



## Solution-based Model of Sharing of Knowledge Issues within E-Government Agencies from Users Prospective within the Gulf Region

Hamad AlBadri<sup>1\*</sup>

<sup>1</sup> College of Business, MIS, University of Jeddah, Jeddah, KINGDOM of SAUDI ARABIA.

\*Corresponding Author (Email: [halbadri@uj.edu.sa](mailto:halbadri@uj.edu.sa)).

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### Abstract

This study reveals the current challenges facing e-government adoption in the Gulf region. The research identifies how users perceive knowledge issues in e-governments and how different states can deal with the associated problems, by incorporating a comprehensive systematic literature review of all the articles published in the field of e-government in the Gulf region. The study adopted inclusion and exclusion criteria, where it exclusively included articles published from 2019 with peer-reviewed to ensure the relevancy and validity of data. The authors acquired the relevant sources by inputting keywords in the GovInfo.gov database and Google Scholar search engine. After a thorough screening of all the articles selected, the researchers included twenty articles for this study. Out of the twenty, three focused on the entire Gulf region, four concentrated on Saudi Arabia, Five on the United Arab Emirates (UAE), four on Kuwait, and four on Bahrain. The conclusion clarifies that Knowledge sharing in e-government platforms in the Gulf region is poor. The collaboration of the relevant actors is essential to promote the ultimate adoption of e-government services in the area. This study is important as it will educate the Gulf region leaders on the current state of knowledge sharing in e-government agencies. Also, the study will guide policymakers on the best approaches to undertake when developing an e-government system across the Gulf region.

**Disciplinary:** Information Technology.

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## 1 Introduction

The concept of Electronic Government (e-government) reflects the tendency of government institutions to utilize information and communication technology (ICT), inclusive of mobile

computing, with the primary goal of improving associations with citizens, companies, and different arms of the state. The conceptualization of this notion entails combining ICT services with institutional transformations to enhance governmental operations [1]. scholars have associated this trend with inadequate planning since their primary influences are technological advancements, political pressures, and previous failures [2]. On the other hand, knowledge issues represent the questions that illustrate the users' understanding of e-government procedures related to the attainment and reception of knowledge. However, the main goal of knowledge issues is to allow transparency and exploration of the problems and benefits of knowledge. Moreover, the solution-based model aims to help individuals achieve the change they envision by assessing what they can do differently given the current skills and ideas. The use of this approach in this study will prevent the researchers from concentrating on the problem. Instead, the primary focus will be how to use the current tools to derive appropriate solutions for the problem.

The research problem under investigation in this study is the inadequate sharing of knowledge issues with e-government agencies, particularly those situated in the Gulf region. Knowledge sharing, a critical component of the knowledge management process, represents the exchange of information and expertise among individuals, communities, and organizations. The advantages of sharing knowledge are that it transforms personal information into company data and allows The history of the notion dates back to several decades, and it has demonstrated low performance and failed to meet the expectations of users and governments. Many innovations in companies [3]. Hence, solving this problem will be vital in ensuring the success of e-government agencies in promoting the knowledge-sharing culture among users and enhancing their conceptualization of the system. The following research questions will facilitate the attainment of this goal:

- What is the current state of sharing knowledge issues within e-government institutions in the Gulf region?
- How do users perceive e-government agencies in the Gulf region?
- To what extent do e-government users in the Gulf region share knowledge issues?
- How can e-government companies in the Gulf region promote knowledge issues sharing within the company and with users?
- How can a solution-based model promote the sharing of knowledge issues among users of e-government in the Gulf region?

The primary importance of this study is that it will ensure that the public will learn about the various challenges faced by e-government agencies concerning the sharing of knowledge issues. For instance, the information will educate residents who have never used e-government services on what to expect, enabling them to prepare adequately. This research will also contribute to the existing literature by providing additional information on the notion of e-government. Researchers can use this data to enhance their studies on the topic. Also, current and future students can use

the information as a reference to their school projects. More importantly, this study will impact society by providing the community with information on dealing with the dilemma of insufficient sharing of knowledge issues in e-government agencies. Through this, the success rate of e-government can dramatically increase. Consequently, this research will provide governments with solutions to deal with the various challenges they face when promoting knowledge sharing in e-government. For instance, the countries situated in the Gulf region will apply this information to guarantee that their e-government system assures maximum benefits for users.

