

## **Evaluating the Effect of e-Government Quality of Services on Citizens' Satisfaction and in Saudi Arabia within 2030 Vision: A Conceptual Perspective**

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### **Abstract**

Much research has been conducted to examine models related for understanding social satisfaction and the acceptance of e-government quality of services, but residents' services is a significant research topic. This may be related to the point that not many investigations have been carried to realize inclusively the connection between the adoption and acceptance-of e-services and citizens' satisfaction. This resulted in a wide gap between the adoption of e-government and necessity for the awareness concerning how citizens' happiness affects the use e-services. In relation, this experimental study aims at evaluating the effect of e-Government quality of services on citizens' satisfaction and in Saudi Arabia from a conceptual perspective. The sample of the study included 500 participants who were mainly administrators and government employees. The researcher used a questionnaire survey to elicit data from participants. This study is based on the Expectation-Confirmation Theory (ECT) by Oliver (1980) extended by Bhattacharjee (2001). Also, the researcher adopted SPSS.v25 to conduct factor analysis, item-total correlation test, Cronbach's alpha used to achieve the validity and reliability of the research instruments. The findings of the study showed that 58% said they used e-Government services to a "large" extent, 27% stated that they "somewhat" used e-Government services, whilst 15% of them said that they "little" used e-Government services Conceptually, the results may be taken at a basis for further investigations on e-Government quality of services' evaluation to develop citizens' satisfaction in Saudi Arabia, particularly within 2030 Vision. This study recommends future research be conducted.

**Keywords:** e-Government Services, Quality of Services, Citizens' Satisfaction, Saudi Arabia, Vision 2030.

### **Introduction**

E-Government services have often been the key concern for both governments and scholars. This is because of its effect on the connection between governments and residents (Mensah, Zeng, and Luo, 2020). Governments have shown concern regarding citizens' satisfaction towards the adoption and acceptance of e-services. Primary approval is necessarily the initial phase for e-Government development (Al Rawahna et al., 2018). Hence, citizens' interface and feedback helps governments to succeed the quality of e-services. This sounds very significant at the long-run service's provision. In relation, citizens' satisfaction and happiness with the provided e-services is the basis for citizens' concern to interface (Al Swidi & Faaeq, 2019). Therefore, there is the developing gratitude of the essentiality for citizens-centric services' quality from a citizen needs' viewpoint and the necessity for claim and the delivery choices of self-services. In concern, there is a constant motivation on achieving citizens' satisfaction with e-government quality of self-service' supply options (Hammad, et al., 2019). In the realm of information technology facilitated

customers' professional transactions, the marketing and business collections indicates a high significance of standard-quality technology-customer connections in achieving customer contentment and producing professional value through enhanced customers' services (Dwivedi et al., 2017). Hence it is somewhat open to offer citizens access over administration websites for achieving information related to services' options, there is an emerging realization that developed technological and administrative process collaboration and interoperability between government actions, public and private sector administrations is analytically significant to keep e-Government constantly more effective in charming citizens and giving incorporated useful and sensible government facilities (Mensah, 2018). Though, e-Government investigations still need empirical research that examines difficulties of low acceptance or adoption of e-Government services (Rana et al., 2017).

Saudi Arabia is one of the globally leading nations concerning the accessibility and availability of information-technology infrastructure that supports the delivery options of self-services not only in Gulf States or Middle East region, but also world-wide (Al-Ghaith, Sanzogni, and Sandhu, 2010). Therefore, e-Government in Saudi Arabia encounters somewhat low use of acceptance of e-services (Al Ghoson, 2010). According to Veeramootoo et al., (2018) pointed out that the satisfaction of citizens is the most significant determinant of citizens' interface to accept and adopt e-Government services. In relation to the low-use, citizens as customers will be dissatisfied or even unhappy, but likewise, if the anticipated presentation achieves actual show, the customers will be pleased and blissful. Mensah, Vera, and Mi (2018) increasing the efficacy of websites on the internet has a great contribution to in reaching citizens' satisfaction and helpful to achieve effective service's delivery that is also significant in evaluating the quality of e-services.

Where, past research indicated that citizens in Saudi Arabia are not much concerned with the use and acceptance of e-services and are not interested to adopt them even if it has many advantages and ease of reach compared to conventional service delivery (Al Ghoson, 2010). Therefore, this study attempts to at evaluating the effect of e-Government quality of services on citizens' satisfaction and in Saudi Arabia from a conceptual perspective. It also aims to develop a conceptual framework for citizens' satisfaction on e-services services as related to the expectation-confirmation concept which considers the effect of the apparent effectiveness and quality of e-services to achieve citizens' satisfaction.

