

Marketing e-solution services and cultural readiness in the KRG

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Abstract

This research examines factors influenced the adoption e-government by Kurdistan Regional Government (KRG) of Iraq's Ministries of Transportation and Communication, on how technological, organizational, and cultural factors influence the ministry's e-system implementation and services efficiency. Research methodology consisted of quantitative and qualitative analyses. The sampled population consisted of government employees working at the Ministry of Transportation and Communication and common citizens as users of government services. Research findings are as following; the implementation of e-government services should be treated as a long-term process of reform and restructuring, and not simply the computerization of government operations. It is also the finding of this study that interactions among technological, organizational, and cultural factors must be determined prior to any e-government system implementation. Employees at the Ministry of Transportation and Communications were found dissatisfied towards each other because of the varying degrees in knowledge, information sharing, attitude towards work, knowledge decimation, willingness to use new e-government system and willingness in general to help the public (citizens) during work hours. Such findings are highly related to educational level, training, but also representative of government employees' general attitude towards the workplace. Such outlook towards one's job highly impacts the quality of services provided and the level of e-government initiatives success. This study also concludes that the intent to deploy e-government systems in developing countries has increased the adoption and use of technology, as well as cultural challenges being faced. It is the finding of this research that the interaction between organizational and technological challenges is intertwined and is sociocultural in nature. This is to say that social and cultural factors impact the level of readiness, utilization, and acceptance of e-governamental systems implementation, and technology acceptances can be highly influenced by socio-cultural, inter-organizational and technological challenges.

Keywords: E-government, systems, implementation, culture, acceptance, KRG,

5. Introduction & literature

This paper is a partial effort of lengthier research conducted by the principle researcher in the fulfilment of a DBA dissertation. While the entire research consisted of both qualitative and quantitative approach to data collection, this paper deals with the qualitative aspects of the research because of the comprehensive nature of the entire research undertaking. During the last decade, the public sector has experienced a number of reforms leading to increased implementation of e-government practices (Asogwa, 2013). The major reason behind this change is attributed to governments' desire to improve services provided to citizens. An example of such implementation is provided by Shareef et. al. (2010), which asserts that majority of the governments, will provide and support electronic delivery of public services to the extent allowed by the technological capability of their existing system.

Market competition and the ever changing business environment have prompted various organizations to adopt technologies that better perform their business operations (Sultan, 2010). Global competition is driving organizations to reduce costs and increase productivity to enhance profitability (Schwab, 2016; Misra & Mondal, 2011). For example, numerous information technology (IT) organizations are transcending geographic boundaries

and are offering services across the globe (Luthria & Rabhi, 2009). As a result, organisations using IT are rapidly forced to adopt emerging technologies to reduce costs, whilst ensuring that the organisation is still competitive (Saha, 2012).

Information and communication technology (ICT) is a vital enabler of progress to any culture (Al-Raisi & Firend 2012). As more countries today embrace the Internet, more national and local authorities consider using it to improve their service delivery to citizens (Firend, 2007). Some service providers improve their service delivery methods and effectiveness by communicating and connecting with their consumers, and by deploying their technology assets in a value-enhanced method that generates saving.

Motivated by KRG's Ministry of Transportation urgent need to examine and implement the most cost efficient and effective e-government solution, this study came about to identify several distinct variables that influence the implementation and utilization of e-government services such as: availability; trustworthiness; security; electronic divide; public understanding; mainstreaming; level of education; public acceptance; legal framework; politics; culture; attitude; and privacy. The initiative of the Kurdistan Regional Government (KRG) is discussed in this Chapter. Iraqi Kurdistan has been surviving through a tumultuous period of war driven by political, social and economic challenges. This segment of the chapter discusses the philosophical foundation for the implementation and creation of workable e-solutions for the Iraqi region of Kurdistan. The link between government services providers and citizens was investigated by observing variables suspected of causing failure of e-government systems implementation in the KRG. This study also examined the effectiveness of plans in the promotion of citizens' involvement in the advancement of e-government systems (Shafi and Vishant, 2010).

