Critical Success Factors For Effective User-Centric Online Information System For Smart Government In UAE

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Abstract—The study investigated the factors that determine citizens' expectations of smart government services in UAE. A survey method was used to collect data from 392 respondents. The data was analyzes using descriptive statistics (mean, standard deviation and Relative Importance Index) and analysis of variance (ANOVA). The result revealed six factors that influence citizens' expectations of smart government services: openness, responsiveness, transparency, trust, participation, and usability. It was found that all these factors are rated highly by the respondents, with transparency and trust being the most important ones. Furthermore, it was found that there is no significant difference in the expectations of smart government services across different age groups of respondents. It is recommended that smart government services should be designed and delivered in a way that meets the high expectations of citizens and enhances their satisfaction and trust.

Keywords—smart government, citizens' expectation, ICT, e-government

I. Introduction

The concept of smart government, also known as e-government or e-democracy, connotes the use of new communication channels for citizens. It involves the use of innovative information and communication technologies (ICT) in the delivery of government services to citizens (Demirel, & Mülazımoğlu, 2022). The concept emphasizes citizens' participation in decision-making processes of government.

Smart governance is a relatively new idea whose adoption is heavily dependent on the country's natural and social resources, as well as citizens' awareness of information and communication technology (Weisi and Ping, 2014). Smart government is a complex innovation since its adoption and implementation take a long time, have large operational costs, and are fraught with risk and uncertainty (Yang et al., 2015). As a result, the notion of smart governance is still difficult to implement among public users in emerging countries such as the United Arab Emirates (UAE). Although preparations for the adoption of the smart governments concept in the UAE have begun, execution of this concept is yet inadequate. This makes most smart government studies still focus on problem in the early stages of adoption.

The UAE being one of the top digitally connected countries in the world with an internet penetration rate of 99% and mobile internet user penetration rate of 95.85% (Statistica, 2023) have witnessed the emergence of smart government recently. For instance, a number of smart government apps have been developed, including Abu Dhabi City Guard (Abu Dhabi, 2015), smart Fujairah (Fujairah Municipality, 2015), Abu Dhabi Gateway (Dahi and Ezziane, 2015), and mobile apps for healthcare (Latif et al., 2015). The Abu Dhabi City Guard connects Abu Dhabi residents with several government departments and allows them to report incidents. This assists citizens in their efforts to improve Abu Dhabi's security and general safety. The Abu Dhabi Gateway facilitates government-to-customer and government-to-business transactions. Services such as health, interior affairs, education, and paying traffic fines are made available in real time through these two gateways. The UAE smart government is designed to offer online services and information to all natives, occupants, guests, organizations and other government entities. Some of the key service rendered by the e-government services include application for visas, acquiring driving licenses, getting national identity cards, going about in UAE and other famous eService (Abu-Dhabi, 2019; Telecommunications Regulatory Authority, 2019).

ICT is the regarded as the backbone of smart government. The use of ICT redefines and redesigns traditional forms of process and structural organization, particularly information digitization. It serves several functions, including data collection, data use to make better decisions and improve service delivery, and increased accountability through greater openness (Gil-Garcia, Pardo, and Aldama-Nalda, 2013). Information must be shared, utilized, and integrated into the intelligence and public acceptance. This has made computer-aided facilities for reuse and sharing a critical issue in smart government integration and interoperability (Alenezi, Tarhini, and Sharma, 2015; Jiménez et al., 2016).

Recently, with the growth of WEB 2.0, social media, which encompasses social networking, blog, wiki, tagging, and crowdsourcing, has been identified as one of the components of smart governance (Criado et al., 2013; Westermen et al., 2014). Social media has been recognized as a method of engaging citizens, improving social consciousness, exchanging perspectives, generating debate, and disseminating information about social and political concerns. Furthermore, smart governments benefit from social media in terms of two-way communication, soliciting creative ideas from the masses, collective input on government services, and increasing openness in government involvement with the public. As a result, social media, as a source of online information, plays an important role in increasing smart government communication.