### **Review of Literature**

Information Technology is considered as a significant technique in the continuous public administration' efforts to enhance the effectiveness, by giving the opportunity to support the access and availability of digital services' guide procedures (Dwivedi et al., 2017). Therefore, the practice of information technology was not merely an issue of developing value and proficiency in internal operations' routine, but also a technique of dealing with exterior users' interaction, such as keeping e-services, delivered by public sectors, accessible and reachable to citizens (Mensah, Zeng, and Luo, 2020). Therefore, public services locally, regionally and internationally have recognized the significance of more available and well-organized e-Government service.

For instance, the Saudi government started adopting e-government developmental program in 19981 (Al-Sobhi & Weerakkody, 2010). Right from that time, it has immensely transformed its e-government programs throughout the years 2005-2008. Much efforts of the Saudi government were provided to the transformation of YESSER program mainly in major cities such as Median, Riyadh, and Mecca. In spite of the vision of YESSER program mainly developed to target every citizen in Saudi Arabia to take advantages of the adoption of e-government services in the year 2010, a

detailed analysis of the level of adoption/ acceptance of the program proposes that merely basic e-government services have been used till recently (Alshehri, Drew & Alfarraj, 2012).

Alshehri and Steve (2010) examined the challenges of e-Government services adoption in Saudi Arabia from an e-Ready citizen perspective. They found that some significant obstacles and difficulties from the e-ready citizen perspective. Based on that, they generated a list of potential approaches to transfer towards effective acceptance of e-government services in Saudi Arabia. Also, Hameed et al., (2013) investigated E-Government in Saudi Arabia. The results of the study gauged the extent to which e-Government inventiveness developed to fructify and to the inadequacies in the e-Government method used by the Government of Saudi Arabia. Additionally, the study compared e-Government in Saudi Arabia, United States of America and United Kingdom and proposed framework for e-Government in Saudi Arabia. Similarly, Saeed et al., (2014) studied E. Government implementation in Saudi Arabia. The study explored thoroughly the existing practices, and recognized the difficulties that influence develop the e-services from society perspective. The study concluded a number of suggestions for the e-government in Saudi Arabia to address such concerns.

Hence, the e-Government services are the main determinants of the success of any administrative program and as such an effective technique with which to achieve citizens' satisfaction with administrative presentation (Mensah, 2018). Citizens' satisfaction is accepted as a positive emotional reaction ensuing from the assessment of adopting options for the delivery of e-government services to fulfil a personal assignment (Mensah, Guohua Zeng, and Luo, 2020). Much research has revealed that citizens' satisfaction has an effective connection with the adoption of e-government services (Khan, 2020). Citizens' satisfaction was adopted to evaluate post-adoption prospects and was the merely construct reliably manipulating user purpose in both adoption and post-adoption phases (Jeon et al., 2017).

Jauhari et al (2019) showed that citizens' satisfaction is an essential and significant element for determined use of e-Government services as it can considerably influence on disappointment or accomplishment of e-Government projects. Furthermore, citizen satisfaction can upsurge the level of citizen interface based on the level of e-Government services delivered (Ali et al., 2017). Level of e-Government services is the degree to which an e-Government policy improves the delivery of effective e-services to help citizens, businesses, and the general public to assume connections with the government (Al-dweeri et al., 2019).

Else, the level of citizen interface has the prospective to develop e-Government effectiveness and by addition offer citizens with high levels of service satisfaction (Agnihotri, et al, 2016). Considering past research had revealed that issues determining citizens' satisfaction which comprise apparent usefulness, service quality, and confirmation possess a connection with the purpose of citizens' interaction (e.g., Mensah, Guohua Zeng, and Luo, 2020). Yet, in the setting of e-Government services, perceived usefulness of services is another variable that relates to the extent in which a citizen considers that the interaction and use of e-Government services improve his or her public transactions conclusion. Commonly, citizens' intention to adopt a specific system will rise if they discover that the system is useful (Korsah, et al., 2020). There is quite a harmony among researchers about the excessive and effective influence of such element connected to the user's adoption of information structures (Agustina & Anim, 2018). Likewise, such effect has been extensively accepted connected to the citizen's acceptance of e-Government systems (Wahyuni, Ritonga & Rusli, 2015).

