focus on what makes the user as a customer satisfied in obtaining the service, and the need to measure such satisfaction. In view of this, service quality of electronic government could bridge the gap in communication between users and governments. As e-government portals provide the users the ability to access its services despite the location and time, plus it satisfies their needs by allowing them to achieve their goals. In addition e-government allows flexibility in delivering institution services.

References

[1]   Alanezi, M. A., Kamil, A., & Basri, S. (2010). A proposed instrument dimensions for measuring e-government service quality. *International Journal of u-and e-Service*, *3*(4), 1-18.

[2]   Alawneh, A., Al-Refai, H., & Batiha, K. (2013). Measuring user satisfaction from e-Government services: Lessons from Jordan. *Government Information Quarterly, 30*(3), 277-288.

[3]   Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, *50*(2), 179-211.

[4]   Abdalla, S. (2012). An e-government adoption framework for developing countries: a case study from Sudan (Doctoral dissertation, Cranfield University).

[5]   AlShibly, H. H., & Al-Dmour, H. A. D. (2011). The success of e-government evaluation: an integrated theoretical framework. Studies: Administrative Sciences 37 (2).

[6]   AlShibly, H., & Chiong, R. (2015). Customer empowerment: does it influence electronic government success? a citizen-centric perspective. *Electronic Commerce Research and Applications*.

[7]   Bailey, J. E., & Pearson, S. W. (1983). Development of a tool for measuring and analyzing computer user satisfaction. *Management science*, *29*(5), 530-545.

[8]   Bouckaert, G., Van de Walle, S., Maddens, B., & Kampen, J. K. (2002). Identity vs Performance: An overview of theories explaining trust in government. *Public Management Institute, Katholieke Universiteit Leuven*.

[9]   Chatfield, A. T., & AlAnazi, J. (2015). Collaborative Governance Matters to E-Government Interoperability: An Analysis of Citizen-Centric Integrated Interoperable E-Government Implementation in Saudi Arabia. *International Journal of Public Administration in the Digital Age (IJPADA)*, *2*(3), 24-44.

[10] Chen, J. V., Jubilado, R. J. M., Capistrano, E. P. S., & Yen, D. C. (2015). Factors affecting online tax filing–An application of the IS Success Model and trust theory. *Computers in Human Behavior*, *43*, 251-262.

[11] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.

[12] Davis, F.D., Bagozzi, R.P., and Warshaw, P.R.,(1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models, *Management Science* (35) 1989, pp 982-1003.

[13] 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*, *19*(4), 9-30.

[14] Delone, W. H., & Mclean, E. R. (2004). Measuring e-commerce success: Applying the DeLone & McLean information systems success model. *International Journal of Electronic Commerce*, *9*(1), 31-47.

[15] DeLone, W. H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information systems research*, *3*(1), 60-95.

[16] Furuholt, B., & Matotay, E. (2013). Supply and demand of e-government services in developing countries: cases from Tanzania. In *Information Systems Development* (pp. 63-76). Springer New York.

[17] Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: an integrated model. *MIS quarterly*, *27*(1), 51-90.

[18] Gefen, D. & Keil, M. (1998). The Impact of Developer Responsiveness on Perceptions of Usefulness and Ease of Use: An Extension of the Technology Acceptance Model, *The DATA BASE for Advances in Information Systems,* Vol. 29, No. 2, pp. 35-49.

[19] Heeks, R. (2003). *Most eGovernment-for-development projects fail: how can risks be reduced?* (p. 5). Manchester: Institute for Development Policy and Management, University of Manchester.

[20] Heeks, R. (2008). Success and failure in e-government projects. *Retrieved on December*, *5*, 2013.

[21] Karkin, N., & Janssen, M. (2014). Evaluating websites from a public value perspective: A review of Turkish local government websites. *International Journal of Information Management*, *34*(3), 351-363.

[22] Komba, M. M., & Ngulube, P. (2014). Socioeconomic determinants of e-government adoption in selected districts of Tanzania. *ESARBICA Journal*, *33*, 71.

[23] Kwon, K., & Kim, C. (2012). How to design personalization in a context of customer retention: Who personalizes what and to what extent?. *Electronic Commerce Research and Applications*, *11*(2), 101-116.

[24] Komba, M. M., & Ngulube, P. (2014). An Empirical Application of the DeLone and McLean Model to Examine Factors for E-Government Adoption in the Selected Districts of Tanzania. *Emerging Issues and Prospects in African E-Government*, 118.

[25] Komiak, S. Y., & Benbasat, I. (2006). The effects of personalization and familiarity on trust and adoption of recommendation agents. *Mis Quarterly*, 941-960.

[26] Lee, J. K., Braynov, S., & Rao, R. (2003). Effects of public emergency on citizens' usage intention toward e-Government: a study in the context of war in Iraq. *ICIS 2003 proceedings*, 83.

[27] Lucas, H.C., and Spitler, V.K., (1999) Technology Use and Performance: A Field Study of Broker Workstations *Decision Sciences,* 30(2)

[28] Meftah, M., Gharleghi, B., & Samadi, B. (2015). Adoption of E-Government among Bahraini Citizens. *Asian Social Science*, *11*(4), p141.

[29] Molla, A., & Licker, P. S. (2001). E-Commerce Systems Success: An Attempt to Extend and Respecify the Delone and MaClean Model of IS Success. *J. Electron. Commerce Res.*, *2*(4), 131-141.

