Volume: 3 Issues: 8 [June, 2018] pp.-77-91]
Journal of Information System and Technology Management
eISSN: 01281666
Journal website: www.jistm.com

EMPIRICAL STUDY ON THE INFLUENCE OF FACILITATING CONDITION ON THE USE OF E-GOVERNMENT SERVICE AMONG SMES IN SAUDI ARABIA

Aljerais Turki Mansour[1]
Wan Rozaini Sheik Osman[2]
Syahida Hassan[3]
Huda Ibrahim[4]

School of Computing, College of Arts and Sciences, University Utara Malaysia
[1]aljeraisturki@gmail.com, [2]rozai174@uum.edu.my, [3]syahida@uum.edu.my, [4]huda753@uum.edu.my

Accepted date: 30 September 2017 **Published date**: 15 July 2018

To cite this document:

Mansour, A. T., Osman, W. R. S., Hassan, S., & Ibrahim, H. (2018). Empirical Study on The Influence of Facilitating Condition on The Use of E-Government Service Among SMES In Saudi Arabia. *Journal of Information System and Technology Management*, *3*(8), 77-91.

Abstract: *The proposed empirical study investigates the critical role of facilitating condition on the use of e- government services among SMEs in Saudi Arabia. The data were collected and analyzed through using SEM and AMOS software. The finding indicates that facilitating condition has no effect on the use of e-government services among SMEs employees in Saudi Arabia even though most of the previous studies have had indicated that this variable play significant role in the use of e government services. Thus, the results is differ from other studies which might led to discover that the context and the sector play considerable effect on the results. The main objective of this study is to identify the factors that influence the use behavior of e-government service among employees of SMEs in Saudi Arabia. Despite various constraints to the study, the results have been encouraging, as it has managed to throw some lights on e-government service within SMEs in Saudi Arabia. This study proposed an integrated model between technology readiness index (TRI) and the unified technology and accepted use technology 2 (UTAUT2) and found that facilitating condition play an important role to determine the use behavior of e-government service of SMEs.*

Keywords: *Facilitation Condition, Use E-Government Services, Smes, Saudi Arabia*

Introduction

Background of the Study

According to UTAUT to the consumer technology use context is the addition of a direct relationship from facilitating conditions to behavioral intention over and above the existing relationship between facilitating conditions and technology use (Alzahrani & Goodwin, 2012).

In UTAUT, facilitating conditions is to influence technology use directly based on the idea that in an organizational environment, facilitating conditions can serve as the proxy for behavioral control and influence behavior directly (Ajzen, 1991). This is because many aspects of facilitating conditions, such as training, and support provided, will be freely available within an organization and fairly invariant across user likely to have a higher intention to use a technology.

For instance, if we were to consider mobile internet, consumers have different levels of access to information and other resources that facilitate their use, such as online tutorials. In general, all things being equal, a consumer with a lower level of facilitating conditions will have lower intention to use mobile Internet. Also, consumers with different phones may experience different rates of data transfer and consequently the effect of facilitating conditions on behavioral intention to be moderated by age, gender, and experience (Ajzen, 1991).

Older consumers tend to face more difficulty in processing new or complex information, thus affecting their learning of new technologies (Morris, Venkatesh, & Ackerman, 2005; Plude & Hoyer, 1986). This difficulty may be attributed to the decline in cognitive and memory capabilities associated with the aging process (Posner, 1996).

Hence, compared to younger consumers, older consumers tend to place greater importance on the availability of adequate support (Hall & Mansfield, 1975). Moreover, men, more than women, are willing to spend more effort to overcome different constraints and difficulties to pursue their goals, with women tending to focus more on the magnitude of effort involved and the process to achieve their objectives (Henning & Jardim, 1977; Rotter & Portugal, 1969; Venkatesh & Morris, 2000).

Thus, men tend to rely less on facilitating conditions when considering use of a new technology whereas women tend to place greater emphasis on external supporting factors. This can also be explained partly by the cognitions related to gender roles in society where men tend to be more task-oriented (Lynott & McCandless, 2000).

Experience can also moderate the relationship between facilitating conditions and behavioral intention. Greater experience can lead to greater familiarity with the technology and better knowledge structures to facilitate user learning, thus reducing user dependence on external support (Alba & Hutchinson, 1987).

Likewise, a meta-analysis showed that users with less experience or familiarity will depend more on facilitating conditions (Notani, 1998). Moreover, gender, age, and ICT experience have a joint impact on the link between facilitating conditions and intention. Gender differences in task orientation and emphasis on instrumentality will become more pronounced with increasing age (Morris et al., 2005).

Problem Statement

E-government services can be of great value and importance in the 21st century for efficient growth and responsive cost saving. E-government, particularly by multinationals and SMEs, has become a common practice in the developed economies. Saudi Arabia lagging behind in term of Government's online service compare to other Gulf Cooperation Council (GCC) States such as UAE and Bahrain (Global Innovation Index, 2017) as presented in the figure 1.1 below.