## 2 Previous Studies

Previous studies in the sector have primarily focused on how different countries have executed e-government services in their region. For example, [4] argues that in Jordan, the relationship between the government and citizens is shaky and highlights the importance of governments establishing the appropriate environment for e-governance to thrive. The authors also recognized that the most significant predictors of e-government adoption in Jordan are trust in the technology in addition to perceived usefulness. Another study [5] focuses on how countries in the Middle East and North Africa (MENA) regions have used e-government to encourage sustainable development. However, the study reveals that these regions have been unable to attain maximum benefits from e-government since digital skills remain scarce and unequally distributed across distinct territories. In another research focusing on the gulf region, [6] claims that thirteen out of seventeen Kuwait e-government website platforms are inaccessible and make it impossible for people with disabilities to use. The research results indicated a dire need for Kuwait to enhance the accessibility options for e-government portals. Furthermore, in Saudi Arabia, the primary features that e-government users perceived as the most crucial include usability, performance, and transparency, whereas the economic and environmental effects of the system had minimal influence [7].

The main limitation of this research is that few articles focus on e-government in the Gulf region. The majority of the pieces tend to concentrate on the Middle East and developed countries. Therefore, the outcomes generated through this research will reflect upon the few studies, leading to biased conclusions guided by insufficient evidence. As an outcome, there is a literature gap that future researchers should handle to guarantee the availability of sufficient data that current and future researchers can use to guide their discussion on a similar or related topic.

## 3 Research Method and Procedures

This study incorporates an in-depth systematic literature review. The review will compare the previous works on the subject. Also, the analysis will exclusively include high-rank journal papers in this field. The eligibility criteria adopted for this research were the inclusion and exclusion criteria. For example, the study explicitly included journal articles that had undergone peer-reviewing and excluded publications from different sources. Also, this study only used the studies published between 2019 to 2021 to ensure the information gathered was up-to-date and valid to the current situation. The exclusion of the studies released before 2019 occurred as there

was a high probability that the information therein was irrelevant and inaccurate. Also, for inclusion, the studies' topics had to be about e-governance in the Gulf region. Any articles that concentrated on other areas underwent disqualification. Furthermore, the authors of this manuscript acquired information sources from the GovInfo.gov database and the Google Scholar search engine. The researchers also conducted a hand-searching strategy by examining the reference lists found in relevant systematic reviews to acquire more studies to refer from in this study subject. The GovInfo.gov search occurred on 3rd November 2021, whereas the Google Scholar search took place on 5 November 2021.

The search strategy adopted for this study was keying in the keywords relevant to this manuscript. In both the GovInfo.gov database and the Google Scholar search engine, the authors used keywords like "e-government," "e-governance," "the Gulf region," "Saudi Arabia," "Kuwait," "United Arab Emirates," "UAE," "Bahrain," "Qatar," "Oman," "Iraq" "knowledge issues," "e-government agencies in the Gulf region," and "users perspective of e-governance." The researchers used the "best match" and "5-years" filters in the GovInfo.gov database to gather relevant data. On the contrary, when looking for sources in the Google Scholar search engine, the authors used the "2019-2021" filter to ensure that the information collected was the latest in the field. Studies met the inclusion criteria if they focused on either region of the Gulf and entailed information on the adoption of e-governance in the destination. Three researchers were responsible for developing the search strategy, and they peer-reviewed the approach through the PRESS checklist. This technique permitted the researchers to analyze whether the design adopted by potential studies matched the study topic. Further, the checklist allowed the researcher to comprehensively evaluate the sources' cases and ensure the appropriate spelling and filters suitability. When a conflict arose during this process, the researchers handled it via a consensus.