Through increasing participation and collaboration with the government, social media has the potential to nurture accountability and transparency of governments towards their citizens and stakeholders (Hao, Zheng, Zeng, & Fan 2016). According to the United Nations' 2016 e-government survey, four out of five countries now include social media links in their national web portals. However, government organizations' efforts and the potential benefit of social media for e-government services cannot be demonstrated without addressing citizens' acceptance of such services (Khan, Rahim, & Maarop 2018). Thus, this implies that gaining public trust becomes one of the most urgent issues to cultivate the acceptance of citizens with smart government (Gil-Garcia, 2014). Therefore, the thrust of this paper is to explore the determinants of citizens' expectation of smart government services in the UAE. Literature review

A. Overview on Smart Government

The term of smart government varies. Gil-Carcia et al., (2014) define smart government as a city, a town and network within political jurisdiction use emerging of information, technology, and innovation in the governing activities to provide better services and to gain a good understanding of their communities. They identified being percipient, being astute, being shrewd, and being quick as the characteristics of a smart government. Further Gil- Garcia et al., (2016) outlines the 13 dimensions of smartness in government. In today's practice of smart government there is not one-size-fits all type of smart government. They will make use one or more of the 13 dimensions as their strategies in becoming smarter government. Mellouli, Luna-Reyes and Zhang (2014) identify smart government to improve the life quality by interacting and engaging the public through extensive use of information technologies.

Another smart government definition is identified by Awoleye et al., (2014) in which the government is said to be advanced and people are given opportunity to use, participate and communicate anytime, anywhere with the government through the convergence and integration of smart IT and government services. This definition is followed by Chen and Lan (2014) and Sangki (2017) who sees information is being utilized to improve the society and shorten the decision-making process as a results of information technology integration. In their findings the society is expected to transform into a value-oriented society in which humans are put first as the purposeful being.

Harsh and Ichalkaranje (2015) refer smart government as extending the concept of e- government to a new level by embracing open data as instrument to transform a government into a more transparent and open government. In the respect of extending the concept of e- government and open government, Jeminez, Falcone, Puyosa, Zoughbi and Gonzalez (2014) stated that the government administrations continually facing new challenges on interoperability issues of big, open and linked data of the back-office element of smart government (such as e-justice, e-health). Similarly, Gartner (2013) added smart government is to take the full advantage of information, communication and operational technologies of all operational areas across multiple domains, process areas and jurisdiction to generate sustainable public value. In Scholl and Scholl (2014). Smart government has to cope with (a) complexity, (b) uncertainty and (c) build competencies and (d) achieve resilience in which the (c) and (d) also been referred to smart governance. Almuqarab (2017) pointed out that smart government requires the acceptance of public on mobile applications-based government services (m-government).

II. DETERMINANT OF SMART GOVERNMENT ADOPTION

A. Openness

Openness in this research is referring to the structured and unstructured government data that is provided to the citizens using free access. These open data can be utilized by third party stakeholders to innovate and add value for public usage. It will become a fuel that makes applications work (Millard, 2011). Giving access to government data will encourage individuals and organizations to develop new insights and innovations that can improve the lives of others and help to improve the flow of information (Cabinet Office, 2013). All government's collected data should be set to "openness by default" unless it contains sensitive information about individuals or organizations. It is important for government to release its data using downloadable features in e-government websites in a format that is easily being crunched. These datasets should be machine readable, categorized or indexed and have a clear meaning of what it is, where simple and complex tools can be used to manipulate it.