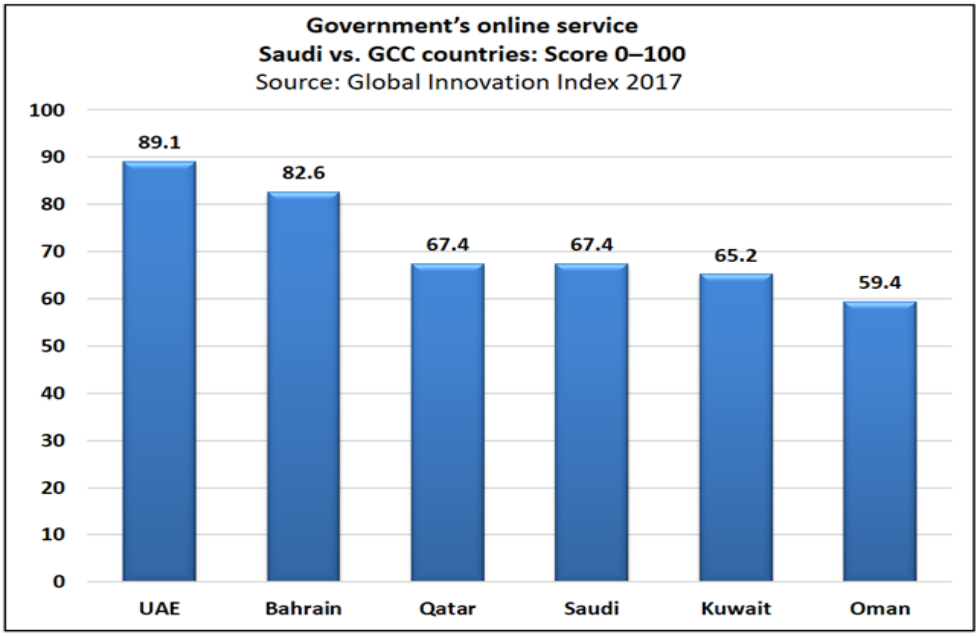

Figure1.1: Government's online service: Saudi vs. GCC countries
Source: (2017)

Which makes the initiatives and studies regarding the Government's online service in Saudi Arabia as an urgent national issue.

Saudi government use Absher that is online portal implemented by KSA for users to access online services anytime and anywhere. Absher platform provides facilitates to the citizen and visitors for immigration. It has users that number up to four million and its acceptance rate has increased continuously and provide full facilitates and resources to the citizen and visitor (Sabq, 2014). However, there is still needing to increase the use behavior of employee of SMEs to use Absher online services which in turn local and international employees will significantly satisfy with its services that offered by online systems and thereby lead to reduce time, efforts, costs, and bureaucracy.

Al-Khateeb, Faloudah, Bahumayd, and Zafar (2015) identify the strategies and challenges that faced by Saudi Arabia such as less of awareness of its citizens, lack of vision by ministry of information and communication technology, lack of technology readiness, poor infrastructure of its systems in the use and implementation of e-service programs. Saudi Arabia people faced different challenges and barriers in the use of e-services (Alamro & Tarawneh, 2011). Dajani and Yaseen (2016) who identified that use behavior of e-service system are the main issue that limit the use of e-service system.

Alghamdi and Beloff (2016) found that the facilitating conditions construct has a positive effect on online use. Previous studies Al-Gahtani, Hubona, and Wang (2007), Al-Gahtani (2003) revealed that facilitating condition is a major problem which cause lack of use behavior of e-services in Saudi Arabia.

Al-Azri, Al-Salti, and Al-Karaghouli (2010) stated that adopting e-government is not an easy task due to the fact that there is a thorough involvement of technical, human and

managerial factors which collectively facilitate the process. Facilitating condition is the observation that organizational and technical infrastructure exists to sustain the use of technology (Venkatesh, Morris, Davis, & Davis, 2003). Wu, Tao, and Yang (2007) examine that facilitating condition drastically influences to adoption of technology. Jambulingam (2013) analyzed that facilitating condition is influences e -learning adoption. So, according to Prensky (2001) members of current generation can use technology without referring to the user manual. Alsaif (2014) found that only 25 percent Saudi have the intention to use e-government which shows that 75 percent individual do not have the intention to use e-government service.

AlAwadhi and Morris (2009) conducted a study in Kuwait (Kuwait has similarity in culture with KSA) to explore factors that affect the adoption of E-government services. The result identified the main factors that could influence citizens to adopt E-government including lack of facilitating condition. Previous studies show that facilitating condition have positive impact on the e government adopted behavior of the citizen but some cause in research show that a lot of barrier involved whenever proper resource were not available have less e government usage in these develop countries (B. Gupta, Dasgupta, & Gupta, 2008; Venkatesh et al., 2003; Y.-S. Wang & Shih, 2009). It has been found that awareness of the system related facility is one of the barriers that affect the adoption of E-government services (AlNuaimi, Shaalan, Alnuaimi, & Alnuaimi, 2011). Importantly, from the discussion above, previous studies show that lack of facilitating condition have an influence on e-governance adaptation. Therefore, current study examined how to improve e-services facilities that can help the citizen of Saudi Arabia for adoption of new technology. To conclude, the study question how facilitating condition are able to has an influence on the use behavior of citizens toward e-government services and thereby, the need to investigate the effect of facilitating condition is more crucial. The reasons behind the need to investigate this issue is that due to the critical role of SMEs as a pivotal source to the Kingdom economy and particularly in the society point of view. Also, since SMEs is the main source of job creation, these employees need to do their personal tasks easier and more comfortable so, government provide for its local citizens several electronic platforms such as Absher. As a result of these e-services provided by the Kingdom government, SMEs in Saudi Arabia are considerably positively affected by the performance of its employees and their productivity due to the access to e-services.