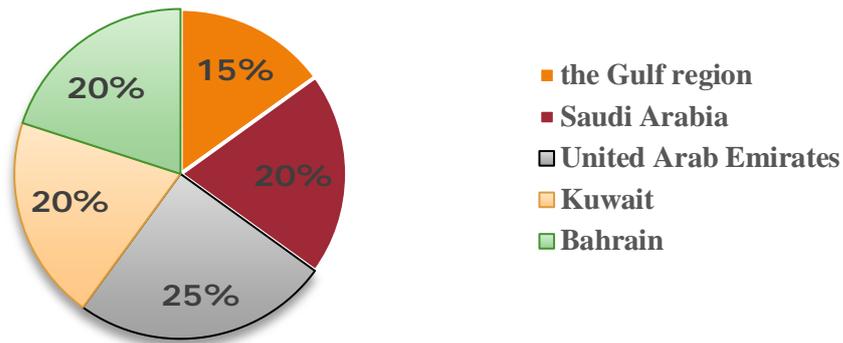
### **3.1 Procedure Followed to Draw Conclusion**

For this study, the researchers firstly reviewed all the information concerning knowledge sharing within e-government in the Gulf region. The authors further examined the facts that the articles had not directly mentioned but inferred via different statements. The next step adopted was evaluating the information in detail to explore what it meant and its implication to the study topic. The final phase entailed the derivation of concrete conclusions based on the data acquired.

## **4 Results & Discussion**

Having screening all the records acquired to evaluate the information contained in the abstracts and full-text publications, only twenty qualified for inclusion in this study. Fifteen percent (n=3) of the reviewed focused on the entire Gulf region, while 20 percent (n=4) of the publications concentrated exclusively on Saudi Arabia. Most importantly, 25 percent (n=5) of the articles focused on the United Arab Emirates, while 20 percent (n=4) of the articles concentrated on Kuwait. Finally, another twenty percent (n=4) of the included publications focused on e-

government in Bahrain, as evident in Figure 1. The information presented by each article is as outlined in Table 1.



**Figure 1:** Percentage of articles included in the study per region.

**Table 1:** Summary of generated results

Country	Source	Theme
Gulf Region	[8]	Saudi Arabia, UAE, Kuwait, and Bahrain benefited economically from e-government integration in the previous two decades.
	[9]	UAE is the highest-ranked Gulf country in the 2018 e-government development index
	[10]	Social influence impacts e-government adoption in Saudi Arabia and Kuwait
Saudi Arabia	[11]	E-government is number 75 globally
	[12]	User knowledge of e-government influenced by the degree of e-government enhancement
	[13]	Users' lack of trust impedes e-government adoption
	[14]	Lack of interest and appropriate knowledge leads to poor e-government integration.
UAE	[15]	UAE e-government system is unsatisfactory to citizens
	[16]	UAE e-government technology is the best in the Gulf region due to sufficient funding and state supporting innovators
	[17]	Adoption of e-services in Dubai is low
	[18]	Inadequate training on e-government causing low adoption
	[19]	Collaboration of public and private sectors in Dubai is crucial for e-government information sharing
Kuwait	[20]	The rate of e-government participation is shallow
	[21]	Efficient e-government system
	[22]	Factors affecting e-government adoption include ease of use, credibility, and usefulness
	[23]	The country has enough money-related resources but lacks a good training program
Bahrain	[24]	The performance of the government & citizen satisfaction influence e-government adoption in the region.
	[25]	The country is the highest-ranked in e-participation throughout Asia and the Middle East
	[25]	E-government services should fulfill the needs of clients and not government agencies
	[26]	Very high EGDI

#### 4.1 E-Government Adoption in the Gulf region

Adopting e-government services in the Gulf region has faced many setbacks, particularly in the implementation stage. [8] revealed that e-government exclusively steered economic development in Bahrain, the United Arab Emirates, Saudi Arabia, and Kuwait. However, countries like Oman and Qatar failed to use e-government policies to promote economic growth in the last twenty years, necessitating the need for the concerned governments to adopt alternative implementation measures. Another study by [9] showcased that the e-government development index of UAE was the highest-ranked in 2018 at number 21, followed by Bahrain at 26, Qatar, Saudi Arabia, and Oman at 51, 52, and 63, respectively. Another review by Hu et al. showcases that societal social inspirations significantly influence the integration of e-government services by the public in Saudi Arabia and Kuwait.

