Annals of R.S.C.B., ISSN:1583-6258, Vol.25, Issue 4, 2021, Pages. 19977-19989
Received 05 March 2021; Accepted 01 April 2021

Behavioural Intention and User Satisfaction Successful Factors Determining to Achieve Government Operation Excellence

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Abstract.

The main purpose of the research is to verify the successful factors to reach excellence in the daily operations to provide better services to citizens. In this respect it is important to embrace the e-governance system to decide how effective it can be. There is also query if the previously established IS recognition frameworks can be used to determine the acceptance by citizens of the e-governance system. The survey issued a total of 600 questionnaires to the citizens of Syria. The research obtained approximately 385 responses, indicating a return rate of 62.83%. In the analysis of the results, Structural equation model (SEM) was used with AMOS version 21.0 to analyse the data. The findings indicate that five core determinants, namely, performance expectancy, effort expectancy, system flexibility, Citizens-Centricity, and facilitating conditions significantly influenced user intention to use E-governance system.

1. Introduction

Generally, the term E-government has been described differently according to the perspectives of the scholar. For instance, the term has been defined from the perspectives of the government [1], service style [2], citizen [3] and business [4], while other definitions consider information technology (IT) [5, 6]. Due to the extremely rapid developments and advancements, particularly in IT and ICT technology, differences in terms of models, forms, classifications, technology and behavior and meaning between the old and the new models and classifications have been observed. This diversity occurs in many respects; the diverse histories, majors, experiences, rapid technical advances, and traditions of different countries and regions are examples. There is also a need to analyze the definition further so that the e-government can be understood further and the notions all in one structure can be seen in an equitable manner.

Numerous studies have been conducted and have emphasized the G2C category which specifically addressed the acceptance of citizens towards E-government and how to enhance this acceptance as much as possible [7, 8, 9]. Meanwhile other scholars like [10, 4, 11] investigated the acceptance of technology from citizen's point of view. This illustrates the importance and the rise of interest from scholars towards citizens and their contribution to E-government processes and projects.

E-government services are taking a key place in the infrastructure in developing countries such as Syria [12]. [13] Arguing that online governance is used and counted in many policy initiatives as an effective system development technique.

However, the pace of change in developed countries is lagging behind [12, 14] in Europe. This uncertainty is attributed to several factors, such as corruption, poor financial preparation,

lack of good governance, lack of information and technical availableness, inadequate investments, and the most significant is the lack of trust in a public-government relation. [15, 16].

There are many factors that prevent citizens from accepting the new style of service especially in the social, behavioural perspective such as social norms, core faith and attitudes that determine the way people act. However, the social behavioural factors that seem to be the primary influence on citizen acceptance were not included in those studies [17, 15, 16, 18, 19].

[3] discussed many factors which affect citizen acceptance of the new technology like attitude, social control and trust. However, illustrating the citizen acceptance from the aspect of technology was not thoroughly discussed especially in areas like citizen-centricity, facilitating conditions, effort expectancy and performance expectancy. Therefore, it is crucial to study the citizen acceptance issue from the side of technology as well as from the social behavioural side.

[14] illustrated that majority of citizens and businesses in different countries which are using E-government still have to deal with multiple different public organizations. Therefore, these organizations need to collaborate with each other, and it is no longer possible to operate in isolation. Moreover, governments should ensure continuity among different central government units and agencies to work together and complement each other in a consolidated system [20].

Another issue in the current E-government situation in Syria is observed in an empirical study conducted by [12]. This was about the knowledge of services and benefits that government is providing using ICT (E-government) and the results show that only a few of those sampled had this knowledge. This indicates that there is a considerable gap between marketing and delivery of services.

2. Methodology

The research methodology for this study presents a systematic and organized procedure that enables the investigation of the relationship between the different variables attached, namely E-government, Government Operation Excellence (GOE), satisfaction intention to use, and behavioural intention to use. The main aim of this research is to study and investigate the moderating effects of Satisfaction Services acceptance and behavioral acceptance between the E-government and GOE relationship.

3. Conceptual Framework

The review of information system relevant literature indicates that the acceptance of information systems, especially E- government systems are influenced by three factors, namely: (1) individual factors (Citizen-Centricity), (2) system factors (Performance Expectancy, Effort Expectancy, and System Flexibility) and (3) environmental factors (Facilitating Conditions) [21, 22, 23, 24, 25, 26]. Furthermore, two factors which are Behavioural Intention [27, 28, 29, 30] and User satisfaction services [31, 32, 33, 34] use as moderating between E-government and GOE relationship.