E-government initiatives ideally promote the connection between authorities and stakeholders (Fang, 2002) through the use of financial resources for the successful delivery of services. The worldwide development of e-governments has been an inspiration for many individuals to study this Internet based phenomenon. Traditional means of communication, such as: telephony; mail; and face-to-face interactions, may become less relied upon, or obsolete because of the emergence of web-based services. Nevertheless, the traditional communication channels continue to exist, and their processes are unhindered by the Internet. The use of web-based services complements other communication media (Shareef et al., 2010a; Pietersen & Dijk, 2007).

6. Problem statement

The transformation in the way governments in the Middle-East interact with citizens and businesses brings numerous benefits such as efficiency gains and effectiveness in service delivery (Gil-Garcia, 2012). However, the development or adoption of an electronic solution through which government interacts with citizens and business entities does have its challenges. One of the main challenges is the concept of the digital divide (Dokhtesmati, Saberi & Moradi, 2011). This gap between those citizens in the Middle East who know how to use the Internet and other technology platforms, and those who do not is wide. This has far-reaching implications in that governments are not able to reach all its citizens through information and communication technology platforms alone. From this perspective, the implementation of e-government in the Middle East as a culturally coherent entity may create inequality in citizens' ability to access government services (Abazajian et. al., 2004; Andersson & Djeflat, 2012).

7. Research questions

- 1) What are the technological, organizational, cultural challenges faced by the KRG's ministry of transportation and communication when implementing e-government service?
- 2) What are the interactions between technological, organizational, and cultural challenges?

8. Significance of the study

Since offering governmental services electronically can enrich government functions and lessen the physical burdens on citizens, the significance of this study rests in the ability to examine and identify the influencing factors and determining the adequate level needed for cost-effective adoption of e-government solutions at ministerial level

at the KRG, whilst fostering an effective and direct connection between the government and its citizens. Determining the diversity of citizens' capabilities and their need is considered crucial elements for increasing the viability of this study and the significance of its contribution to both, Ministry of Transportation and communication at KRG and to available relevant literature.

4. Research methodology

The research method of this study is mixed-model, consisting of quantitative and qualitative approach in gathering the information. This paper will focus on the qualitative findings, while quantitative findings will be published in a subsequent and separate paper. A survey questionnaire was developed and distributed to the public randomly in Arbil region of the KRG, Iraq to gauge their attitude and readiness towards e-government services. Additional survey questionnaire was distributed to the employees of public sector companies in Kurdistan to gather qualitative data. It should be mentioned that, the quantitative method is to find answers to the research questions. This study comprehensively reviewed related literature whilst simultaneously identified the strengths and weaknesses of prior studies. The literature review covered five primary areas. Here, the current situation in the Iraqi region of Kurdistan, as illustrated in terms of: demographics; computerization; access to the Internet; availability of online services; ICT infrastructure; and e-readiness. Literature review also investigated the advantages and primary drawbacks of the present systems used by the KRG, and analyzed the social, technological, economic, and political challenges that affected the implementation of e-government systems. Open coding system was used as effective method of classifying respondents' findings into themes. All participants were fluent in English language and had no problem understanding or comprehending the questions of the survey. All Survey were in English language, citizens were chosen randomly at public areas and were ask for their fluency in English language prior to participation. 150 survey filled by citizens were useful and fully answered, and were used in the qualitative analysis.

4.1. Measurement

Measurements are utilized to help interpret and conclude the quantitative data collected. There are four basic scales including ratio, interval, ordinal, and nominal. This study utilized the interval and nominal scales in the quantitative analysis of collected data. A classification method of qualitative answers was applied to classify the varying answers in the qualitative data collected to help interpret and conclude information obtained. Yellow stickers in part of the open coded system was used to classify each finding provided by participants. The classification system helped in narrowing down opinions and emerging themes. Thus, the varying attitudes towards government services and e-government solution are easily measured and understood. The classification method of qualitative data was recommended as an effective approach by Cresswell & Clark (2007). This approach helped the research tremendously in achieving its objectives by comparing users (ordinary citizens) opinions with that of service providers (government employees).

