THE MEDIATING ROLE OF TRUST IN THE ADOPTION OF E-GOVERNMENT SERVICES BY COMMUNITY IN THE UNIVERSITY OF LIBYA

Amer Salem Ali Salem

DOCTOR OF PHILOSOPHY

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AMER SALEM ALI SALEM

A thesis submitted
In fulfillment of the requirements for the degree of Doctor of Philosophy

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2017
DECLARATION

I declare that this Study Thesis entitled “The Mediating Role of Trust in The Adoption of E-Government Services by Community in The University of Tripoli.” is the result of my own research except as cited in the references. The Thesis has not been accepted for any degree and is not concurrently submitted in the candidature of any degree.

Signature : 
Name : Amer Salem Ali Salem
Date : 05/01/2017
APPROVAL

I hereby declare that I have read this thesis and in my opinion this thesis is sufficient in terms of scope and quality for the award of Doctor of Philosophy.

Signature  : ....................................................
Supervisor Name  : ..............................................
Date  : ...........................................................
DEDICATION

This Thesis is dedicated to my beloved Father, Mother and Wife
Governments are striving to serve citizens in better way. The introduction of electronic government (e-Government) has provided citizens with several advantages. However, citizens are not using the e-Government services. Studies in this field are dominated by developed countries. Few studies conducted in developing countries. The purpose of this study is to investigate the factors that influence the adoption of e-Government services in Libya. Building on the literature, the study has deployed the unified theory of acceptance and use of technology (UTAUT) along with security and trust. Three main constructs were incorporated including individual factors with sub-constructs including performance expectancy, effort expectancy, social influence, and IT knowledge. The second construct is technological factors and it includes facilitating condition, security, and privacy. Third construct is trust and it includes trust in government and trust in Internet. Trust is proposed as a mediator. The study is quantitative in nature. A questionnaire is used as an instrument of data collection. Using stratified sampling technique, the data was collected from 441 students, academic staff, and non-academic staff at University of Tripoli. The findings showed that individual factors and technological factors have significant influence on behavioral intention to adopt e-Government services. Factors that influence the adoption of e-Government services in Libya are performance expectancy, social influence, IT knowledge, trust in Internet, facilitating condition, privacy, and security. Trust plays a partial mediating role between technological factors and behavioral intention. Increasing the participation in e-Government services will have significant effect on public expenditure and the citizens’ satisfaction. In addition, decision makers can utilize the findings of this study to increase the acceptance and use of e-Government services in Libya. More qualitative studies with different variables and respondents are needed to establish the factors that affect the acceptance and use of e-Government services in Libya.
ABSTRAK

ACKNOWLEDGEMENTS

By the Name of Allah, the Most Gracious and the Most Merciful First, I would like to express my appreciation to Allah, the Most Merciful and the Most Compassionate who granted me the ability and willingness to start and complete this Study. I pray for His Greatness to inspire and enable me to continue to work for the benefit of humanity.

I wish to express my deepest appreciation to my dearest family members, especially to my parents, wife, brothers, and sisters for their support during this study and also to my friends who have given me emotional support and encouragement.

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LIST OF ABBREVIATIONS

AMOS - Analysis of Moment Structures
DOI - Diffusion of Innovation
e-Government - Electronic Government
e-Services - Electronic Services
G2C - Government to Citizen
G2B - Government to Business
G2E - Government to Employees
G2G - Government to Government
ICT - Information Communication Technology
IT - Information Technology
SEM - Structural Equation Modeling
SPSS - Statistical Package for the Social Sciences
TAM - Technology Acceptance Model
UN - United Nation
UTAUT - Unified Theory of Acceptance and Use of Technology
CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The invention of the Internet during 1990s has transformed the way that businesses are conducted. One of the benefits of the Internet is the creation of the electronic governments (e-Government). e-Government is a tool that enables governments to provide their citizens with electronic services (e-Services). e-Government applications are useful and powerful in delivering the governmental services and increase the interaction with citizens (Belanger and Carter, 2012). Other benefits include electronic and integrated public services, facilitating citizens’ participation by innovatively using information communication technology (ICT) to provide access to policy information. Benefits also include fostering economic development and helping local businesses to expand globally, and creating a more participative form of government by encouraging online debating, voting and exchange of information (Janssen, Kuk and Wagenaar, 2008; Al-Shafi and Weerakkody, 2010; Lee, Kim and Ahn, 2011; Osman et al., 2014).

