

## How to implement successful e-Government: Case study of Sultanate of Oman

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### Abstract

Every government is seeking to provide the best services to its country to achieve efficiency and accepted performance. This goal could be achieved by improving the service performance of the entire sectors in society. Revealing key questions of e-government implementation and planning factors that would affect the success of e-Government is the study priority goal. Hence, the purpose of this research is to investigate and explore the factors that drive the e-government implementation and adoption that would affect the government performance. Finally, a case study using a secondary data from UN data along with study outcomes with recommendations as guidance for e-government projects in Sultanate of Oman is illustrated.

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## INTRODUCTION

E-government have the ability to make the government more transparent, efficient as well as boosting government information and services delivery to citizens and to finish service requests remotely without the need to go to government offices and agencies (Xiong, 2006). E-government has many benefits in countries like: cost reduction, measuring administrative work and general quality efficiency. "Governments will provide services and resources tailored to the actual service and resource needs of users, including citizens, residents, government employees, and others" (John et.al, 2008, p.1). Encyclopedia (2006) Argued there are many aspects required while implementing successful e-government system such as: Improve administrative processes efficiency and services, Increase transparency, Decrease corruption, Contribute to revenue growth, improve and achieve specific policy outcomes, enhance government-citizen relationship

## LITERATURE REVIEW

In recent years, Internet and Information Technology growth has been the main driver and catalyst for demand of change in most of the business and service sectors in the world. There from, new technologies and concepts has changed government interaction with business, agencies, organizations and citizens (Lee, 2010; Rokhman, 2011) by establishing new service styles, such as: e-banking, e-commerce, e-voting ...etc. Digital government, electronic government or in short it is called e-government are all names of government services provided to citizens through new IT technologies to make it faster and easier.

Getting the e-government idea acceptable to officials and citizens developing nations, it has to be marketed and promoted well to increase their knowledge regarding the new approach especially in terms of technology and communications and its ability to transform government services received by citizens through the old approach, in a queue waiting in line to services, through the lines of communication electronic online. The impact on changing the style of business citizens and government interactions and communication is significant by introducing the ICT (Information Communication Technologies) and its effectiveness could be observed by the fast acceptance of related technologies like: internet, smart phones and taps. Even now, modern societies and digital economies consider ICT as the basic foundation (Al-Zu'bi, 2012). However, Threatening the existing power settings and economic relationships is one of the exhibited possibilities of modern technologies (Beer, 2011) as well as the huge potential for transformation and its impact in business, citizens and government manners and their relations (Ibrahim, Yazici, Mishra and Arifoglu 2005) like forming an essential tool for politics dissent organization around the world (Hirschfeld, 2012; Reddick, 2010; Serageldin, 2011). Tamara and Amer (2010) illustrated "10 Questions E-government Leaders Should Ask themselves" which was initially introduced by Roadmap for E-government in the Developing World (2002). These questions provide clear path show for the E-government. Tamara and Amer (2010) further illustrated that these 10 questions will help decision makers in planning, management and evaluation of E-government project. Table 1 below furnishes the 10 questions with their description.

**Table 1.** 10 Questions E-government Leaders Should Ask Themselves

Questions	Description
1- Why to pursue E-government?	E-government is a tool to help government, citizens and businesses and it is a part of the general reform program in the country in administrative and economic manners. Since, it requires changing administrators and staff mindset and share G2G information between different ministries, departments and institutions, non-