4.2. Nominal scale

The nominal scale is the most elementary type of scale that is used to measure variables when the respondents of a survey are classified as being mutually exclusive and exhaustive. The nominal scale is utilized in this research to calculate variables including gender, educational levels, and race.

9. Analysis and findings

The first independent variable analyzed was the multi-dimensional constructs factor. A primary part evaluation technique with varimax rotation, as developed by Hair et al. (2010), was used to ascertain the fundamental aspects of every concept. A consequence of factor analysis is the creation of an advice matrix, which empowers the identification of significant constructs (Covin, Dess & Lumpkin, 1997). Likewise, Hair et al. (2010) found that such a strategy could enable good separation of variables. However, the principle component evaluation method still remains the most common factor extraction procedure use (Cooper & Schindler, 2003).

The dependability of the variables was also analysed. Cooper & Schindler (2003) state that reliability signifies the internal consistency of a variable, and reveals homogeneity with the scale used to compute the latent variable. Dependability analyses determine how much the variables can be trusted to quantify the abstraction style (Hair et al., 2010). Cronbach's Alpha is widely used as a measure for the reliability coefficient (Coakes & Steed, 2003; Sekaran & Bougie, 2010). A reliability evaluation of the variables was done to assess the applicability of the instrument. A Cronbach's Alpha value of 0.7 is considered acceptable (Nunnally, 1978).

9.1. Illustrative Evaluation

Illustrative statistics are able to provide a synopsis to enable comparisons between components (Trochim & Donnelly, 2008). This study used illustrative statistics to analyse demographic data such as age, sex, academic background, tenure, and other significant background information. This study did not ask for religious affiliations.

9.2. Frequency Distribution

Descriptive statistics were used to examine the frequency distribution of the demographical dimensions of the respondents specifically factors involving gender, age and educational levels. Demographical factors are important examining the factors of perceived usefulness, perceived ease of use, organizational readiness, top management, firm size, perceived capabilities, relative advantages, cultural influences, government support and the adoption of e-government.

9.3. Bivariate Correlation Coefficient and Multiple Regressions

Sekaran & Bougie (2010) explain that the correlation coefficient investigation output signal illustrates the direction, relevance, and potency of the association of the variables. Hence, bivariate correlation coefficients were calculated in this study to find out more about the association among the variables. A multiple regression analysis was also conducted for this study. Based on the work by Sekaran & Bougie (2010) several regression evaluations were conducted to show the variance present in the dependent variable relative to the hypothesised variance. In addition, multiple regressions allowed the connection between both variants to be better understood so that the top predictor could be identified (Sounderpandian & Aczel, 2006).

9.4. Hierarchical Multiple Regression

Hierarchical multiple regression analysis was used to examine whether there was a relationship between the adoption of e-government and its perceived usefulness. Baron & Kenny (1986) state that multiple regressions are the most acceptable evaluation method. Meanwhile, Hair et al. (2010) state that the moderating effect can be determined based on the probability value suggested in the model summary, along with the *p*-value as shown in the coefficient table, A values < 0.05 is considered significant.

9.5. Scale reliability

Reliability is regarded as an important component of conducting a perfect research. In addition to having an acceptable research strategy, measuring the scale's reliability can help in managing the research and in verifying that the results are consistent, perfect, and compatible. Gay and Airasian (2000) proposed that reliability is the level of an instrument's capability to calculate what is intended to be measured to measure at a constant level. A higher reliability level gives confidence to the researcher that the findings gained in the research is constantly similar if the

respondents were to re-do the questionnaires. In the field of empirical research, different reliability coefficients can be utilized. The analysis sets out the how all the constructs in the instrument measure similar constructs (Sweet & Grace-Martin, 2003). The reliability test is presented numerically utilizing the SPSS software and the coefficients differ from 0 to 1. An alpha or result that is closer to 1 shows a higher reliability level based on George and Mallery, (2003). Thus, the reliability test in this study will utilize the Cronbach's Alpha. The findings are demonstrated in the table below for all the different variables. After carrying out the pilot test for the questionnaire, the ambiguous questions from the questionnaires will be revised and designed according to the test prior to the distribution of the final questionnaire.

