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The relationship between government operation excellence and e-government system in sultanate of Oman

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Abstract
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 as well as the government-citizen relationship attached with the current e-government adoption status in Sultanate of Oman. Thus, the study outcomes should be the guidance to conduct e-government projects in Sultanate of Oman to reduce and eliminate as much as possible the failure possibilities. The study should also provide roadmaps and guidelines for future researchers and policy makers on the project in general and focused in citizen's determinants for e-government services that would enhance the Citizen-government relationship.

Keywords: GOE, ICT, G2C, G2B, e-Government, TAM, TTF, SCT, TPB

1. Introduction

Moving towards e-Government would give many advantages to the country style of service along with budget usage and controlling. Indeed, it will give a great enhancement in the operation of the government in many aspects for the betterment of Government Operation Excellence (GOE). Some of these advantages are reducing the cost and increasing the interest due to the reduction of printed paper, acquire files and space for storage. Reducing work load on employees is another benefit to the work environment because employees will be on contact with minimum number of citizens and it will create better and calmer work environment. E-Government will benefit rural areas along with big cities because citizens can apply for services as long as they are part of the country and in some cases and services, citizens may apply and request for a service while they are abroad. Other benefits like environmental, knowledge, etc. could be counted for the betterment of the country (Huang and Bwoma, 2003) [49]. Bertot, Jaeger and Grimes (2010) [25] indicated different advantages of ICTs and the services attached to it like e-government like

- reducing corruption
- promoting good governance
- strengthening the reform-oriented initiatives
- reducing potential for different corrupt behaviors
- enhancing government-citizens relationships and government-employees relationship
- allowing citizen to track their activities and service
- monitoring and controlling government employees behaviors

However, e-government is having some challenges and disadvantages as well which shouldn't be forgotten or ignored. Some of these disadvantages are illustrated under hyper-surveillance, cost, inaccessibility sense of transparency and accountability. Hyper-surveillance, is affecting the security of data in terms of citizen's personal information and government's information while the capital cost required for the e-government project will be initially high for establishing the systems and structure but after that the operation cost will be low. On the other hand, usually face to face communication is better in terms of transparency and accountability than other methodologies like e-government.

Every government in every country is targeting to provide the best style of services to in order to achieve efficiency and accepted performance and to achieve Government Operation Excellence. This goal is achieved basically by improving the service performance integrated together with citizen's satisfaction. Huge amount of money, time and experience invested by governments in order to undertake their first step towards implementing easier and more efficient style of services. Hassan and Fatimah (2014) [22] stated that governments tend to continuously search for innovative ways and methods in order to maintain their alert in the growing technology. E-government project and specially implementing the best electronic-base services style is the targeted goal towards better GOE. Implementing e-government would enhance GOE because E-government is representing an important reform instrument especially with the ICT escalation in the world. Since, it improves the public sector through different and variable aspects like:

- transforming services
- promoting economic vitality
- enhancing governance (Hassan and Sallahuddin, 2014) [23]

Hence, the main objective of this paper is to develop a conceptual framework that can act and serve as a base for future theoretical and empirical studies and researches based on previous literature review and through different theories combination and e-government implementation models along with its impact on GOE

2. Literature Review

Government-to-Citizens (G2C) and Government-to-Business (G2B) along with the correct communication platform and IT

infrastructure are also big parts of the project especially in developing countries. Government should study country environment and the acceptance from citizens towards the new service style and methodology. Hence, this study is putting serving citizens better and faster as the most priority goal. Attracting citizens and motivating them to use the new style will enhance and improve the acceptance to change and it will make the judgment of the project to be successful or failed.

