International Journal of Business Marketing and Management (IJBMM)
Volume 5 Issue 6 June 2020, P.P. 26-41
ISSN: 2456-4559
www.ijbmm.com

Factors Affecting the Adoption of E-Government in Saudi Arabia

Akbar Hanaa Hussain
(The Institute of Business and Accounting, Kwansei Gakuin University, Japan)

Abstract: *This study aims to investigate the underlying factors that influence the citizens' intention to use e-government services in Saudi Arabia. A conceptual model was developed in this study to explain the relationships between these factors and the behavioral intention to use e-government services. The conceptual model integrates constructs from TAM, UTAUT model, and trustworthiness construct from Carter and Belanger's (2005) acceptance model and introduces the factor of perceived corruption. A quantitative approach was applied to test the proposed model empirically. The model of this study was tested using multiple regression analysis and mediation analysis. An online survey questionnaire was conducted on a broad diversity of Saudi Arabia's citizens. A total of 349 responses collected through the convenience sampling technique. The responses were evaluated using multiple regression analysis, using SPSS, and mediation analysis using PROCESS macro 2.16 in SPSS. The results show that the factors that are related to the e-government performance, such as perceived ease of use, perceived usefulness, and the trust in the Internet, have a direct effect on the citizens' behavioral intention to use e-government. On the other hand, the factors that are not related directly to the performance of the e-government, such as trust in the government and social influence, have an indirect effect on their behavioral intention to use e-government.*

Keywords: *e-government adoption, e-government in Saudi Arabia, Social Influence, Citizen Trust, TAM, UTAUT.*

I. INTRODUCTION

The revolution of technology in the last decade played a significant role in transferring the way of delivering services. The internet, for instance, became the place where people not only can find information but also can conduct transactions and receive services. This technological revolution has changed the way of delivering services from the business' perspective as well as the customers' perspective. As the internet became a part of our daily life, people became more knowledgeable about online services and what they can expect. E-commerce, for instance, has set high standards for online service and has played a significant role in changing our perception of the value of receiving online services. People now expect all types of online services to be at the same high-quality standard. People expect to receive the same high standard from their electronic government (e-government) as well. As people's perceptions have shifted, they perceive the interaction with public administration to be much easier and at a low cost than the traditional way. These changes in people's perceptions have prompted governments to emulate the private sector in providing electronic services with the same level efficiency in line with the expectations of citizens series.

On the other hand, from the government's point of view, the utilization of information and communication technology (ICT) would constitute a fundamental change in the whole structure of the public sector. This is because it will enhance the transparency, efficiency, and effectiveness of the delivery of government services, and thus improve communications and the accessibility to information for citizens (Bannister and Connolly, 2015). This makes the government move toward revolutionizing the relationship with citizens through emerging web-based technology (Chen et al., 2006).

Many countries are making efforts to improve e-government to ensure that public institutions are more efficient, effective, accountable, and transparent (United Nations, 2016). Saudi Arabia is one of these countries that initiated the process of implementing its concept of e-government, aiming to simplify and make-work easier and to facilitate interaction and communication with citizens as well as government agencies. Even though Saudi Arabia is the biggest ICT market in the Middle East; however, according to a recent report from the United Nations (UN), the country ranked 44th in providing e-government services (United Nations, 2016). Despite the government investment in its e-government services, the ranking declined compared to the 39th rank in 2014. This reflects a slow process of improving e-government and keeping pace with new technology, which may lead to a low level of citizen participation in e-government activities. On a global scale, the lack of citizens' participation in e-government services is problematic requires further studies (United Nations, 2016). Lack of

citizens' participation can be interpreted as a sign of not accepting the service, and thus one of the challenges facing governments.

From the citizens' perspective, the availability of IT infrastructures is not the only reason for accepting e-government services. Other factors, such as organizational and social readies, play a role in their decision (Bannister and Connolly, 2011; Weerakkody et al., 2008). There is a large gap in the understanding of the engagement of citizens in e-government services. Therefore, governments need to understand the factors influencing their citizens' decision to adopt e-government. The success of e-government services not only depend on government support but also depends on the citizens' willingness to accept and adopt these services (Carter and Belanger, 2004). The successful adoption of e-government by citizens requires an in-depth multi-dimensional understanding and analysis of e-government issues from the citizens' perspective.

In literature, most of the studies investigate the factors that contribute to the success of e-government adoption by adopting some of the following models: The Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), the Theory of Planned Behavior (TPB), or Diffusion Of Innovations theory (DOI). However, to the best of our knowledge, very few studies have introduced factors that are not related directly to the performance of e-government. For instance, indirect factors such as trust in the government, government corruption, and social influence. These factors would play a significant role in influencing the citizen's intention to adopt e-government. In this research, we shed light on the key factors that directly and indirectly affect e-government usage as well as the factors related to the performance of e-government and have an influence on the individuals' decisions. Therefore, this study aims to investigate the underlying factors that influence the citizens' decision to use e-government services in Saudi Arabia. In this study, we discuss the previous theoretical models while introducing new factors that have not been studied in previous research. The model of this study was tested using a survey conducted on 349 participants by utilizing multiple regression analysis and mediation analysis.

The rest of this paper is organized as follows. The next section provides a review of the literature relevant to the subject of e-government in Saudi Arabia, as well as reviews the relevant theories on the acceptance of the technology. Then, we discuss the theories most suitable for this research and proposes a conceptual model and hypotheses. Then, the research methodology will be explained, followed by the results of the data analysis. Then, the discussion section is presented to discuss the results of the data analysis based on the research hypotheses. Then, the conclusion of this research is presented, followed by implications and recommendations for future research.

II. LITERATURE REVIEW

E-government Initiative in Saudi Arabia

This section provides an overview of the e-government initiatives in Saudi Arabia. Saudi Arabia has adopted the concept of e-government, believing that e-government will have a significant impact on the country's economy. According to Bawazir (2006), e-government in Saudi Arabia was implemented initially in early 1995 as a project for the Ministry of Labor called Saudi Electronic Data Interchange (Saudi EDI). This project aimed to help the government to interact with businesses online. However, this application of e-government initially failed to provide online services to the public. This failure is due to the government's lack of awareness of the challenges it may face the implementation of e-government, such as the management of the process, technology as well as the management of people. As a result, the Ministry of Communications and Information Technology developed long-run strategic plans for the implementation of e-government as an initial step to change the processes of administering services and providing better government services online. The first plan was implemented in 2005 by establishing the e-government program called "Yesser" from a period of five-year (Yesser, 2006). The vision of this plan is to digitize government interactions by adopting ICT systems. This plan aims to achieve this vision by providing better services and enhancing the productivity, efficiency, and effectiveness of e-government services in addition to increasing the revenue of investments (Yesser, 2012). Then the second plan was launched in 2012 with improved vision and objectives (Yesser, 2012). This plan focuses more on improving the efficiency of the services and the interaction with citizens. The vision of this plan is to enable citizens to use effective and secure government services in an easy way and through multiple electronic channels (Yesser, 2012).

