International Journal of Scientific and Technical Advancements
ISSN: 2454-1532

E-Government Analysis: Sultanate of Oman Case

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***Abstract*—**In the current century, e-government transformation is considered as one of the biggest challenges among and within the IT-related sector from the scale and complexity perspective. Having the main objective as of adapting an existing e-government system and methodology in order to obtain new computing requirements based on the concept of citizens' new service. Thus, increase the features of service level, quality and maintaining a high policies and rules consistency. Moreover, mission criticality and time of services, information sharing and interoperability, efficiency and productivity along with the reduction of operation expenses are all considered as priorities in this transformation project (Raymond, 2007). Such a transformation is considered crucial for the service concept as it is changing rapidly; the roadmap coherence in e-government transformation is critical (Raymond, 2007). However, there is a big aspect regarding the e-Government progress by citizens due to many aspects like: Citizens-Centricity, Facilitating Condition, Effort expectancy and Performance Expectancy. Hence, there is a need to further study in order to be able to obtain better understanding of the complete picture and to have a balanced view and concepts all under one e-Government umbrella. This paper will review and analyze through a quantitative approach in Sultanate of Oman case study. This study targeted citizens in the country to check their intention to use e-Government in Oman (e-Oman). After reviewing and discussing questionnaire outputs using SPSS program, the writer listed some recommendations and conclusion of the study and the nature of them they will be categorized upon to their point of view

***Keywords*—**e-Government; ICT; IT; G2C; G2G; G2B; G2E; e-Oman; SPSS; IEV.

I. INTRODUCTION

Electronic Government or in short e-Government can be defined as set of processes and government supporting and interaction systems which allow and activate citizen interaction to access to the available offered services. The extra-ordinary speed of development of ICT and great efficient and business effectiveness exhibited a strong impact in variety of day to day work and interaction between citizens, companies and economic activities. However, considering technology as a way to reduce cost and increase efficiency is not a good practice since it should interact and respond to client's needs (Deloitte Research, 2000). Gene, Bruce and Karin (2005, p.1) stated that "The role of government has changed from leading innovation to regulating corporations that often have better equipment and more technical expertise. The Internet and related technologies have contributed to globalization by increasing both the amount of information present in the environment and the speed of information flow". This paper will review and analyze through a quantitative approach in Sultanate of Oman case study. This study targeted citizens in the country to check their intention to use e-Government in Oman (e-Oman). After reviewing and discussing questionnaire outputs using SPSS program, the writer will listed some recommendations and conclusion of the study and the nature of them they will be categorized upon to their point of view

II. ELEMENTS OF E-GOVERNMENT

Some features should be determined and considered in order to properly review e-government like

A. Citizens-Centricity

Gilmore and D'Souza (2006) illustrated that it is an essential aspect to focus about the citizen in governments prospective and customer in companies prospective as the main factor while presenting a service style or changing the service approach. Hence, e-government should be presented as citizen-centricity where it basically represents the difference between the delivered services against the desired one. Moreover, it would evaluate the current service delivery in terms of meeting citizen's expectation and needs by the following attributes:

- Service design coverage against user requirements
- User interfaces languages of use against available most common local used languages
- New services style and approach against conventional services offered earlier
- The reduction of citizens visits to higher level offices for completing desired services
- Governmental employees knowledge and familiarity with the services packaged and delivery for different user groups or individuals

Lack of citizen-centricity in e-government implementation is one of the main e-government implementation challenges in developing countries. In light of this challenge, lack of citizen's participation in e-government is expected. The e-government strategy should announce and state that a successful e-government implementation needs different stakeholder's effective participation including citizens, Gunter (2006, p.365) argued that e-government "does not just depend on computer power, but also on the willingness of people to adopt it as a normal form of interface in respect of public services".

Therefore, Chan et al. (2010), Vencatachellum & Pudaruth (2010), Abdulwahab & Dahalin (2011), Keramati & Chelbi (2011), Lessa et al. (2011), Alzahrani & Goodwin (2012) adopted different empirical study in order to have a system facilitating e-government as more of citizen-centricity and to influence citizens and their intentions to use as the main goal.