Table 1: the entire Variables' Alpha Value

Cronbach's Alpha	Cronbach's Alpha According to the Standardized Items	No. of Items
	0.73	5x10=50

Among 150 usable questionnaires, many relevant issues to culture, organization and technology have been obtained. Because of the fact that number of questionnaires and the answers were too much, so presenting all of the questions in this paper is not possible. Thus, through content analyses, numerous results have been achieved that will be discussed in details in a separate research paper. Some of the respondents directly pointed out to the existed issues while on the other side other ones indirectly mentioned such issues. In addition, the extremity of mentioned issues was different in all of the obtained responds that have been rated as high, medium and low existed issues. The first factor that will be discussed is the related challenges to technological context:

9.6. Technological Contexts

One of the important factors that were bolded in this study is the accessibility. In order to use relevant services to e-government, they should be accessible so that users can easily employ them. As a simple example we can name accessible ATM machines for paying the bills. It is clear that number of ATM machines will be increased according to the population in different regions. Among 150 respondents, 122 of them mentioned this issue and the results are presented in Table below:

Table 2: Accessibility issues

Frequency	Problem
26	High
59	middle
37	Low
Total 122	

Another explored problem through this study refers to system quality. This problem has been obtained from 21 of the respondents. Since usually the high quality products are being used in order to implement electronic services so it can be concluded that this subject is initiated from culture. In fact, complaining about quality of the products is one the usual issues in Middle East countries. Table 3 demonstrates frequency of answers according to three main intensities:

Table 3: System Quality issues

Frequency	Problem
2	High

9	middle
10	Low
Total 21	

Another existed challenge that can be related to organizational and cultural context is ease of use. Overall, 131 respondents emphasized on ease of use. Using the electronic systems and online services although seems easy for young generation but for most of the population is complicated. This issue also can be assumed as to be related to culture of people to accept new and modern technologies. However, organizational context is equally important because organizational readiness significantly facilitates the utilization of such services. Table 4 presents frequencies of obtained responds:

Table 4: Ease of Use's frequency

Frequency	Problem
53	High
40	middle
38	Low
Total 131	

Service quality was the last identified challenge technically that has been highlighted by this study. Such technological issue can be related to organization too because organizations should utilize appropriate technologies in order to offer improved services. Moreover, service quality can be related to cultural context. As it was mentioned earlier, being dissatisfied of current situation can be related to cultural context. 88 individuals mentioned service quality either directly or indirectly. In addition, they believed that still electronic services cannot cover all of the relevant sections. On the other hand, for some of the services they apply online but for proceed the online and electronic services are not effective enough. Table 5, Shows the frequency of service quality problem:

Table 5: Service Quality's frequency

Frequency	Problem
18	High
32	middle
38	Low
Total 88	

9.7. Organizational Demand

In case of using the online and electronic services, users will face many issues. On the other hand, organization was not able to clarify this matter. Therefore, sometimes the request is not in line with the received service. Moreover, organizations offer different services that it seems some of them require long time to respond effectively. On the other hand, the structure of an organization should be developed in such a way that those sections which have more demands to have more workforce as well. 112 respondents have pointed out to demand and the frequency of their response is presented in Table 6.

Table 6: Demand's frequency

Frequency	Problem
34	High

27	middle
61	Low
Total 112	

Employee readiness is another factor that was achieved from data analyses of 93 collected responses. The fact that employees in any organization demonstrate an acceptable performance is very critical. In addition to IT, the employee's performance is important in order to improve organizational performance. Most of the users asserted that still there are many errors taking place by employees in organizations. Their low ability results in lower service quality. On the other hand, national culture could be related to organizational culture that finally impacts employee performance.

