A Conceptual Framework for Transparent Public Decision-Making through E-Government Development in Saudi Arabia

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Abstract. This paper proposes a conceptual framework for improving the transparency in public decision-making through e-government development in Saudi Arabia. A comprehensive review of the related literature is conducted. The theoretical foundation for the development of the conceptual framework is discussed. This leads to the development of specific hypotheses to be tested and validated for better understanding how to improve the transparency in public decision making through e-government. This study contributes to the information systems literature through proposing a conceptual framework for improving the transparency in public decision-making through e-government development in Saudi Arabia.

Keywords: E-government; Transparency; Decision-making; Openness; Saudi Arabia

1. Introduction

Electronic government (e-government) is about the use of information and communication technologies for the delivery of public services and the provision of public information to all stakeholders [1]. It is becoming increasingly popular across the world. The popularity of e-government is due to the benefits that it can provide such as improving the delivery of public services, encouraging citizens' participation in government, facilitating interaction between government and citizens, and enhancing the accountability of public organisations [1, 2].

There is increasing attention that has been paid to the use of e-government for improving the transparency of public decision making in public organizations across the world. The Seoul Municipality in South Korea, for instance, has used e-government to allow citizens to access public decision-making procedures and information [3]. The government of India has implemented the Bhoomi system for providing its citizens with all the procedures and information that are related to specific public decisions [3]. The increasing adoption of such a practice is due to the emerging expectation of various stakeholders on the need for transparency in public decision-making through e-government development [4].

Transparency in public decision-making is about the availability and accessibility of relevant decision-making information and procedures to all the stakeholders in specific circumstances [5]. It is important because transparent public decision making can enhance the accountability of public organizations, reduce corruption, increase the effectiveness and efficiency of public organisations, and improve the trust of citizens in governments [4, 5]. As a consequence, transparent public decision-making becomes critical.

There are several studies in the investigation of how to improve the transparency in public decision-making through e-government development [6-8]. Styles and Tennyson [7], for example, explore the availability of public information on the government websites in United States for improving the transparency in public decision making. Lowatcharin and Menifield [6] investigate the critical factors for

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improving the transparency in public decision-making through e-government. These studies tend to focus on the sufficiency of public information through e-government development. They are usually conducted from the perspective of developed countries. To date there is lack of research in discussing how to improve the transparency in public decision-making through e-government development in developing countries.

This paper proposes a conceptual framework for improving the transparency in public decision-making through e-government development in Saudi Arabia. A comprehensive review of the related literature is conducted. The theoretical foundation for the development of the conceptual framework is discussed. This leads to the development of specific hypotheses to be tested and validated for better understanding how to improve the transparency in public decision making through e-government. This study contributes to the information systems literature through proposing a conceptual framework for improving the transparency in public decision-making through e-government development in Saudi Arabia.

2. Development of E-government in Saudi Arabia

Saudi Arabia is a developing country that has committed to the development of e-government for improving the transparency of public decision making. This leads to the implementation of the e-government programme. As a result, an action plan has been developed for designing and implementing various e-government initiatives. Such a plan focuses on providing stakeholders with specific public services through e-government development. Subsequently, the second action plan was developed in 2012. This plan concentrates on increasing the effectiveness and efficiency of public organisations, improving the delivery of public services, and providing stakeholders with the required information with accuracy in a timely manner [9]. Recently, the Saudi government has developed its vision 2030 strategy in which an active pursuit of the transparency of public decision making through e-government development is explicitly articulated.

Under the two five-year action plans as above, specific initiatives such as the mobile government and the open data portal have been implemented in the development of e-government. This leads to huge investment being committed in e-government for improving the transparency in public decision-making in Saudi Arabia [9]. As a result, a national anti-corruption commission is established, and the country has participated in the United Nations convention against corruption. This leads the country being ranked at the 48th position globally by the Transparency International Organization [10]. These efforts above show that the Saudi government has invested intensively in their e-government development endeavours for improving the transparency of the public decision making in their public organizations.