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In this study, the researcher adapted Unified Theory of Acceptance and Use of Technology (UTAUT) as the primary framework of choice in order to investigate the key success factors and the utilization and acceptance of E-government systems toward Government Operation Excellence by Syrian users.
Developed primarily by Venkatesh [35] UTAUT is made up of core constructs from 8 models of technology acceptance. Venkatesh found the model to be particularly effective given that it was able to successfully explain up to 70% of cases as far as intentions and use of information systems were concerned. Additionally, the model's design is based on the data collected from organizations' environment. Due to the above reasons, the researcher believes that UTAUT is more suitable to large institutions such as government organizations compared to other models of technology acceptance [35, 21, 36, 37].

3.1 Behavioural Intention (BI)
Behavioral intention to use: Citizens get motivated to use a certain system or application if it was used or marketed by social groups, friends or family or any matter that touches the person's behavior or feeling [38]. The behavioral intention was applied to this study to propose that Syrian citizens aim to use the E-government system.

3.2 User Satisfaction Services
Many studies have identified user satisfaction as a critical factor for IS development. DeLone and McLean [39] suggested in their work that a higher degree of individual satisfaction with the use of IS would result in a higher degree of intention, which would then impact system use. The DeLone and McLean Model stated that 3 perspectives mainly contributed to a successful e-business. These are the quality side of the model including information, system and service quality along with the most important category in business which is the users' and customers' satisfaction [40].

3.3 Performance Expectancy (PE)
A number of authors including [40, 35] outline Performance Expectancy (PE) as an individual's expectations of improvement, when using a specific system which could enhance their work performance. A host of literature suggests that performance expectancy is a key variable in predicting user intention in information and communication technology contexts [41, 42, 43, 35].
Adapting this construct (performance expectancy) to E-government system suggests that Syrian citizens think that using E-government system will enhance their learning and consequently will be reflected on their efficiency.

3.4 Effort Expectancy (EE)
Effort expectancy, as described by both [34, 39], is the level of ease felt by individuals when using information systems. Several studies have demonstrated that effort expectancy has a powerful effect on behavioural intention, which translates to the intent to then use E-government technology [44, 42, 25]. In that sense, then, effort expectancy theory suggests that individuals, or citizens, in this case, will usually accept a system if they feel that said system is easy to use.

3.5 System Flexibility (SF)

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The degree of independence that e-government allows users to feel is the simplicity of the System in the form of E-government [45]. The E-government flexibility would provide Syrian citizens with the ability to get a service without any location and time limitations. Many studies have shown that information system flexibility is a significant determinant of the performance and adoption rate of E-government systems [45]. Moreover, [31] explored the differing variables which influenced user satisfaction regarding web system and concluded that, in most cases, perceived flexibility is vital regarding user satisfaction. [32] conducted a study to examine user satisfaction within the E-government environment, and also came to conclusions that echo the study performed by [45].

3.6 Citizens-Centricity (CC)

[16] Explained that citizens could become more critical about the Government's service system in the absence of good government-citizen relationships. Existing literature on e-government, the provision of citizens-centric services in specifically developing countries indicates that the connection between ICT adoption and social systems is not clarified for reasons such as a misunderstanding. Having citizens-centric to E-government system would eliminates the large difference between the policies adopted on one side of the government and the citizen's views on the other. This will allow the E-government services in developing countries for a deeper understanding of citizens 'needs, wishes and expectations which governments should take into account in ensuring the success of services [46].

3.7 Facilitating Conditions (FC)

Facilitating conditions, as defined by Venkatesh [35] are the factors which lead users to believe that the technical and organizational infrastructure of their country support E-government system. In that respect, facilitating conditions can result in the rejection of information technology systems due to lack of faith in the respective organization systems themselves [35].

This construct is derived from three prior constructs already mentioned by [47] i.e. (perceived behavior control, facilitating conditions, and compatibility. The implementation environment factor includes the technical and electronic infrastructure (for instance capacity and availability) and institute characteristics [48, 25]. In this study, the implementation environment factor was tested by one variable i.e. facilitating conditions.