Saudi Citizens and E-government

Saudi Arabia has started to recognize how adopting new technology changes its economy significantly. To improve the performance and the participation of e-government, Saudi Arabia has established two strategic plans; each plan includes a five-year duration. These plans caused an increase in Saudi e-government ranking

according to the UN index. However, although the main objective of these plans is to provide better government services to citizens that match their expectations, the acceptance of e-government among citizens is still a big challenge. The Saudi government focused on improving its performance through developing the infrastructure, adopting new technologies, and implementing strategic plans, but neglected the citizens' needs and attitude toward online interaction with governments.

Educating citizens about the benefits of e-government, as well as understanding their expectations, needs, and the influence of their decision to use e-government, is very important for the improvement of e-government performance and then its diffusion afterward. In other words, citizens' awareness is the key-driven for e-government diffusion. For instance, if we take a look at the history of the electronic services initiatives in Saudi Arabia, e-commerce and e-banking initiatives have been one of the very first implementations of e-services. However, these initiatives have encountered several difficulties. The citizens' acceptance of these services was not very promising. One of the reasons is the lack of trust in the security of websites. Alyabis (2000) discusses the relationship between e-commerce and e-banking in affecting citizens' trust in online transactions in Saudi Arabia. He argues that if the trust of any of those two services is missing, then the other service will be affected, which means that both e-commerce and e-banking directly affect each other. Such a case affected the online interaction in general and put e-service in a critical situation. Concerning e-government, users' lack of trust in one service may negatively affect their acceptance of other services, which poses a threat to the successful diffusion of e-government.

Nevertheless, the continuous evolution of technology led to a significant improvement of Internet security and website protection and led to the emergence of laws regulating the Internet, and protecting users' privacy. Thus, electronic interaction, including e-commerce and e-banking, is no longer a threat as it was before. Still, the Saudi government is facing problems in convincing citizens to conduct online transactions, especially through its online services. On the other hand, Saudi citizens are facing difficulty to accept online services in general, including e-government services. The reason is their lack of trust in Internet security, lack of Internet and computer education, and lack of Internet services knowledge (Sait et al., 2004).

Therefore, despite the efforts exerted by the Saudi government in developing e-government services, it is necessary to direct this effort to study the citizens' behavior and the factors the influence their acceptance of the e-government. Saudi government needs to understand that technology development may not be the main solution for convincing citizens to adopt e-government.

III. MODELS OF E-GOVERNMENT ADOPTION

It is a well-known fact that the role the e-government plays in facilitating electronic transactions with citizens is essential. Despite the benefits and the opportunities provided through e-government services, the success of its diffusion largely depends on the citizens' intention to use the services. The individuals' behavioral intention has been widely examined in the literature to understand the individuals' willingness to adopt new technology (Irani et al., 2009). Previous researchers developed theoretical frameworks to form the factors that influence individuals' behavioral intentions. For instance, Ajzen and Fishbein (1975) developed the theory of TRA to explain the influence of the individual attitude on behavioral intention. Ajzen (1991) then developed the theory of TPB to extend the explanation of the theory of TRA. Additionally, Davis (1989) developed the model of TAM to explain human behavior toward technology.

In the context of e-government, many studies employed these models to examine the citizens' acceptance of e-government. For instance, Kanat and Ozkan (2009) adopt TAM, TPB, and trust factors to study the influence on Turkish citizens' acceptance of e-government. Similarly, Al-Adawi et al. (2005) have employed the same models to examine the citizens' adoption of e-government. Additionally, Carter (2008) conducted a study on the USA citizens' acceptance of e-government using TAM besides other factors, such as self-efficacy and trust factors. Moreover, some studies such as Sahari et al. (2012), Al-Hujran et al. (2011), and Hung et al., (2006) focus on examining the citizens' intention to use e-government by adopting TAM as the primary model to explain the citizens' acceptance. Since this study aims to investigate the underlying factors that influence the citizens' intention to use e-government services in Saudi Arabia, highlighting these factors is very important to predict the success of the e-government system. Identifying these factors may contribute to forming new indices through which to assess the performance of e-government in countries, Saudi Arabia, in this case.

This section provides an overview of models and theories of technology acceptance of literature, to provide background information on this research model. The research model is formed based on a modified model of technology acceptance by combining factors from several models. These models are as follows; the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), the perceived trustworthiness factors, which were adopted from Carter and Belanger (2005), and perceived corruption (Akbar, 2017).

The Theory of Reasoned Action (TRA)

The Theory of Reasoned Action was developed by Ajzen and Fishbein (1975). This theory is widely studied in social science and information systems (IS) (Venkatesh et al., 2003). The theory provides a framework to examine the relationship between attitude and behavioral intention (defined as the subjective probability for an individual to participate or perform some behavior). TRA determines the intention of individuals to perform a behavior. Behavioral intention is an indication of the individuals' attitude toward behavior and a subjective norm (defined as an individual's perception or assumptions about others' expectations of specific behaviors that will be or will not be performed by an individual) (Ajzen and Fishbein, 1975).

The Theory of Planned Behavior (TPB)

The Theory of Planes Behavior (TPB) was developed by Ajzen (1991) as an extension of TRA. TPB is one of the most well-known theories in social science that explain human action. The main factors of TPB are attitude, subjective norms, perceived behavioral control, and behavioral intention. Each of these factors reveals a different aspect of the behavior. According to TPB, human behavior toward an object or behavior is motivated by three beliefs; behavioral beliefs (individual's belief about the consequences of the behavior), normative beliefs (the influence of society on a behavioral decision), and perceived behavioral control (an individual's perception of the ease of performing a particular behavior) (Ajzen, 1991).

Technology Acceptance Model (TAM)

The model of technology acceptance was developed by Davis (1989) to predict information technology acceptance and usage (Davis, 1989). Specifically, this model identifies the constructs influencing individuals' behavioral intention or decision to adopt a technology (Davis, 1989). According to TAM, the behavior of individuals' acceptance of technology is influenced by two main constructs. These constructs are perceived usefulness and perceived ease of use. Perceived usefulness is defined as the level to which an individual believes that using a particular system will contribute to improving his or her job performance (Davis et al., 1989). Perceived ease of use is defined as the level to which an individual believes that using a particular system will be free of effort (Davis et al., 1989). The model of TAM was applied widely in the area of information technology; however, some studies argue that the TAM model represents the acceptance of technology and ignores the emotional choice and usage behavior (Alsaif, 2014). Therefore, the TAM2 was developed with additional constructs that are subjective norm, voluntariness, and image (Venkatesh and Davis, 2000).

The Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology model (UTAUT) is a comprehensive model that explains the technology acceptance. The model was proposed by Venkatesh et al. (2003) model in an attempt to provide a complete picture of the constructs related to the acceptance process. The model explains the user's intention to use IS and further usage behavior. The UTAUT model is formed based on eight previous theoretical models of technology and human behavior, and the most important ones are briefly defined above. UTAUT model includes four core constructs that are directly related to technology acceptance (behavioral intention) and usage (behavior). These constructs are; performance expectance, effort expectancy, social influence, and facilitating conditions. The model is moderated by age, gender, experience, and voluntariness of use (Venkatesh et al., 2003).