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As per these recent empirical studies, it was shown that the facilitating conditions along with effort expectancy and performance expectancy has a significant impact as control factors that influences directly citizens' intention to use and it will keep e-government upon to citizens' desire and requirements. Citizens engagement is illustrated as a way of improving citizens' trust in governments and from it the government-citizens relationship to be more citizen-centricity system (Bonsón et.al, 2012).

B. Facilitating Conditions

Venkatesh et al. (2003) defines facilitating conditions as the degree that individuals believe that organizational and technical infrastructure exists to support the system and it represents the existence resource factors one's perception like, money, time and technology factors that would facilitate or at least inhibit the latter from being utilized. ALZahrani (2011) insisted that facilitating conditions part of the e-government adoption have a significant effect on consumers' intentions to use and it is considered as an important barrier and a significant control factor as well. There are two main dimensions included in facilitating conditions aspect which are:

- Resource factors, such as, time and money
- Technology factors, like: knowledge and country infrastructure.

Indeed, the absence of such facilities in both dimensions would affect the intention to use by citizens and lead to impede adoption of the approach. ALZahrani (2011) further illustrated that facilitating conditions contains two main elements which are:

- Technology support, the perception about defining the resources needed in order to use e-government services, such as, PCs and Internet services,
- Government support, the perceptions about defining the efforts from government that prompt and motivate various issues and aspects related to e-government services.

Government and technology support reflects the citizens' beliefs about government role in facilitating Internet usage along with turning the project of e-government into reality. The study seeks mainly to investigate citizens' viewpoints and feedback about this role. Al-Shafi (2009) argued that since e-government service is considered relatively new technology, citizens' perceptions and viewpoints about their government's role are considerably important for the project's adoption process. The more the government is perceived in playing an effective and active role in supporting e-government project as of technology or normal governmental support, the more individual citizen will be willing to use the service which will increase the intention to use.

Researchers in the field of technology studies (e.g. Moore and Benbasat, 1991; Taylor and Todd, 1995; Venkatesh et al., 2003) found that facilitating conditions construct has a valid positive effect on e-government project and especially the innovation use and it is found that it can be considered as a significant technology use predictor. Al-Azri, Al-Salti and Al-Karaghouli (2010) conducted a qualitative research by conducting many interviews in Sultanate of Oman. Most of the interviewees believed that senior top governmental management support and commitment are imperative to provide and allocate sufficient resources and funds as well as discourage resistance and increase efficiency.

In this study, facilitating conditions was measured by taking the perception of being able to assess required resources and to obtain some knowledge and the necessary support required to use services of e-government.

C. Effort Expectancy

Venkatesh et al. (2003) defines effort expectancy as the ease degree associated with the system use. Citizens usually expect some amount of effort from government in modifications and implementation of infrastructure and systems. Whereas, these visible efforts would significantly enhance the intention to use and improve their acceptance of the new approach. Indeed, this acceptance will be correlated to the trust and positive relation with the government. Barua (2012) argued that it has a positive impact on the intention to use by different users from citizens or governmental employees towards the e-governance application system use. Barua (2012) argued that this construct would have a significant effect especially in determining information technology user acceptance.

D. Performance Expectancy

Venkatesh et al. (2003) defines performance expectancy as "the degree to which individuals believe that using a system will help them improve their job performance" and upon to Al-Shafi (2009) it basically contains five different variables which are:

- Performance expectancy: citizens expectation of the system's performance against the required and the desired service applied
- Extrinsic motivation: citizens may influenced by external factors like government-citizens relationship
- Job-fit: attach the specific task and service to the most suitable system
- Relative advantage: citizens usually compare the new proposed service style against the traditional one. Upon to the correlated answer, citizen's intention will be effected
- Outcome expectations: the expectation from citizens regarding any new service approach and style is have easier, better, faster and smoother flow without putting more effort.

In this study, performance expectancy is measured by taking the perceptions of using e-government services in benefits prospective such as saving of money, time and effort along with facilitating communication between citizens and government, improving the government services quality (AlAwadhi and Morris, 2009: Al-Shafi et al., 2009). Al-Shafi et al. (2009) argued that performance expectancy was found to be a very strong intention to use predictor of IT.

