

Proposed Smart E-Government Application Design toward Achieving Operational Excellent in Government

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Abstract— A large number of poor nations throughout the world are benefiting from the e-government revolutions in order to deliver fast and fundamental items and solutions to their citizens. Because of the present development of mobile smart gadgets. However, public agencies face several challenges in integrating electronic government services into their infrastructure in order to improve current goods and services or build new ones. This major challenge is none the less reflected by the huge volume of data generated by various capable devices, as their administration is hampered by the facilities required for effective data transit as well as treatment. As a result, cloud computing services, as well as cloud technology, which extends cloud computing computational power to edge networks, are critical in addressing those issues. As a result, this paper aims to illustrate and concentrate on all these variables, so it presents an outline of a hybrid approach for adopting edge and cloud computing with in the domain of e-government to handle as well as solving e-government enforcement's important problems. In term of arranging governmental services and goods among data centres, this model is used to identify two separate patterns: edge and cloud, and smart sensors constructed with low-power CPUs provide a very effective solution. The suggested model can figure out how an object interacts with each network and what their connection could be Eventually, a variety of recommended technological distinct elements and their approaches for developing edge and cloud computing is offered, ensuring also that selected answers were executed. A total of 600 questionnaires were delivered to Syrian individuals as part of a survey. AMOS version 21.0 was used to analyse the data using the structural equation model (SEM).

Keywords— E-governance, Cloud Computing, government service.

I. INTRODUCTION

The growth of digital connection, major advancements in communication and information technology, plus driven international competitiveness have transformed how businesses operate. The electronic government (e-government) efforts have become been wider implemented in countries around the world, including Syria, and these programmers have been connected to deliver efficient services from governments towards citizens [1]. Both developed and developing economies have a profusion of e-government plans including implementations with in research. For instance, publications about e-government acceptance and adoption [2]. No any research found has looked into the quality and effect of the government's latest e-government system developments. This explains why this research is being carried out in the first place. As a result, this study will address this Knowledge vacuum and contribute to the e-government literature by assessing the performance of e-government platforms across Syria, as well as whether or not citizens to profit from

certain activities [3]. This research attempts to look at the quality of e-government systems in Syria, as well as to see whether these activities have provided citizens with the advantages needed.

The goal of the study is to find out to what extent the citizen of Syria has knowledge about e-government activities across Syria'.

The study's three objectives are theory, policy, and practice. Essentially, the research attempts to contribute to the IS material, notably focusing mostly on the Syria government's effectively implementing e-government systems, in which there is a lack of knowledge. In practice, the research will reveal precise elements that contribute to the adoption of e-government programmers' innovation. The finding of this study will provide lawmakers valuable information regarding effectiveness of these programmers, as well as supporting the increase of user's engagement of e-government services.

The remainder of the research that is laid out as shown in the following part presents an introduction to the study of literature, which focuses on understanding e-government

and its basic principles. The method of data collection mostly undertaken by technique approaches, which explains all data analysed. The findings and discussion are then presented and then followed by suggestions as well as recommendations for further studies in the conclusion.

II. E-GOVERNMENT

Every government strives to deliver the greatest resources towards its citizens in order to attain efficiency and acceptance. This objective might be attained by enhancing the service quality of the whole societal sectors [4].

There has been a growth of e-government existing studies since its start mostly in the 2000s. This may be seen in a variety of fields, including social science and public service, The term of the e-government itself represents different meanings to different people. Several people refer it to its essential meaning like digitized government statistics and perhaps it means to conduct online digital transactions. In other context, e-government certainly means a creation of such an online platform that includes details of the government's political and social issues [5,6,7].

In point of fact, the implementation of e-government throughout each subject is an adaptation of the IT technology to transmit content and data from the government towards the people.

A. E-Government Benefits

Each government promises to achieve the highest services towards its citizens in order to attain efficiency and acceptance. This objective might be attained by enhancing the service quality of the whole societal sectors. The Information Technology Authority (ITA) established the use of information and communication technologies (ICT) as a platform that provides and promotes services with the following goals in mind in order to improve public services for companies, people investment and resource optimization for both businesses and citizens, [8, 9].