Trustworthiness in E-government

Trustworthiness in e-government is a relatively new research area. Trustworthiness is defined as "the perception of confidence in the electronic marketer's reliability and integrity" (Belanger et al., 2002). In the context of e-government, trustworthiness can be considered as the people's confidence in the service providers (the government who provides e-government services) and in the enabling technologies (the Internet). Trustworthiness in the e-government context can be measured from two dimensions that are the trust in the government and the trust in the Internet. Carter and Belanger's (2005) study on the e-government adoption is one of the very initial studies that measured trustworthiness in the e-government context. The study focuses on measuring the citizens' trust in the government and their trust in the Internet. The proposed model examines the influence of trust on the citizens' intention to accept e-government by integrating two major models that are the TAM and DOI combined with trustworthiness constructs.

Moreover, several studies in the e-government context argue about the significant role that the trustworthiness constructs play on e-government adoption. Trust in the government and trust in the Internet can

directly influence the citizens' intention to adopt e-government services (Chadwick and May, 2003; Tolbert and Mossberger, 2006; Amagoh, 2015). The citizens' trust in the government can significantly increase if e-government enhanced the interaction and responsiveness to citizens (Tolbert and Mossberger, 2006).

Corruption in E-government

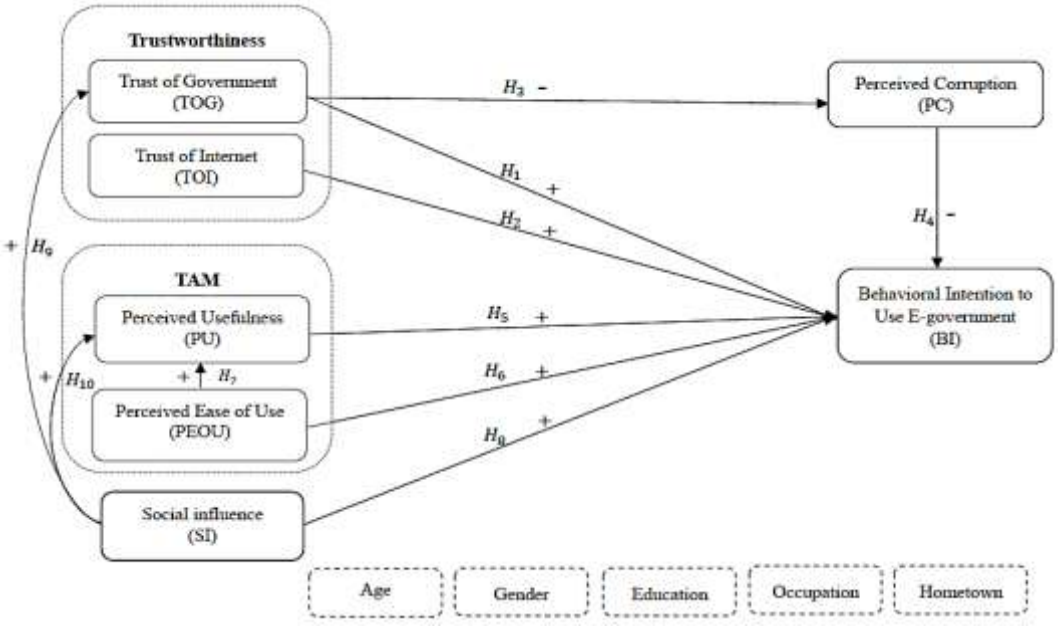
Corruption in this study is defined as "the lack of government integrity to account for or accept responsibility for its actions, and the failure to disclose the information and decision-making process in a transparent manner" (Akbar, 2017). The concept of corruption has not been explored adequately in the context of e-government, despite the critical role this factor could play in the process of e-government adoption. Part of the advantages of adopting ICT by governments is that it enables reducing the interactions with officials. This accordingly enhances the accountability and transparency of the services that the government provides online, which therefore influences the citizens' perception of corruption (Akbar, 2017). In the e-government context, several studies highlighted the role of e-government in improving the performance of the government by enhancing transparency and accountability. In other words, this means that e-government can reduce the level of corruption (Hopper et al., 2009; Bertot et al., 2010; Singh et al., 2010; Lupu and Lazar, 2015). A study by Sapanjeet and Kamalkant (2012) supports this argument stating that e-government contributes to reducing the level of corruption. On the other hand, it increases the transparency, efficiency, and accountability for all services provided by the government. Furthermore, Ndou (2004) argues that e-government allows citizens to provide their ideas and suggestions openly in online communities, which accordingly increase the transparency of the decision-making process by the government (Ndou, 2004).

The citizens' perception of corruption is a relatively new factor in the e-government context. Very few studies have discussed this factor and its influence on the adoption of e-government; therefore, there is a need to consider the factor of corruption for further studying in the e-government context. A critical factor, such as corruption, can significantly influence the citizens' trust in the government (Akbar, 2017).

IV. THEORETICAL MODEL AND HYPOTHESES

The research model used in this study was formed based on the literature and theoretical models with several modifications. The model combines factors from the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the perceived trustworthiness factors which were adopted from Carter and Belanger's (2005) study, with an introduction to the factor of perceived corruption. The model was formed, as shown in the figure below.

Figure 1: Research Model



Source: Akbar (2017)

As shown in Figure 1, in the research model, the factors of Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) were adopted from the TAM model by Davis (1989). The Social Influence (SI) factor was adopted from the UTAUT model by Venkatesh et al. (2003). The trustworthiness factors of Trust of Government (TOG) and Trust of Internet (TOI) were adopted from the Carter and Belanger's (2005) acceptance model. Additionally, the factor of Perceived Corruption (PC) was introduced to the research model as a new factor. The effect of five control variables moderated the model. The control variables are age, gender, hometown, education level, and occupation. The model showed the direct and indirect influence of these factors on the citizens' behavioral intention (BI). Based on the research model, the following hypotheses are proposed.

H_1: The citizens' trust in the government positively affects their behavioral intention to use e-government.
H_2: The citizens' trust in the Internet positively affects their behavioral intention toward using e-government.
H_3: The citizens' trust in the government negatively affects their perception of government corruption.
H_4: The citizens' perceptions of corruption negatively affect their behavioral intention to use e-government.
H_5: The citizens' perceptions of the usefulness positively affect their behavioral intention to use e-government.
H_6: The citizens' perception of the ease of use positively affects their intention to use e-government.
H_7: The citizens' perceptions of the ease of use positively affect their perception of the usefulness.
H_8: The social influence affects the citizens' behavioral intentions to use e-government.
H_9: The social influence affects the citizens' trust in the government.
H_{10}: The social influence affects the citizens' perspective of the usefulness of the e-government.

V. METHODOLOGY

This study utilizes a mixed-method approach, adopting both quantitative and qualitative methods. A qualitative approach is used to identify knowledge gaps and gain a better understanding of the citizens' acceptance of e-government. After a comprehensive review of the literature, the research hypotheses and the conceptual model are developed. The conceptual model of this study is an integration of TAM factors (PEOU and PU) by Davis (1989), SI factor from UTAUT by Venkatesh et al. (2003), and trustworthiness constructs that have been proposed by Carter and Belanger (2005). Based on the literature, we have introduced new hypotheses to suit the research context. The study used a quantitative method for data collection. The following sections provide details of the quantitative approach of this study.