Table 7: Employee readiness's frequency

Frequency	Problem
30	High
22	middle
41	Low
Total 93	

The last issue in organizational context is documentation that has been highlighted by respondents. 62 of them emphasized on this problem that it can be related to employee's experience and official process. On the other hand, through training the employees and improving the official process such issue can be solved.

Table 8: Documentation frequency

Frequency	Problem
20	High
22	Middle
21	Low
Total 62	

9.8. Cultural Context

Social background demonstrates all of the issues which explain the basic national characteristics of a country for example its history, demographic, politics and economies. In e-government, digital divide is known as the most pressing challenge due to generally developing countries suffer from inappropriate public education levels and large gaps between rural and urban areas. 43 respondents mentioned the issue that social background is one the factors that resulted in some problems to implement e-government. Table 9, demonstrates the frequency of social background.

Table 9: Social background's frequency

Frequency	Problem
9	High
10	middle
14	Low
Total 43	

Government support is another factor that both directly and indirectly was mentioned. 67 of total respondents believed that government training is one of the critical factors in government support.

Table 10: Government Support's frequency

Frequency	Problem
17	High
27	middle
19	Low
Total 63	

The findings above, suggests that there are several technological, cultural, and organizational challenges faces e-government systems implementation in which can significantly impact the degree of success or failure of such system implementation and usability. Moreover; the explored challenges answer both research questions of this study. Technological challenges consist of ease of use, accessibility, service quality, and system quality. Existing organizational challenges refer to demand, employee readiness: documentation while the main cultural challenges are originated from social background and government support. It is also the finding of this study that interactions among technological, organizational, and cultural factors must be determined prior to any e-government system implementation. Employees at the Ministry of Transportation and Communications for instance expressed their dissatisfaction towards other employees in their ministry because of their lack of knowledge, information sharing, attitude towards work, knowledge decimation, willingness to use new e-government system and willingness in general to help the public (citizens) during work hours. Such findings are highly related to educational level, training, but also representative of government employees' general attitude towards the workplace. Such attitude or outlook towards one's job highly impacts the quality of service and the level of e-government initiative success.

Findings of surveyed government employees also showed that some employees are not trained or educated enough to provide sufficient level of services to the general public. For instance, receiving emails and providing basic online services (in customer services department) have shown that workers at the ministry are not adequately equipped to handle customer services and deal with online based services. Feedbacks from government employees also showed that technology acceptance of online service and utilization of computer based systems is low. Findings revealed that employees as service providers at the ministry prefer to use traditional and outdated methods such as pen and paper to register information and share information via memorandums and verbal communications rather than emails. This problem can be linked to lack of training, basic education which disqualify employees from being placed in such positions and general low personal aptitude and capacity.

A consistent theme as part of the findings revealed that organizational issues such as (accessibility, service quality, and system quality) are correlated to governmental support. It is a core conviction of employees that there is lack of support in terms of strong commitment to actually train and support personal in the entirety of any e-government system implementation initiative. Such conviction was found to affect moral and impact the utilization of e-government services. Furthermore, there are several arguments raised by participants regarding the linkage between government and organizational readiness. Employees strongly believe that any improvement in organizational infrastructure is requires broad governmental support. Employees feel that government has not adequately provided sufficient training or showed the will to seriously push for fundamental shift in service providing. As such, employees are not keen on any initiative, and therefore, internal processes should have been modified by better and broader planning by higher level administrators. Other respondents indicated that the government should have imposed a new organizational culture prior to providing services to users. However; the obtained results assume government support to enhance technological and organizational services provided to citizens as part of general services improvement initiatives. Finally, it is our finding that the interaction between organizational and technological challenges is intertwined and are sociocultural in nature. This is to say that social and cultural factors impact the level of readiness, utilization, and acceptance of e-government systems

implementation. In other words, technology acceptances can be highly influenced by socio-cultural, inter-organizational and technological challenges.

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