Influence of Facilitating Condition on Use of E-Government Service

In UTAUT, facilitating conditions is hypothesized to influence technology use directly based on the idea that in an organizational environment, facilitating conditions behavioral control and influence behavior directly (UTAUT2) (Venkatesh, Thong, & Xu, 2012). Al-Azri et al. (2010) have argued that adopting e-government is not an easy task due to the fact that there is a thorough involvement of technical, human and managerial factors which collectively facilitate the process.

Empirically, studies have notably investigated the adoption of e-government from management and technical perspectives and thus, there lies a big research gap to outline how human aspects, particularly the ones associated with cultural, social and psychological dimensions can foster/influence the users and their e-service adoption in the developing economies (Al-Fakhri, Cropf, Kelly, & Higgs, 2008; Al-Shehry, Rogerson, Fairweather, & Prior, 2006).

AlAwadhi and Morris (2009) conducted a study in Kuwait to explore factors that affect the adoption of E-government services. The result identified the main factors that could influence citizens to adopt E-government including lack of facilitating condition, trust in the Internet and cultural differences. Previous studies M. Gupta, Pathak, and Chakrabarti (2008); Venkatesh et al. (2003); Y.-S. Wang and Shih (2009) shows that facilitating condition have positive impact on the e government adopted behavior of the citizen but some cause in research show that a lot of barrier involved whenever proper resource were not available have less e government usage in these develop countries.

It has been found that awareness of the system related facility is one of the barriers that affect the adoption of E-government services (Al-Nuaim, 2011). According to Baker and Bellordre (2004) a major concern related to the deployment and use of new technologies is a lack of knowledge of the system that a given technology exists, or the citizen could benefit from using the new technology.

Although these factors influence Kuwaiti citizens to adopt E-government services, there is no evidence that these factors can influence Saudi citizens. However, the culture is similar between Kuwait and Saudi Arabia (Baker & Bellordre, 2004).

Additionally, Alshehri, Drew, Alhussain, and Alghamdi (2012) have identified some general factors for E-government in Saudi Arabia (Alateyah, Crowder, & Wills, 2013).

Alsaif (2014) results revealed that in Saudi Arabia, the majority (70%) of the participants had some knowledge about the e-government and its services. However, does not constitute that the willingness and potential for acceptability to use a system would also be respectively high. The majority of the respondents did not have an awareness of the system about using the system to use e-government.

Interestingly, the authors also found that majority (74%) of those who mentioned no knowledge or used the e-services were male (Alsaif, 2014). Based on this, the researchers concluded that knowledge of the system alone is not worthy of influencing Saudi citizens and their attitudes towards using e-government service in Saudi Arabia. Consequently, we hypothesize that:

H1: Facilitating Condition will influence the use of e-government service in the emerging economy of Saudi Arabia.

The researcher examined only one variable (facilitating condition) in relation to the use behavior of e-government services among employees of SMEs as a part of origin research model that contain six variables with mediation and moderating variables. Thus, the current paper will only be focused on the effect of facilitating condition on the use behavior of employees of SMEs in Saudi Arabia as a result of no published work if any done in the context of SMEs using individuals as a respondent and also due to the critical role of SMEs sector in the Kingdom economy.

Research Model

A conceptual model of the present study is theory based. This conceptual model based on two theories namely TRI, and UTAUT2 because of the best presentation of the problems and issues. The current studied link with UTAUT 2 model. UTAUT 2 model was developed; the aim of

the model is to understand usage as the dependent variable (Venkatesh et al., 2003). UTAUT2 verify the links between facilitating condition and personal characteristics with use behavior.

The first change that we make to tailor UTAUT to the consumer technology use context is the addition of a direct relationship from facilitating conditions to behavioral intention over and above the existing relationship between facilitating conditions and technology use. In UTAUT, facilitating conditions is hypothesized to influence technology use directly based on the idea that in an organizational environment, facilitating conditions can serve as the proxy for use behavioral control and influence behavior directly (UTAUT2).

Methodology

Venkatesh et al. (2012) define facilitating condition as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system, while Aladwani (2006) define use behavior to explain to the position in which technology is selected for use by a person or an organization.

Quantitative studies are focused on deployment of mathematical models and theories for driving hypothesis regarding a phenomenon. The process helps to explain a connection between observations empirically between constructs in a relationship. Most of the previous studies related to the research variables have used the quantitative methods (Kaplan & Norton, 2006; van Loon et al., 2013). Thus, the present study used the same approach. Babbie (2004) found that the survey is the tool most often used as a strategy in business and social researchers. This feature will base on what was provided by survey research to collect large amounts of data in a short time and at low cost, in addition to the possibility of easy and accurate analysis of results by different statistical methods.