3.8 Assurance

[49] Described assurance by means of "the knowledge and courtesy of employees and their ability to convey trust and confidence". Security and privacy concerns reflect the extent of confidentiality and confidentiality offered by E-Government systems to a citizen's personal details. Although the SERVQUAL scale assurance dimensions apply to the sense of protection and security that employees offer to citizens [50], privacy and safety dimensions potentially replace the assurance dimension in an online environment and in e-services [51]. One of the main obstacles to be considered in online environment development is lack of confidence which is basically stimulated by the deficiency of security and privacy assurance [52].

3.9 Tangibles

[53] Defined tangibles as "functional appeal and web interface appearance of the E-government website". The idea that consumers are conscious of different financial constraints that are common of various situations can be linked to Tangibles results. Thus, other aspects

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of service delivery are more relevant and most of the services are therefore intangible. [53, 54, 49] As they are not counted as tangible objects, rather as performances. In reality, detailed manufacturing quality requirements can rarely be defined. [55] Explained that most services are not available in advance to provide quality in order to count, measure, inventory, test or verify them [49], but that companies may find it difficult to understand how their services are understood by consumers and to evaluate the quality of service.

3.10 Reliability

[56] defined reliability as "ability to perform the promised service dependably and accurately". Basically, it governs the degree to which the functionalities offered deliver on promised outcomes in order to ensure that the execution sequence and performance of these delivered service functionalities will not fluctuate [53]. From citizen to citizen, according to [50], reliability in the SERVQUAL instrument is considered one of the most critical dimensions. This finding is a concept indorsed by other scholars [57, 58, 59].

3.11 Responsiveness

[60] Described responsiveness by means of "the willingness to help customers and provide prompt service". Online consumers and, in particular, citizens, require their demands to be fulfilled without delay by the organization and the government organizations [61, 59]. Therefore, an immediate and rapid response would help e-government users decide more easily, answer their questions and solve problems. [62] Observed in an analysis that the dimension of responsiveness is related to consumer satisfaction.

3.12 Empathy

[60] Defined empathy as "caring about customers sincerely, knowing the customer's demands, and making the service have human interest". Its SEVQUAL factor is concerned with presenting and providing care and giving individual consideration to customers [50]. In the digital platform, the Empathy factor may be referred to as personalization, because there is no face-to - face contact or direct human connection with clients and employees. [60, 61, 62, 63].