Data Collection

A quantitative approach is used as the primary approach to collect statistical data from a population of Saudi Arabia citizens. A survey questionnaire is developed, including questions that can measure these constructs to measure the constructs of the research model. Then, an online distribution method is selected as a primary method for data collection. The online survey method is selected due to the importance of surveying citizens from different geographic areas across the country. The online survey also enables geographical distribution in the most cost and time-efficient way, and it also ensures the privacy of the participants, that their responses cannot be traced back to them. Then, the conceptual model is measured using a series of quantitative analyses to explain the citizens' intention to use in e-government.

Survey Measurement

The survey of this study is divided into two parts. The first part consists of demographic information. The second part is consisting of questions that are related to the research model.

All of the constructs in the survey were measured using a series of statements. These statements consist of close-ended questions, which means that respondents have to choose the answers from the options (mini responses). This technique helps to elicit more comprehensive answers. These statements were measured by a 5-point Likert scale (from 1 at strongly disagree, to 5 at strongly agree). Table I shows the measurements used to measure the constructs of the research model.

Table I: Survey Constructs Measurement

Construct	Definition	Measurement
Perceived Usefulness (PU)	Benefits of saving time and money and increase the efficiency of the interaction with the government.	• Increase interaction with government • Valuable services, • Accessibility anytime, • Reducing cost and time
Perceived	The degree to which an individual	• Easy to use the website

Ease of Use (PEOU)	believes that using a particular system will be free of effort (Davis et al., 1989)	• Easy to access website • Accessibility to information • Flexibility of services • Suitable customer support.
Perceived Corruption (PC)	The lack of government integrity to account or accept the responsibility for its actions, and to disclose the information and decision-making process in a transparent manner.	• Integrity • Accountability • Transparency
Trust of Government (TOG)	public evaluation for the government based on their perceptions of the integrity and capability to provide services that fit citizens' expectation (Carter and Belanger, 2005)	• Trust the security of e-government. • Trust government agencies. • Privacy protection by the government. • Trust government ability in online transaction • Trustworthiness of government agencies.
Trust of Internet (TOI)	The trust in the reliability of the enabling technology(Carter and Belanger, 2005)	• Internet safety • Internet security
Social Influence (SI)	The degree to which that others believes will affect someone to use e-government.	• People influence on using e-government. • People influence on trusting government. • People influence on the perception of e-government usefulness. • Family and friends influence.
Behavioral Intention (BI)	Individual's subjective probability that he or she will engage in or perform some behavior" (Ajzen and Fishbein, 1975)	• Intention to use the services • Intention to continually use the services • Mandatory use of the services

Pilot Survey

Before distributing the survey, a pilot survey was conducted on a sample size of 9 respondents to test whether they can follow the directions of the questionnaire as indicated. After performing the pilot study, several questions were paraphrased based on the feedbacks of the participants. Then, the reliability analysis was applied to that collected data from the pilot study. The result of the analysis shows that the values of Cronbach's alpha were over the suggested value of 0.7, which indicated that the questionnaire was reliable.

Sample

The sampling technique that has been utilized in this study is a convenience sampling technique. Researchers usually tend to use purposive sampling or confirmatory sampling (non-probability sampling method). Moreover, researchers tend to select the participants based on their consistency with research purposes (Daniel, 2011; Fraenkel et al., 2012). However, in this study, we decided to use convenience sampling because the selection of units is made randomly.

Data Analysis

Several analyses were conducted on the collected data. Initially, a demographic analysis was conducted on the sample. Then, the reliability analysis was applied to confirm the consistency of the measurement. The factor analysis was performed to reduce the dimensionality and to solve the multicollinearity problem of the factors. Then, to test the research model, the multiple regression analysis and the mediation analysis were performed. The data in this study were analyzed using SPSS 24. The mediation analysis was performed using Hayes's (2012) PROCESS macro tool in SPSS.

VI. DATA ANALYSIS RESULTS

Demographic Information of Respondents

Table II shows the demographic characteristic of the respondents. As shown in the table, 65.3% of the respondents are female. The dominant age range of respondents is 20-29, with 40.4% of total and 30-39, with 25.5% of the total. The majority of the respondent (57%) holds a bachelor degree, followed by 21.2% of the respondents with a high school level. In total, the number of holders of the bachelor's degree, master's degree, and doctoral degree show that 73.64% of the citizens are highly educated, which, in turn, indicates that our sample tends to be active and willing to use the Internet to search for information.

Additionally, 41.3% of the respondents were students. In other words, almost half of the participants are experts in using the Internet and have experience in searching for information online, and therefore, can understand the type of services provided by the government electronically. In terms of the hometown, the results revealed that 26.6% of the respondents were from the capital city Riyadh, followed by 20.9% of the respondents were from Jeddah city, which is the second-largest city in Saudi Arabia after Riyadh. These results show that citizens live in urban areas have better accessibility to the Internet.

Table II: Demographic Distribution of Respondents

Demographic Category	Results	
Gender	Male	34.7%
	Female	65.3%
Age	16 to 19	17.5%
	20 to 29	40.4%
	30 to 39	25.5%
	40 to 49	8.0%
	Above 50	8.6%
Hometown	Riyadh	26.6%
	Jeddah	20.9%
	Mecca	10.3%
	Dammam	8.8%
	Medina	6.8%
	Other	26.1%
Education level	Not educated	0.3%
	Under high school	4.9%
	High school	21.2%
	Bachelor degree	57.0%
	Master degree	12.6%
	Doctoral degree and above	4.0%
Occupation	Non-employed	18.3%
	Student	41.3%
	Governmental organization's employee	16.3%
	Private company's employee	11.5%
	Educational organization	6.3%
	Freelancer	6.3%

Reliability Analysis

The internal consistency of the survey responses across the constructs is measured using Cronbach's alpha. Manerikar and Manerikar (2015) suggest that the acceptable limit of alpha value is 0.7, and an alpha value greater or equal to 0.9 is excellent. The results of this study show that the alpha values of all constructs are greater than the acceptable level. Table III shows that 4 out of 7 constructs possess high reliability with alpha values greater than 0.9, while three constructs show good alpha values that greater than 0.8. These results confirm the internal consistency of all the constructs of the model. In other words, measures of constructs are unidimensional, which means that items belong to the same constructs are measuring the same content.

Table III: Results of Reliability Analysis

Scale	Number of Items	Cronbach's Alpha (α)	Type
Trust on Internet (TOI)	3	0.826	Good
Trust on Government (TOG)	6	0.924	Excellent
Perceived Corruption (PC)	6	0.912	Excellent
Social Influence (SI)	4	0.818	Good
Perceived Usefulness (PU)	6	0.917	Excellent
Perceived Ease of Use (PEOU)	6	0.885	Good
Behavioral Intention (BI)	3	0.907	Excellent
Total	**34**		

Exploratory Factor Analysis (EFA)

The Exploratory Factor Analysis (EFA) was conducted to reduce the dimensionality of the variables and to examine the validity of the constructs used in this study. Although most of these constructs have been studied and already validated in previous research, it is still necessary to ensure their validity in this study. The factor analysis in this study was applied, taking into account determining the factorability of the data (KMO and Bartlett's test), and using the principal component analysis method as a technique to reduce dimensionality and to extract uncorrelated linear combinations of variables.