Some scholars and researchers gave attention to G2C category through number of studies done to address the acceptance of citizens towards e-government project and how to enhance this acceptance as much as possible (Schaupp and Carter, 2005 Carter and Belanger, 2004; Lean *et al*., 2009) [36, 15, 16, 27]. Phang *et al*. (2005) investigated the technology acceptance from citizen's point of view. Hence, there are many factors affect citizens accepting the new style of service. However, social behavioral factors as an influencer to the citizen's acceptance were not included in those studies. For instance, banks faced a huge issue while offering its services by ATM machines. Since, many citizens considered this service unsecure service and they prefer to get face to face interaction with human officer (AL Zahrani, 2011) [9]. ALZahrani (2011) [9] discussed many factors which affect citizen's acceptance towards the new technology like attitude, social, control and trust. However, illustrating the citizen's acceptance from the technology aspects was not thoroughly discussed. Therefore, it is crucial to study the citizen's acceptance issue from the technology side as well as the social behavioral side in one study.

Gilmore and D'Souza (2006) [11] 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 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
- Governmental employees knowledge and familiarity with the services packaged and delivery for different user groups or individuals

Therefore, Chan *et al*. (2010) [21], Vencatachellum & Pudaruth (2010) [24], Abdulwahab & Dahalin (2011), Keramati & Chelbi (2011) [26], Lessa *et al*. (2011) [38], Alzahrani & Goodwin (2012) [10] 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. 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) [20].

Venkatesh *et al*. (2003) [46] 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) [9] 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) [9] 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) [37] 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; Thompson *et al*., 1991; Taylor and Todd, 1995; Venkatesh and Speier, 1999; Chau and Hu, 2002; Venkatesh *et al*., 2003; Chang *et al*., 2006) [34, 43, 41, 42, 47, 18, 19, 46, 17] 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.

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.

Venkatesh *et al*. (2003) [46] defines effort expectancy as the ease degree associated with the system use. Barua (2012) [29] 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) [29] argued that this construct would have a significant effect especially in determining information technology user acceptance.

Venkatesh *et al*. (2003) [46] defines performance expectancy as "the degree to which individuals believe that using a system will help them improve their job performance" and it basically contains five different variables which are:

- performance expectancy
- extrinsic motivation
- job-fit
- relative advantage
- outcome expectations

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) [39, 37]. Al-Shafi *et al*. (2009) [37] argued that performance expectancy was found to be a very strong intention to use predictor of IT.

Unger & Dougherty (2013) [44] argued that E-government is considered and counted as an important government's improvement strategy as one of the most governmental reform leading aspects. However, there is delay in the improvement rate that is especially in developing countries. This delay is due to many aspects like corruption, weak financial planning, lack of good governance, technology shortage in knowledge and availability, investments weakness and the main aspects is the lack in government trust as a lack in government-citizen relationship (Cable, 2013; Hassan and Fatimah, 2014) [14, 22].

2.1. Oman e-Government status

In Sultanate of Oman there are a sum of 42 governments and governmental agencies, nine main regions with a total 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). Sultanate of Oman has two main telecommunication organizations which are Omantel and Ooredoo. Although Sultanate of Oman has invested heavily in development and diffusion of e-Government over the last years but adoption has been still not up to the desired level due to some aspects like: limited internet access and low ownership of computers. Hence, other means need to be found in order to achieve successful e-Government in the Sultanate (Al-Hadidi, 2010). The lack of a legal framework that would identify specific guidelines and regulations regarding the electronic data usage as governmental support in facilitating conditions is one of the main limitations of the concept of e-government in Oman. Furthermore, Omani government have to provide new laws to regulate and control Internet, which will basically control the relations between service providers (Omantel and Ooredoo through TRA) and users (public citizens and different organizations). Additionally, usability and information quality factors are affecting the e-government implementation efficiency in Oman (Abanumy *et al*., 2005) [2].

Oman still need to put considerable efforts in order to become accessible websites and to review the accessibility related to policies that will accelerate the transition to accessible e-Government. Moreover, it should take into consideration that these services and system must serve all kinds of citizens. Hence, it should be citizen-centricity system specified for citizens desire and upon to their needs. On the other hand, IT infrastructure is essential in developing websites and complete system approach with the service delivery which force the government to invest more in this subject (Omari, 2013) [12].