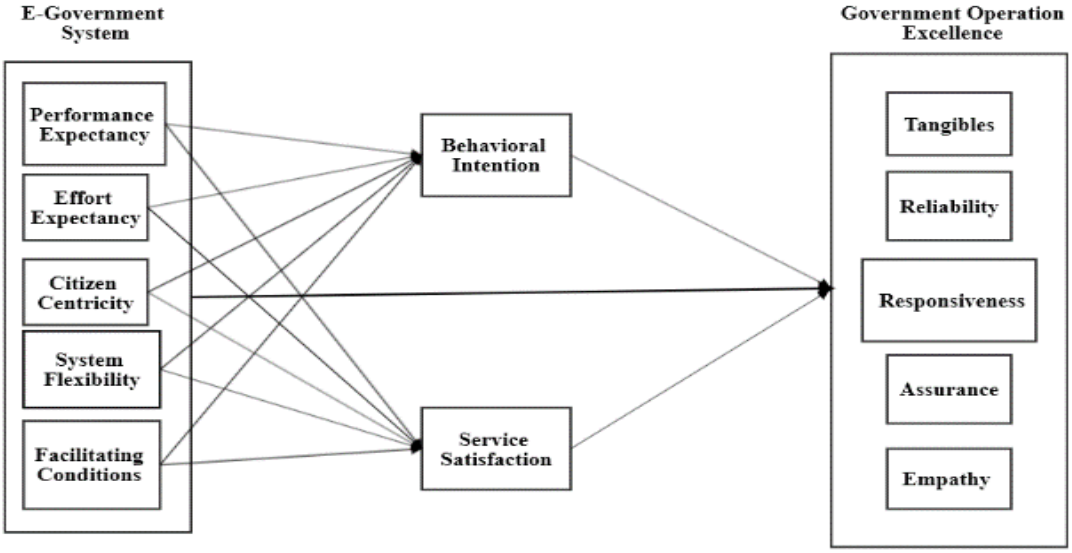

Fig 1: Research Conceptual Framework

4. Research Hypotheses

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This section provides the propositions based on the relationships between the E-Gov system factors and the GOE factors mediation by Satisfaction Services and behavioural intention to use. The focus of this study is to examine the effect of E-government on GOE. The main objective of this study is to identify the relationship between different intentions to use, either Satisfaction or behavioural factors, in the relationship between E-government factors and GOE either as moderators or mediating variables. As mentioned earlier, the variables used in this study are: (1) E-government factors (Facilitating Conditions, Effort Expectancy, Citizen-Centricity and Performance Expectancy); (2) Satisfaction Services (SS); (3) Behavioural Intention (BI) and (4) GOE factors which are under SERVQUAL. A summary of hypotheses statements is given below:

H1: E-government system and Government Operation Excellence have a significant relationship.
H2: E-government factors and E-government have a significant relationship.
H3: E-government system and Government Operation Excellence relationship moderates by User Satisfaction Services.
H4: E-government system and Government Operation Excellence relationship moderates by Behavioural Intention.
H5a: Behavioral intentions to use E-government positively influence by Performance expectancy.
H5b: Satisfaction Services to use E-government positively influence by Performance expectancy.
H6a: Behavioral intentions to use E-government positively influence by Effort expectancy.
H6b: Satisfaction Services to use E-government positively influence by Effort expectancy.
H7a: Behavioral intentions to use E-government positively influence by Citizens-Centricity.
H7b: Satisfaction Services to use E-government positively influence by Citizens-Centricity.
H8a: Behavioral intentions to use E-government positively influence by System Flexibility.
H8b: Satisfaction Services to use E-government positively influence by System Flexibility.
H9a: Behavioral intentions to use E-government positively influence by facilitating conditions.
H9b: Satisfaction Services to use E-government positively influence by facilitating conditions.
H10a: Satisfaction Services will have a positive influence on Tangibles to use E-government services.
H10b: Behavioral intentions will have a positive influence on Tangibles to use E-government services.
H11a: Satisfaction Services will have a positive influence on Reliability to use E-government services.
H11b: Behavioral intentions will have a positive influence on Reliability to use E-government services.
H12a: Satisfaction Services will have a positive influence on Responsiveness to use E-government services.
H12b: Behavioral Intentions will have a positive influence on Responsiveness to use E-government services.
H13a: Satisfaction Services will have a positive influence on Assurance to use E-government services.

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H13b: Behavioral Intentions will have a positive influence on Assurance to use E-government services.
H14a: Satisfaction Services will have a positive influence on Empathy to use E-government services.
H14b: Behavioral intentions will have a positive influence on Empathy to use E-government services.
H15: Satisfaction Services and Behavioral Intentions will have a positive relationship with the intent to use E-government system.

5. Data Analysis And Finding

The measurement framework in this study was made up of 57 items to measure 12 constructs, namely: Citizen-Centricity (CC), Satisfaction Services (SS), Empathy (EMP), Responsiveness (RES), Facilitating Conditions (FC), Reliability (REL), Tangibles (TAN), Assurance (ASSU), Behavioral Intention (BI), System Flexibility (SF), Effort Expectancy (EE) and Performance Expectancy (PE).

The results of assessing the standardized loadings of the model's items showed that the factor loading of all items was above the cut-off 0.5. As a result, the first standardized factor loadings for all items were more than 0.5, ranged from 0.506 to 0.877. Table 1. shows the items from the model and the recalculated factor loadings for the remainder items.

Table 1. Factor Loadings

Construct	Item	Factor Loading
CC	CC1	.718
	CC2	.736
	CC3	.727
SS	SS1	.694
	SS2	.687
	SS3	.740
	SS4	.769
	SS5	.733
	SS6	.700
	SS7	.696
EMP	EMP1	.795
	EMP2	.715
	EMP3	.671
	EMP4	.688
	EMP5	.668
RES	RES1	.650
	RES2	.858
	RES3	.798
	RES4	.713
FC	FC1	.728
	FC2	.786
	FC3	.805
	FC4	.620