The rapid development of e-government in Saudi Arabia leads to numerous studies that have been conducted from different perspectives. Alshehri and Drew [11], for example, outline the challenges that affect the adoption of e-government in Saudi Arabia from the perspective of citizens. Alhomod and Shafi [12] explore the issue of the privacy policy of e-government websites in Saudi Arabia. Alateyah et al. [9] investigate the factors that influence the intention of citizens to adopt e-government services in Saudi Arabia. Such studies have demonstrated the development of e-government in Saudi Arabia from different perspectives. There is, however, unclear to what extent the development of e-government has improved the transparency of public decision making and what the critical factors are for improving the transparency of public decision making through e-government development in Saudi Arabia.

3. Transparent Public Decision-Making through E-government Development

E-government development is effective for enhancing the transparency in public decision-making [13, 14]. The use of e-government facilitates the availability of public information to various stakeholders [4]. On the one hand, public organisations can publish relevant public decision-making information and procedures in specific circumstances [5]. On the other hand, stakeholders can access to such information in a more efficient and effective manner through e-government [6]. Overall, e-government has created an environment in which public decision-making procedures and information can be better accessed [4]. As a result, numerous countries worldwide have increasingly embraced e-government for improving the transparency of public decision making [3].

Numerous studies have been done to understand how to improve the transparency in public decision-making through e-government development [6-8, 13, 14]. Such studies are usually conducted from two perspectives including the investigation of the information disclosure and the identification of the critical factors for transparent public decision making through e-government development. Existing studies on the investigation of information disclosure through e-government development focus on the availability and accessibility of relevant public information through e-government development. Such studies concern more about the type of information available online and the understand-ability and timeliness of such information. In such studies, content-based analysis of e-government websites is usually conducted for better understanding how to improve the transparency of public decision making through information disclosure.

The availability of public information on government websites has a major impact on the transparency of public decision making. Styles and Tennyson [7], for example, investigate the availability of public information on the government websites in the United States for improving the transparency in public decision making. Armstrong [13] examines the transparency of public decision-making with respect to the disclosure of public information on local government websites in United States. Bonson et al. [14] discuss the use of e-government for enhancing the transparency in public decision-making in public organisations. The studies discussed above show that the disclosure of public information through e-government development has a major impact on the transparency of public decision making.

The identification of the critical factors for improving the transparency of public decision making through e-government development concentrates on understanding the behaviours of various stakeholders in their adoption of e-government. Such research is conducted with respect to a fundamental assumption that the increasing adoption of e-government would improve the transparency of public decision making. This is because the improved adoption of e-government can facilitate the access to public decision making information and procedures, therefore leading to the increased transparency of public decision making.

Several studies have been conducted in this regard for improving the transparency of public decision making through e-government. Yavuz and Welch [8], for example, investigate the critical factors for improving the transparency of public decision-making through e-government development in Chicago. Lowatcharin and Menifield [6] examine the critical factors for transparent public decision making. Such studies have shown that there are various factors including civil society, increased technical capacity, lower organizational control, higher perceived usefulness of technology, percentage of minority population, population density, total land area, educational attainment, and the council-manager form of government that are critical for improving the transparency of public decision making under various situations.

Despite the studies discussed above for understanding how to improve the transparency of public decision making, there are still several issues and concerns that require further investigation. For example, existing studies tend to focus mostly on the sufficiency of public information available. Rarely have the cultural issues been investigated. Secondly, the majority of these studies are conducted in developed countries. There is lack of research that investigates the critical factors for improving the transparency in public decision-making through e-government in developing countries. Thirdly, a majority of existing studies are conducted based on the content analysis of e-government websites. The opinion and perception of citizens who are the major stakeholders of e-government services have not been comprehensively explored. To address these issues and concerns, this paper proposes a conceptual framework for improving the transparency in public decision-making through e-government development in Saudi Arabia.