[30] Morgeson, F. V., VanAmburg, D., & Mithas, S. (2010). Misplaced trust? Exploring the structure of the e-government-citizen trust relationship. *Journal of Public Administration Research and Theory*, muq006.

[31] McKinney, V., Yoon, K., & Zahedi, F. M. (2002). The measurement of web-customer satisfaction: An expectation and disconfirmation approach. *Information systems research*, *13*(3), 296-315.

[32] Mkude, C. G., & Wimmer, M. A. (2013). Strategic Framework for Designing E-Government in Developing Countries. In *Electronic Government* (pp. 148-162). Springer Berlin Heidelberg.

[33] Holsapple, C. W., & Sasidharan, S. (2005). The dynamics of trust in B2C e-commerce: a research model and agenda. *Information Systems and e-business Management*, *3*(4), 377-403.

[34] Igbaria, M., Parsuraman, S., and Baroudi, J., 1996. A Motivational Model of Microcomputer

[35] Pitt, L. F., Watson, R. T., & Kavan, C. B. (1995). Service quality: a measure of information systems effectiveness. *MIS quarterly*, 173-187.

[36] Park, S. Y. (2009). An analysis of the technology acceptance model in understanding university students' behavioral intention to use e-learning. *Journal of Educational Technology & Society*, *12*(3), 150-162.

[37] Park, J. H. (2014). The effects of personalization on user continuance in social networking sites. *Information Processing & Management*, *50*(3), 462-475.

[38] Pappas, I. O., Kourouthanassis, P. E., Giannakos, M. N., & Chrissikopoulos, V. (2014). Shiny happy people buying: the role of emotions on personalized e-shopping. *Electronic Markets*, *24*(3), 193-206.

[39] Rana, N. P., Dwivedi, Y. K., Williams, M. D., & Weerakkody, V. (2015). Investigating success of an e-government initiative: Validation of an integrated IS success model. *Information Systems Frontiers*, *17*(1), 127-142.

[40] Rai, A., Lang, S.S., and Welker, R.B., (2002). Assessing the Validity of IS Success Models: An Empirical Test and Theoretical Analysis, *Information Systems Research,* 13(1), pp 50-69.

[41] Rabaai, A. A. (2015). An Empirical Investigation on the Adoption of e-Government in Developing Countries: The Case of Jordan. *Computer and Information Science*, *8*(3), p83.

[42] Rehman, M., Esichaikul, V., & Kamal, M. (2012). Factors influencing e-government adoption in Pakistan. *Transforming Government: People, Process and Policy*, *6*(3), 258-282.

[43] Reddick, C. G., & Roy, J. (2013). Business perceptions and satisfaction with e-government: Findings from a Canadian survey. *Government Information Quarterly*, *30*(1), 1-9.

[44] Santos, P., Melo, A. I., & Paiva Dias, G. (2013, June). Administrative modernisation and e-government: The case of Águeda. In *Information Systems and Technologies (CISTI), 2013 8th Iberian Conference on* (pp. 1-6). IEEE.

[45] Srivastava, S. C., Teo, T. S., & Jiang, L. (2008). Trust and electronic government success: An empirical study. *Journal of Management Information Systems*, *25*(3), 99-132.

[46] Srivastava, S. C., & Teo, T. S. (2009). Citizen trust development for e-government adoption and usage: Insights from young adults in Singapore. *Communications of the Association for Information Systems*, *25*(1), 31.

[47] Srivastava, S. C., & Teo, T. S. (2010). E-government, e-business, and national economic performance. *Communications of the Association for Information Systems*, *26*(1), 14.

[48] Suki, N. M., & Ramayah, T. (2010). User acceptance of the e-government services in Malaysia: structural equation modelling approach. *Interdisciplinary Journal of Information, Knowledge, and Management*, *5*(1), 395-413.

[49] Sundar, S. S., & Marathe, S. S. (2010). Personalization versus customization: The importance of agency, privacy, and power usage. *Human Communication Research*, *36*(3), 298-322.

[50] Shapiro, S. P. (1987). The social control of impersonal trust. *American journal of Sociology*, 623-658.

[51] Seddon, P. B. & Kiew, M. Y. (1996), A partial test and development of Delone and Mclean's model of IS success, *Australian Journal of Information system* (AJIS) Vol. 4 No. 2, may.

[52] Seddon, P. B. (1997). A respecification and extension of the DeLone and McLean model of IS success. *Information systems research*, *8*(3), 240-253.

[53] Szymanski, D. M., & Hise, R. T. (2000). E-satisfaction: an initial examination. *Journal of retailing*, *76*(3), 309-322.

[54] UN. (2008). *E-government at the crossroad*. Retrieved 12th December, 2007, from http://www.unpan.org/egovkb/ProfileCountry.aspx

[55] United Nations (2012), United Nations E-Government Survey 2012: E-Government for the People(2012), http://unpan1.un.org/intradoc/groups/public/documents/un/unp an048065.pdf

[56] Welch, E.W., Hinnant, C.C. & Moon, J. M. (2004), *Linking Citizen Satisfaction with EGovernment and Trust in Government*, Journal of Public Administration Research and Theory, 15(3).

[57] Yaghoubi, N. M., Kord, B., & Shakeri, R. (2010). E-government services and user acceptance: the unified models' perspective. *European Journal of Economics, Finance and Administrative Sciences*, *24*, 36-49.

[58] Zakaria, M. R. (2015). Towards categorizing e-government services: the case of Egypt. *International Journal of Business Research and Development (IJBRD)*, *3*(3).

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