### ***The Quality of Services***

E-Government is significant as the resources for operational public service distribution to citizens which has led to amplified interest in examining the service quality sizes and its influence

on the purpose of citizens' interaction (Taiseera, 2021). Service quality is the key aspect for business sustainability and one of the dynamic forces for a government's accomplishment (Veloso, Magueta, Fernandes, and Ribeiro, 2017). In the perspective of e-Government, e-Government service, quality can be identified as the extent to which an e-Government portal or website enables the knowledgeable distribution of effective e-services to support citizens, companies, and the overall public sector to possess a positive interaction with government and its state institutions (Tang et al., 2015).

The quality of e-Government services can have a great significance in developing e-Government competence and enhancing citizens' satisfaction (Taiseera, 2021). Understanding that quality of e-Government services has an effect on user's satisfaction, Skordoulis et al., (2017) studied the connections between satisfaction and service quality for citizens who adopted TAXIS net data system, a broadly-adopted e-Government service in Greece. The findings revealed that service quality of TAXIS net data system added more, as related to other issues, in keeping citizens feel satisfied. Similarly, Weerakkody, et al., (2016), comprising 1518 citizens as participants in their study in the United Kingdom, investigated the impact of services quality on user satisfaction of e-Government services. The conclusions exhibited that the quality of the service has a durable influence on citizens' satisfaction with e-government services.

#### ***The Influence of Perceived Usefulness on Users' Satisfaction***

Users' satisfaction is subjective to their perceived usefulness and validation of expectation from previous data system use, whereas post-acceptance perceived usefulness is affected by the level of users' confirmation (Al Tarawneh et al., 2018). After adopting the service, a customer will achieve knowledge and consideration of the presentation of the service, establishing a novel understanding. The customer will relate this understanding with his/her preliminary expectancy to determine whether the evaluation is undistinguishable, which is termed confirmation (Al-Yawer & Ahmad, 2018). When customer prospect is lesser than the real performance of the service awareness, the effect is a constructive confirmation; when the prospect is greater than the real performance of the service understanding, the effect is not positive confirmation (Ambalov, 2018). Hence, in e-Government services setting, positive confirmation results in the understanding of citizens' satisfaction and influence positively citizens' interaction with e-Government services (Lai, Chen & Chang, 2016).