Most of the definition of e-Government focuses on the ability of the technology to reach citizen and provide e-Services that ease citizens’ related transactions. e-Government can be defined as “the use of information technology in the public sector to reach out to its citizens in a modern and effective way” (Heeks, 2006). This definition highlights the role of e-Government of serving the citizens in beneficial ways. However, there are many types of e-Government. These are government to citizens (G2C), government to business (G2B),
government to employees (G2E), and government-to-government (G2G) (Rao, 2011; Danila and Abdullah, 2014). G2C is wider in scope and it covers all the citizens of a country. Thus, the focus of this study is on G2C.

Previous studies in e-Government revealed that researches on exploring factors that would encourage citizen to adopt government services in developing countries is few (Alateyah, Crowder and Wills, 2013; Savoldelli, Codagnone and Misuraca, 2014; Haider and Haider, 2014). The research in e-Government is theoretically weak (Bannister and Connolly, 2015). Mainly, the studies have focused on using Technology Acceptance Model (TAM) to investigate the intention or the use behavior toward e-Government (Lin et al., 2011; Ozkan and Kanat, 2011; Liu et al., 2014; Rana et al., 2015). Model such as the Unified Theory of Acceptance and Use of technology (UTAUT) has been tested solely to find the citizens intentions to use e-Government (Zhan, Wang and Xia, 2011; Al-Shafi and Weerakkody, 2010; AlAwadhi and Morris, 2008; Ahmad, Markkula and Oivo, 2013). Some researchers incorporated trust along with TAM or UTAUT and tested the direct effect of trust on the behavioral intention (Shareef et al., 2011; Schaupp et al., 2010; Voutinioti, 2013; Lee et al., 2011). However, both models (TAM and UTAUT) were criticized from not including factors that are related to trust and security (Min, Ji and Qu, 2008; Wu, 2010; Wu, 2011; Shajari and Ismail, 2011; Alharbi et al., 2014).

Previous studies focused on the organizational side such as size of organization, organizational usage characteristic, and administrative burden reduction (Arendsen et al., 2014), ICT, civic engagement, city size (Cegarra-Navarro et al., 2012). Furthermore, the literature reveals that technical studies that are related to software, hardware, and technical requirements of e-Government outperformz the studies that are related to modeling e-

The literature lacks for studies that address the concern of citizens over the use of e-Government. Researchers have incorporated factors that merely adopted from models such as UTAUT and TAM or has divided the factors to individuals and organizational to address the concern of employees or businesses (Kamal et al., 2014). Studies that address the culture issues are also numerous (Khalil, 2011; Zhao et al., 2014; Kamal et al., 2014; Alateyah et al., 2014). Technical aspects of adoption are also has attracted the attention of researchers (Venkatesh et al., 2012; Alateyah et al., 2014). However, the literature lacks for studies that comprehensively address the concern of citizens regarding the goodness or using the e-Government and the technical issues that are related to privacy, security of citizens. Moreover, the trust factors have received less attention and further studies of this factors were recommended by some researchers (Shajari and Ismail, 2011).

Citizens are concerned about the performance of the e-Government and the effort that it requires to use the technology (Gupta et al., 2008; Schaupp et al., 2010; Voutinioti, 2013). Further, the social pressure of other to use the e-Government will play a role in adopting the technology (Venkatesh et al., 2003; Taiwo et al., 2012). Citizens with higher education and knowledge related to the Internet and IT are more likely to be open to experience technological systems (Rasouli et al., 2011). Thus, in this study the construct individual factors are operationalized to include performance expectancy, effort expectancy, social influence, and IT knowledge of the citizen.

Technological factors are very important because they address the concern of citizens related to security of the transaction (Shareef et al., 2011; Shareef et al., 2012; Alateyah et al., 2014), the privacy of the data (Lean et al., 2009; Alawneh et al., 2013;
Alateyah et al., 2014), and the required tools to use the technology such as the Internet access, and technical requirement such as mobile or laptop devices (Schaupp et al., 2010; Rasouli et al., 2011; Taiwo et al., 2012). Citizens are concerned about their privacy, security, technical infrastructure, and misuse of data (Alateyah et al., 2014). Thus, testing this constructs might lead to some indication about the importance of these issues for citizens.