4. Theoretical Foundation

E-government development can effectively provide stakeholders with quality public services and public information. It is related to the adoption of the latest information and communication technologies for satisfying the expectation and requirement of stakeholders with respect to the delivery of public services. As a result, two dominant theories including the technology acceptance model (TAM) [15] and the public value theory [16] are relevant for better understanding how to improve the transparency in public decision-making through e-government development in Saudi Arabia.

TAM is widely recognised for predicting the adoption of technologies in a variety of contexts [15]. Two main constructs including the perceived easiness of use and the perceived usefulness are proposed as the determinants that influence individuals' decisions towards the adoption of a specific technology [15]. The perceived easiness of use refers to the degree to which a person believes that using a technology is easy and does not require much effort [15]. The perceived usefulness refers to the degree to which a person believes that using a technology can improve his or her performance [15].

There are numerous studies that have demonstrated the usefulness of TAM for explaining the adoption of specific technologies in various contexts. Kim et al. [17], for example, apply TAM to investigate the critical factors of mobile payment, leading to the identification of perceived ease of use and the perceived usefulness as the determinants for the use of mobile payment. Hung et al. [18] adopt TAM for examining individual user's intention to adopt m-government services, resulting in the identification of the significant positive effect of the perceived ease of use and the perceived usefulness on users' intention to use m-government services. The aforementioned studies show that TAM is useful for explaining an individual's adoption of specific technologies.

Public value is a reflection of the usefulness of public services with respect to perception and opinion of individual citizens. The development of e-government can improve the delivery of public services, therefore creating various public values including improving the transparency in public decision making [19]. The transparency in public decision-making is an important kind of public value [2]. It concerns about the provision of relevant decision-making information and procedures to the public [5]. As a result, improving the transparency in public decision-making would create public value since it meets the requirements of citizens for a well-ordered society in which transparent public organizations exist.

5. A Conceptual Framework

This study proposes a conceptual framework for improving the transparency in public decision-making through e-government development. Four dimensions including personal competency, service delivery, websites design, and culture are proposed for improving the transparency in public decision-making. A set of attributes linked with each dimension are defined for better understanding how to improve the transparency in public decision-making through e-government development in Saudi Arabia as shown in Fig. 1.
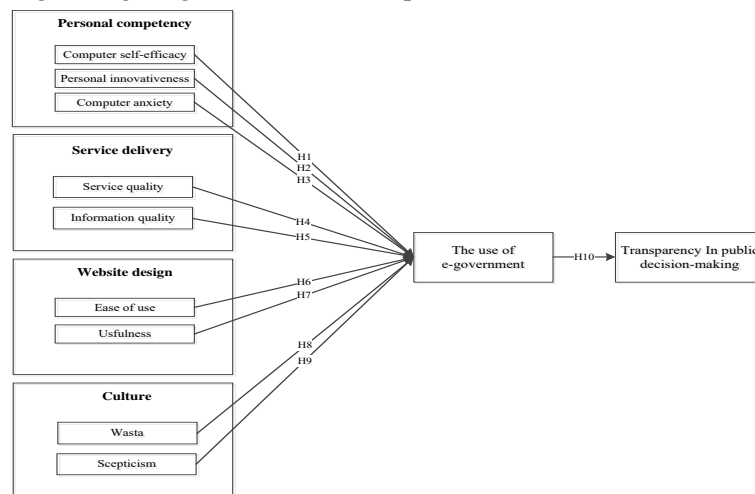

Fig. 1: A research Model

5.1. Personal competency

The competency of citizens with respect to the use of information and communication technologies directly affects their use of e-government services. Individuals have different characteristics that play an important role in affecting their decisions of adopting e-goverbnment servcies [20]. Several factors including computer self-efficacy, personal innovativeness and computer anxiety are usually consdiered in trying to understand how individuals adopt e-government servcies.