This study collected data from Riyadh, Saudi Arabia, which is considered the capital city. The researcher applied cross-sectional data and survey of strategy, which is considered the most used in studies that include a large number of participants. The target population for this study includes all employees working in Saudis SMEs. Further, the Saudi Arabian e-government efforts are largely focused on this biggest city (Al-Sobhi & Weerakkody, 2010). The population of this study is the number of employees (447987) work in all SMEs (91894) registered under Riyadh city which the sample size is 1169 employee as a respondent. In the present study, and according to Dawes (2008) the five-point Likert scale is able to improve reliability of the measures comparative to seven or three point scale hence, the study use five point scale as a useful measurement. The researcher spends six months for collection data start from September 2016 to February 2017.

Four items were used for measuring facilitating condition which adapted from a study Venkatesh et al. (2003), and four items adapted from a study Aladwani (2006) used for measuring the use behavior of e-government services which the researcher ask three lecturers from school of computing University Utara Malaysia for reviewing and modification process in order to be suitable for this study. From the 1169 questionnaires distributed, 477 sets were returned to which 443 responses were useful for analysis. The response rate of this study is 41%, which is considered good Baruch and Holtom (2008) in comparison to other studies found in the relevant literature.

Results of the Study

This section presents and analysis the data gained from employees of SMEs in Riyadh city in Saudi Arabia through using survey which starting from September 2016 till February 2017, and the resulted stated below.

Demographic Profile of Respondents

The respondents' information is summarized using basic descriptive statistics such as frequencies and percentages in order to provide overview of the data collected.

Table 7.1: Summary of Demographic Profile of Respondents

No	Demographic Item	Categories	Frequency	Percentage
1	Gender	1. Male	357	80.6
		2. Female	86	19.4
2	Age	1. 18-25 years	79	17.8
		2. 26 - 34 years	113	25.5
		3. 35 - 42 years	152	34.3
		4. 43 - 50 years	69	15.6
		5. Above 50 years.	30	6.8
3	Education Background	1. High School	25	5.6
		2. Bachelor Degree	269	60.7
		3. Master	63	14.2
		4. PhD	52	11.7
		5. Other	34	7.7
4	Nationality	1. Citizen	336	75.8
		2. Resident	107	24.2
5	Own computer or smartphone	1. Yes	420	94.8
		2. No	23	5.2
6	The place to use the e-services	1. Office	23	5.2
		2. House	161	36.3
		3. Cafe	53	12.0
		4. All of them	206	46.5
7	Frequently use online services options of Absher	1. SMS	209	47.2
		2. MMS	7	1.6
		3. Ringtoneand logo download	4	0.9
		4. Java games	10	2.3
		5. Browse websites	142	32.1
		6. Mobile e-email note	71	16.0
8	Duration of Internet Usage	6. Less than 1 years	12	2.7
		2. 1 - 3 years	20	4.5
		3. 4 - 5 years	53	12.0
		4. 6 - 10 years	127	28.7
		5. above 10 years	231	52.1

Source: Survey

Table 7.1 shows the frequency and percentage for demographic profile of respondents in the study sample. It shows that 357 (80.6%) respondent are male while the rest 86 (19.4%) are female participants. Regarding age groups of the sample, 17.8% of them are between 18 and 25 years old, 25.5% of total respondents between 26 and 34, 34.3% of total respondents are in the age group of 35 to 42 years, 15.6% between 43 and 50, and 6.8% of total respondents are above 50 years. In terms of education background, 5.6% of respondents have high school certificate, respondents who have bachelor's degree represent the majority of participation

which is about 60.7%. Meanwhile, 25.9% of respondents finished their postgraduate studies. From the survey, majority of respondents are citizen which represent 75.8%, whilst 24.2% of respondents are resident. Regarding the duration of internet usage, 2.7% of respondents have experience less than 1 years, 4.5% of total respondents between 1 and 3 years, 12% between 4 and 5 years, 28.7% between 6 and 10 years, , and 52.1% of total respondents are above 10 years.

Measures of Central Tendency and Dispersion

This section provides a commentary on the outcome of the descriptive analysis. By looking at the individual item of all the eight constructs and providing its interpretation, points of discussion can be generated for a better understanding of its implications. To analyze the level of perception the rule of thumb suggested by Pallant (2013), if the rating of the instrument is on the five Likert Scale, the level of agreement by respondents can be divided into three groups where the mean score between 0 and 2.33 indicates as low value or level of perception, the mean score from 2.34 - 3.66 indicates as moderate level of perception, while the mean score between 3.67 and 5.00 indicates high level of perception.

Table 7.2 presents the frequency, percentage, mean and standard deviation of each item which measures facilitating conditions (FC) among respondents. A respondent is asked to indicate their opinion which is measured on five-point scale ranging from 1 (strongly Disagree) to 5 (strongly Agree).