The current e-government situation in Oman is that some of the ministries and government agencies have their own websites that allows citizens to check for the required information and to download or upload forms and requests. However, the service flow internally within the ministry and externally from this ministry to other ministries is not indicated or observed. This keeps the citizens reach the ministry frequently in order to check the service request situation and also to take it to the other agency or ministry – if required – to finish the progress their till the service completed. Janssen et. al (2011) [28] illustrated that the majority of citizens and businesses in different countries which are using e-government still unfortunately have to deal with multiple different public organizations. Therefore, these organizations need to collaborate with each other and cannot operate in isolation anymore. Moreover, Governments should provide coherence between various administrative government units and agencies so that they work to complement and complete each other in one combined connected system (Al-Khouri, 2011) [4]

Another issue in the current e-government situation in Oman is observed from the empirical study conducted by Ashrafi and Murtaza (2011) it was about the knowledge of services and benefits that government is providing using ICT (e-government) and the results show that only few number of the sample have knowledge about it. Hence, this show that there is a huge gap in marketing services and in the delivery of services. Moreover, Al-Azri, Al-Salti and Al-Karaghouli (2010) [3] conducted a qualitative research by conducting many interviews in Sultanate of Oman. Most of the interviewees stated that the E-government initiative services have to be marketed aggressively to end users. On the other hand, the accessibility of web along with the integration and connectivity of various government agencies is considered as one of the major factors that affect the e-government development in the Sultanate (Al-Busaid and Weerakkody, 2010; Sarrayrih and Sriram, 2014) [30, 33].

3. Research Framework of E-Government

The part of learning and influence in an official choice to purchase into the development is a normal for the hypothesis. Rogers (1976) examines people's reactions and how a few people acknowledge and accept change on an individual premise while others are affected by administration, social influence or social gathering (Zhenhua *et al*., 2011) [48]. It is exceptionally paramount that pioneers and trend-setters of e-government comprehend the dynamic and evolutionary aspects of the complete progress of the project and to keep it under surveillance within and after completing the project. This will help to support clients to be effective when executing new technology. The following diagram explains the technology acceptance model:

The figure explains the relationship between the perceived usefulness and perceived ease of use with attitudes and further the intension of the user for the usage.