B. Transperancy

Transperancy means that government providing information about their operations and decisions for citizens to understand how the process of the government works. A transparent government will promote accountability as both elements are connected in a transformation process (Weerakkody et al., 2011). Having transparent services will benefit both the demand and supply side of e-government. Government should provide simple to understand, relevant and honest information for the public to know. On the other hand, by allowing the citizens to see what is going on in their processes, it will enforce their belief that the government is serious about trying to transform itself. Egovernment websites is a good medium to promote political transparency in government administration (Chutimaskul, 2003). In designing government e-services, best practices from the private sectors should be adopted, where traceable process gives confidence to the customers and accountability to the company.

C. Responsiveness

Responsiveness means government's willingness to help with citizens' requests and provide prompt services when needed (Osman et al., 2014). Being responsive indicates that the government listens to citizens' feedback and acknowledges it. Responsiveness is a characteristic that is desirable by the citizens (Bannister and Connolly 2011) as it improves their satisfaction and trust in government (Bannister and Connolly, 2011; Vigoda-Gadot and Cohen, 2015; Ubaldi, 2013). Being responsive means to welcome citizens' feedbacks, requests or suggestions, to acknowledge and bring the matter forward for further action. If nothing could be done about the request, government should explain why. It is not necessarily responsive in terms of meeting and delivering all the demands. Response from the government is important because it will encourage citizens to participate. The use of ICT has the potential to strengthen government's responsiveness towards its citizen (Al Khouri, 2011; United Nations, 2014). Response should be easy and simple to understand, which in short sentences and using words and language that a citizen could recognize. Enforcement of Service Level Agreements (SLA) with all government agencies can ensure that citizens get improved responsiveness for their service requests. Also, the culture in the civil service itself has to be change before the public can have good response from the civil servants who are handling public issues

D. Participation

Participation refers to citizens' contribution in government's planning and decision- making and using of government data to create better services for the community. In the context of e-government, participation has variety of purpose such as informing citizens, generating support among citizens, utilizing citizens' input in decision making, and probing for citizens' needs (Phang and Kankanhalli ,2008). By connecting with citizens in the early stage of e- government initiatives, it will make them own the services that they have contributed to, thus increasing the take-up level. A proper framework should be in place before embarking in any participation effort where guidelines in designing the initiative, preparation of ICT used and information material, realization and evaluation of the initiative objectives are laid out (Scherer, Wimmer and Ventzke, 2010). Contents should be engaging as to capture the interest of citizens. Participation initiatives should be seen as helping the government to make decision, not to replace its authority. In that decision-making process, inputs from all parties will be gathered, analyzed and synchronized to come out with solutions that fulfill objectives and address all stakeholders' interests.

E. Trust

According to Abu Shanab (2014), trust is a key factor in determining whether or not citizens use e-government services. The likelihood that citizens will embrace e-government services increases with their level of trust (Bélanger and Carter, 2008). Social media usage is a relatively new e-government technique with scant empirical support. The trust and acceptance of these services among citizens are crucial for the success of such e-government efforts. Therefore, in order to encourage citizen participation in social media-based e-government services, it is important for government entities to understand the elements that influence citizen trust (Khan, Zhaira, Rahim & Maarop, 2020). The success and utilization of e-government are largely dependent on trust. The implementation of e-government aims to promote ideals, one of which is encouraging citizen participation in democratic decision-making. Kelly, Mulgan and Muers (2002) assert that trust is a crucial component of e-government, particularly when it comes to services relating to the privacy and security of citizens using online services. The government can increase public trust in the governance system and supporting technologies through fostering trust in e-government (Carter & Bélanger, 2005).