E-government services are becoming increasingly important in developing countries like Syria [10]. E-government is viewed and recognized as a major government optimization method, as well as being a key component of several governmental changes, according to the argument.

B. Government Operation Excellence (GOE)

Regular operating tactics for systems should be examined and re-evaluated [7, 11]. To be able to actualize such ability in a website, functional features planning must be improving the process, multidisciplinary integration, and the effective execution of operational excellence. [12]

[13] In his evaluation, stated that to achieve the most out of an agency's operational excellence, personnel must be

acknowledged, while administrators should always be given a chance to learn more for further career advancement or provided with a more flexible work schedule. Nevertheless, such a setting cannot be reached unless the employee has a strong work ethic, away from the general public and crowd of people asking for their assistance. [13] It was also advised that government services should be very well advertised in line with the GOE objectives effectively and promptly. On the other side, offering additional value collaboration is commonly required in government's S-services in an e-government matter, between 2 or even more federal agencies, Therefore, a governmental agency or sector cannot achieve full governmental excellence on its own [14]. Compatibility effects of digital company operations are needed in order to secure and accomplish such a teamwork [30].

Parasuraman et al (1984) proposed the five-dimensional SERVQUAL model [37] and is amongst the most widely used models in the field of service quality. "Typical methodologies in the perceptions of service quality" were addressed in the SERVQUAL model. Researchers argue also that there is a gap between the consumer's expectations of the service process and the service expectations that determines the amount of "Customer Perceived Service Quality" [37]. As a consequence, the SERVQUAL method's assessment of GOE may well be based on the same common criterions. Those criterions are assurance, tangibility, reliability, responsiveness, and empathy [15].

III. METHODOLOGY

The strategy of research strategy study involves a structured and planned method to study a relationship amongst factors involved, including e-government, Government Operational Excellence (GOE), satisfaction intention to use, and behavioural intention to use. The key purpose of this research is to look at the effects of Satisfaction Services acceptance and behavioural adoption on the relationship between e-government and Government Operation Excellence.

IV. CONCEPTUAL FRAMEWORK

According to a survey of the available research on information systems, the acceptability of data systems, particularly E-government structures, is impacted by three factors: (1) personality aspects (Citizens-Centricity) (2) systemic influences (Performance Expectancy, Effort Expectancy, and System Flexibility), (3) facilitating conditions (Environmental Factors) [37]. In addition to that, there are two behavioural intention components involved. Furthermore, the usage of user satisfaction services also modifies the link with an e-government system and Government Operation Excellence.

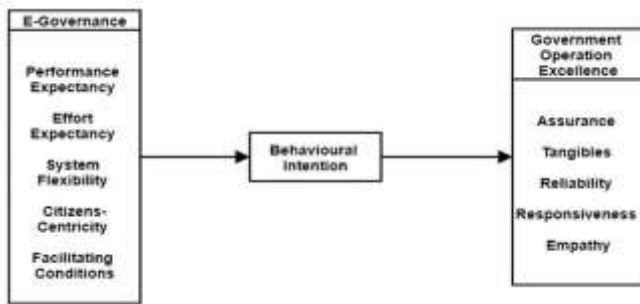


Figure 1. Research Framework

A. User Satisfaction

User satisfaction has been identified by several academics as a significant factor of IS progress. Increased levels of individual satisfaction with by using IS would lead to increased rates of intention to use, which will affect the utilization [29]. According to the DeLone and McLean’s model, there are three viewpoints are crucial to a successful e-business. This type of quality model contains the information system, quality of service, as well as the most crucial component in business, user and customer satisfaction.

B. Behavioural Intention

Citizens are motivated to use a system or software application that has been utilized or advertised by social organizations, colleagues, or relatives, and every other factor that influences people's actions or feelings. [16.17].

C. System Flexibility (SF)

The System Flexibility refers to the capacity to use multiple procedures with facilities to achieve similar objectives. This includes factors like products volume flexibility, personnel flexibility, and so on [18.19].

D. Citizens-Centricity (CC)

It is clearly stated that throughout the lack of the supportive government interaction, people might grow distrustful towards the government core service. The current concept of e citizen-centric service delivery, particularly in developing countries, reveals that there is a huge shortage of predictive variables due to factors such as a misunderstanding of the link between ICT adoption and social structures [20.21.22].