Firstly, to determine the factorability of the data, the Kaiser-Meyer-Olkin (KMO) test was applied. Table IV shows that the values of KMO are between 0.698 and 0.910. These values are over the acceptable level of 0.50, which suggested by Kaiser (1974). The results indicate that the samples are adequate, and the data factor well. Moreover, Bartlett's test for each factor shows significant results at a significance level of $p<0.001$. These findings confirm the homogeneity of variance, which means that the variances are equal across the samples. These results also confirm the data validity and factorability, which means that the data is appropriate for the EFA.

Table IV: Results of KMO and Bartlett's Test

Construct	KMO	Bartlett's Test		
		Approx. chi-square	df	Sig.
TOI	0.699	258.716	3	0.000
TOG	0.916	1128.709	15	0.000
PC	0.892	909.909	15	0.000
SI	0.698	557.507	6	0.000
PU	0.859	1009.576	15	0.000
PEOU	0.888	644.503	10	0.000
BI	0.723	465.132	6	0.000
All constructs	0.931	6670.207	561	0.000

After confirming the factorability of data, an initial regression analysis was conducted before the factor analysis to identify the correlation between items and to detect the multi-collinearity problem. Then, the factor analysis was conducted on each construct of the research model. The EFA analysis was presented using the principal component analysis technique.

The results of the factor analysis show that the constructs of TOI, TOG, PC, PEOU, and PU were reduced into one component. On the other hand, the construct of SI was reduced into two components. The first one is Social Circle Influence (SCI), and the second one is Social Influence on Decision (SID). Therefore, for the rest of the analyses in this study, the factor of SI will be tested by measuring two factors that are SCI and SID.

Variance Inflation Factor (VIF) Analysis

Variance Inflation Factor (VIF) analysis refers to the reciprocal of tolerance. This analysis determines the amount of multi-collinearity in multiple regression variables. The acceptable level of VIF is below 5. Table V shows that the VIF values for all the variables are well below 5, which suggests that there is no multi-collinearity problem.

Table V: Results of VIF Analysis

Dependent Variable	Independent Variables	Tolerance	VIF
BI	TOI	0.439	2.277
	TOG	0.352	2.841
	PC	0.378	2.648
	PU	0.319	3.133
	PEOU	0.380	2.633
	SCI	0.880	1.136
	SID	0.617	1.621

The Multiple Regression Analysis

Table VI presents the multiple regression analysis. The table contains two models. The first model includes the factors of TOI, TOG, PC, SCI, SID, PU, and PEOU. The second model includes the same factors of the first model in addition to the moderating variables: hometown, education level, occupation, gender, and age. The results show that PU, TOI, and PEOU influence the behavioral intention to use e-government with a confidence level greater than 94%. On the other hand, the table shows that TOG, PC, SCI, and SID are not significant. Thus, we conclude that the behavioral intention to use e-government should not be predicted by TOG, PC, SCI, or SID.

As for model 2 in Table VI, which is the main model of the study, the results were affected by the moderated variables. Similar to model 1, model 2 also shows that PU, PEOU, and TOI, and education level have a significant effect on BI. Moreover, the second model shows better significance levels for PU, TOI, and PEOU, besides the significant of the education level. In other words, the constructs of PU, PEOU, and TOI, besides the control variable of education level, have a significant influence on the behavioral intention to use e-government with a 95% confidence level.

Table VI: The Results of The Multiple Regression Analysis

Model		B	SE	t	Sig.
1	(Constant)	.006	0.042	.135	.893
	TOI	-0.118	0.064	-1.847	0.066
	TOG	0.016	0.071	.222	0.825
	PC	0.004	0.069	.055	0.956
	PU	0.745	0.075	9.944	0.000
	PEOU	0.427	0.069	1.852	0.065
	SCI	-0.011	0.045	-.247	0.805
	SID	-0.029	0.054	-.529	0.597
2	(Constant)	-0.730	0.223	-3.277	0.001
	TOI	-0.160	0.065	-2.440	0.016
	TOG	0.033	0.071	.465	0.642
	PC	0.008	0.068	.122	0.903
	PU	0.750	0.076	9.804	0.000
	PEOU	0.441	0.070	2.047	0.042
	SCI	-0.012	0.045	-.267	0.790
	SID	-0.028	0.054	-.518	0.605
	Age	0.057	0.044	1.303	0.194
	Gender	0.131	0.096	1.357	0.176
	Hometown	0.006	0.007	.871	0.385
	Education level	0.151	0.058	2.591	0.010
	occupation	0.005	0.034	.155	0.877

The result of the regression analysis in Table VI shows that the TAM constructs (PEOU and PU), the trustworthiness construct (TOI), and the education level have a significant effect on predicting the behavioral intention to use e-government at a significance level that less than 0.05. These results support H5 and H6.

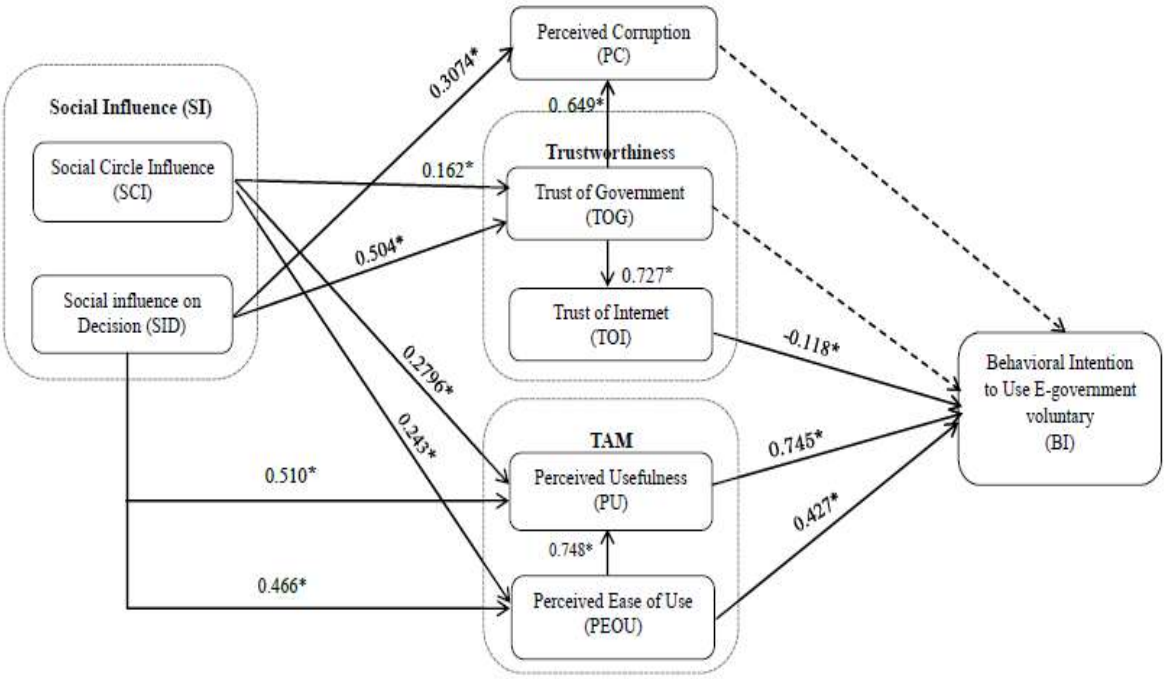
Although TOI has a significant influence on BI, the result of the regression analysis shows that this relationship is negative. This means that the greater the confidence of individuals on the Internet, the less they intend to use e-government services. This finding contradicts our hypothesis that the relationship between TOI and BI is positive. Thus, we conclude that since this relationship is negative, then H2 is not supported.