Computer self-efficacy refers to citizens' confidence in their capability for using e-government services [21]. It represents citizens' beliefs in their skills to conduct online services [18]. Such a perception about the

capability of using information systems would ultimately encourage a person to utilise e-government services [21]. Having basic skills and knowledge relevant to using computers may make people more confident towards conducting public services online. As a result, understanding the confidence of citizens towards the use of information systems is needed to increase the use of e-government services. Hung et al. [18] assert that computer self-efficacy has a positive role in the adoption of e-government. Based on the above discussion, the following hypothesis is developed.

H1: Computer self-efficacy positively affects individuals towards the use of e-government

Personal innovativeness refers to willingness of citizens towards the use of new technologies [20]. People who have such a trait would be forerunners of using e-government services. Individuals who are willing to explore new information systems are more likely to adopt e-government. This is because these people have a high level of risk tolerance [22]. Simply, citizens who enjoy experimenting new technologies may be more open to use e-government in conducting public services. Venkatesh et al. [23] indicate that personal innovativeness would affect the adoption of e-government. Based on the above discussion, the following hypothesis is formulated.

H2: Personal innovativeness positively affects individuals towards the use of e-government

Computer anxiety reflects citizens' trepidation of using computers [20]. An apprehension may be raised when working with computers [24]. Such a personal trait has a negative emotion that may develop resistance against the use of e-government. Carter et al. [24] assert that computer anxiety has a negative effect on using e-government services. Based on the above discussion, the following hypothesis is developed.

H3: Computer anxiety negatively affects individuals towards the use of e-government

5.2. Service delivery

Service delivery concerns about the quality of public services and information through e-government [25]. It is more about providing public information and public services to beneficiaries through e-government. The delivery of public services becomes one of the public values through e-government [2]. E-government has revolutionised the public services delivery. Citizens can utilise e-government to conduct public services and acquire public information [1]. Factors relevant to the service delivery include services quality and information quality.

Services quality refers to the degree to which e-government can facilitate the delivery of efficient services [26]. Citizens aspire to be provided with excellent services. E-government that can meet citizens' expectations, such as a quick processing of services, tracking requested services, ensuring privacy of transactions are likely to be adopted [26]. E-government development is widely accepted for improving the quality of public services and, thus meeting citizens' requirements [27]. The delivery of quality public services through e-government creates public value for citizens, therefore encouraging them to adopt e-government [2] . Rehman et al. [27] indicate that service quality improves the use of e-government. Based on the above discussion, the following hypothesis is formulated.

H4: Service quality positively affects services delivery towards the use of e-government

Information quality refers to what extent the information that is produced by e-government is valuable [2]. Gathering public information becomes a common reason of adopting e-government [27]. Information that is presented on e-government websites should meet citizens' needs [2]. The presentation of information should be formatted and organised in a way that citizens can understand [2, 27]. As a result, the adoption of e-government can be improved. Information quality is likely to be the driving force to enhance citizens' use of e-government [27]. Rehman et al. [27] assert that information quality has a positive effect on e-government adoption. Based on the above discussion, the following hypothesis is developed.

*H5: Information quality positively affects services delivery towards the use of e-*government

5.3. Website design

Website design concerns about the factors that reflect the easiness and usefulness of e-government websites. Public organisations should consider the needs of citizens when designing e-government websites

[17]. A well-design websites would provide a comfortable environment for citizens to interact with public organisations effectively [27]. Such an environment can create an opportunity for citizens to conduct public services and gather public information [17, 18, 27]. Designing user-cantered websites motivates citizens to use e-government [11]. Factors relevant for the website design are the ease of use and the usefulness.

The ease of use refers to the degree in which conducting public services through e-government is easy and does not require much effort [15]. Any difficulties faced when using government websites may prevent the benefits of e-government developments [18]. Public organisations can make it easy for citizens to use e-government websites and gain benefits by, for instance, making instructions of using government websites available online. Hung et al. [18] indicate that ease of use positively influences the adoption of e-government. Based on the above discussion, the following hypothesis is formulated.