	governmental trade G2B along with individual citizens G2C.
2- What are vision and priorities for E-government?	Decision makers must posse a clear E-government project vision in order to build a common vision through goals or common society interests, for example: enhance provided services to citizens, improve and enhance government ministries' productivity and efficiency, support economic sectors priorities or strengthening the administrative system and government-citizen relationship
3- What kind of E-government?	There is no unified e-government model and it is based on the quality of targets which based basically on financial budgets, human capacity, the ICT infrastructure and the legal framework.
4- Does the project have top authority's priority interest?	The desire and contribution of political leaders is considered as one of the most important requirements for the implementation of any nation's project like e-government project. Thus without this political support, many required aspects in the project like: availability of financial resources, cooperation between governmental ministries, policy aspects and human efforts cannot be guaranteed.
5- Is the selected approach achievable?	Selection of e-government projects is essential especially in the initial projects. Since, it can act like a radiation point for the other future milestones and improvement projects as well as a driving force forward to other projects,
6- How to manage e-government?	Efficient management system is essential and important criteria in the success of e-government approach as is the case for all governmental operations and business. Thus, it is crucial before starting e-government project, management should develop management mechanisms in all levels of the project.
7- How to overcome resistance?	Citizens may be show resistance in new approach of e-government projects and refuse to adapt the new procedures. Hence, their intention to use should be controlled and targeted in order to get the project success and it worth to understand the causes of this opposition to overcome
8- How to measure and progress?	It is sensitive responsibility to test success based on project objectives achievement like: service quality and the ease access to government information These goals are measured using different criteria such as size of e-transactions, response speed rate and number of provided
9- How to communicate with private sector?	It is necessary and important to search for companies and organizations with expertise in technical applications and management of information and communication project in order to complete e-government project with efficient less time cost as less as possible.
10- How to set government-citizen relationship?	The participation of different sectors and stakeholders of the project is important element in all phases in order to serve citizens the best way in an efficient economic way. For instance, increase participation, pull information from websites, have surveys, get feedbacks for old and new services

### Sultanate of Oman Case

Oman is part of the Gulf Cooperation Council (GCC) with a total area of 309,500 sq.km and last total population of 3.992 million only. The capital of Sultanate of Oman is Muscat region and it holds a monarch government in it. E-Gov. in Sultanate of Oman is part of the 2020 economic vision that was initiated and presented in 1995. E-Gov. or as known locally Oman Digital or e-Oman was approved on November 2002 and it is the main foundation plan. Thus, it improves that backbone of the knowledge spreading by the e-Gov. The first marketing strategy initiated for e-Gov. in the Sultanate of Oman called "Towards Digital Oman" was in 2003. The Sultanate of Oman is

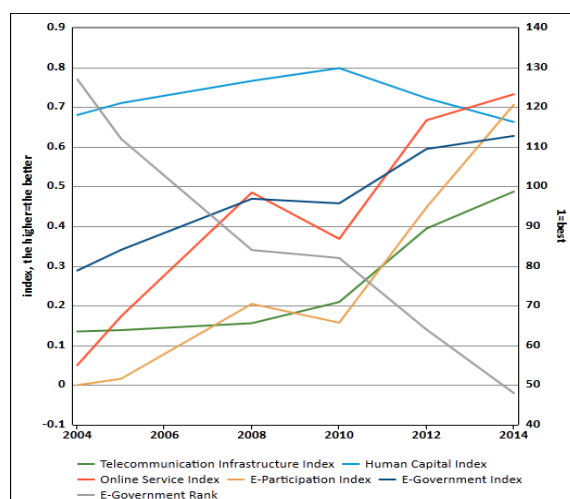
considered and identified as a developing country which is located on the south east of the Arabian Peninsula (Ministry of Information – Oman, 2014).

**UN survey analysis**

Various studies and analyses conducted by United Nations regarding worldwide e-Government readiness and development. Table 2 shows various readiness indices of Oman during 2010 to 2014 according to UN Survey Results. In the table it is noticed that e-Government ranking of Oman raised dramatically throughout this studied period. Oman’s ranking raised 24 ranks in only 4 years, 18 ranks from 2010 to 2012 and 16 ranks from 2012 till 2014 with scoring HIGH EGDI index throughout the period (0.5-0.75). Moreover, GNI score was high and reached 25250 with high level of income among citizens. However, Human capital faced a slight decrease from 2012 to 2014 but it didn’t affect the dramatic enhancement in e-Government progress in the country.