## 4.2 Saudi Arabia

The results of this study reveal that the adoption of e-government services in Saudi Arabia encounters numerous challenges, and the development of appropriate solutions is necessary. The concept of e-government emerged in Saudi Arabia in 1998, and its primary challenges during inception and execution arose from the service provider and user issues. Currently, Saudi Arabia's e-government system ranks seventy-fifth internationally due to its online index despite the numerous challenges hindering the delivery of effective services [11]. A survey by [12] revealed that the difference in citizens' knowledge about e-government platforms in Saudi Arabia significantly depends on the scope and extent of e-government development. Another research spearheaded by [13] showcased that Saudi Arabia residents could not trust e-government methods due to security and data confidentiality concerns. Further, [14] pointed out that the most significant contributors to the poor e-government adoption among Saudi users are the lack of interest (77%) and lack of knowledge (29%). These factors insinuate that the rate of knowledge sharing is low since the government has not communicated to users how to handle their lingering problems appropriately and ensure that they have the relevant information concerning the system's operation.

## 4.3 The United Arab Emirates

In the UAE, numerous challenges hinder knowledge sharing of e-government, which has a negative effect on how different users perceive the system. For example, a survey conducted on e-government users in the region revealed that many e-government technologies do not satisfy the various expectations of citizens [15]. Furthermore, the respondents stated that the e-government system would be better if data and service qualities were high. Nevertheless, compared to other gulf region states, UAE ranks 32nd globally for its e-governance system [16]. The cause for this situation arises from the superior information technology infrastructure adopted in the region. The UAE also avails sufficient funds for its technology in addition to the continuous support that the government shows to IT innovators [16]. A review by [17] showcased that the adoption of e-government services in Dubai was substantially low despite most of the population have smartphones. This situation depicts a significant problem that requires researchers to engage in comprehensive research to solve. Furthermore, a study by [18] highlighted that many survey respondents insisted that the government should invest in e-government training if they want more citizens to adopt the system in the UAE. Enhancing the quality of services and training would require improved information sharing to transfer knowledge from e-government agencies to users. Another review by [27] showcased that the collaboration of the public and private sectors in Dubai in the e-governance program will ensure the efficient exchange of information, hence more knowledge sharing [28].

## 4.4 Kuwait

Despite the prevalence of e-government services in Kuwait, the rate of people's participation is meager [19]. This situation reflects that the rate of knowledge sharing is minimal as people do not understand the importance of engaging in e-government services. Therefore, it becomes

impossible to attain the benefits of e-governments with minimal participation rates. Another study by [20] reveals that Kuwait has an efficient e-government system that will facilitate its transformation into an intelligent government. However, the realization of this dream encounters the challenges of inadequate financial resources, communication infrastructure, and the necessary technical capabilities needed to manage an intelligent government. [21] claimed that the rate of e-government adoption in Kuwait significantly depends on the perceived usefulness of the system, technology self-efficacy, behavioral intention, supposed ease of usage, and expected credibility. For citizens to acquire all this data concerning the system, they ought to exchange information and knowledge with the relevant agencies to guarantee data validity. Moreover, [22] acknowledge that Kuwait has sufficient money-related resources to develop and run an efficient e-government system but lacks a suitable training program. Also, the country does not have an appropriate IT infrastructure to ensure the protection of client data

### 4.5 Bahrain

The biggest motivators for e-government adoption in Bahrain are citizen satisfaction and government performance judged by the state's transformational ability and capability to build trust and confidence among users [23].