F. Usability

Usability has been defined as the quality of a user's interaction with a website, frequently assessed by how easily the user can find the content they are looking for (Palmer, 2002). Usability has drawn attention in the context of website evaluation for websites in the public and private sectors (Zaman, 2010). In the context of evaluating the quality of a website, usability refers to factors primarily related to user-friendliness or usability, such as navigation, search parameters, content classification, and linkages to other websites and services (Agarwal and Venkatesh, 2002). Usability, a well-known concept in Human-Computer Interaction research, assesses how easy and efficient it is for anyone to utilize a product to carry out tasks (Han, Yun, Kwahk & Hong 2001). Usability is a crucial factor in determining effectiveness (Karahoca, Bayraktar, Tatoglu & Karahoca, 2010) and user involvement frequency (Lee & Koubek, 2010). As a result, usability has been extensively discussed in system design, initiatives, and products. Usability has been found to impact on users' mindset, perception and use of e-services. Similarly, it is found that usability is a critical component to achieving e-government objectives (Chang & Almaghalsah, 2020)

III. METHODOLOGY

A quantitative research design was adopted in the study. Specifically, questionnaire survey strategy was used to obtained data from the target population. Considering the nature of the problem being investigated, the target population of the study is the entire citizens of UAE who have access to internet and smart phones. According to statistics there were 9.38 million internet users in the UAE with 99% of the population having access to internet (Kemp, 2023). A total of 392 questionnaire were administered to collect data from the target respondents. The analysis was conducted using descriptive statistics (mean, standard deviation and relative importance index (RII)) and analysis of variance (ANOVA). The RII was computed using the formular:

$$RII = \sum \frac{wn}{pN}$$

Where:

w = is the weight given to each item by the respondents, which range from 1 to 5; such that 1 the least implying (inferior) and 5 the highest implying (superior) position/opinion;

n = number of respondents that select particular option;

p = is the highest weight (5 in 5-point Likert scale); and

N = total number of respondents.

IV. RESULTS

A. Demographic characteristics of respondents

Table 1 shows the frequency and percentage of the research respondents according to their gender, age, education, employment status and internet usage. The gender distribution of the respondents shows that out of 392 respondents, 251 (64%) were male and 141 (36%) were female. The analysis further shows that majority of the respondents were in the age group 28-37 years, with 150 (38.2%) respondents while slightly above one-third were in the age group 18-27 years. Analysis of the educational qualification of the respondents shows more than half had master degree 220 (56.1%), about 42% had Bachelor degree while only 2.3% indicated that they had PhD. Result of the analysis with regard to the employment status of the respondents shows that employed/self-employed, was the most common option with 221 (56.4%) respondents, followed by student (27%, retired about 15% then unemployed 1.8%. The most common internet usage frequency was 1 to 4 times per day, with 141 (36%) respondents while the least frequency is once a week and once a month with each having 6.1%.

TABLE I.   DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

		Frequency	Percent
Gender	Male	251	64.0
	Female	141	36.0
Age	18-27 years	130	33.2
	28-37 years	150	38.2
	38-47 years	54	13.8
	Above 47 years	58	14.8
Education	Degree	163	41.6
	Masters	220	56.1
	PhD	9	2.3
Employment Status	Student	106	27.0
	Employed/ self-employed	221	56.4
	Unemployed	7	1.8
	Retired	58	14.8
Internet Usage	More than 9 times/day	36	9.2
	5 to 8 times/day	130	33.2
	1 to 4 times/day	141	36
	A few times a week	37	9.4
	Once a week	24	6.1
	Once a month	24	6.1

B. Factors Determining Citizens' Expectation of Smart Government Services

In order to ascertain what factors are likely to influence acceptance of smart government services in the study area, the respondents' opinion was sought to understand their expectations with respect of smart government services. Table 2 presents the result of the analysis. The table shows the mean, standard deviation and relative importance index of different factors related to smart government services, such as openness, responsiveness, transparency, trust, participation and usability. Each factor is composed of several items that were rated by the respondents on a scale of 1 to 5, where 5 is the highest.

As sown in the Table II the respondents rated all the factors highly, with mean scores ranging from (M = 3.994; SD = .9786) to (M = 4.084; SD = .873). The factors with the highest mean scores were transparency (M = 4.084; SD = .873) and

trust (M = 4.082; SD = .813), which means that the respondents valued these aspects of smart government services the most. The factors with the lowest mean scores were usability (M = 3.99; SD = .978) and participation (M = 4.000; SD = .967), which implies that these factors felt short of the expectations of the respondents with regard to smart government services.