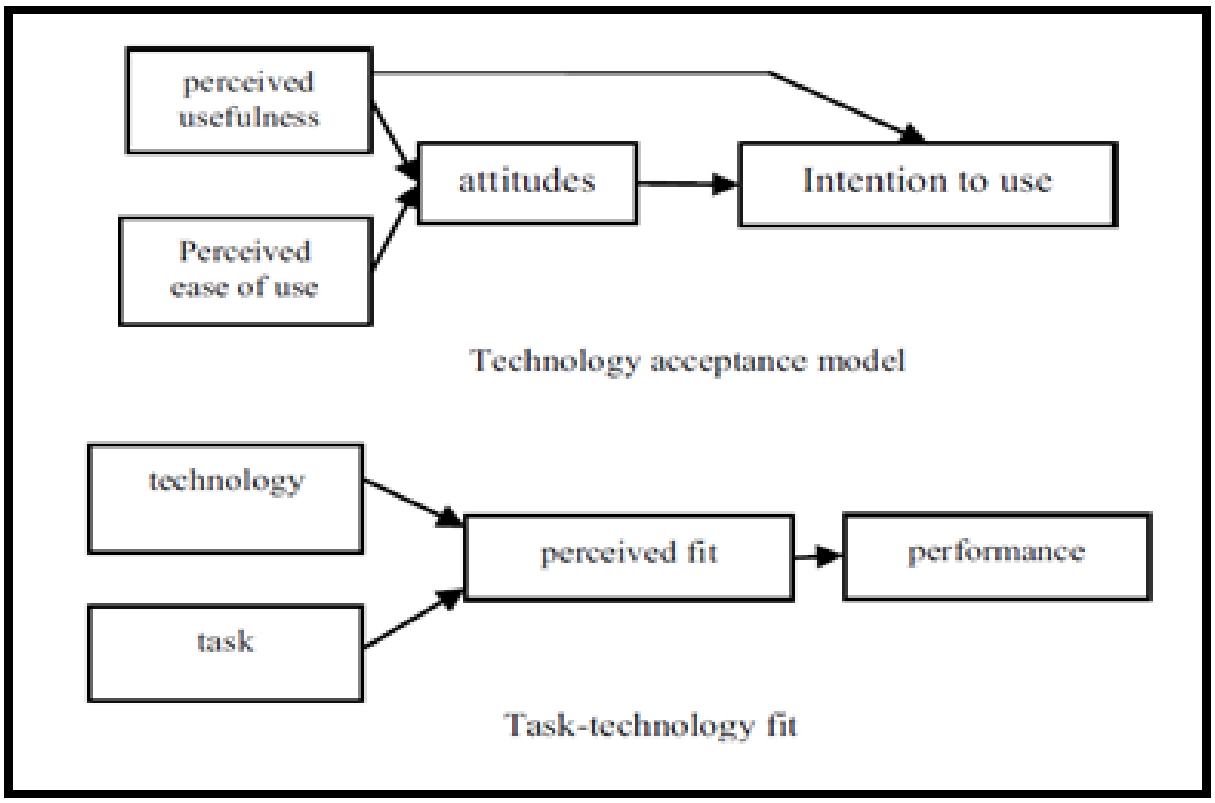

Fig 1: TAM & TTF (Zhenhua et. al, 2011) [48]

Upon to Zhenhua *et al.* (2011) [48] Technology Acceptance Model (TAM) and Task Technology Fit (TTF) could be combined together in order:to get the following model:

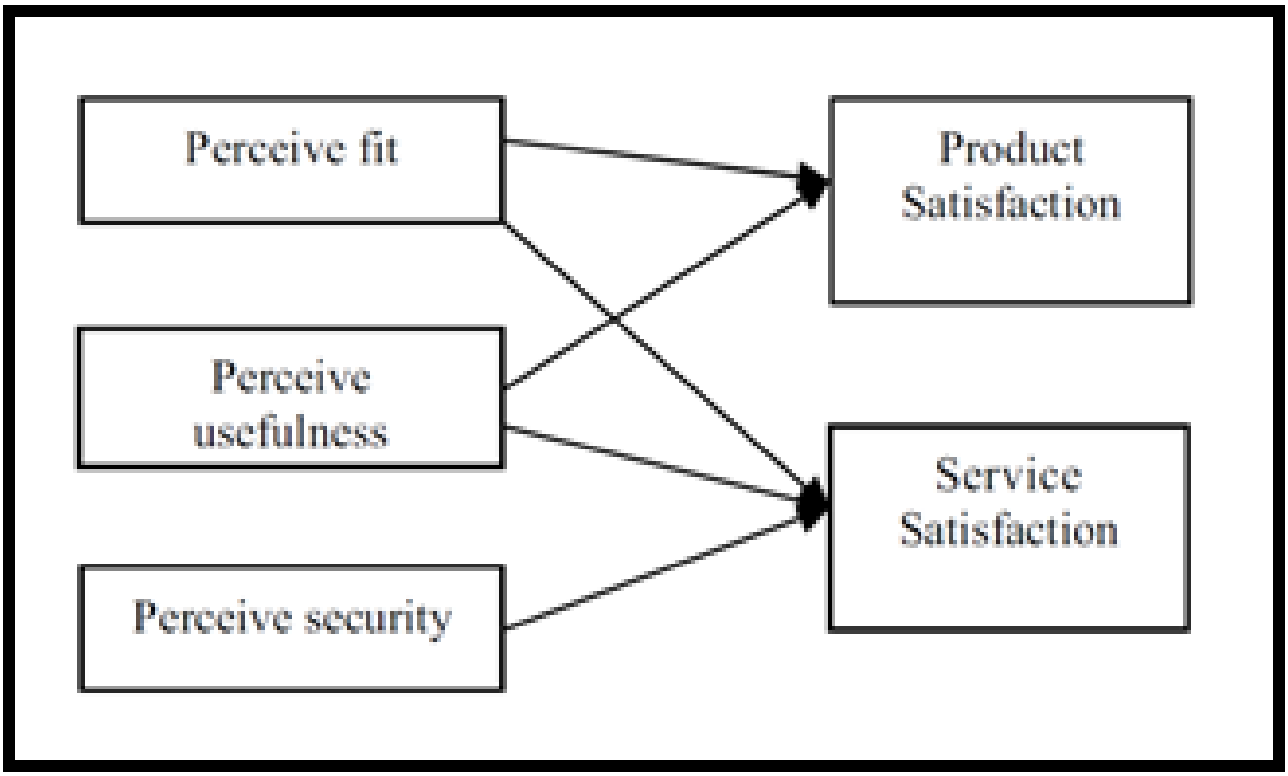

Fig 2: TAM & TTF Conceptual model (Zhenhua et. al, 2011) [48]