E. Effort Expectancy (EE)

Effort expectancy can be defined as the level of ease with which users interact with information systems. Effort expectancy has indeed been proven to also have a major influence on behavioural intention in various studies. It is a motivation to implement information system technologies [37.38].

F. Performance Expectancy (PE)

A number of writers define PE [Performance Expectancy] as something related to a personal prediction of progress while employing a certain technology that might increase the overall ability to perform the job. Performance expectation is a significant factor in determining user intention in information and communication technology contexts, according to several other studies [39].

G. Facilitating Conditions (FC)

Facilitating conditions represent those who lead users to assume that the Syria's organizational and technological structure could implement an e-government app. In this case, facilitating conditions may occur to the rejection of information technology systems leading to a trust shortage in related organizational contexts [40].

V .DATA ANALYSIS AND FINDING

A. Goodness of Fit Indices

The 2nd confirmatory factor analysis model with 57 reminding items, received a low fit of the data set. As the result, the chi-square distribution was relevant (CMIN(X2) = 1679.177, distribution-free= 1355, probability=0.000). In comparison, the goodness of fit indices was 0.858, below the 0.9 cutting-off that is originally proposed by Hoyle in 1995. The more thorough analysis was then carried out by analysing the adjustment indexes and the SRCs.

The design flaw in the formula was a representative of residuals with a value of (± 2.28), whereas the adjustment indicator calculates how much the chi-square supposed to reduce, if the model is re-estimated and a certain factor is set free [23.24.25].

The improved model with 54 reminder items was again performed after an iterative removal of unaccepted items. Findings of the GOF indices for the revised calculation model are seen in Table 1.

Table 1
GOF Indices of Adjusted Measurement Model

Fit index	Modified Model	Recommended values	Source
Df	1355		
CMIN(χ2)	1679.177		
p-value	0.000	> 0.05	[20, 21]
χ2/df	1.239	≤ 5.00	[20]
GFI	0.864	≥ 0.90	[21]
AGFI	0.851	≥ 0.80	[22]
CFI	0.970	≥ 0.90	[20,23]
TLI	0.968	≥ 0.90	[24,25]
IFI	0.970	≥ 0.90	[24,25]
RMSEA	0.025	≤ 0.10	[26]

There are three items (i.e., EMP5, FC1 and ASSU1) that had an inappropriate absolute meaning over threshold 2.28 for other items in the model shown during the analysis of SRCs. As suggested by [36] in order to have a goodness of fit model, the researchers' decided to delete these three items from the study.

absolute CMIN / DF (1.239) was less than 5 and demonstrated a goodness of fit model [37]. Because the modified model fit the data properly, thus no further modifications are needed.

B. Convergent Validity and Reliability

After the constructions were obtained for all dimensionality, reliability and validity were used for testing the constructions. Cronbach's alpha, CR and AVE are using measure the reliability when applying validity of construct, discriminant and corresponding converging. Table 2 shows the outcome of reliability and validity of an adjusted measuring model with 54 confirmation items.