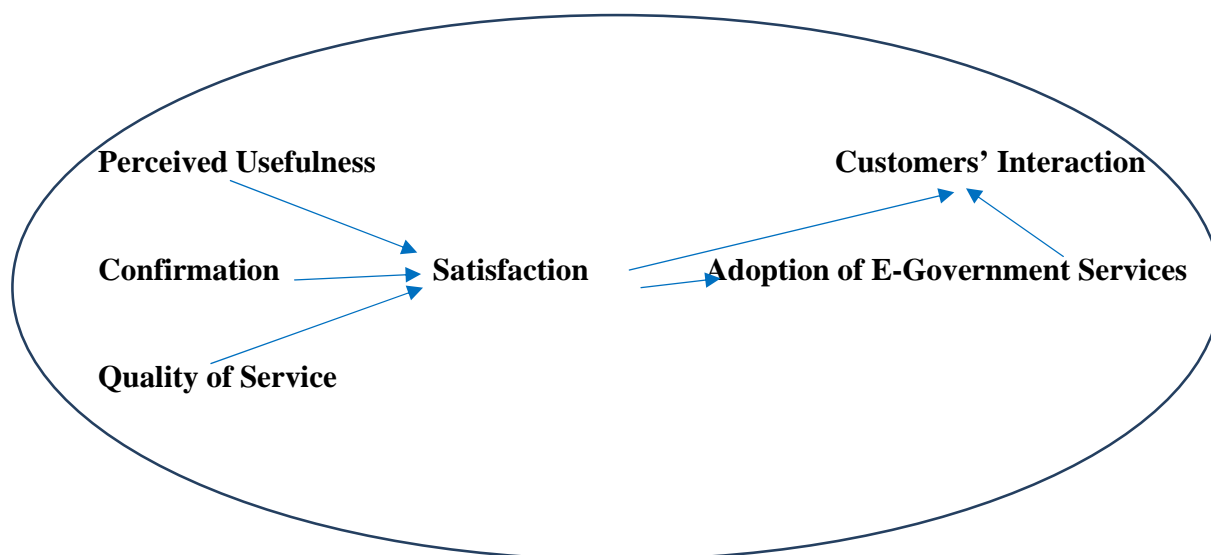
#### **Methodology**

To achieve the objectives of the study, the researcher used a 5 points Likert Scale questionnaire survey including 28 items (ranged from 1 Strongly Disagree; 2 Disagree; 3 Neutral; 4 Agree; and 5 strongly Disagree) to evaluate the effect of e-Government quality of services on citizens' satisfaction and in Saudi Arabia within 2030 Vision conceptually and achieve the participants' perceptions. The questionnaire comprised four section respectively; 1) the perceived usefulness which includes six items; 2) quality of service that consists of six items; 3) confirmation which involves three items; 4) Citizen Satisfaction which has five items; 5) Citizens' Interaction Intentions which contains four items; and the last section discusses 6) the adoption of e-Government services which has four items. So, the researcher designed the questionnaire using the concepts and notions of different scholars in this field; using Titah and Barki (2006), Horst et al. (2007), and Hung et al. (2013) measures to evaluate the perceived usefulness adapting from them a total of six items. Whilst, another six items were adapted from Santhanamery and Ramayah (2014) and Osman et al. (2014) for the purpose of evaluating the quality of e-services. Meanwhile, three more items were taken from Santhanamery and Ramayah (2014) to measure the confirmation aspect. Further, it was felt necessary to adapt four objects from Andalib and Danaee, (2013) and Mouakket and Al-

hawari (2012) to assess citizen interaction. Then, the researcher adapted four items from Deng et al. (2010), and Tan, Lee, and Hsu (2015) to evaluate the adoption/access of e-Government services. Finally, the analysis of the study was conducted using SPSS (v.25).

#### ***The Conceptual Model of the Study***

Research on citizens' satisfaction adopted many models and theories to examine the quality of e-Government services. As far as this study is concerned, it adopted the Expectation-Confirmation Theory (ECT) by Oliver (1980) then extended by Bhattacharjee (2001). This theory deals with satisfaction as major factor to constructing and satisfying basis of long-run customers in the market. It relates to customers' satisfaction in connection with repurchase behaviour (Alawneh et al., 2013; Limayem and Cheung, 2008). Based on ECT concept, customers' satisfaction is defined by two concepts: the expectation of the information system and confirmation of expectation ensuing real adoption (Alawneh et al., 2013). Expectation offers the standard level, alongside which confirmation is evaluated by customers to regulate their assessing answer or satisfaction (Bhattacharjee, 2001). In the existing research, the expectation of citizens to adopt or accept e-Government services rests on the services' quality that delivered by the organization. Whereas confirmation is articulated as the customers' perception of the similarity between the expectation of e-Government services adoption and its real performance. According to extension of the Expectation-Confirmation Theory (ECT) by Bhattacharjee (2001), the perceived usefulness has been adopted in the perspective of the present research to evaluate the extent to which a citizen considers that adopting e-Government services would develop his or her job presentation. Hence, perceived usefulness, confirmation, and quality of service are the issues that would evaluate citizen' satisfaction with the e-Government services. Additionally, past research discussed earlier stated developed citizens' satisfaction can improve the purpose of citizen interface to adopt e-Government services (Santa et al., 2018). Therefore, citizens Interface can serve as a Mediator in the connection between citizens' satisfaction and adoption / acceptance of e-Government services as depicted in Figure 1 below.



**Figure 1. The Conceptual Model of the Study (Bhattacharjee, 2001 and Oliver, 1980;)**



### ***Study Problem***

In Saudi Arabia, decision makers and designers of e-Government portal are encountering difficulties and pressure developing and achieving a high-level of satisfaction concerning the delivery of e-services by Saudi citizens (Al-Ghaith, Sanzogni, and Sandhu, 2010; and Al Ghoson, 2010).

### ***Research Objectives***

This study attempts to achieve the following research objectives:

- i. To examine the how Saudi e-Government portal generates a standard-level of satisfaction by Saudi Citizens?
- ii. To investigate the extent in which the Saudi e-Government portal can achieve a standard-level of satisfaction by Saudi citizens.