Since the regression analysis examines the direct relationships between the variables, we conduct a mediation analysis to study the indirect relationships that are proposed in the research model.

The Mediation Analysis

The mediation analysis with regression analysis was conducted to study the indirect relationship between SCI and BI as mediated by PU, SID and BI as mediated by PU, SCI and BI as mediated by TOG, SID and BI as mediated by TOG, SCI and BI as mediated by TOG and PC, SID and BI as mediated by TOG and PC, PEOU and BI as mediated by PU, and TOG and BI as mediated by PC. The results of the mediation analysis show that all these relationships are significant at a significance level less than 0.05, except the relationship between SID and BI if mediated by both TOG and PC. These two variables together are not strong mediators of the relationship between SID and BI. Figure 2 shows the results of the regression and mediation analysis.

Figure 2: The Empirical Model for E-government Adoption



VII. DISCUSSION

The study employed multiple regression analysis and mediation analysis techniques to evaluate the proposed model. The proposed model included six independent variables, five moderated variables, and one dependent variable. The results of the study show that the critical factors in the model have a significant impact on the citizens' behavioral intention to use e-government in Saudi Arabia. In particular, perceived usefulness, perceived ease of use, and trust in the Internet have a significant direct impact on the citizens' intention to use e-government. Furthermore, the study shows that both the trust in the government and the social influence have indirect effects on the citizens' intention to use e-government in Saudi Arabia. Moreover, the education level reveals to be is the only moderator variable that has a strong influence on the relationships between the key factors and behavioral intention.

Among the mentioned factors, the perceived usefulness proved to have the most substantial impact on the citizens' intention to use e-government. Furthermore, the social influence proved to be a strong determinant of perceived usefulness, perceived ease of use, trust in the government, and perceived corruption. Perceived corruption determined to have a more substantial impact as a mediator of the relationship between citizens' trust in government and their intention and between the social influence and the citizens' intention.

The finding also reveals that social influence has a substantial indirect impact on the citizen's intention. The social influence does not affect the citizens' intention or decision directly but affects the process of creating these intentions, which contains their perceptions in general terms. Although previous studies show that social influence has a direct effect on the behavioral intention to use e-government (AlAwadhi and Morris, 2008; Al-Shafi and Weerakkody, 2009; Sahari et al., 2012); However, the results of our study agree with Hussein et al. (2010). Hussein et al. (2010) investigated the effect of social norms on an online tax-filing service. The study found that social influence has no impact on the intention to use online tax-filling services.

Moreover, Alshehri et al. (2012) and Al-Sobhi et al. (2011) also found an insignificant correlation between social influence and the intention to use e-government. The nature of the participants can explain these findings. The majority of the participants are from the age group 20-29 and 30-39 with a high level of education. Highly educated people over 20 years old are usually willing to make their own decisions without being influenced by others' opinions.

Moreover, the results show that social influence has a significant indirect effect on the citizens' behavioral intention if mediated by their perception of the usefulness. The results also show that there is a significant indirect effect of social influence on the citizens' intention as mediated by their trust in the government and their perception of corruption. These results mean that social influence has a more influential role in influencing individuals' perceptions or beliefs than influencing their decision. It is clear that Saudi citizens are more likely to be affected by other people's opinions about the government and its services, and this may encourage them to adopt the services. In other words, if citizens believe that the e-government services are useful, they most likely will influence the people in their social circle about the usefulness of the services. Therefore, people will create positive perceptions of the benefits they will gain from using the services, which convince them to adopt these services. Similarly, the citizens' confidence in the government and the transparency of its performance may influence their social circle to trust the government. Accordingly, this creates a positive perception of the government's transparency and, therefore, influences the citizens' decision to adopt e-government services.

As for the trust factors, the finding reveals that trust in the government has a significant indirect effect on the citizens' intention to use e-government. In other words, the citizens who trust the government are more likely to have positive perceptions toward the level of corruption, and therefore they will be more willing to trust the Internet to conduct an online transaction with the government.

Furthermore, trust in the government proved to be a potent mediator of the relationship between social influence and the citizens' behavioral intention to use e-government. On the other hand, the findings show that it has a significant negative impact on the citizens' behavioral intention to use e-government.

Furthermore, the finding shows that trust in the Internet has a significant negative influence on the citizens' intention to use e-government. Thus, we can say that the less is the citizens' confidence on the Internet, the higher is their intention to use e-government. This unexpected result cannot be generalized and need to be considered for further research.

This result can be explained by the fact that the trust in government, along with the influence of other factors, is not a significant predictor of the behavioral intention to use e-government. This finding illustrates that Saudi citizens trust the government, and this trust has no impact on their intention to adopt the services. This result is consistent with the previous research by Carter (2008). As suggested by Carter (2008), citizens may perceive the government and its online services as entirely different things that do not integrate. This argument may explain why there is no significant direct relationship between the citizens' trust in the government and their behavioral intention. Thus, we conclude that trust in the government does not necessarily determine the citizens' intention to use e-government directly.

Moreover, the results reveal that there is a significant direct relationship between trust in the government and perceived corruption, which supports H3. Similarly, the direct link between perceived corruption and the citizens' behavioral intention proved to be significant. This result indicates that when citizens trust the government, their negative perceptions of its corruption decline. On the other hand, when they believe that the government is highly corrupted, then, accordingly, their intention to use its online services will decrease. This finding means that citizens trust the government anyway, and this trust has an insignificant effect on their intention to use e-government. However, their intention to use the services will be affected if they link the trust to their perceptions of corruption. Thus, we can say that the citizens' perception of corruption plays a significant indirect role in predicting their behavioral intention towards the use of e-government.

As for the constructs from the TAM, the results reveal that perceived usefulness has a significant positive influence on the behavioral intention to use e-government. Furthermore, the study found that perceived usefulness is a potent mediator of the relationship between the citizens' perception of ease of use and their behavioral intention. These results support our hypothesis. Perceived usefulness appears to be the most significant determinant of the citizens' behavioral intention towards using e-government.

Furthermore, the study shows that perceived ease of use has a significant positive influence on the citizens' intention to use e-government. This means that the ease of use is a significant driver for the citizens' decision to adopt e-government. The study also reveals that perceived ease of use has a significant positive influence on the perceived usefulness, which supported our hypothesis. In other words, perceived ease of use is an essential predictor of the citizens' intention to use e-government services; However, this prediction becomes stronger if mediated by the perceived usefulness.