Similarly, result of the relative importance index (RII) shows that corroborate the mean score result. The ranking of factors based on the RII sows that transparency was ranked highest in terms of importance with an RII value of (RII=0.816), followed by trust (RII=0.814) having the next highest values then responsiveness (RII=0.809), participation (RII=0.789) and lastly, usability (RII=0.778) in descending order of importance.

TABLE II.   DETERMINANTS OF CITIZENS' EXPECTATION OF SMART GOVERNMENT SERVICES

		N	Mean	Std. Deviation	Relative Importance Index
opn1	Machine-readable, easily categorized, indexed and sharing what it is about	392	4.0671	.86231	0.794
opn2	Openness by default	392	3.9471	.88666	0.769
opn3	Can be used by simple or complex tools to manipulate the data	392	4.1029	.95580	0.804
opn4		392	4.1505	.89345	0.830
Openness			**4.0669**	**.8996**	**0.799**
res1	The site provides me with convenient options for requesting information	392	4.0825	.88576	0.815
res2	Helpful and strives to solve users' problems	392	4.1209	.87690	0.822
res3	The site provides real-time communication	392	3.8992	.87973	0.773
res4	The site offers short response time for general inquiries	392	3.9949	.93523	0.799
res5	The site tells me what to do if my complain is not processed	392	4.0648	.87989	0.811
res6	The site takes care of problems promptly	392	4.1556	.78592	0.831
Responsiveness			**4.0529**	**.8739**	**0.809**
tran1	The organisation's mission statement is provided on the website	392	4.1403	.75568	0.828
tran2	There is vision statement provided on the website	392	4.1005	.84381	0.818
tran3	There is comprehensive information about the activities of the organisation provided on the website	392	4.0663	.80006	0.813
tran4	The organisation's mission statement is provided on the website	392	4.0306	.81801	0.806
Transparency			**4.0844**	**.87390**	**0.816**
trus1	The site is trustworthy	392	4.1148	.80572	0.823
trus2	Most of the content of the website is true	392	4.1301	.68294	0.826
trus3	Services delivered through the internet are trustworthy	392	4.1403	.75906	0.828
trus4	There are policies that protects personal data of citizens on the internet	392	3.9418	1.00428	0.777
Trust			**4.0818**	**.81300**	**0.814**
part1	Makes me get informed of upcoming policies for inputs	392	3.9344	.99463	0.773
part2	Allows opportunities for me to participate in public discussions	392	4.0826	.88851	0.813
part3	Allows my views for consideration in decision making	392	3.9785	.98825	0.780
part4	Allows me to have avenue to post issues for public consideration	392	4.0066	.99847	0.789
Participation			**4.0005**	**.96747**	**0.789**
usa1	Moving around the site is easy	392	3.9969	.94140	0.782
usa2	The terminologies on the site are easy to understand	392	4.0340	.97821	0.789
usa3	There is multi-language support on the site	392	4.0182	1.05322	0.792
usa4	The site contains detailed annotations	392	3.9874	.92131	0.769
usa5	The site interface is user-friendly	392	3.9340	.99903	0.756
Usability			**3.9941**	**.97863**	**0.778**

C. Test of difference in citizens' expectation of smart government services based on respondents' age

In order to understand whether there is significant difference across different age groups among the respondents on their expectation on smart government services, analysis of variance was conducted.

Table III shows the results of statistical tests that were conducted to examine whether there were significant differences in the mean scores of the factors related to smart government services across different age groups of respondents. The descriptive statistics of the mean scores for

each factor and age group were displayed in Table 1. With respect to openness, the highest mean score is shown to be for the 18-27 years age group (M=4.223; SD=.729), while the lowest mean score is related to the 28-37 years age group (M=4.140; SD=.803).

