

Research Article

Effective Model for Engaging Citizens' Self-Knowledge in Decision Making in E-Government: A Pilot Study in Iraq

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Abstract: The advance and continuous development of new technologies have made it possible for electronic services to be adopted and applied in e-government initiatives. The aim of this study is to work on an effective model for engaging citizens' self-Knowledge in decision making in the Iraqi e-government. Implementation of e-government has been adopted by many countries, but the rate of implementation has varied from one country to another. The success rate has also differed between countries and regions. In general, developing countries have been lagging behind in e-government initiatives as compared to developed countries. The study focuses on citizens' behaviours and thinking, which are quite often, impacted by the citizens various levels of education, culture, nature of job, experience and environment. New model have been developed to improve administration and alleviate the tediousness of paper work, bureaucratic bottlenecks and inefficiency in various strata of the government. This study is intended to illuminate the decision making in electronic government and the proposed model. Specifically, this study intends to develop the model of decision making in the Iraqi e-government utilising the characteristics of citizens' self-knowledge. This study elicits the outcomes from the pilot study to determine the factors that are used to develop the model, which uses the citizens' self-knowledge in the decision making in the Iraqi e-government initiatives. The major findings were reported such as; political: Facilitate conditions to access political information, economic: Facilitate conditions to access business information, technical: Increase the reliability of the decision making model construction and workers: Facilitate the usage of the E-government website. These factors had highly significant relation with the proposed model.

Keywords: Citizens' self-knowledge, decision-making model, electronic Government

INTRODUCTION

This study attempts to discuss the positive factors that help to develop the decision-making model in the Iraqi electronic government by employing the positive factors of the self-knowledge characteristics of the Iraqi citizens. This study will first begin by reviewing past research on the role of decision making in e-government initiatives. This study will then focus on the cultures and geographic location of Iraq and last but not least, clarifies the research question and objective of this study (Abdulraheem, 2012; Al-Dalou and Abu-Shanab, 2013). E-government is a web services platform from local and state e-government agencies. The government uses the Internet and ICT to support various services (i.e., employment licensing and others) to the public. It provides various types of ICT for the public sector and government services. It is also intended to improve governance (Lim *et al.*, 2014). Improvement is continuous and there is much to improve on with e-government initiatives. Some of the

e-government services are better today than before, but still require more work. It has never been a perfect system. It requires frequent updating and improvement and this is where citizen participants' feedback and input is sought rigorously (Charalabidis *et al.*, 2012). Citizen participation offers improvement in the fight against corruption and an effort to provide better public services. It also helps to cut cost and enable citizens, particularly in decision making and efficient services in the reporting process in the public and private sections (Alaaraj and Ibrahim, 2014). Accountability and honesty define government transparency in a free society. Transparency is the government's obligation to share information with citizens. It is at the heart of how citizens hold their public officials accountable. A politician needs to be more transparent and honest. Many government documents and various data need to be made available to the public. Politicians or government for that matter must not keep things secretive. Such noble and sincere practices help the public to know who the politicians are and if the



Fig. 1: Iraq map

government they lead are good, honest and trustworthy. (Hasani and Beleraj, 2013; Jun *et al.*, 2014). Besides technological and financial support, there is a need to work on the development of knowledge. There is a need to study the behaviour of citizens and how they make decisions (Kamal *et al.*, 2015). Kamal *et al.* (2015) confirmed that studying how citizens make decisions and the processes involved is pertinent.

This study focuses on developing a model of decision making for e-government through citizens' participation to develop the decision-making system in the e-government in Iraq. This study hopes to use the citizens' knowledge and knowledge types to examine its relevance to some of the models under study.

RESEARCH BACKGROUND

This study discusses the effective model on the characteristics of engaging citizens' self-knowledge in the decision making of the Iraqi E-government. It begins by looking at the cultures and geographic location of Iraq. It will then review relevant past research and clarify the objective of this study.

Cultures and geographic location of Iraq: The native empires are the epoch of Sumeria, epoch of Akkadia, epoch of Babylonia and epoch of Assyria in Iraq. With the Islamic belief, 97% of Iraqi citizens are muslim. There are also Mandaeians, Yazidism, Christianity and

other religious beliefs in Iraq which represent 3% of the population.