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III. Research Methodology

The probability sampling is the sampling applied in this research; mainly the data collection procedure will be by sending SMSs to a random sample of local citizens aged from 18 to 60 years which makes the filter only a demographic filter without any limitations. The researcher requires 500 respondents in order to generalize the outcome result in Oman. Therefore, the agreement with the mediator organization was to send 10,000 random SMSs upon to the attached demographic filter and the target is to get a minimum of 500 answers for the questionnaire.

A. Population of Study

The target population for this study is citizens in Sultanate of Oman. The unit of this study consists of citizens in business sectors, employees in government sectors, citizens without work. In Sultanate of Oman there are sums of 42 governments and governmental agencies, a population of 3,992 million citizens upon to the last conducted national count in 2014. Where 56.6% are Local citizens and 43.3% expats (NCSI, 2014). Roscoe (1975) took 10% as rule of thumb while choosing a sample of big group. Weiberg and Brown (1977) argued that Rescoe's decision will give an error of 3% to 4% and it is not worthy to compromise in power, time and money in order to reduce the error to 1% or 2% (Hill, 1998)

B. Data Collection

The main telecommunication services provider in Oman are Omantel and Ooredoo. The researcher agreed with them through a mediator organization that has the approval and capability to send bulk categorized massages (SMS) through mobiles. The data collection procedure will be by sending SMSs to a random sample of local citizens aged from 18 to 60 years which makes the filter only a demographic filter. The researcher requires 500 respondents in order to generalize the outcome result in Oman. Therefore, the agreement with the mediator organization was to send 10,000 random SMSs upon to the attached demographic filter and the target is to get a minimum of 500 answers for the questionnaire. This method of data collection is called Push SMS application system where Naqvi, AlShihi and Ali (2011) stated that a Push SMS application system is basically whereby a message is been sent from any prospective like application, person, company or governmental agency to the users, customers or citizens. However, it is considered as a one way communication method where the receiver is not forced to reply or answer the SMS because mostly it is used for marketing and broadcast information. In other words, it is a mobile application that would initiate a message. For instance, some public organizations have started to send bulk messages to public citizens or it may be also categorized and squeezed to be targeted to specific segments of citizens in terms of demographic, geographi etc. this massage is for informing them about certain activities, products and events.

C. Questionnaire

Along with the demographical regular questions that are based on gender, age, region, working place and the knowledge about e-Oman, the following in table I focused questions were asked to the respondents

TABLE I. The questionnaire.

E- Government categories	Dimensions	Questions	Author
E-Government	Citizen- centricity	Q1- By using current e-Government system, my visits to governmental offices reduced Q2- By using current e-Government system, I have no problem with the languages been used Q3- By using current e-Government system, It is easy to get help in the system in communication examples call, live chat, email… etc.	(Gilmore and D'Souza, 2006)
	Facilitating Conditions	Q4- Government is giving high support in promoting and put e-government approach as priority Q5- I have the required resources and equipment in order to use e-government system like internet, computer, electricity... etc. Q6- Internet cost is reasonable and affordable Q7- Internet in my city is reliable for e-government services use	(Al-Shafi, 2009) (Al Zahrani, 2011)
	Effort Expectancy	Q8- By using current e-Government system, my governmental tasks became easier Q9- By using current e-Government system, governmental tasks take less time than the manual old system. Q10- By using current e-Government system, no complication or difficulty is associated with its use Q11- By using current e-Government system, Learning to operate along with dealing with it is easy for me	(Barua, 2012)
	Performance Expectancy	Q12- By using current e-Government system, my productivity increased Q13- By using current e-Government system, traditional manual errors and mistakes are reduced. Q14- Overall, I am satisfied with the way the system is currently	(Barua, 2012) (Al-Shafi, 2009)

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IV. DISCUSSION

As per the quantitative approach of survey, from 5000 distributed questionnaires, 1257 questionnaires were returned. Thus, the study's response rate is 25.14%. However, after checking the obtained responses Out of these returned questionnaires, only 585 questionnaires were usable and applicable for analysis because the rest didn't answer all questions and they skipped some of them. So, the usable response rate is 12%.