**Table 2.** UN factor analysis 2010, 2012 and 2014

Factor	2010	2012	2014
Total No. of Countries analyzed	192	192	192
Oman Position	82	64	48
Oman EGDI	0.458	0.594	0.627
Online index	0.368	0.667	0.732
Telecomm index	0.213	0.391	0.487
Human Cap index	0.80	0.722	0.662
E-Participation index	0.157	0.447	0.706



**Figure 1.** UN Factor Analysis 2010, 2012 and 2014

## FINDINGS

Based on the above analyses and table, it is evident that the Sultanate of Oman is showing a remarkable improvement and development in the e-Government implementation. Various studies show that the Sultanate of Oman has developed international benchmarked strategies in order to develop and implement e-Government initiatives to enhance its relation with citizens which is called government-citizens relationship.

Osman (2010) conducted an empirical study in Sultanate of Oman about portals in Oman and the following points were observed and concluded:

- technical support issues in the portals are less frequently used
- important features that should be utilized by citizens are underutilized

Therefore, it is essential to assess the current situation with the associated investment with the available options of corrections. These corrections should be connected and observed from citizens to make the system more of citizens-centricity. Although e-Government having achieved currently a successful e-Government implementation level but it faced many different challenges and it needs to put more effort in order to achieve the desired goal (Al-Busaidy and El-Haddadeh, 2011). Al Musawi (2012) illustrated that e-Oman comprises to have and obtain a wide range of different initiatives and services that are designed and created specifically for the following:

- improving the government services efficiency
- enhance businesses activities
- empower citizens and employees with skills and knowledge
- meet society's different needs, requirements and expectations
- Direct Oman as a country towards becoming a Knowledge-based Economy.

Whereas, Al-Gharbi and Al-Kindi (2010) stated that the e-Government purpose in Sultanate of Oman is to:

- Improve the government-citizens relationship
- Provide continuous services round the clock
- Cut current available departmental hierarchies
- Reduce queuing in many agencies ministries' offices
- Speed up services by providing a single point contact location

The Omani government has developed clear mission and vision for the e-Oman achievement; the key e-Oman mission statements is begin with streamlining the government services to achieve Oman 2020 as a cycle (AlRahbi, 2011). Whereas, the strategic visions are also set from developing society for increasing and promoting awareness among local public citizens.

Information Technology Authority (ITA) is the main responsible of the e-Government project in the Sultanate of Oman since it provides efficient services, integrates processes and enhance service efficiency. Additionally it is responsible to implement, supervise and maintain Digital Oman Strategy (Information and Communication Technology Surveys Results, 2012).

E-Government and Information sector in the Telecommunications Regulatory Authority (TRA) is responsible for overseeing the process of e-transformation, follow up the e-Government implementation plan, ensure the promotion possibilities common infrastructure for government and raise readiness transformation of e-services provided by the government for clients. In the recent years, Omani government has scored a remarkable progress in the area of e-Government transformation due to the effort targeted in developing ITA. ITA is an autonomous body seeking

and taking care of the successful implementation improvising of Oman's e-Government. It emphasizes upon the e-Government played role in the process of sustainable development.

## RESEARCH METHODOLOGY

An on-line survey has been conducted through sending SMS message to a random sample of local citizens aged from 18 to 60 years. 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. The main telecommunication services providers in Oman are Omantel and Ooredoo. Therefore, the agreement with the telecommunication services agency which is authorized to broadcast SMSs to local registered Sim-cards. In this agency there are three main filters described as following:

1. **Demographic Filter:** this filter considers many filters below it like age and gender. For the purpose of this study, it was agreed with the agency to activate this filter partially in order to include only the age filter as it was described earlier that the research will include only local citizens aged from 18 to 60 years old.
2. **Geographic Filter:** this filter considers the location of the participators within the Sultanate of Oman and specifically within which region (wilayah). This filter was included in order to consider only regions that are participating more in in the pilot test done earlier. The agreement was to include Muscat, Al Dakhliya, Al Sharqiya and Al Batinah.
3. **Registration Filter:** in this filter there is a differentiation and a classification of the registered company of the Sim-card. As it is indicated earlier, there are two telecommunication services providers in Sultanate of Oman which are Omantel and Ooredoo. Hence this filter is to give the survey more options if it is required to get only from one service provider or if it is required to distribute specific SMSs to each service provider. This filter was not requested and not required for this survey because it is not part of the criteria in research methodology and this filter will not contribute to the survey