Iraq is an important nation to many Muslim countries and has a strong heritage with a rich spectrum of cultural traditions and beliefs which make Iraq a culturally rich nation. Iraq is situated in the Middle East, amidst Kuwait and Iran. It is the site amidst the Euphrates and Tigris Rivers, usually indicated as the Prolific Crescent. The country also borders Saudi Arabia, Syria, Turkey and Jordan. Furthermore, it borders the Persian Gulf, with entrance to the Shatt al Arab waterway and offers logistical support for transportation and trade. Iraq's size is a gross of 437, 072 SQ KM. There were about 33.42 million people in Iraq in 2013. It contains four important districts: The northern plateaus of north of Iraq, west of the Euphrates (desert), amidst the highest of the Tigris river and Euphrates river and the alluvial ordinary which goes the length from the Iranian Persian Gulf to the City of Tikrit.

As stated by the Iraqi regulation of rule, Iraqi governorates are not organised in a zone Law (No. 21 of 2008 amended) (Royo *et al.*, 2014). The construct of the territories in Iraq is identical across all provinces. It is guided by specific administrative and legal processes. Due to this and the limitation that this study had, this study only gathered data from one territory. Figure 1 displays the new map of Iraq.

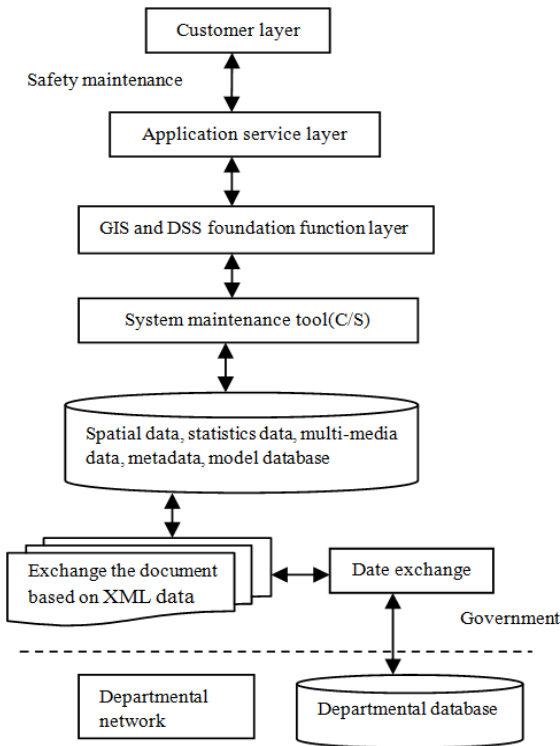


Fig. 2: Software platform architecture

Decision making: Spatial allocation assists the management of business and e-government mainly in decision making. Government agencies, enterprises and the public are the three players which act as major parts in the spatial model for decision making (Wang *et al.*, 2010). The system contains four major steps as follows:

- The social economic, natural and cultural data, are all spatial information. They are conditional on tables, digital forms, images, graphics and texts. There are diverse types of data.
- A spatial model contains diverse input methods, such as digitisers, scanners and image processing systems.
- Diverse forms of decision making are established with a spatial model. A spatial model can occasionally give outcomes that are switched to non-spatial.
- A spatial model contains diverse structures conditional on the database of the spatial model of the GIS and the administration model of the database.

The platform of the software can be split into three steps. These include: Enforcement integration instruments, enforcement client and server module. The instruments can operate with spatial information, such as edit, input, application theme integration/modify and processes in the the server part. The implementation server engages in server part which analyses and

receives the client's appeal. Subsequently, the non-spatial information obtains the spatial data of the database and transmits them to the client. For intricate spatial processes, which could not be completed by the client such as spatial analysis, the implementation server will call on a component in the server part to execute the operation. The client part module is illustrated in the Fig. 2 Software platform architecture.