As stated earlier, the survey is not covering all citizens in Sultanate of Oman but it will cover only citizens in the ages between 18 to 60 years old. The reason behind this is that citizens younger than 18 years old don't require government services in general and as per the low in Oman they will not starting work before that. The same situation for citizens older than 60 years old because this is the retirement age in the Sultanate.

A. Missing Data Test

Table II, shows the missing data test after removing the incomplete responses and it shows no missing data which are usable to the next steps

Table II. Missing data test.

	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q1	500	100	0	0	500	100
Q2	500	100	0	0	500	100
Q3	500	100	0	0	500	100
Q4	500	100	0	0	500	100
Q5	500	100	0	0	500	100
Q6_1	500	100	0	0	500	100
Q6_2	500	100	0	0	500	100
Q6_3	500	100	0	0	500	100
Q6_4	500	100	0	0	500	100
Q6_5	500	100	0	0	500	100
Q6_6	500	100	0	0	500	100
Q6_7	500	100	0	0	500	100
Q6_8	500	100	0	0	500	100
Q6_9	500	100	0	0	500	100
Q6_10	500	100	0	0	500	100
Q6_11	500	100	0	0	500	100
Q6_12	500	100	0	0	500	100
Q6_13	500	100	0	0	500	100
Q6_14	500	100	0	0	500	100

B. Normality Test

It is assumed that for any research, the variables should be normally distributed in any research in order to avoid skewed and distorting of different variables relationship in terms of interest and significance of the test results (Hassan, 2015). Hence, z-score was determined to transform collected data through "cdfnorm" in SPSS. Table III below furnish the gained results.

C. Descriptive Test

As summarized in table IV, the respondent's demographical data are based on gender, age, region, working place and the knowledge about e-Oman.

Table III. Normality test.

	N	Mean	SD	Skewness	SE	Kurtosis	SE
q6_1_1	500	2.50	0.88	0.08	0.11	-0.71	0.22
q6_1_2	500	2.10	0.81	0.49	0.11	-0.12	0.22
q6_1_3	500	2.60	0.87	-0.10	0.11	-0.65	0.22
q6_2_1	500	2.43	0.89	0.19	0.11	-0.69	0.22
q6_2_2	500	1.68	0.76	1.07	0.11	1.03	0.22
q6_2_3	500	3.10	0.89	-0.59	0.11	-0.64	0.22
q6_2_4	500	2.86	0.91	-0.16	0.11	-1.03	0.22
q6_3_1	500	2.44	0.82	0.23	0.11	-0.46	0.22
q6_3_2	500	2.46	0.81	0.19	0.11	-0.46	0.22
q6_3_3	500	2.69	0.74	-0.14	0.11	-0.26	0.22
q6_3_4	500	2.33	0.74	0.35	0.11	-0.06	0.22
q6_4_1	500	2.54	0.77	0.08	0.11	-0.39	0.22
q6_4_2	500	2.44	0.76	0.33	0.11	-0.26	0.22
q6_4_3	500	2.69	0.87	0.00	0.11	-0.81	0.22

Table IV. Demographic distributions of the respondents.

Variable	Demographic Features	Frequency	Percent %
Gender	Male	435	74.36
	Female	150	25.64
Age	18-30	251	42.95
	31-40	257	43.93
	41-50	64	10.90
	51-60	13	2.22
Region	Muscat	286	48.88
	Batinah	105	17.95
	Sharqiya	88	15.05
	Dakhliya	76	13.00
	Dhofar	8	1.37
	Dhahirah	15	2.56
	Buraimi	5	0.85
	Musandam	2	0.34
Working Place	private personal	96	16.42
	Private sector	208	35.63
	Public sector	281	47.95
Knowledge about e-Oman	Yes	394	67.40
	No	191	32.60

As shown in table IV, the majority of respondents were males (75%) while female has less percentage 25%. This is considered normal and rational in Lebanon because Oman is more as traditional country where female does not like to involve herself in unknown areas nor replying to unknown person's massage. Moreover, usually men are associated to finish governmental issues and works within each family which lower the knowledge of such facilities among female. Thus, their reaction to the survey is low.