Thus, it was agreed with the telecommunication agency to send 10,000 random SMSs upon to the attached demographic and geographic filters only and the target is to get a minimum of 500 answers for the questionnaire Suryanto, (2016). However, due to the length of the message that is requested to send to the participants, each message should count as two messages with the agency (upon to the number of letters sophisticated for each SMS). Thus, the total number of SMSs sent to the participants became 5000 SMSs. This method of data collection is called Push SMS application system where Naqvi, Al-Shihi 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.

## RESULT AND 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 are considered valid ages who are more prone to utilize the e-government services. The respondent's demographical data are presented in Table 3.

**Table 3.** 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	289	52.36
	Batinah	99	17.93
	Sharqiya	84	15.22
	Dakhliya	80	14.49
Working Place	private personal business	96	16.42
	Private sector	208	35.63
	Public sector	281	47.95

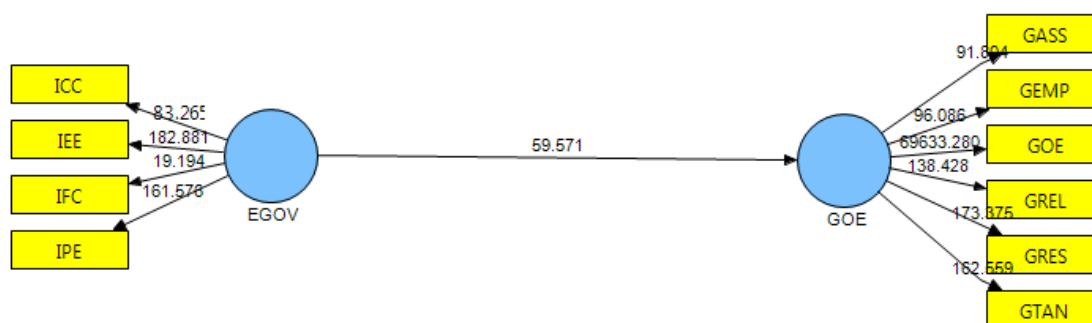
Although the survey was distributed randomly in all four regions of Sultanate of Oman but most of the respondents were from the capital (Muscat) which score alone about 50%. Indeed, this show their vision and interest in knowledge and the new system of e-government approach. The majority of respondents were males (75%) while female has less percentage 25%. This is considered normal and rational in Oman because Oman is more as traditional country where female does not like to involve herself in unknown areas nor replying to unknown person's message. 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. 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 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.

As presented earlier, the objective of this paper is to investigate the factors that contribute to the success implementation of the e-government and specifically its contribution towards the Government Operation Excellence (GOE), the hypothesis is that "**There is a significant relationship between e-Government system and Government Operation Excellence**"

SmartPLS output showing that this hypothesis is valid and accepted. The result 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 4 and t-value for the hypothesis testing is in figure 2.

**Table 4.** Hypothesis output

	$\beta$	Mean	SD	SE	T-Value
EGOV -> GOE	0.8342	0.8344	0.014	0.014	59.6463



**Figure 2.** Hypothesis output

## CONCLUSION

Every country should take in consideration many aspects, and work to improve it in such a way, that will lead to a comprehensive successful e-government upon to its needs, capabilities and citizens' feedback. However, there is a need to improve planning and monitoring mechanisms for the project in order to meet predefined goals within a carefully designed time bound, without forgetting to take into consideration the fast developments in ICT field.

Omani government needs to consider different basic factors illustrated and defined by United Nations and other benchmarking agencies. *“The most important issue in implementing successful e-Government is the citizens' acceptance and usage. The citizens need to be trained and educated to use the e-portal services available in the corresponding structure.”* (Mohammed and Sriram, 2014, p.5).

Gilmore and D'Souza (2006) illustrated that it is an essential aspect to focus in 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 represent 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

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