Research objective: This study is intended to elicit Iraqi e-government initiatives and adoption and its antecedents. In particular, this study focusses on the impact of citizen participation on the decision making processes within the Iraq E-government initiatives (Yusof and Abdulraheem, 2015). These characteristics have been the given research question. This study aims to identify the positive factors that may be useful to establish the decision making model in the Iraqi e-government initiatives. The research objective is as follows:

To develop a model for engaging citizens' self-knowledge characteristics in decision making in the Iraqi e-government.

In order to attain this objective, the Iraqi citizens' self-knowledge characteristics are required to ensure success to the citizens' participation in the e-government. Decisions are made everyday and everywhere. Workers at different levels make and deal with decisions everyday at work. Some decisions are made individually, othes may be through consensus and regulation. Nevertheless, it is vital for decisions to be made in accordance with the overall goals of all agencies or organisations.

MATERIALS AND METHODS

This section elaborates on the methodology of this study. It will first present the citizens' involvement in decision making. The study hypotheses are then elaborated. This is followed by explaining all the factors that may be involved. This section will then present the research tool, sample size and sampling frame. Last but not least and the questionnaire design will be presented.

Variables: Dependent variables are influenced or may be modified by independent variables. Several measures can be applied to measure the dependent variables. All studies attempt to improve and clarify the dependent variables in the survey, research questions, hypotheses and test purpose statements (Creswell, 2014; Saunders *et al.*, 2011). The dependent variable for this study was to elicit the characteristics of citizens' self-knowledge in the model of decision making.

The independent variables affect the outcomes or the dependent variables and may receive a modification in the outcome of the survey. These factors are named

Table 1: Hypotheses

HYP0.	I.V.	D.V.
H1	Employing characteristics of citizens' self-knowledge in a model of decision making	Employing citizens' self-knowledge characteristics in THE decision making of THE Iraqi e-government
H1.1	Political: Facilitate conditions to access political information.	
H1.2	Economic: Facilitate conditions to access business information.	
H1.3	Technical: Increase the reliability of the decision-making model construction	
H1.4	Workers: Facilitate the usage of the e-government website	

independent variables, antecedent variables, predictors, determinants or treatments. All these have an identical act (independently). They affect the dependent variables (Creswell, 2014). The independent variables of this study were to develop a model based on the characteristics of citizens' self-knowledge in decision making. The citizen's involvement in decision making could improve the model of decision making in the Iraqi e-government.

Study hypotheses: Hypothesis testing offers a statistical conclusion that uses information from a given sample to draw outcomes about a population probability distribution or a population parameter. First, a tentative supposition is made about the parameter or distribution (Belanche *et al.*, 2012).

Amongst what was elicited in the research, result, strategies and policies surfaced and were used for implementation. Evidently, the research suggested strongly on the need for the citizens to participate in policy-making. Increased participation will make government services more transparent. In turn this may also help to lessen corruption in the government. In many ways, this would also increase the trust and collaboration between the government and the public as end users (Yusof and Abdulraheem, 2015).

Table 1 summarises the hypotheses. Most of the studies in e-government have been pursued with the intention to modify and develop new models, theories and methods (Löfstedt, 2005). This is pursued to develop various model and to enhance the comprehension and removal of unnecessary content. The second to control, explain and predict cases based on observations (Rabaiah and Vandijck, 2009; Sharif *et al.*, 2010). Following are the respective hypotheses that were tested:

- H 1.0:** There is a suitable design for the proposed model for engaging citizens' self-knowledge characteristics in the decision making in the Iraqi e-government.
- H 1.1:** There is a suitable design for the proposed model for engaging politicians' self-knowledge characteristics in the decision making in the Iraqi e-government to facilitate conditions to access political information.
- H 1.2:** There is a suitable design for the proposed model for engaging economists' self-knowledge characteristics in the decision making in the Iraqi e-government to facilitate conditions to access business information.

H 1.3: There is a suitable design for the proposed model for engaging technologists' self-knowledge characteristics in the decision making in the Iraqi e-government to increase the reliability of decision making model construction.

H 1.4: There is a suitable design for the proposed model for engaging workers' self-knowledge characteristics in the decision making in the Iraqi e-government to facilitate the usage of the e-government website.