This result illustrates that for the Saudi citizens, their intention to use a service continuously is primarily related to the extent of the benefits they were seeking to gain, which makes them return to use the service again. These results are not surprising since these relationships have been proposed by Davis et al. (1989) in the model of TAM and are also confirmed in many studies (Warkentin et al., 2002; Carter and Belanger, 2005; Carter, 2008; AlAwadhi and Morris, 2009).

VIII. CONCLUSION

The purpose of this study was to explore the key factors that influence the citizens' intention to adopt e-government services in Saudi Arabia. This study provided a conceptual model and an empirical analysis to test the model in the context of Saudi Arabia. The conceptual model was formed based on the literature and theoretical models. These models are the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the perceived trustworthiness factors which were adopted from Carter and Belanger's (2005) study. The factors of perceived ease of use (PEOU) and perceived usefulness (PU) were adopted from the TAM; trust in the government (TOG) and trust in the Internet (TOI) were adopted from Carter and Belanger's (2005) acceptance model; the social influence was adopted from UTAUT. A new factor that was introduced to the conceptual model is perceived corruption. The model was moderated by five moderating variables. These variables are age, gender, hometown, education level, and occupation. The model showed the direct and indirect influence of these factors on the citizens' behavioral intention (BI). The data was then collected from Saudi citizens to examine their intentions to use e-government services.

This study applied qualitative approaches. A survey questionnaire was developed to measure the constructs. Before the survey distribution, a pilot survey was conducted on a sample size of 9 participants. Then, the survey questionnaire was distributed online on a sample of 349 Saudi citizens. Several statistical techniques were performed to analyze the quantitative data set for e-government users. These analyses are demographic analysis, reliability analysis, exploratory factor analysis, regression analysis, and mediation analysis. The analyses were carried out using SPSS (version 24) program and PROCESS macro tool (version 2.16) in SPSS.

The results of the survey indicated that the trust in the Internet, the perceived ease of use, and the perceived usefulness are direct determinants of the citizens' decision to use e-government services. Meanwhile, the trust in the government and the social influence is indirect determinants on the citizens' decision to use e-government. Moreover, the results showed that perceived corruption has a strong influence on other relationships, such as the relationship between the social influence and the behavioral intention, as well as the relationship between the trust in the government and the behavioral intention. Furthermore, the findings show that the citizens' trust in the government influences their trust on the Internet. Meanwhile, their perceptions of the ease of using the services influence their perceptions of the service's usefulness. Additionally, social influence has a strong effect on most of the constructs, PEOU, PU, PC, and TOG, but does not directly affect the citizens' behavioral intention. Finally, the results of the empirical model showed that the factors that are related to the performance of the e-government have a direct impact on the citizens' decision. In contrast, the factors that are not related to the e-government's performance, but rather to the citizens' perceptions, have an indirect impact on their decision to adopt e-government.

In conclusion, the citizens' successful adoption of e-government in a country such as Saudi Arabia depends on their expectations of the provided services by the government, in addition to the government's efforts to improve its online services. Therefore, the results of this study could be of utmost importance for decision-makers in the government to reach more citizens. Despite the Saudi Arabian government's efforts in the recent years to develop an IT-based economy, in line with the Saudi's vision of 2030 (Saudi Vision 2030, 2016), it is still necessary for the government to make more efforts to understand the citizens' needs, as these needs drive the improvement of the technology.

The Saudi Arabian government has developed two strategic plans to implement e-government. The first plan focused on laying the foundation for the technological side of e-government. The second plan focused on improving the efficiency of the services and the interaction with citizens. In continuation of the two previous strategic plans, the government should focus more on the citizens rather than the technology. The government needs to initiate a new project that aims to attract citizens and expand the adoption of e-government services. This project can be achieved by providing the appropriate services that are beneficial and are aligned with the

citizens' needs and expectations. It is also essential for the provided services by the government via websites, or mobile phone applications, to be protected, easy to use, efficient, and providing appropriate support. The government should also carry out advertising campaigns through social media to educate citizens about the services, their advantages, and the benefit of using them. Taking into account the suggestions presented in this study will help the government to draw up an appropriate business strategy that improves the citizen's perception of its online services, and enhances their trust in the government, which, in turn, will increase their intention to use e-government. Thus, governments, in general, should make more efforts to have convenient and interactive services. If the citizens' fundamental priorities can be adequately addressed, the adoption of e-government services is likely to increase in Saudi Arabia.

IX. LIMITATION

There was a gender-imbalance in the sample of this study, as the number of female participants in the survey was higher than male participants. This may affect the reliability of the results of this study and influence the generalization of the results. Another limitation is that the conceptual model of this study was tested on the citizens' behavioral intention to use e-government in a voluntary environment. To increase the explanatory power of the research model, further research is necessary to understand the mandatory adoption.

X. FUTURE RESEARCH DIRECTIONS

The limitations of this study lead to the importance of expanding the scope to further research to broaden the understanding of e-government adoption. Thus, additional research pathways need consideration. For instance, the conceptual model of this study can be tested in other contexts to enhances the validity of the model. The model of this study can be applied to other developing countries, for instance.

Furthermore, it is essential to broaden the definition of trust in the government in future studies. This can be done by integrating both definitions of perceived corruption and trust in the government in a single definition. Moreover, the model of this study can be tested further within the organization, taking into account the addition of other factors, such as employees' training.

REFERENCES

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

[2]. Ajzen, I. and Fishbein, M. (1975). Belief, attitude, intention and behavior: An introduction to theory and research. Reading, MA: Addison-Wesley.

[3]. Akbar, H. (2017). A Conceptual Framework for Citizens' Adoption of E- Government. International Review of Management and

[4]. Business Research. 6(3), 1171-1183.

[5]. AlAwadhi, S., and Morris, A. (2008). The Use of the UTAUT Model in the Adoption of E-government Services in Kuwait. In Hawaii International Conference on System Sciences, Proceedings of the 41st Annual (pp. 219-219). Ieee.

[6]. Al-Adawi, Z., Yousafzai, S., and Pallister, J. (2005). Conceptual model of citizen adoption of e-government. In The Second International Conference on Innovations in Information Technology (IIT'05), pp. 1-10.

[7]. AlAwadhi, S. and Morris, A. (2009). Factors influencing the adoption of e-government services. Journal of Software, 4(6), 584-590.

[8]. Al-Hujran, O., Al-dalahmeh, M., and Aloudat A. (2011). The role of national culture on citizen adoption of egovernment web sites. In ECEG2011-Proceedings of the 11th European Conference on EGovernment: ECEG2011 (p. 17). Academic Conferences Limited.

[9]. Alsaif, M. (2014). Factors affecting citizens' adoption of e-government moderated by socio-cultural values in Saudi Arabia. Ph.D. thesis, University of Birmingham.

[10]. Al-Shafi, A. S., and Weerakkody, V. (2009). Understanding citizens' behavioural intention in the adoption of e-government services in the state of Qatar. In ECIS, pp. 1618-1629.

[11]. Alshehri, M., Drew, S., Alhussain, T. and Alghamdi, R. (2012). The Effects of Website Quality on Adoption of E-Government Service: An Empirical Study Applying UTAUT Model Using SEM. 23rd Australasian Conference on Information Systems.

[12]. Al-Sobhi, F., Weerakkody, V., and El-Haddadeh, R. (2011). The relative importance of intermediaries in egovernment adoption: a study of saudi arabia. Electronic Government, 62-74.