Table 7.2: Mean and Standard Deviation of Facilitating Conditions (FC)

No.	Items	1 n %	2 n %	3 n %	4 n %	5 n %	M	SD	Rank
FC1	I have the resources necessary to use Absher Services.	45 10.2	77 17.4	108 24.4	118 26.6	95 21.4	3.32	1.268	2
FC2	I have the knowledge necessary to use Absher Services.	35 7.9	84 19.0	105 23.7	142 32.1	77 17.41	3.32	1.192	2
FC3	E-services of Absher is compatible with other technologies I use.	35 7.9	77 17.4	110 24.8	132 29.8	89 20.1	3.37	1.208	1
FC4	I can get help from others when I have difficulties using eservices of Absher.	31 7.0	99 22.3	113 25.5	141 31.8	59 13.3	3.22	1.144	4
	Total						3.31	1.203	

Source: Survey

Note: n=frequency; %=percentage; 1= strongly Disagree 2=Disagree; 3= Neutral; 4= Agree; 5= strongly Agree; M=Mean; SD=Standard Deviation

In addition, the third item records the highest mean score of 3.37 out of 5.0 point with a standard deviation of 1.208 indicating that the respondents agree that E-services of Absher is compatible with other technologies they use. Generally, the results indicate that the overall

respondents' mean score for facilitating conditions is 3.31 with a standard deviation of 1.203, indicating that the respondents agree that they have the resources and knowledge necessary to use Absher Services, and they can get help from others when they have difficulties using e-services of Absher.

Normality Test

Normality is used to describe a symmetrical, bell-shaped curve, which has the greatest frequency of scores in the middle with smaller frequencies towards the extremes. Normality can be assessed by obtaining skewness and kurtosis values (Pallant, 2013).

Table 7.3: Assessment of Normality of All Items

	Skewness	Std. Error of skewness	Kurtosis	Std. Error of kurtosis
FC1	-.281	.116	-.960	.231
FC2	-.302	.116	-.849	.231
FC3	-.319	.116	-.840	.231
FC4	-.186	.116	-.853	.231
USE1	.079	.116	-.892	.231
USE2	.085	.116	-.892	.231
USE3	.053	.116	-.958	.231
USE4	-.691	.116	-.357	.231

According to George and Mallery (2003) the arithmetic mean is a good descriptor if the Skewness value obtained is within ±2.0 cut-off point. Byrne and Van de Vijver (2010) set the cut-off point For Kurtosis, which is less than 7 to be acceptable. Table 2 gives a summary of the skewness and kurtosis values for 8 items which indicate the normality of the variables. The normality of the 8 items was checked and the result indicated no violation. Thus, all variables in this study are categorized as normally distributed.

Construct Reliability: Composite Reliability and Cronbach's Alpha

Table 7.4 shows the results of composite reliability values greater than 0.7, and the Cronbach's alpha also greater than 0.7, which indicates that the construct reliability is fulfilled, and there is both consistency and stability in the model.

Table 7.4: Cronbach's Alpha And Composite Reliability Results

Construct	α (above 0.7)	CR (> 0.7)
Facilitating Condition	0.922	0.924
Use Behavior	0.932	0933

Note: α= Cronbach's alpha; CR = Composite Reliability

Indicator Reliability: Loadings

Factor loading was used to test indicator reliability. High loadings on a construct indicate that the associated indicators seem to have much in common, which is captured by the construct (J. F. Hair, Sarstedt, Ringle, & Mena, 2012). Factor loadings greater than 0.50 are considered to be very significant (M. Hair, 2007). The loadings for all the items exceeded the recommended value of 0.5, as shown in Table 4, and therefore the loadings for all the items in the model fulfilled all the requirements.

Table 7.5: Results Of Loading For All Items

Constructs	Items	Loading
Facilitating Condition (FC)	FC1	0.83
	FC2	0.93
	FC3	0.92
	FC4	0.79
Use Behavior (USE)	USE1	0.89
	USE2	0.91
	USE3	0.91
	USE4	0.81

Direct Hypothesis Testing

The hypotheses of this study were tested using structural equation modeling via AMOS. The structural model assessment as shown in Table 7.6 provides the indication of the hypotheses tests. However, facilitating condition are rejected and the study confirmed that no effect of this variable on the use of e-government services among SMEs in Saudi Arabia as presented in the table below.

Table 7.6: Structural Path Analysis Result

Hypothesis	DV	IV	Estimate β (Path coefficient)	S.E	C.R	Hypothesis Result
H1	USE	FC	0.07	0.075	0.977	Not Supported

Note: FC: facilitating condition, USE: use behavior
***p<.001; **p<.01; *p<.05
S.E = Standard Error
C.R = Critical Ratio
Facilitating condition (FC) does not effect on use behavior (USE

As shown in table 7.6, the t-value (C.R) of facilitating condition in predicting the use behavior were 0.977. It means that facilitating condition does not significantly influence use behavior. This statistical result indicates employees of SMEs in Saudi Arabia does not consider the facilities and support that provided by government toward applying e-services due to other factors that might influence employees such as their awareness and knowledge regarding these electronic services benefits as well as the security issue that tend to affect them toward e-government services as stated by other studies (Alshehri, Drew, & Alfarraj, 2012). Further, the

path coefficient was 0.07, indicating a positive relationship. It means when facilitating condition goes up by 1 standard deviation, use behavior goes up by 0.07 standard deviations.