However, in e-government it is only a service issue therefore, product satisfaction is not required to join the model. This makes the model changed to be as following without product part:

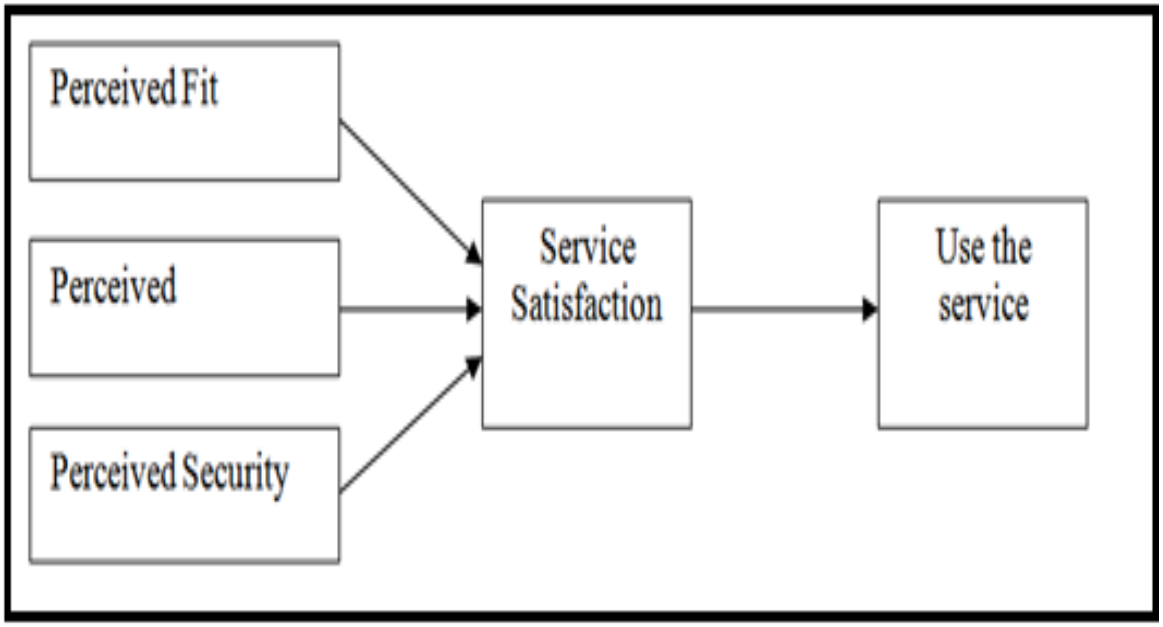

Fig 3: TAM + TTF for e-government

This part is the intention to use according to the technology point of view. On the other hand, Tao (2008) suggested a Social Cognitive Theory (SCT) model which is the behavioral point of view: Social Cognitive Theory (SCT) model (Tao, 2008)