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The results also show that most of the respondents were in the two ranges combined to be from 18 to 40 years old, which reflects the knowledge, interest and reaction towards the new system by the younger generation compared to the elders. Although the survey was distributed randomly in all areas and regions of Sultanate of Oman but most of the respondents were from the capital (Muscat) which score alone about 50%. Indeed, this show their vision and interest in knowledge and the new system of e-government approach.

As per the working place, it was almost normally distributed between government sector and private sector while the number of participants with private business or not working became much less. The reason behind that I that most of the Omani's prefer to have regular work duty and to have their private business aside of it. Hence, the results are rational and expected.

Regarding the knowledge about e-Oman and associated services and uses, the received results were higher that the expectation because only about 30% indicated their absence of knowledge about it. The reason behind that maybe due to the mix and overlap between e-government and e-services or maybe because some people feel bad if they show their absence of new knowledge or systems.

Table V. Questionnaire descriptive statistics.

Descriptive Statistics			Mean		Std. Dev.	Variance
			Statistic	Std. Error	Statistic	Statistic
e-Gov.	Citizen-Centricity	Q-1	2.5641	0.03779	0.91398	0.835
		Q-2	2.1009	0.03452	0.83487	0.697
		Q-3	2.6496	0.03642	0.88089	0.776
	Facilitation Conditions	Q-4	2.4769	0.03771	0.91219	0.832
		Q-5	1.6974	0.03271	0.79105	0.626
		Q-6	3.1487	0.03725	0.90097	0.812
		Q-7	2.9162	0.03783	0.91496	0.837
	Effort Expectancy	Q-8	2.4906	0.03507	0.84824	0.720
		Q-9	2.4991	0.03482	0.84222	0.709
		Q-10	2.7231	0.03242	0.78420	0.615
		Q-11	2.3573	0.03202	0.77452	0.600
	Performance Expectancy	Q-12	2.6051	0.03325	0.80430	0.647
		Q-13	2.4735	0.03361	0.81282	0.681
		Q-14	2.7692	0.03708	0.89696	0.805

D. Measurement Model

In order to validate the measurement model used in this study, the indicators load would be determined to know how well on the theoretically defined constructs. Examining the outer model would ensure the constructs that are designed to measure, thus ensuring that the used survey instrument is reliable. This study determine each individual item reliabilities loadings to the respective variables. For this part, confirmatory factor analysis (CFA) was conducted for assessing the measurement model validity. For the purpose of measure goodness testing, two main criteria used that are validity and reliability.

a) *Validity test*: The other name of Validity is the evaluation's correctness, whether in terms of theoretical or practical (Pendergrass et al., 2003). There are three validity analysis types that are: content validity, construct validity (include convergent validity also) and criterion validity (include reliability analysis also).

b) *Content validity*: Content validity was applied and used to represent the accuracy degree between measures set and the interest concepts (Hair et al., 2010). Prior to distribution of the study survey, the questionnaire was pretested for validation of its content and language. The method for this presentation test with representatives were two lecturers with doctoral degree from the university and nine personnel from top management level in the country who were engaged in e-services and e-government system for long period. This step was conducted in order to ensure the questions appropriateness and clarity.

c) *Construct validity*: Sekaran and Bougie (2010) illustrated that Construct validity testifies the wellness of the obtained results. According to Ramayah et al. (2011), the instrument should be theorized. This aspect can be achieved by assessing both convergent and discriminant validity and specifically by looking at the respective loadings and cross loadings of the output data. According to Hair et al. (2014a), gained indicator loadings should be greater than 0.60. Based on the above recommendations, this study used a cut-off value of 0.6 is being used as significant. Table VI below is showing the cross loading test of the output data

d) *Convergent validity*: Ramayah et al. (2011) described Convergent validity as the amount of items measuring the same concept are in match and agreement. Sarstedt et al.

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(2014) suggested that researchers to utilize the following tests: factor loadings, composite reliability (CR) and average variance extracted (AVE) for assessing convergence validity. In this study, all the CR values ranged from 0.78 to 0.96, as shown in table V, which indicate good internal CR. Average Variance Extracted (AVE) is measuring the variance encapsulated by indicators relative to measurement error and it should be at least 0.50 in order to justify the construct use (Sarstedt et al., 2014). In this study, the AVEs ranged from 0.55 to 0.88, which were all within the suggested range as stated in table VII. Therefore, all the latent variables satisfied the threshold value and considered to meet the standard recommended for the validity of convergent.