Discussions

The findings of this study shows the validation of proposed integration model of technology readiness index (TRI) Parasuraman and Grewal (2000) into the unified technology and accepted use technology 2 (UTAUT2) Venkatesh et al. (2012) for e-government among employees of SMEs in Saudi Arabia, the proposed integration model contains facilitating condition as independent variables and use behavior as dependent variable.

This section aims to discuss the findings by revisiting research objectives and addressing the research questions. The general objective of this study is to identify the factors that influence the use behavior of e-government service of SMEs. While hypotheses testing is predominantly aimed at ascertaining if every hypothesis can be supported or otherwise, the subsequent review of the research specific objectives will focus on taking a closer but broader look at the relationships between construct as posed by the individual research questions. All major findings will be singled out and discussed.

Table 7.7 gives a summary of the findings of the present study in relation to its objectives, research questions, and the generated hypotheses. Specific and detailed discussions on each of the findings in line with theoretical perspectives and empirical works of the previous investigation are illustrated next.

Table 7.7: Summary Of Specific Objectives, Research Questions, Hypotheses, And Results

Research Question	Research Objective	Hypothesis	Results
RQ1: Do facilitating condition have any influence on use behavior of e-government service of SMEs in Saudi Arabia?	RO1: To determine the influence of facilitating condition on the use behavior of e-government service of SMEs in Saudi Arabia.	H1: Facilitating Condition ⟶ Use Behavior	Not Supported

The objective of this study is to determine the influence of facilitating condition on the use behavior of e-government service of SMEs in Saudi Arabia. This objective has one hypothesis need to test in order to achieve: the hypothesis related to the effect of facilitating condition on use behavior.

Surprisingly, this study found that facilitating conditions does not influence the use behavior of e-government service among employees of SMEs in Saudi Arabia, although this finding contradicts the result of several previous studies Boonsawat and Naennab (2014); Escobar-Rodríguez and Carvajal-Trujillo (2014); Im, Hong, and Kang (2011); Raman and Don (2013), however, it is consistent with other studies (Yueh, Huang, & Chang, 2015). This result may be because that the facilitating conditions such as providing the employees with the

resources and knowledge necessary to use e-government service not directly influence the use behavior but indirectly through the behavioral intention which proved in the fifth objective.

Conclusion

Although Saudi Arabia is one of the wealthiest countries in the world, it lagging behind regarding the ICT usage and government organizations efficiency compare to other gulf cooperation council (GCC) countries such as United Arab Emirate and Qatar (Dutta, Lanvin, & Wunsch-Vincent, 2016). It is important to note that lack of technology usage leads to low performance and low productivity (Isaac et al., 2017; Makokha & Ochieng, 2014). ICT usage has the potential to improve most aspects of our social, economic and cultural life Kocaleva, Stojanovic, and Zdravev (2014), it is also linked to national income, and there is a significant impact of ICT usage on organizational performance (J. Wang, Cao, Leckie, & Zhang, 2004) which in turn lead to create sustainable competitive advantages (Makhloufi Lahcene et al., 2018). According to Zaki, Van Boheemen, Bestebroer, Osterhaus, and Fouchier (2012) there is a public awareness in Saudi Arabia in term of the importance of ICT usage, this study can provide SMEs in Saudi Arabia with important insights on how to make a more successful approach to design and implementation of information technology within organizations which probably lead to increased productivity and effectiveness (Isaac et al., 2017).

The main objective of this study is to identify the factors that influence the use behavior of e-government service among employees of SMEs in Saudi Arabia. Despite various constraints to the study, the results have been encouraging, as it has managed to throw some lights on e-government service within SMEs in Saudi Arabia. This study proposed an integrated model between technology readiness index (TRI) and the unified technology and accepted use technology (UTAUT2) and found that facilitating condition play an important role to determine the use behavior of e-government service of SMEs.

References

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

Al-Azri, A., Al-Salti, Z., & Al-Karaghouli, W. (2010). The successful implementation of e-government transformation: A case study in Oman.

Al-Fakhri, M. O., Cropf, R. A., Kelly, P., & Higgs, G. (2008). E-government in Saudi Arabia: Between promise and reality. *International Journal of Electronic Government Research (IJEGR), 4*(2), 59-85.

Al-Gahtani, S. S. (2003). Computer technology adoption in Saudi Arabia: Correlates of perceived innovation attributes. *Information Technology for Development, 10*(1), 57-69.

Al-Gahtani, S. S., Hubona, G. S., & Wang, J. (2007). Information technology (IT) in Saudi Arabia: Culture and the acceptance and use of IT. *Information & Management, 44*(8), 681-691.

Al-Khateeb, A., Faloudah, A., Bahumayd, M., & Zafar, A. (2015). E-Government Strategy and its impact on Economic Development of the Nation: A Case Study of the KSA. *E-Government, 2*(5).