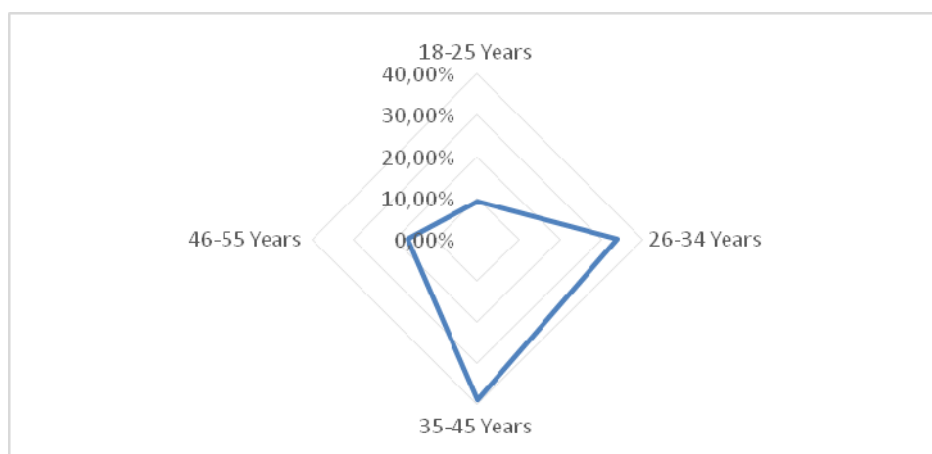
### ***Study Questions***

This study addresses the following research questions:

- iii. How does the Saudi e-Government portal generate a standard-level of satisfaction by Saudi citizens?
- iv. To what extent can the Saudi e-Government portal attain a standard-level of satisfaction by Saudi citizens?

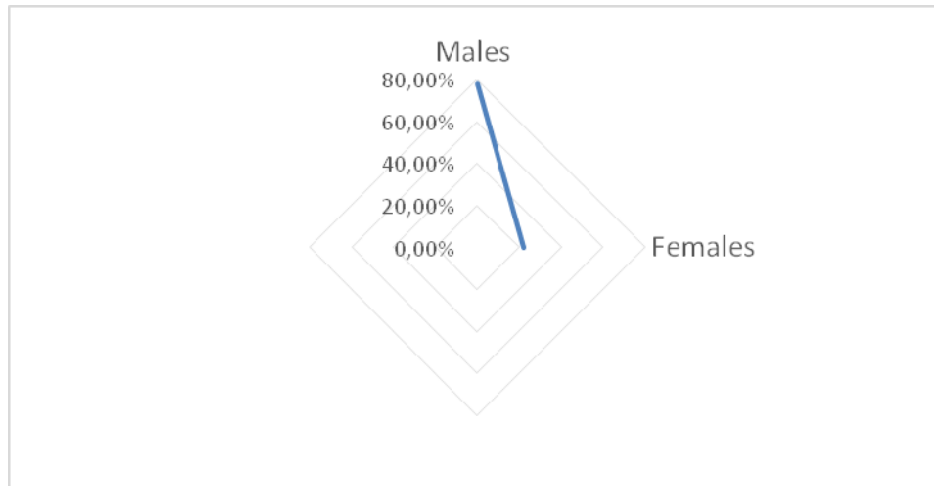
### **Results & Discussion**

For the purpose of data analysis and addressing the two research questions, the researcher distributed 500 questionnaires to the participants throughout nine major cities in Saudi Arabia included Riyadh, Jeddah, Dammam, Madinah, Tabuk, Hai'l, Aseer, Jazan, and Mekkah. Only 465 participants completed the questionnaires and 35 questionnaires were missing. This made about 93% of the total questionnaires. Participants were mainly employee and administrators (citizens) at both private and public sectors. They represented both males and females. Their ages ranged from 18 to 60 years. The highest percent of participants in the survey were those group which their ages ranged from 35-45 years indicating 39%, and the lowest percent was the age group that varied between 18-25 years representing 9.2%. Whilst, age group that ranged from 26-34 years recorded 33.8%, and age group that ranged between 46-55 years showed 17%.