Table VI. Construct validity.

	CC	FC	EE	PE
q6.1.1	0.86	0.43	0.75	0.70
q6.1.2	0.78	0.41	0.56	0.53
q6.1.3	0.85	0.55	0.69	0.69
q6.2.1	0.64	0.79	0.69	0.68
q6.2.2	0.17	0.67	0.21	0.22
q6.2.3	0.23	0.69	0.29	0.28
q6.2.4	0.25	0.72	0.34	0.32
q6.3.1	0.76	0.59	0.92	0.82
q6.3.2	0.74	0.56	0.91	0.81
q6.3.3	0.69	0.59	0.90	0.78
q6.3.4	0.70	0.57	0.85	0.74
q6.4.1	0.70	0.57	0.81	0.89
q6.4.2	0.65	0.51	0.76	0.88
q6.4.3	0.71	0.61	0.78	0.89

Table VII. Convergent validity.

Variable	Item	Loading	AVE	CR
CC	q6_1_1	0.8632	0.6939	0.8716
	q6_1_2	0.7815		
	q6_1_3	0.852		
FC	q6_2_1	0.8139	0.5547	0.7881
	q6_2_2	0.6725		
	q6_2_3	0.6964		
	q6_2_4	0.7187		
EE	q6_3_1	0.9228	0.8022	0.9419
	q6_3_2	0.9115		
	q6_3_3	0.8976		
	q6_3_4	0.8491		
PE	q6_4_1	0.8948	0.7891	0.9182
	q6_4_2	0.8816		
	q6_4_3	0.8885		

e) Discriminant validity: The degree of differentiation among constructs or measure distinct concepts is known as the Discriminant validity. Hair et al. (2014a) stated that AVE value should be the highest among the other latent construct squared correlation as recommended by Fornell–Larcker's (1981) with criterion and the item's loadings must be greater than all its cross loadings. In this study, first round analysis of discriminant validity had not detected any item that was not meeting this recommendation. Accordingly, both correlation matrix and AVE for each and every variable had complied with Fornell and Larcker"s (1981).

f) Reliability test: In order to check the selected scales status in terms of relatively reliable in this research, calculating the variable factor Cronbach's Alpha is essential in order to obtain the individual internal consistency. The instrument reliability implies that the checking measure will produce the same results if used repetitively. Table VIII below is showing that Cronbach's Alpha is illustrating reliable data and it is greater than 0.5.

Table VIII. Reliability test.

VAR		Cronbach's Alpha	Composite Reliability	N of Items
IEGOV	ICC	.738	0.8716	3
	IFC	.609	0.7881	4
	IEE	.902	0.9419	4
	IPE	.839	0.9182	3

SmartPLS output indicates that the path coefficient from EGOV to GOE was statistically significant with a very strong standardized estimate and high t-value of more than 2.58. The out values are illustrated in table IX below and figure 1.

Table IX. Output.

	β	Mean	SD	SE	T-Value
EGOV -> GOE	0.8342	0.8344	0.014	0.014	59.6463

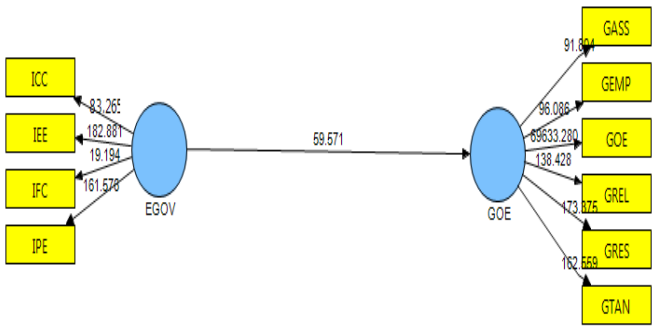

Fig. 1. Study framework.