Al-Nuaim, H. (2011). An evaluation framework for Saudi e-government. *Journal of e-Government Studies and Best Practices, 2011*, 1-12.

Al-Shehry, A., Rogerson, S., Fairweather, N., & Prior, M. (2006). *The Motivations for Change towards e-government adoption: Saudi Arabia as a case study.* Paper presented at the eGovernment Workshop. Brunel University, West London.

Al-Sobhi, F., & Weerakkody, V. (2010). The role of intermediaries in facilitating e-government diffusion in Saudi Arabia.

Aladwani, A. M. (2006). An empirical test of the link between web site quality and forward enterprise integration with web consumers. *Business Process Management Journal, 12*(2), 178-190.

Alamro, S., & Tarawneh, S. A. (2011). Factors affecting E-commerce adoption in Jordanian SMEs. *European journal of scientific research, 64*(4), 497-506.

Alateyah, S., Crowder, R. M., & Wills, G. B. (2013). Factors affecting the citizen's intention to adopt e-government in Saudi Arabia. *International Journal of Social, Human Science and Engineering, 7*(9), 80-85.

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

Alba, J. W., & Hutchinson, J. W. (1987). Dimensions of consumer expertise. *Journal of consumer research, 13*(4), 411-454.

Alghamdi, S., & Beloff, N. (2016). Innovative Framework for e-Government adoption in Saudi Arabia: A Study from the business sector perspective. *International Journal of Advanced Computer Science and Applications, 7*(1), 655-664.

AlNuaimi, M., Shaalan, K., Alnuaimi, M., & Alnuaimi, K. (2011). *Barriers to electronic government citizens' adoption: A case of municipal sector in the emirate of abu dhabi*. Paper presented at the Developments in E-systems Engineering (DeSE), 2011.

Alsaif, M. (2014). *Factors affecting citizens' adoption of e-government moderated by socio-cultural values in Saudi Arabia.* University of Birmingham.

Alshehri, M., Drew, S., & Alfarraj, O. (2012). A Comprehensive Analysis of E-government services adoption in Saudi Arabia: Obstacles and Challenges. *International Journal of Advanced Computer Science and Applications, 3*(2), 1-6.

Alshehri, M., Drew, S., Alhussain, T., & Alghamdi, R. (2012). The Effects of Website Quality on Adoption of E-Government Service: AnEmpirical Study Applying UTAUT Model Using SEM. *arXiv preprint arXiv:1211.2410*.

Alzahrani, M., & Goodwin, R. (2012). *Towards a UTAUT-based model for the study of E-Government citizen acceptance in Saudi Arabia.* Paper presented at the Proceedings of World Academy of Science, Engineering and Technology.

Babbie, E. (2004). Survey research. *The practice of social research, 10*(1), 242-280.

Baker, P. M. A., & Bellordre, C. (2004). *Adoption of information and communication technologies: key policy issues, barriers and opportunities for people with disabilities.* Paper presented at the System Sciences, 2004. Proceedings of the 37th Annual Hawaii International Conference on.

Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human relations, 61*(8), 1139-1160.

Boonsawat, S., & Naennab, T. (2014). The UTAUT Model For The Study Of Acceptance And Use Of Capability Maturity Model Integration.

Byrne, B. M., & Van de Vijver, F. J. (2010). Testing for measurement and structural equivalence in large-scale cross-cultural studies: Addressing the issue of nonequivalence. *International Journal of Testing, 10*(2), 107-132.

Dajani, D., & Yaseen, S. G. (2016). The applicability of technology acceptance models in the Arab business setting. *Journal of Business and Retail Management Research, 10*(3).

Dawes, J. (2008). Do data characteristics change according to the number of scale points used. *International journal of market research, 50*(1), 61-77.

Dutta, S., Lanvin, B., & Wunsch-Vincent, S. (2016). *The global innovation index 2016: Winning with global innovation*: Johnson Cornell University.

Escobar-Rodríguez, T., & Carvajal-Trujillo, E. (2014). Online purchasing tickets for low cost carriers: An application of the unified theory of acceptance and use of technology (UTAUT) model. *Tourism Management, 43*, 70-88.

George, D., & Mallery, M. (2003). Using SPSS for Windows step by step: a simple guide and reference.

Gupta, B., Dasgupta, S., & Gupta, A. (2008). Adoption of ICT in a government organization in a developing country: An empirical study. *The Journal of Strategic Information Systems, 17*(2), 140-154.

Gupta, M., Pathak, A., & Chakrabarti, S. (2008). *Fast algorithms for topk personalized pagerank queries.* Paper presented at the Proceedings of the 17th international conference on World Wide Web.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science, 40*(3), 414-433.

Hair, M. (2007). Samouel, and Page, Criteria for Assessing Measurement Scale, Research Methods for Business: John Wiley & Sons.

Hall, D. T., & Mansfield, R. (1975). Relationships of age and seniority with career variables of engineers and scientists. *Journal of Applied Psychology, 60*(2), 201.

Henning, M., & Jardim, A. (1977). The Managerial Woman London: Marion Boyars.