Regarding responsiveness, the highest mean score is recorded for the 28-37 years age group (M=4.352; SD=.812), while the lowest mean score recorded relates to the 'above 47 years' age group (M=4.103; SD=.788), Similarly, the highest mean score for transparency was recorded for the 18-27 years age group (M=4.238; SD=.657), with a corresponding lowest mean for 28-37 years age group (M=4.167; SD=.727).

The age group 38-47 was shown to have the highest mean score with respect to trust (M=4.296; SD=.690), while the lowest mean score was recorded in respect of the age group above 47 years (M=4.103; SD=.693). Respondents mean score for participation showed that the age group 18-27 years had the highest mean score (M=4.177; SD=.762) and a lowest mean score for the age group (M=4.047; SD=.885). Finally, the descriptive table sows that the 18-27 years age group has the highest mean score in respect of usability (M=4.108; SD=.729) and a corresponding lowest mean score for the age group above 47 years (M=3.879; SD=.880).

TABLE III.   DESCRIPTIVE STATISTICS

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Openness	18-27 Years	130	4.2231	.72887	.06393	4.0966	4.3496
	28-37 Years	150	4.1400	.80293	.06556	4.0105	4.2695
	38-47 Years	54	4.2037	.83281	.11333	3.9764	4.4310
	Above 47 Years	58	4.2069	.74360	.09764	4.0114	4.4024
	Total	392	4.1862	.77262	.03902	4.1095	4.2629
Responsiveness	18-27 Years	130	4.1231	.75755	.06644	3.9916	4.2545
	28-37 Years	150	4.1800	.81158	.06627	4.0491	4.3109
	38-47 Years	54	4.3519	.75629	.10292	4.1454	4.5583
	Above 47 Years	58	4.1034	.78784	.10345	3.8963	4.3106
	Total	392	4.1735	.78379	.03959	4.0956	4.2513
Transparency	18-27 Years	130	4.2385	.65656	.05758	4.1245	4.3524
	28-37 Years	150	4.1667	.72738	.05939	4.0493	4.2840
	38-47 Years	54	4.2222	.83929	.11421	3.9931	4.4513
	Above 47 Years	58	4.2241	.67650	.08883	4.0463	4.4020
	Total	392	4.2066	.71209	.03597	4.1359	4.2773
Trust	18-27 Years	130	4.2154	.62238	.05459	4.1074	4.3234
	28-37 Years	150	4.1733	.72117	.05888	4.0570	4.2897
	38-47 Years	54	4.2963	.69035	.09395	4.1079	4.4847
	Above 47 Years	58	4.1034	.69306	.09100	3.9212	4.2857
	Total	392	4.1939	.68088	.03439	4.1263	4.2615
Participation	18-27 Years	130	4.1769	.76214	.06684	4.0447	4.3092

To test whether the mean scores of the different factors across different age groups are homogenous, the test of homogeneity of variance was conducted. Table IV shows the results of the Levene's test, which tests whether the variances of the scores are equal across different age groups.

As shown in the result, the significance values for all factors are greater than 0.05, which means that there is no evidence to reject the null hypothesis that the variances are equal.

TABLE IV.   TEST OF HOMOGENEITY OF VARIANCES

	Levene Statistic	df1	df2	Sig.
Openness	.388	3	388	.762
Responsiveness	.797	3	388	.496
Transparency	1.848	3	388	.138
Trust	1.242	3	388	.294
Participation	1.228	3	388	.299
Usability	.846	3	388	.470

Furthermore, analysis of variance test was conducted to further probe of the statistical significance of the equality of means of the factors across the four age groups. Table V shows the results of the analysis of variance. As indicated in the Table, the alpha values for all factors are greater than 0.05, which means that there is no evidence to reject the null hypothesis that the mean scores are equal. This suggests that there is no statistically significant difference in openness, transparency, trust, participation, or usability among different age groups (p > 0.05 for all variables). Overall, the result shows that there were no significant differences in the respondents' expectations of smart government services based on their age groups.