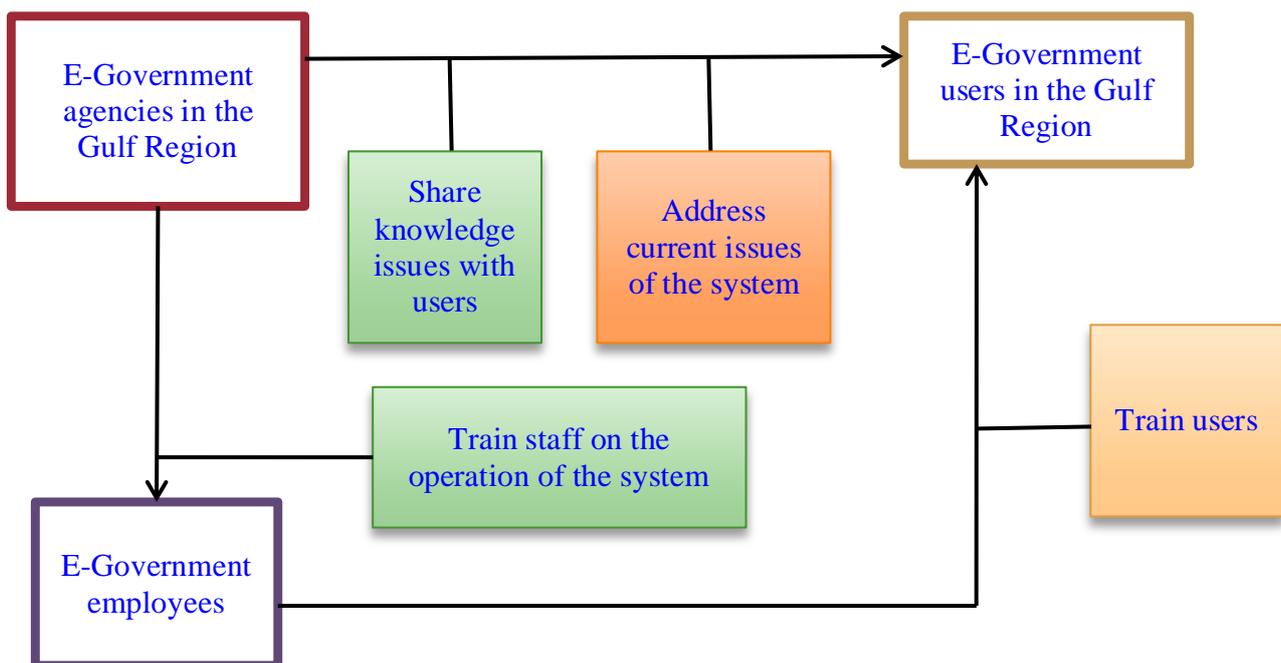


Figure 2: Suggested Model.

In a similar view, [24] praised the performance of Bahrain by stating that the country received the highest rank of ensuring e-performance amongst its Arab and Middle East counterparts. Although Bahrain received a high e-government development index, it does not necessarily imply that e-government adoption in the region is high [25] argues that the public intake of e-government in Bahrain will require the government to ensure that the services provided reflect the needs of the society and not the agencies providing the services. Figure 2 highlights the solution that E-Government agencies should undertake.

## 5 Conclusion

From the analysis, it remains evident that knowledge sharing in e-government and the successful adoption in the Gulf region is still limited and will require the cooperation of the relevant actors to enhance the sector. This study is significant as it will offer information to the Gulf region governments on the current state of e-government adoption and the necessary approaches it should take to handle the challenges associated with adopting the concept. This information will further help Gulf countries to gauge their ranking against their counterparts and develop the appropriate mechanisms to emerge at the top. The future applications of this work range from studies focused on e-government services in the Gulf region to researches aiming to evaluate the policies developed by states toward enhancing e-government services globally.

## 6 Availability of Data and Material

Data can be made available by contacting the corresponding author.

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**Dr. Hamad Mohammad Al Badri** is an Associate Professor in the Department of Management Information Systems, College of Business, University of Jeddah. His research interests are in Knowledge Management and its Relationship to Information Systems and Technology. He also works on Support Linking Technology to Information Management Science, such as Blockchain Applications and its Relationship to Knowledge Management in Government Institutions, as well as Internet of Things Applications and ways to use it to Support Information Management in Organizations.

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