Survey tools: Fact-outcome methodology is an official operation utilised in data and sampling collection. Research methodologies are chosen to gather and acquire as much information as needed for study purposes. Observations, research, questionnaires, preferences, sampling requirements and other methods are utilised to collect information of interest. It is pertinent to choose the most appropriate methodology in order to attain good data and analysis. The survey used in this study was considered suitable for this research because it is believed to provide knowledge and data on Iraqi citizen's involvement on the making of decisions and its relationship to e-government in the country.

Sampling must be executed with care to ensure that the study is able to accomplish its objectives (Creswell, 2014).

The surveys were distributed to the targeted respondents and were collected upon completion by the respondents.

Sampling frame and sample size: The population of any given research can consist of a large or small number, but it is important for the researcher to identify the 'right' number of respondents from the population to meet the methodological standard and requirement (Ritchie *et al.*, 2013). The province targeted for this research consisted of various relevant social groups. Specifically, the population of this study consisted of four groups: Each province in Iraq has an IT administration; the total of employees in the IT department was 40 employees' respondents. The second group represents the politicians. The number of politicians' respondents in this study was 27 respondents. The third group was members of the general federation of Iraq trade unions with respondents totaling 200. The fourth group was members of the commerce chamber and 80 respondents from this group

Table 2: Questionnaire design

Section A: Demographic	
✓	Questionnaire of demographic characterised the citizens; such as (culture, level of education, job) or characterised the citizens' information for each citizen or the demographic status in the study. This was to determine the citizens' social groups to assist this study in identifying the needs of each set.
Section B: Main part	
Part	Selected the questions which involved all types of citizens. This was necessary because technology or innovation had many meanings for different groups.
1	Dependent Item
2	Engaging the characteristics of the citizens' self-knowledge in the model of decision making in the Iraqi e-government.
Section C: Suggestions	
✓	The suggestion side in the questionnaire was for developing the study and the questions got a finding from the responders to develop this research paper.

participated. The total number of respondents from all the groups on this study was 347. However, only limited respondents participated in the pilot test where all the groups were represented by respondents with the exception of the political group. The total number of respondents in this research was 37.

Questionnaire design: The kinds of data that were gathered from the citizens included various levels of knowledge, attitudes, beliefs, preferences, or personalities. Questionnaires are vastly employed to gather such information. The questionnaire was intended to provide the research with valuable data that was good for systematic test and quantifiable analyses. The structure of the questionnaire intended for this study contained three parts of data collection: The first part created the demographic information, the second part was linked to the research hypotheses and the third part was linked to the suggestions of the responders, as clarified by Table 2.

According to some authors like Zikmund *et al.* (2012), the seven-point Likert scale could offer good outcomes and more options for data analysis. In addition, the seven-point Likert scale has always been preferred for human behavioural studies and social sciences. This study applied the seven-point Likert scale as suggested by previous studies (Zikmund *et al.*, 2012).

RESULTS AND DISCUSSION

For the internal regulation of the items' testing, each variable in this study was investigated employing the analysis data of reliability and examined by Cronbach's alpha. This study used Cronbach's alpha rate of 0.6 and more than 0.6 was for the reliability test (Zikmund *et al.*, 2012). The study involved 37 respondents for reliability analysing to get to the Cronbach's alpha rates of 0.6 and more than 0.6. The study applied version (21) of the Statistical Package for Social Science (SPSS) to test the reliability test.

Demographic outcome: The pilot analysis in this study was administered amongst 37 respondents for all social