Im, I., Hong, S., & Kang, M. S. (2011). An international comparison of technology adoption: Testing the UTAUT model. *Information & Management, 48*(1), 1-8.

Index, G. I. (2017). ICT usage among gulf cooperation council (GCC) countries. New Delhi, India INSEAD, WEPO world intellectual property organization 2016.

Isaac, O., Isaac, O., Abdullah, Z., Abdullah, Z., Ramayah, T., Ramayah, T., . . . Mutahar, A. M. (2017). Internet usage, user satisfaction, task-technology fit, and performance impact among public sector employees in Yemen. *The International Journal of Information and Learning Technology, 34*(3), 210-241.

Jambulingam, M. (2013). Behavioural intention to adopt mobile technology among tertiary students. *World applied sciences journal, 22*(9), 1262-1271.

Kaplan, R. S., & Norton, D. P. (2006). *Alignment: Using the balanced scorecard to create corporate synergies*: Harvard Business Press.

Kocaleva, M., Stojanovic, I., & Zdravev, Z. (2014). UTAUT and its application in an educational environment: State-of-the-art. *Yearbook 2013-Faculty of Computer Science, 2*(2), 95-102.

Lynott, P. P., & McCandless, N. J. (2000). The impact of age vs. life experience on the gender role attitudes of women in different cohorts. *Journal of Women & Aging, 12*(1-2), 5-21.

Makhloufi, L., Yaacob, N. A., & Yamin, F. THE DYNAMIC EFFECT OF IT INFRASTRUCTURE FLEXIBILITY ON THE SUSTAINABLE COMPETITIVE ADVANTAGE OF MALAYSIAN SMES IN THE FURNITURE INDUSTRY. International journal of Business Quantitative Economics and Applied Management Research. ISSN: 2349-5677. Vol-4, Issue-8, January-2018.

Makokha, M. W., & Ochieng, D. O. (2014). Assessing the Success of ICT's from a User Perspective: Case Study of Coffee Research Foundation, Kenya. *Journal of Management and Strategy, 5*(4), 46.

Morris, M. G., Venkatesh, V., & Ackerman, P. L. (2005). Gender and age differences in employee decisions about new technology: An extension to the theory of planned behavior. *IEEE transactions on engineering management, 52*(1), 69-84.

Notani, A. S. (1998). Moderators of perceived behavioral control's predictiveness in the theory of planned behavior: A meta-analysis. *Journal of consumer psychology, 7*(3), 247-271.

Pallant, J. (2013). *SPSS survival manual*: McGraw-Hill Education (UK).

Parasuraman, A., & Grewal, D. (2000). The impact of technology on the quality-value-loyalty chain: a research agenda. *Journal of the Academy of Marketing Science, 28*(1), 168-174.

Plude, D. J., & Hoyer, W. J. (1986). Age and the selectivity of visual information processing. *Psychology and aging, 1*(1), 4.

Posner, E. A. (1996). Law, economics, and inefficient norms. *University of Pennsylvania Law Review, 144*(5), 1697-1744.

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the horizon, 9*(5), 1-6.

Raman, A., & Don, Y. (2013). Preservice teachers' acceptance of learning management software: An application of the UTAUT2 model. *International Education Studies, 6*(7).

Rotter, G. S., & Portugal, S. M. (1969). Group and individual effects in problem solving. *Journal of Applied Psychology, 53*(4), 338.

van Loon, J. H., Bonham, G. S., Peterson, D. D., Schalock, R. L., Claes, C., & Decramer, A. E. (2013). The use of evidence-based outcomes in systems and organizations providing services and supports to persons with intellectual disability. *Evaluation and Program Planning, 36*(1), 80-87.

Venkatesh, V., & Morris, M. G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *Mis Quarterly*, 115-139.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *Mis Quarterly*, 425-478.

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology.

Wang, J., Cao, J., Leckie, J. O., & Zhang, S. (2004). *Managing e-government IT infrastructure: an approach combining autonomic computing and awareness based collaboration.* Paper presented at the Computer and Information Technology, 2004. CIT'04. The Fourth International Conference on.

Wang, Y.-S., & Shih, Y.-W. (2009). Why do people use information kiosks? A validation of the Unified Theory of Acceptance and Use of Technology. *Government Information Quarterly, 26*(1), 158-165.

Wu, Y.-L., Tao, Y.-H., & Yang, P.-C. (2007). *Using UTAUT to explore the behavior of 3G mobile communication users.* Paper presented at the Industrial Engineering and Engineering Management, 2007 IEEE International Conference on.

Yueh, H.-P., Huang, J.-Y., & Chang, C. (2015). Exploring factors affecting students' continued Wiki use for individual and collaborative learning: An extended UTAUT perspective. *Australasian Journal of Educational Technology, 31*(1).

Zaki, A. M., Van Boheemen, S., Bestebroer, T. M., Osterhaus, A. D., & Fouchier, R. A. (2012). Isolation of a novel coronavirus from a man with pneumonia in Saudi Arabia. *New England Journal of Medicine, 367*(19), 1814-1820.