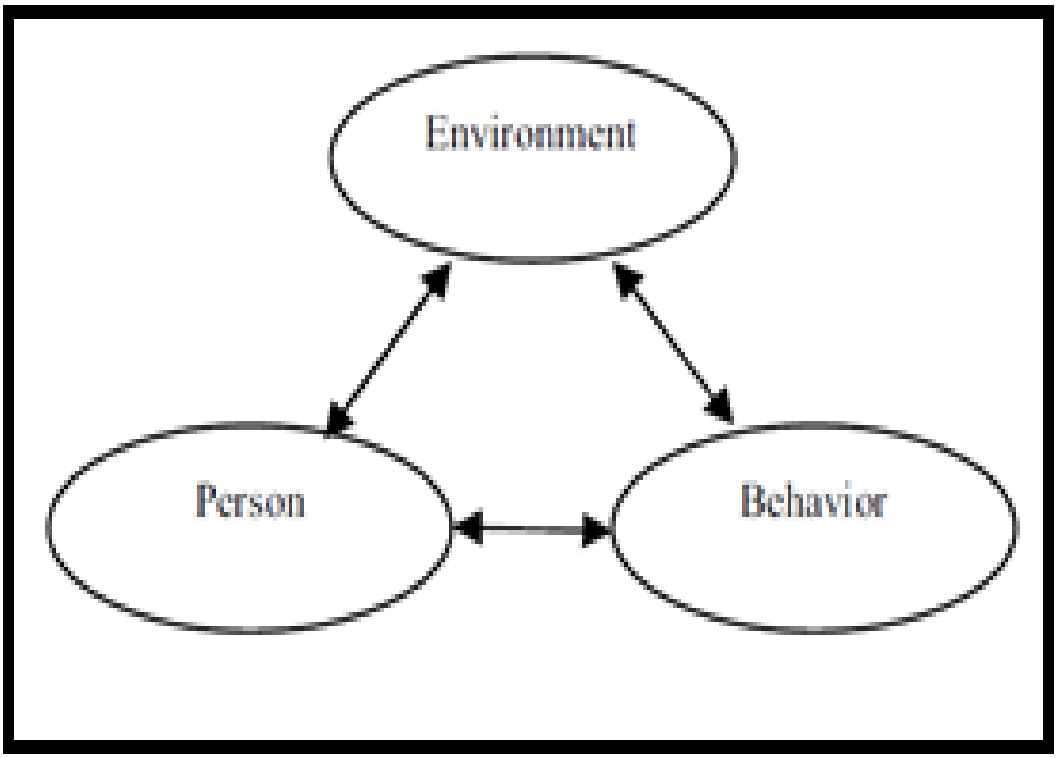

Fig 4: Social Cognitive Theory (SCT) model (Tao, 2008)

Therefore, due to all theories and models listed above, the report is suggesting the following model:

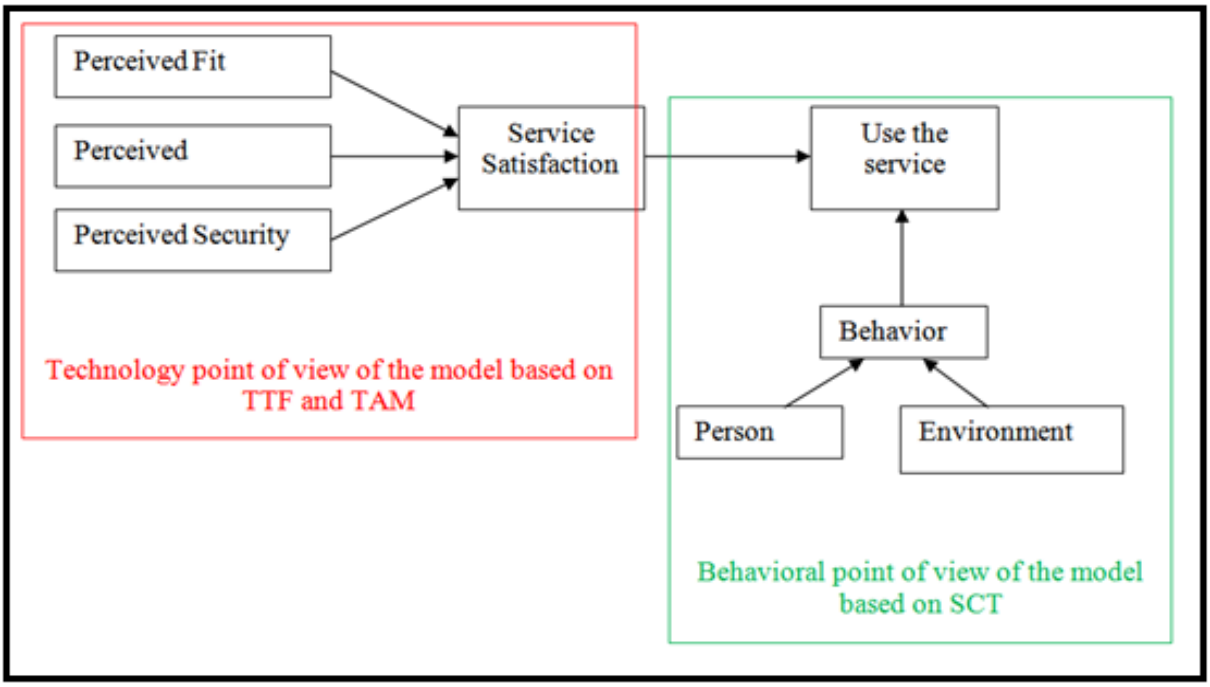

Fig 5: Combine TAM, TTF and SCT

Combining all previous theories and models, the following model will be obtained:

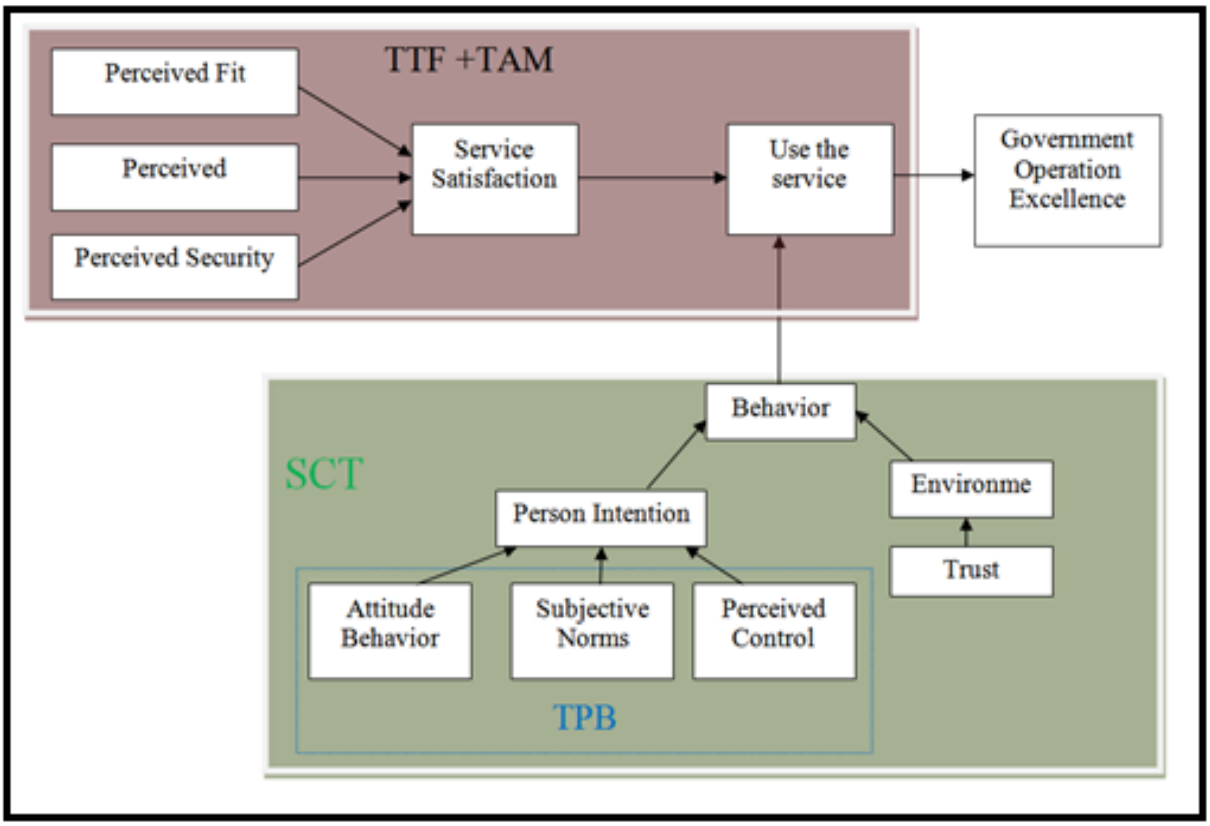

Fig 6: The Research's Framework

Final Simplify the model of the research to have the main independent variable in the study which is the e-government and the desired goal to be achieved is GOE which is the dependent Variable. The combined modified theories of TAM and TTF will take place as the first moderator and called as technological intention to use along with the SCT theory to be as Behavioral intention to use moderator. Figure 3.13 is showing the research's framework overview