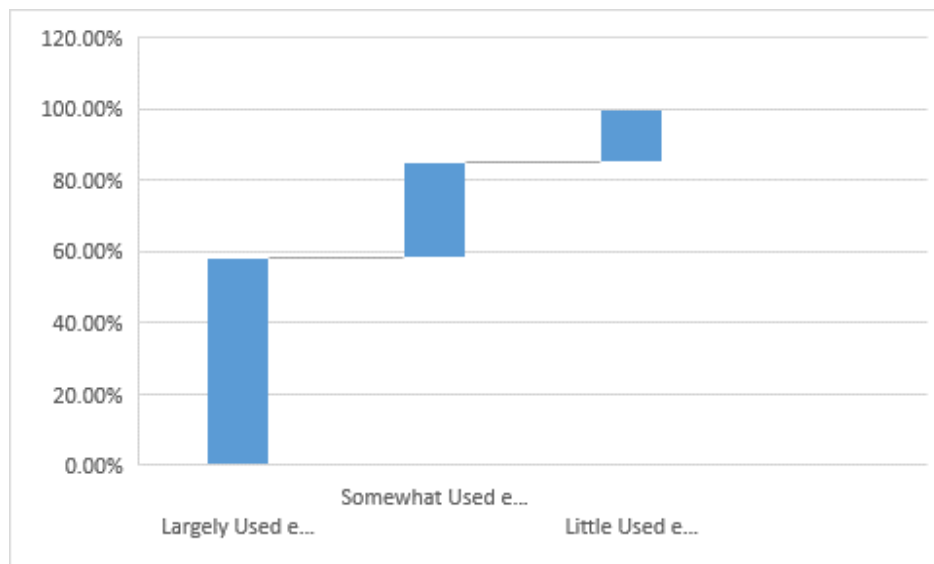
**Figure 2. The Distribution and Percentage of Participants' Age Groups**

Additionally, male gender comprised 78% of the collected data and 22% represented female gender as depicted in Figure 3 in the next section.



**Figure 3. The Percentage of Male and Female Participants in the Study**

Based on the analysis of the data, the findings of the study showed that 58% said they used e-Government services to a “large” extent, 27% stated that they “somewhat” used e-Government services, whilst 15% of them said that they “little” used e-Government services as displayed in Figure 4.



**Figure 4. Use of e-Government Services Percentage by Citizens**

Besides, having conducted the construct reliability test, the value of Cronbach’s alpha coefficient for all the items is greater than 0.70 in which the Perceived Usefulness (0.833), Quality of Services (0.883), Confirmation (0.879), Satisfaction (0.892), citizen interaction (0.863), and

Adoption of e-Government services (0.912). This involves the satisfactory level for constructs' validation. Additionally, the results indicated a moderate correlation amongst all factors as follows:

- i. Perceived Usefulness (0.639 - 0.806).
- ii. Quality of Services (0.670 - 0.769).
- iii. Confirmation (0.537 - 0.766).
- iv. Satisfaction (0.765 - 0.884).
- v. Citizens' Interaction (0.574 - 0.723).
- vi. Adoption of e-Government Services (0.593 - 0.783).

Part of this, the researcher implemented Kaiser–Meyer–Olkin and Bartlett's Sphericity test as pre-analysis check to evaluate the adequacy of the sampling for validating whether the data is applicable for the factor analysis adopting Principal Component Analysis. The Bartlett's Sphericity Test was insignificant at level  $p < 0.001$  and the Kaiser–Meyer–Olkin extent of sampling adequacy was also developed with a significant value at level 0.800. The recommended Kaiser–Meyer–Olkin value is  $>0.05$  and the values between 0.7 and 0.8 are appropriate for the purpose of validation and analysis (Sekaran & Bougie, 2016). Further, the results of the factor loading of the questionnaire items were used to evaluate the recommended model indicated were appropriate at a value  $>0.5$  for factor analysis (Sekaran & Bougie, 2016).

### Conclusion

E-government service has the prospective to significantly develop how government functions internally and how it serves its consumers. E-government is more than a device for refining cost-quality percentages in public sectors services. It is a tool of improvement and transformation. Thus, e-Government services is not mainly about automation of prevailing measures that might not be operative enough, but about shifting the mode in which e-government service performs business and provides standard quality services. The key concern of this study is examine the perceptions of Saudi citizens relating to factors that influence the evaluation of e-Government quality of services and citizens' satisfaction in Saudi Arabia within 2030 vision from a conceptual perspective. This study was conducted to help decision-makers and stakeholder develop the delivery and quality of e-government services for the Saudi citizens.

Additionally, this study examined different factors that relate to evaluating the effect of e-Government quality of services on citizens' satisfaction. Some best professional model as based on the Expectation-Confirmation Theory (ECT) by Oliver (1980) then extended by Bhattacharjee (2001) related to customers adoption and relevant factors including perceived usefulness, quality of services, confirmation, satisfactions, citizen interaction, and Adoption of e-Government services were adapted to build a proposed model of using e-Government services. However, the proposed model can be adopted to achieve a better acceptance of significant concerns on e-Government acceptance development. In further future investigations, the conceptual model ought to be reinforced by out-spreading the set of experimental statistics to check the hypotheses that had been recommended in this study.

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