V. Recommendations and Conclusions

The main purpose of this study was to develop an integrated model investigating e-government services citizens' acceptance in Sultanate of Oman that would affect the government operation excellence. The first step in the study

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was by conducting an extensive literature review for deriving the adoption relevant factors. The research aimed to understand the current e-Government services practices, concept, categories and stages. Since the study is conducted for the empirical work in Sultanate of Oman, it was considered essential and important to gain and obtain enough knowledge about the context of the field study especially in the country for distinct cultural characteristics.

The e-government success is contingent upon citizen willingness and intention to use e-government services. Government of the country should give important consideration to develop IT projects without forgetting to focus on citizen's viewpoints in order to transfer traditional services to online form successfully. An understanding of the citizen acceptance relevant factors in e-government can provide policy and decision makers with a set of strategic management plans in order to build and prompt greater acceptance towards these services. The research's results hold important and essential strategic suggestions for various government departments and agencies that provide e-government services in increasing the citizens' adoption rate.

In terms of e-Government, the results score the importance of citizen's trust in government for adoption. Government should give more effort on building positive government-citizen relationships as they are considered the main customers and accordingly the main factor that will affect the success or failure of the e-Government project. Hence, it is considered important and essential to have the necessary skills and expertise while conducting the project for smooth achievement of the goal. Furthermore, co-operating with competent well-known businesses in e-services and e-government area in order to enhance government-citizens relationship and to make the project more citizen-centricity should enhance citizen trust towards government. On the other hand, citizen's effort expectancy and performance expectancy from government is effecting e-Government project in general and will decrease trust in government which would effect GOE. Government should facilitate better environment and platform for the project in order to enhance citizen's acceptance toward the project as well as achieving GOE significantly and successfully. For instance, the Internet is insignificant for developers to implement the latest advance tools, equipment and foundations with significant security standards. Government could focus to promote and educate citizens about the provided e-services by e-government technology that would provide the confidence and overcome the available barriers between individuals and the technology. Clear visions, missions and strategies for developing e-Government in the country could help in facilitating the e-Government adoption. Such initiatives could encourage citizens' intention to use e-Government as a national successful project.

A. Research Contributions

The outcomes of the research contribute is to understand the e-Government adoption drivers from the citizens' prospective and viewpoints. The study conducted a literature review in order to address the gap in the knowledge in the citizen acceptance field of e-Government and also to outline the adoption key elements in the country. Consequently, the study succeeded in terms of developing and validating an integrated combined model based on well-known theories and scholarly accepted in acceptance and intention to use in terms of technology and behavior affecting citizens which generated the following contributions:

The core element of the research's contribution, it provides a better e-government services citizen acceptance and intention to use understanding in Sultanate of Oman. The research portrays a roadmap for acceptance and intention to use aspects by developing an e-government adoption integrated model from citizens' prospective. The model is analyzed and validated based on empirical work with large size data collected.

The achieved validated instrument is reliable to conduct future studies in technology and behavior intention to use aspects and citizen's acceptance. Since it is based on rigorous validation along with previous validated instruments in IT literature.

B. Research Limitations

This research is developed a framework from well-known and scholarly accepted theories in adoption and then validated by covering a large size sample of 500 participants pooled from the citizens of Sultanate of Oman. However, like any other research, this research has some limitations.

The first considered limitation comes from the sample population collection. Although the research has followed the common sampling in data collection practice but the data collection collected from Muscat, Al Batinah, al Dakhliya and Al Sharqiya. This procedure is good especially with very high sample size in order to generalize the result to the complete country but it would be more efficient if it is collected from all regions of the Sultanate.

Another important limitation reflected from the high number of male compared to female participants. Although, data distribution procedure did not have a demographic filter of gender but it was noticed that the number of participants from male is very big compared to the female participants

Another limitation is the data distribution procedure. Although the research is talking about IT and technology aspects and used on of the most famous procedure in data distribution which is online procedure through link in phones but this procedure have a limitation because participants will need to obtain smart phones, smart devices or at least personal computers or laptops in order to participate in the data collection. Citizens who do not have knowledge in computers and modern smart devices or they do not have required tools and equipment for participating in the collection are not included.

Finally, although the study follows the common languages in the country (Arabic and English) but it is important to note that there could be a possibility of a slight skew of the original required and aimed meaning during the translation process.

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