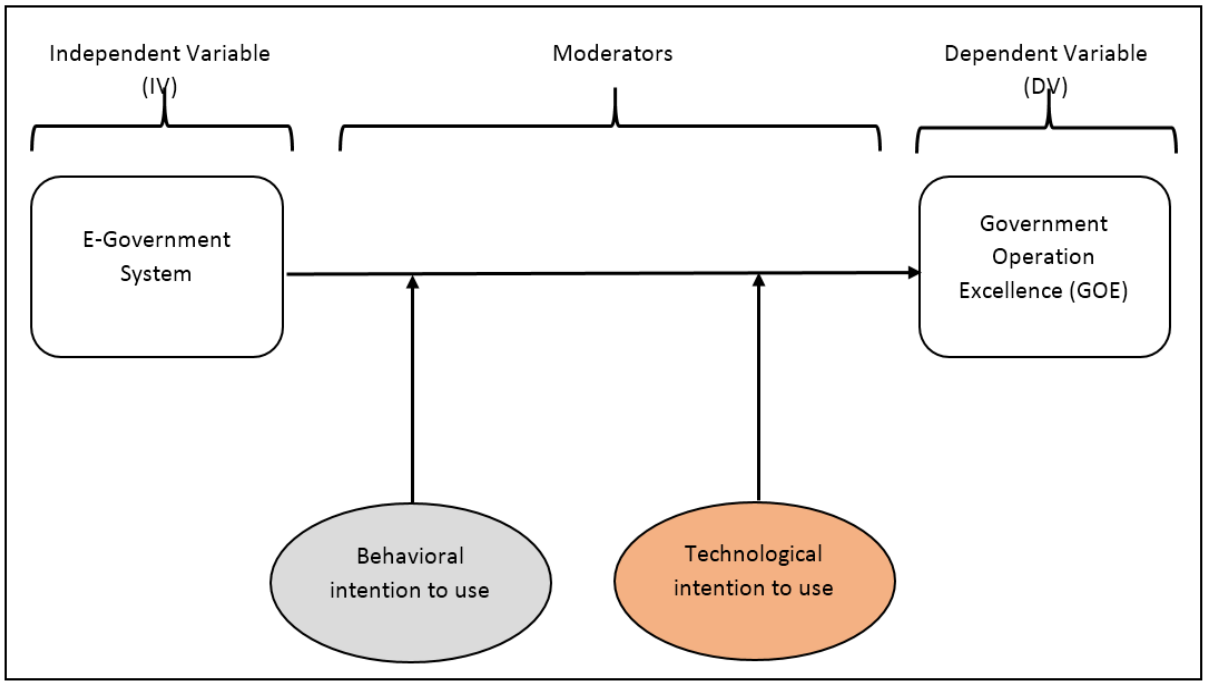

Fig 7: Research Framework

Suggestions and Conclusions

Omani government needs to consider different basic factors in order to be more effective and efficient in the implementation of e-Government system. Thus, e-Government system is playing an essential and important role in the transformation process in modernizing work instruments, enhancement of governance and improving government-citizens relationship. This study has provided a conceptual framework that can assist for further research in the e-government field especially in government-citizens relationship to enhance GOE. It is evident that citizen's acceptance would promote GOE especially by creating an efficient, effective and transparent technical and behavioral intention to use. "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) [33].

Limitations and Future Scope

This study was limited to the conceptual literature, thus it would be better and useful for future studies to give more focus on other e-government aspects and criteria such as trust of public sector (Hassan and Fatimah, 2014) [22]. Extending the research to have empirical surveys would contribute significantly to the literature, especially at the level of citizens in the developing countries.

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