H6: Ease of use positively affects website design towards the use of e-government

Usefulness refers to what extent that using e-government provides citizens with benefits [28]. Citizens evaluate online public services based on their usefulness [18]. Public organisations, therefore, have to take into consideration providing citizens with public services that help them to gain the expected outcomes [17]. Citizens are likely to use e-government if they perceive the advantages of using e-government services [27]. Overall, the more advantages citizens perceive from e-government, the more eagerly they conduct public services through the use of e-government [17, 18]. Kim et al. [17] assert that usefulness has a positive impact on citizens' willingness to adopt e-government. Based on the above discussion, the following hypothesis is developed.

H7: Usefulness positively affects website design towards the use of e-government

5.4. Culture

A culture is about the shared practices and beliefs in a particular country representing societal phenomena [29]. It is critical because citizens normally resist changes and technologies have the potential to affect the habits associated with specific culture [30]. Many countries have encountered the culture as a complex issue that impedes citizens' decision on adopting e-government [11]. This is because culture can influence the way they behave. As a result, it is significant to consider cultural issues in a country for improving the use of e-government. Factors relevant to culture include Wasta and scepticism in the context of Saudi Arabia.

Wasta refers to the use of personal relationships for accessing public information and conducting public services. It is an important force affecting public decision-making [31]. Such a practice is a hindrance in front of e-government development [32]. Citizens who are accustomed on using his personal connections to access public services would resist the use of e-government services [33]. Based on the above discussion, the following hypothesis is formulated.

H8: Wasta negatively affects culture towards the use of e-government

Scepticism refers to the degree of uncertainty towards the outcomes of using e-government. Citizens sometimes need face-to-face communication to share empathy and feelings or even to be informed about the rationale behind public decision making, rather than using e-government [33]. The missing direct and physical interaction in a virtual environment between citizens and public organisations may discourage citizens from using e-government [34]. In some a culture, citizens believe that the tangibility of public services provides high certainty more than using e-government services. Based on the above discussion, the following hypothesis is developed.

H9: Scepticism negatively affects culture towards the use of e-government

5.5. Use of E-government

Citizens can use e-government to conduct public services and browse public information. E-government development contributes to an effective flow of public information online [8]. As a result, relevant decision-making information and procedures can be available and accessible in a timely manner [6]. Overall the use of e-government can lead to the improvement of the transparency of public decision making. Bertot et al. [4]

assert that e-government development can improve the transparency in public decision-making. Based on the above discussion, the following hypothesis is formulated.

H10: the use of e-government positively affects the transparency in public decision-making.

The proposed framework above can be used for better understanding how to improve the transparency of public decision- making is Saudi Arabia. It contributes to the e-government research from a theoretical perspective with practical implications. From a theoretical prospective, such a framework provides a foundation for investigating how to improve the transparency in public decision-making through e-government development in a developing country context. Such a framework can therefore be tested and validated, leading to the identification of the critical factors for transparent public decision making through e-government development. Furthermore, such a framework demonstrates how TAM and the theory of public value can be collectively used for better understanding the improvement of the transparency in public decision-making through e-government development. From a practical perspective, such a study can assist public organisations in Saudi Arabia to develop more effective e-government for improving the transparency in public decision-making.

6. Conclusion and Future Work

The transparency in public decision making is important due to its role in increasing the effectiveness and efficiency of public organisations and improving the trust of citizens in governments. E-government becomes an effective vehicle for improving the transparency in public decision-making. Drawing upon TAM and the theory of public value, this paper proposes a conceptual framework for improving the transparency in public-decision-making through e-government development in Saudi Arabia. Rather than focusing on the sufficiency of public information available, the proposed framework extends current understanding of improving the transparency in public decision-making through e-government development. It focuses on how to improve the transparency in public decision-making from the perspective of developing countries. Future work will focus on testing and validating the proposed conceptual framework.

7. References

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