Table 3: Demographic results

Category	Min.	Max.	Freq	Per %
Sample			335	100 %
Respondents' Gender	0	1		
Female			12	32.4
Male			25	67.6
Total			37	100
Respondents' Age	0	6		
18-25			3	8.1
25-32			7	18.9
32-39			4	10.8
39-46			6	16.2
46-53			11	29.7
53-60			5	13.5
60-67			1	2.7
Total			37	100
Respondents Groups	1	4		
Political			7	18.9
Economists			10	27.0
Technology			10	27.0
Workers			10	27.0
Total			37	100
Respondents' Education Level	0	6		
Primary school			4	10.8
High school			9	24.3
Vocational/ Technical school			5	13.5
Bachelors			17	45.9
Master			1	2.7
Total			1	2.7
Total			37	100
Respondents' Working	0	2		
Private			2	5.4
Public			21	56.8
Own			14	37.8
Total			37	100
Respondents' Income	0	3		
150-350 IQD			6	16.2
350-550 IQD			7	18.9
550-750 IQD			3	8.1
750-950 IQD			21	56.8
Total			37	100
Respondents' Ethnicity	0	2		
Arab			33	89.2
Kurdish			1	2.7
Turkmen			3	8.1
Total			37	100

groups. The results of the demographic data test are given below in Table 3.

Reliability analysis outcome: The analysis of the pilot study was applied to process the regularity amongst the

Table 4: Reliability analysis results

Construct	Coding	Number of questions	Cron. alpha
Political group Facilitate conditions to access political information.	PQ	4	0.767
Economic group Factors: improve the economic process.	EQ	4	0.659
Technical group Increase the reliability of the decision making model construction	TQ	4	0.889
Worker group Facilitate the usage of the e-government website.	WQ	3	0.614

items of the study constructs. All the constructs had Cronbach's alpha of more than 0.6 or equal to 0.6, the outcomes of this pilot as in Table 4, presented that the Cronbach's entire alpha was agreeable.

This section has related the independent variables with the depended variable above in the practical example. The section variables explicated that they were independent variables. After employing the Cronbach's alpha to analyse the items of these variables, they were PQ, EQ, TQ and WQ. Many of the respondents were found to have various Internet skills and cultural experiences which had contributed to their positive perspective. By observing the result for each group the study attained the following:

- The result of the politicians group highlighted in hypothesis H1-1 is supported and agreeable by the politicians. The politicians accepted the item (Facilitate conditions to access political information). The relation of the making of decisions and the politicians is positive and agreeable: the Cronbach's alpha was 0.767.
- The result of the economists' group in hypothesis H1-2 is also supported and agreeable by the economists. The economists' accepted the item (Facilitate conditions to access business information). The relation of the making of decisions and the economists is positive and agreeable: the Cronbach's alpha was 0.659.
- The result of the technicians group in hypothesis H1-3 is also supported and agreeable by the technicians. The technicians accepted the item (Increase the reliability of the decision-making model construction). The relation of the making of decisions and the technicians is positive and agreeable: the Cronbach's alpha was 0.889.
- The result of the workers group in hypothesis H1-4 indicated to be supported and agreeable by the workers. The workers accepted the item (Increase the reliability of the decision-making model construction). The relation of the making of decisions and the workers is positive and agreeable: the Cronbach's alpha was 0.614.

This study was mix of all the skills, experiences and cultures of the respondents from the different social groups above to advance the decision-making processes through engaging the characteristic of citizens' self-knowledge. By observing the Cronbach's alpha rates, the paper showed that good items were obtained from

the four groups. The politicians' group item: Facilitate conditions to access political information, economists' group item: Facilitate conditions to access business information, technicians' group item: Increase the reliability of the decision-making model construction and the workers' group item: Facilitate the usage of the e-government website. The items were analysed using the Kruskal Wallis technique test. Subsequently, the analysis of the relation of the connection between the items through the analysis of Correlation was pursued. Finally, the test of multiple regressions was administered. The seven-point Likert scale was adopted for these analyses which provided the researcher with more techniques for the data analysis.

CONCLUSION

The objective of this study is to provide evidence regarding the suitable design for the decision-making model by engaging the characteristics of citizens' self-knowledge in the model of decision making in the Iraqi e-government. For this purpose, this research is intended to develop a decision-making model by engaging the Iraqi citizens to improve the model. The items above in the results of this study had an effect on decision making, positively. This research illustrated the findings and results of these items for each social group and discussed, rigorously, the significance of each social group. Despite the truth that the sizes of the sample for the pilot test of the study were small, the outcomes support the research intent which may offer pertinent suggestions particularly on utilising the public in decision-making processes

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