TABLE V.   ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Openness	Between Groups	.538	3	.179	.299	.826
	Within Groups	232.867	388	.600		
	Total	233.406	391			
Responsiveness	Between Groups	2.339	3	.780	1.272	.284
	Within Groups	237.865	388	.613		
	Total	240.204	391			
Transparency	Between Groups	.402	3	.134	.263	.852
	Within Groups	197.861	388	.510		
	Total	198.263	391			
Trust	Between Groups	1.164	3	.388	.836	.475
	Within Groups	180.101	388	.464		
	Total	181.265	391			
Participation	Between Groups	1.204	3	.401	.518	.670
	Within Groups	300.296	388	.774		
	Total	301.500	391			
Usability	Between Groups	2.436	3	.812	1.288	.278
	Within Groups	244.541	388	.630		
	Total	246.977	391			

D. Findings discussion

The study explored the factors that determine citizens' expectations of smart government services in UAE. A survey method was adopted to collect data from 392 respondents and analyzes the data using descriptive statistics and analysis of variance. The study identified six factors that influence citizens' expectations of smart government services: openness, responsiveness, transparency, trust, participation, and usability. It was found that all these factors are rated

highly by the respondents, with transparency and trust being the most important ones. The finding corresponds to that of Simonofski, Clarinval, Vanderose, Dumas, and Snoeck, (2021) who identified these factors as important for citizens' roles in digital government. Similarly, the study found that that transparency and trust are the most important factors for citizens' expectations of smart government services. This agrees with the result of Alshomrani, Almutairi, and Alghamdi (2021) who found that trust is a key factor for measuring citizens' satisfaction with smart government services, and that trust is influenced by technological aspects, government aspects, and citizen engagement. Furthermore, it was found that there is no significant difference in the expectations of smart government services across different age groups of respondents.

V. CONCLUSION

Using a survey methodology, the study investigated the elements that influence citizens' expectations of smart government services in UAE. The study highlighted six aspects—openness, responsiveness, transparency, trust, involvement, and usability—that affect citizens' expectations of smart government services. All of these criteria were discovered to be highly valued by the respondents, with trust and transparency considered as the most crucial. Furthermore, it was discovered that there are no statistically significance differences in respondents' expectations of smart government services across various age groups. The study adds to the body of knowledge on the adoption of smart government and offers recommendations for practitioners and policymakers who want to increase citizens' acceptance and confidence in smart government services.

REFERENCES

Almuraqab N. S., M-Government Adoption Factors in the United Arab Emirates: A Partial Least-Squares Approach, International Journal of Business and Information, 11(4), pp. 404-431.

Alshomrani, S., Almutairi, A., & Alghamdi, R. (2021). Citizens' Trust Measurement in Smart Government Services. 2021 IEEE 19th International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom). https://ieeexplore.ieee.org/document/9594857/.

Bélanger F and Carter L (2008). Trust and risk in e-government adoption. The Journal of Strategic Information Systems, 17(2): 165-176.

Chakraborty, G., Srivastava, P., & Warren, D. L. (2005) Understanding corporate B2B web sites' effectiveness from north American and European perspective. Industrial Marketing Management, 34(5): 420-429.

Chang, C., & Almaghalsah, H. (2020). Usability evaluation of e-government websites: A case study from Taiwan. International Journal of Data and Network Science, 4(2), 127-138.

Demirel, D., & Mülazımoğlu, M. E. (2022). How the smart governance model shapes cities? Cases from Europe. Journal of Enterprising Communities: People and Places in the Global Economy, 16(1), 8-25.

Gil-Garcia J. and D. Sayogo, 2016. Government inter-organizational information sharing initiatives: Understanding the main determinants of success, Government Information Quarterly, pp. 33(3), pp. 572-582.