Trust has emerged as important factors in the adoption of new technology. Many studies related to the adoption of new technology have addressed the issue of trust (Shareef et al., 2011; Alawneh et al., 2013; Liu et al., 2014). The majority of the literature has incorporated trust as a direct factor that influences the adoption of e-Government (Lean et al., 2009; Lee et al., 2011; Alawneh et al., 2013; Liu et al., 2014; Nam, 2014). The literature revealed that a few studies have used trust as a mediator (Belanche et al., 2012). In this study, trust is proposed to play a mediator role between the two independent constructs (individual factors and technological factors) and the dependent variables (behavioral intention).

Academic studies, related to e-Government, in developing countries in general (Danila and Abdullah, 2014) and in Libya in particular are few (Verma et al., 2012). A recent study found that only 50 articles were written in the field of e-Government in Africa with only three studies in Libya (Dombeu and Rannyai, 2014). The recent survey of the United Nation (UN) showed that the country has achieved big jump in term of e-Government development to occupy rank of 121 in 2014 compared with 191 in 2012 (UN, 2014). However, despite this progress in term of ranking, the participation index is still one of the lowest in the world at rank of 179. This reflects the weak participation and utilization of e-Government services by citizens.
Thus, the purpose of this study is to investigate the factors that influence the use of e-Government services by Libyan citizens. The study aims to identify the influence of individual factors, technical factors, and trust as a mediator on the behavioral intention and use of e-Government services.

1.2 Problem Statement

e-Government services are existed in most of the developed and developing countries (UN, 2014). The governments tend to provide these services to encourage the citizens to participate in public affair such as e-voting (Lian, 2015) and to ease the citizen lives by enabling online services such as tax return, filling, reporting, updating, or correcting tax records, and one-stop e-Services (Janssen et al., 2008; Lee et al., 2011; Osman et al., 2014). However, citizens, due to many concerns such as privacy, trust, security, misuse of data and technological infrastructure, are not utilizing these services (Dong et al., 2011; Ahmed, Mehdi, Moreton and Elmaghraby, 2013; Alateyah et al., 2014).

The literature showed that most of the studies has limited scope where only the constructs of TAM such as perceived ease of use and perceived usefulness (Belanche et al., 2012) or the construct of UTAUT such as effort expectancy, performance expectancy, social influence, and facilitating condition (Ahmad et al., 2013) were used to explain the variation in the adoption behavior of e-Government services. The literature also showed that studies have focused on culture (Kamal et al., 2014; Alateyeh et al., 2014) and organizational aspect of adoption (Cegarra-Navarro et al., 2012; Arendsen et al., 2014). In addition, studies that are pertaining to technical aspects outperform social studies that are interested in the acceptance of the technology (Kamal et al., 2013; Sun et al., 2015). TAM
and UTAUT were criticized from not including security and trust in their research framework (Wu, 2010, Wu, 2011; Shajari and Ismail, 2011; Alharbi et al., 2014).

In developing countries, the studies that are related to the adoption of e-Government are relatively few compared with the developed countries (Joseph, 2013; Danila and Abdullah, 2014; Savoldelli et al., 2014; Alateyah et al., 2013; Haider and Haider, 2014). Particularly, the studies in Libya are very few due to the fact that the country has no official e-Government website in 2012 (UN, 2014) and has managed to develop one and to achieve progress to the rank 121 out 196 in 2014. However, the participation index still among the lowest rank of 171 in 2014 (UN, 2014). Accepting and using the e-Government portal is related to many factors such as the security and privacy concerns (Ahmed et al., 2013) and trust (Fgee and Alkallas, 2013), IT knowledge of citizens and the infrastructure were among the factors that highlighted by the study on Libyan e-Government by Verma et al. (2012). Factors that affect the adoption of e-Government differ from country to country due to the demographic gap, educational level, and experience of using technology (Weerakkody et al., 2013). Thus, there is need to identify these factors in the Libyan environment.

Based on above, there is gap in the literature related to the factors that concern the citizen when they decide to adopt the e-Government services. Thus, a study is needed to discover the factors that encourage citizen to adopt the e-Government services and utilize these services. Therefore, this study is investigating three main construct that are related to citizens. These are individual factors, technical factors, and trust factors.