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	FC5	.671
REL	REL1	.800
	REL2	.847
	REL3	.851
	REL4	.785
TAN	TAN1	.655
	TAN2	.791
	TAN3	.803
	TAN4	.835
ASSU	ASSU1	.592
	ASSU2	.780
	ASSU3	.818
	ASSU4	.690
BI	BI1	.506
	BI2	.574
	BI3	.794
	BI4	.676
	BI5	.612
SF	SF1	.667
	SF2	.796
	SF3	.813
	SF4	.729
EE	EE1	.783
	EE2	.809
	EE3	.669
	EE4	.794
	EE5	.838
	EE6	.813
PE	PE1	.687
	PE2	.736
	PE3	.639
	PE4	.763
	PE5	.876
	PE6	.767

5.1 Reliability and Convergent Validity

Once the constructs uni-dimensionality was achieved, reliability and validity was measured for each of the constructs. Assessed for reliability is using by Cronbach's alpha, construct reliability (CR) and average variance extracted (AVE) together with convergent and discriminant. The modified measurement model with 53 remainder items showing in Table 2 as a result for Cronbach alpha and convergent validity.

A number of items was deleted (4 deleted items), compared to the total items in the constructs (53 items) is not relatively high. Furthermore, the content of the constructs as they are conceptualized does not significantly change by their deletion. The remaining indicators have

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high factor loadings ranging from 0.863 to 0.915 indicating that these indicators have preserved the meaning of the factors.

As suggested by [64], that the total amount of variance in the indicators accounted for by the latent construct, should be above the cut-off 0.5 for all constructs, thus, the result shows that the AVE, ranging from 0.531 to 0.684.

As recommended by [65], the composite reliability values for all constructs should exceeded the values of 0.6, thus, the result shows that the composite reliability values ranging from 0.797 to 0.915.

The Cronbach's Alpha values, range from 0.797 to 0.914, as suggested by [66] that the values of Cronbach's Alpha should be above the threshold of 0.7. Therefore, all constructs is considered as sufficiently error-free.

6. CONCLUSION

The study has distributed 600 questionnaires to Syrian citizens. From the total, 377 cases have been used for the study analysis. With rate of (65.5%) for 393 questionnaires were usable, out of 423 returned questionnaires. more than 30% returned the questionnaire with missing data for 16 respondents for each questionnaire. According to [66] missing data of the questionnaires more than 25% should be omitted. Furthermore, some of the questionnaire (14 of the respondents) returned empty.

A total of twenty-four hypotheses have been tested to achieve the objectives of the study. From the total, eight direct relationships have been found to be statistically significant to users' intention to use framework of E-government system, since the study indicates that the first relationship found is between Performance Expectancy and the Satisfaction Services (0.001). The second significant relationship found from the study is a relationship between Effort Expectancy and Satisfaction Services (0.25). The third significant relationship found from the study is a relationship between Facilitating Conditions and Satisfaction Services (0.000). The fourth significant relationship is between Performance Expectancy and Behavioral Intention (0.000). The fifth significant relationship is between Effort Expectancy and Behavioral Intention (0.000). The sixth significant relationship is between Citizens-Centricity and Behavioral Intention (0.026). The seventh significant relationship is between System Flexibility and Behavioral Intention (0.002). The eighth significant relationship is between Facilitating Conditions and Behavioral Intention (0.000).

When considering the indirect relationship, two relationships were proposed to statistically affect between E-government systems (EGOV) and Government Operation Excellence (GOE). The coefficient parameter estimates of the structural model are examined to determine whether E-government (EGOV) as independent variables have positive indirect effects on Government Operation Excellence (GOE) through both Satisfaction Services and Behavioral Intention (BI).

The first important indirect relationship was proposed between E-government (EGOV) and Government Operation Excellence (GOE) with a total effect of (0.119). The second important indirect relationship was proposed between E-government (EGOV) and Government Operation Excellence (GOE) with Satisfaction Services with a total effect of (0.096). The third important indirect relationship was proposed between E-government (EGOV) and Government Operation Excellence (GOE) through Satisfaction Services with a total effect of (0.184). The fourth important indirect relationship was proposed between E-government

(EGOV) and Government Operation Excellence (GOE) with a total effect of (0.119). The fifth important indirect relationship was proposed between (EGOV) and (GOE) with (BI) with a total effect of (0.088). The sixth important indirect relationship was proposed between (EGOV) and (GOE) through (BI) with a total effect of (0.031).

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