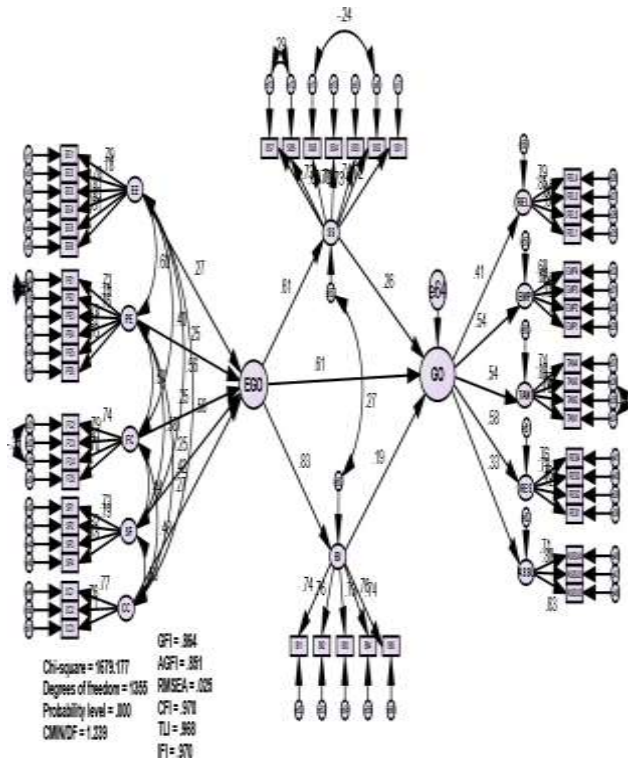


Figure 2 Research Structure Model

The findings have shown the significance of chi-square was at the 0.000 levels. Furthermore, if the analysis of the sample size from collected data is larger than 200, the minimum variance of absolute fit indicator of chi-square can be avoided [26].

The goodness of fit index was 0.864 which was marginally lower than the 0.9 cut-off as suggested by [27,28], but nevertheless it was above 0.85. [29,30] Suggested that the goodness of fit index value must be greater than 0.85. The received goodness of fit index was therefore satisfactory.

After the degree of freedom for the number of items was modified, as suggested by [31] the adjusted goodness of fit index has to be above the cut-off point of 0.80, so after the GFI modified, the adjusted goodness of fit index was 0.851. It suggested that the result of survey projected 85% of variances and covariance in the model. According to [32, 33, 34, 35], a data with goodness of fit model depends on the IFI, CFI and TLI indicators that value greater than the 0.9 as a cut-off point (i.e., 0.970, 0.970 and 0.968 respectively). In comparison, the RMSEA was 0.025 which was lower than the 0.1 level as suggested by [36]. In comparison, the

Table 2
 Tests of Reliability and validity for 54 Confirmation Items

Construct	Cronbach Alpha	(AVE)a	(CR)b
CC	0.795	0.567	0.797
SS	0.887	0.532	0.872
EMP	0.843	0.531	0.819
RES	0.856	0.599	0.875
FC	0.849	0.568	0.839
REL	0.895	0.677	0.898
TAN	0.861	0.641	0.869
ASSU	0.811	0.601	0.821
BI	0.861	0.556	0.858
SF	0.863	0.595	0.865
EE	0.917	0.637	0.918
PE	0.887	0.567	0.894

Four items were deleted from the total number of items, this was particularly not high in comparison to the overall amount. Still, the items that have elimination do not considerably affect the structure of the constructions when conceptualizing them. [38].

The resulting measures that are presented in Table 2 have strong factor loadings varying from 0.863 to 0.915 which suggest that the measures have effectively maintained the importance of the factors [39].

Also, in Table 2 the AVE was indicated, which represents the total sum of variation for variables compensated for a latent construct, varied from 0.5 to 0.684 across the constructs as indicated by [40].

The CR values, that represent the degree to which the construction measures represent a latent construction, reached the minimum value of 0.6 for all constructions, as suggested by [81], varying from 0.795 to 0.915. The Cronbach's alpha is the one to explain if the test is error free, it was varied from 0.797 to 0.914 and stayed overhead the 0.7 requirements as specified by [41]. Thus, the Cronbach's alpha that is obtained for structures was assumed to be adequately error free.

VI. CONCLUSION

In the first instance, the goal of this study is to determine the level of citizen knowledge about e-government activities in Syria. Additionally, it is aimed to examine the effectiveness of projects implementation as well as their influence on the Syrian population.

According to the results of the inferential statistics, the majorities of Syrian are aware of these efforts and have begun to use them to their benefit. These findings indicated that the performance of e-government information, e-government service quality, and e-government system quality have a substantial impact on user satisfaction. Consequently, the efficiency of an e-government system has a substantial impact on its use. As a result, the above Finding has proven that the development of proposals is going to yield preferred outcomes, even if the numbers of citizens who use them are extremely satisfied due to reduced inefficient government bureaucracy, a long wait time to government services, and the cost lower of doing business among other things. Even though the value of the data as well as the service performance did not appear to impact the use of the system, all of the other assumptions were proven to be true.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of Interest

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