Gil-Garcia J. R., T. A. Pardo and T. Nam, 2015. What makes a city smart? Identifying core components and proposing an integrative and comprehensive conceptualization., Information Polity, 20(1), pp. 61-87.

Han, S. H., Yun, M. H., Kwahk, J., & Hong, S. W. (2001). Usability of consumer electronic products. International Journal of Industrial Ergonomics, 28(3-4), 143-151.

Hao X, Zheng D, Zeng Q, and Fan W (2016). How to strengthen the social media interactivity of e-government: Evidence from China. Online Information Review, 40(1): 79-96. https://doi.org/10.1108/OIR-03-2015-0084.

Harsh A. and N. Ischalkaranje, 2015. Transforming e-government to smart government: A South Australian perspective, Advances in intelligent Systems and Computing, pp. 1, 9-16, 2015.

Jiménez C. E., F. Falcone, A. Solanas, H. Puyosa, S. Zoughbi and F. Gonzalez, 2014. Smart government: opportunities and challenges in smart cities development, in Handbook of research and democratic strategies and citizen-centred e-government services, Hershey, IGI Global, pp. 1-19.

Karahoca, A., Bayraktar, E., Tatoglu, E., & Karahoca, D. (2010). Information system design for a hospital emergency department: A usability analysis of software prototypes. Journal of biomedical informatics, 43(2), 224-232.

Kelly, G., Mulgan, G., & Muers, S. (2002). Creating public value. Cabinet Office.

Kemp, S. (2023). Digital 2023: The United Arab Emirates, Data   Report, February, 2023. https://datareportal.com/reports/digital-2023-united-arab-emirates.

Khan S, Rahim NZA, and Maarop N (2018). Towards the development of a citizens' trust model in using social media for e-government services: The context of Pakistan. In the International Conference of Reliable Information and Communication Technology, Springer, Kuala Lumpur, Malaysia: 1002-1012. https://doi.org/10.1007/978-3-319-99007-1_93.

Khan, S., Zairah, A., Rahim, N., & Maarop, N. (2020). A systematic literature review and a proposed model on antecedents of trust to use social media for e-government services. International Journal of Advanced and Applied Sciences, 7(2), 44-56.

Lee, S., & Koubek, R. J. (2010). The effects of usability and web design attributes on user preference for e-commerce web sites. Computers in Industry, 61(4), 329-341.

Manoharan, A. (2013). A study of the determinants of county e-government in the United States. The American Review of Public Administration, 43(2), 159-178.

Mellouli S., L. F. Luna-Reyes and J. Zhang, 2014. Smart government, citizen participation and open data, Information Polity, pp. 19, pp. 1-4.

Muhammad Fakhar Iqbal, A., Octaviani, D., & Hakimi, H. (2023). Analysis of Employee Performance and Job Satisfaction. Journal of Applied Technology and Innovation, 73–81.

Nielsen, J. (1994, June). Heuristic evaluation. In Usability inspection methods (pp. 25-62). John Wiley & Sons, Inc.

Palmer, J. W. (2002). Website usability, design, and performance metrics. Information Systems Research, 13(2): 151-167.

Simonofski, A., Clarinval, A., Vanderose, B., Dumas, B., & Snoeck, M. (2021). What influences citizens' expectations towards digital government? An exploratory survey. Digital Policy, Regulation and Governance, 23(2), 173-191.

Srce (2021). Influencing Factors of Smart Government Information Security from the Perspective of Citizens' Behavior Security. Journal of Information and Organizational Sciences, 45(2), 197-212. https://hrcak.srce.hr/file/395145.

Statistica (2023) Mobile internet usage in UAE - statistics & facts, https://www.statista.com/topics/11137/mobile-internet-usage-in-uae/#topicOverview.

Zaman M. (2010) Quality of Public Sector Website and its Impact on Citizen Involvement, Ph.D Thesis, Drexel University.