[13]. Alyabis, F. A. (2000). Examining the impact of Internet electronic commerce on commercial organizations in Saudi Arabia. Ph.D. Dissertation. University of Northern IOWA.
[14]. Amagoh, F. (2015). An Assessment of E-Government in a West African Country: The Case of Nigeria. International Journal of Public Administration in the Digital Age (IJPADA), 2(3), 80-99.
[15]. Bannister, F., and Connolly, R. (2011). The trouble with transparency: a critical review of openness in e-government. Policy and Internet, 3(1), 1-30.
[16]. Bannister, F., and Connolly, R. (2015). The great theory hunt: Does e-government really have a problem?. Government Information Quarterly, 32(1), 1-11.
[17]. Bawazir, S. A. (2006). The key factors of successful sustainable development: e-Government in Saudi Arabia as an example. In Proceedings of the Saudi 18th National Computer Conference (NCC18) (pp. 13-18).
[18]. Belanger, F., Hiller, J. S., and Smith, W. J. (2002). Trustworthiness in electronic commerce: the role of privacy, security, and site attributes. The journal of strategic Information Systems, 11(3), 245-270.
[19]. Bertot, J. C., Jaeger, P. T., and Grimes, J. M. (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. Government information quarterly, 27(3), 264-271.
[20]. Carter, L. (2008). E-government diffusion: a comparison of adoption constructs. Transforming Government: People, Process and Policy, 2(3), 147-161.
[21]. Carter, L., and Belanger, F. (2004). Citizen adoption of electronic government initiatives. In System Sciences, 2004. Proceedings of the 37th Annual Hawaii International Conference on (pp. 10-pp). IEEE.
[22]. Carter, L., and Belanger, F. (2005). The utilization of e-government services: citizen trust, innovation and acceptance factors. Information systems journal, 15(1), 5-25.
[23]. Chadwick, A., and May, C. (2003). Interaction between States and Citizens in the Age of the Internet:"e-Government" in the United States, Britain, and the European Union. Governance, 16(2), 271-300.
[24]. Chen, Y. N., Chen, H. M., Huang, W., and Ching, R. K. (2006). E-government strategies in developed and developing countries: An implementation framework and case study. Journal of Global Information Management, 14(1), 23.
[25]. Daniel, J. (2011). Sampling essentials: Practical guidelines for making sampling choices. Sage.
[26]. Davis, D., Bagozzi, P., and Warshaw, R. (1989). User acceptance of computer technology: a comparison of two theoretical models. Management Science, Vol. 35, No. 8, pp. 982–1003.
[27]. Fraenkel, J. R., Wallen, N. E., and Hyun, H. H. (2012). How to Design and Evaluate Research in Education (8th edt.). New York: McGram-Hill Companies.
[28]. Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling.
[29]. Hopper, T., Tsamenyi, M., Uddin, S., and Wickramasinghe, D. (2009). Management accounting in less developed countries: what is known and needs knowing. Accounting, Auditing and Accountability Journal, 22(3), 469-514.
[30]. Hung, S. Y., Chang, C. M., and Yu, T. J. (2006). Determinants of user acceptance of the e-Government services: The case of online tax filing and payment system. Government Information Quarterly, 23(1), 97-122.
[31]. Hussein, R., Mohamed, N., Ahlan, A. R., Mahmud, M., and Aditiawarman, U. (2010). G2C adoption of e-government in Malaysia: trust, perceived risk and political self-efficacy. International Journal of Electronic Government Research (IJEGR), 6(3), 57-72.
[32]. Irani, Z., Dwivedi, Y. K. and Williams, M. D. (2009) Understanding consumer adoption of broadband: an extension of the technology acceptance model. Journal of the Operational Research Society, 60, 1322-1334.
[33]. Kaiser, H. F. (1974). An index of factorial simplicity. Psychometrika, 39, 31–36
[34]. Kanat, E., and Ozkan, S. (2009). Exploring citizen's perception of government to citizen services. Transforming Government: People, Process and Policy, 3(4), 406-419.
[35]. Lupu, D., and Lazar, C. G. (2015). Influence of e-government on the level of corruption in some EU and non-EU states. Procedia Economics and Finance, 20, 365-371.
[36]. Manerikar, V., and Manerikar, S. (2015). Cronbach's alpha. A Peer review research journal. aWEshkar WeSchool, 19(1), 117-9.
[37]. Ndou, V. (2004). E-government for developing countries: opportunities and challenges. The electronic journal of information systems in developing countries, 18(1), 1-24.
[38]. Sahari, N., Abidin, N. Z., Kasimin, H., and Idris, H. M. (2012). Malaysian e-Government application: Factors of actual use. Australian Journal of Basic and Applied Sciences, 6(12), 325-334.
[39]. Sait, S., Al-Tawil, K., and Hussain, S. (2004). E-commerce in Saudi Arabia: Adoption and

perspectives. Australasian Journal of Information Systems, 12(1), 54-74.
[40]. Sapanjeet, K. and Kamalkant, M. (2012). E- governance – Impact On Corruption. International Journal of Computing and Business Research (IJCBR). ISSN (Online): 2229-6166. Vol. 3.
[41]. Saudi Vision 2030 (2016). Governance Model for Achieving Saudi Arabia's Vision 2030. Retrieved 12 April 2017 from Saudi Vision 2030 Online website: http://vision2030.gov.sa/en
[42]. Singh, G., Pathak, R. D., Naz, R., and Belwal, R. (2010). E-governance for improved public sector service delivery in India, Ethiopia and Fiji. International Journal of Public Sector Management, 23(3), 254-275.
[43]. Tolbert, C. J., and Mossberger, K. (2006). The effects of e-government on trust and confidence in government. Public administration review, 66(3), 354-369.
[44]. United Nations (2016). UNITED NATIONS E-GOVERNMENT SURVEY 2016. E-government in support of sustainable development. Chapter 2, pp. 22-48.
[45]. Venkatesh, V., and Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. Management science, 46(2), 186-204.
[46]. Venkatesh, V., Morris, M.G., Davis, G.B., and Davis, F.D. (2003). User acceptance of information technology: Toward a unified view. MIS quarterly, pp. 425-478.
[47]. Warkentin, M., Gefen, D., Pavlou, P. A., and Rose, G. M. (2002). Encouraging citizen adoption of e-government by building trust. Electronic markets, 12(3), 157-162.
[48]. Weerakkody, V., Dhillon, G., Dwivedi, Y., and Currie, W. (2008). Realising transformational stage e-government: challenges, issues and complexities. AMCIS 2008 Proceedings, 181.
[49]. Yesser (2006). The National e-Government Strategy and Action Plan (May, 2006). Retrieved 20 January 2016 from
[50]. https://www.yesser.gov.sa/en/MechanismsandRegulations/Documents/National_E-Gov_Action_Plan_(F).pdf
[51]. Yesser (2012). Second National e-Government Action Plan For Kingdom of Saudi Arabia. Retrieved 20 January 2016 from
[52]. https://www.yesser.gov.sa/EN/MechanismsandRegulations/strategy/Documents/the_2nd_egovernment_action_plan_ENG.pdf