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The Impact of E-Government Success Factors on Citizen Satisfaction: The Context of UAE

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Abstract: The study aimed to identify the impact of E-government success factors on citizen satisfaction in the UAE from the point of view of target citizens. The study sample consisted of a random sample from (380) in customer happiness centers in UAE. The questionnaire was developed in light of previous studies and the theoretical framework information, used the main tool in collecting data and information, and was analyzed using descriptive and inferential statistics methods. The results revealed that the degree of E-Government success implementation from the point of view of target citizens was high. Furthermore, the degree of citizen satisfaction from the point of view of target citizens was also high. There was an impact of E-Government success on citizen satisfaction from the point of view of target citizens. The results also showed there is an impact of E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the Citizen Satisfaction and its variables (Responsiveness, Technical Support, Service Quality) at $\alpha \leq 0.05$. The scientific novelty can be described as the results of this study filling a knowledge gap about citizens' satisfaction with and loyalty to e-government services. The study also contributes to the existing literature by presenting the available resources factor as a strong determinant of the e-government quality dimensions.

Keywords: E-government, citizen satisfaction, UAE.

电子政务成功因素对公民满意度的影响：阿联酋的背景

摘要：该研究旨在从目标公民的角度确定电子政务成功因素对阿联酋公民满意度的影响。研究样本由来自阿联酋客户幸福中心 (380) 的随机样本组成。本问卷是根据以往研究和理论框架信息编制而成，以收集数据和信息的主要工具为基础，采用描述性和推理性统计方法进行分析。结果表明，从目标公民的角度来看，电子政务的成功实施程度较高。此外，从目标市民的角度来看，市民的满意度也很高。从目标公民的角度来看，电子政务成功对公民满意度有影响。结果还表明，电子政务成功因素及其变量（电子政务资源、信息获取、电子政务系统质量）对公民满意度及其变量（响应性、技术支持、服务质量）有影响在 $\alpha \leq 0.05$ 时。科学新颖性可以被描述为这项研究的结果填补了有关公民对电子政务服务的满意度和忠诚度的知识空白。该研究还通过将可用资源因素作为电子政务质量维度的重要决定因素来对现有文献做出贡献。

关键词：电子政务，公民满意度，阿联酋。

1. Introduction

At the end of the twentieth century, with the popularization of the Internet and the movement of government re-engineering, the development of e-government achieved rapid progress in many countries [1]. Many governments worldwide have implemented

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programs to create a form of e-government to provide information to the general public, expand and improve public services, reduce social inequality, and strengthen democracy [2].

The performance of e-government arises from two methods: objective factors and subjective factors. Objective factors refer to the government environment, such as economy, politics, and culture. While the subjective factors mainly refer to the government's efforts in building e-government. Mensah, Zeng & Luo [3] believe that assessing government efforts' extent has a better motivating effect on establishing e-government. The e-government assessment spends much effort in guiding and inspecting e-government constructions. Many research organizations and governments have practiced e-government evaluation domestically and abroad and obtained beneficial results [4].

The e-government allows citizens to be connected to all services provided by the government without the traditional waiting lines and services that do not need services [5]. According to Gounopoulos, Kontogiannis, Kazanidis & Valsamidis [6], most government has implemented online services to reduce costs, reform services provided, reduce resource management, reduce tangible overheads, achieve sustainable growth, and improve performance. The government invests huge budgets in information and communication technology because it plays a central role that will help reduce costs, benefit from government performance and increase productivity. However, no attention is paid to building and implementing integrated directed systems used jointly throughout the government. Entities to manage services provided to business partners such as suppliers [7].

The e-government satisfaction measure aims to provide the theory and methods for measuring e-government performance to assess the state of e-government establishment [5]. The government portal is currently one of the basic functions of e-government. The local and foreign government services provided by portal sites are divided into information, transaction processing, and interactive elements. In real life, UAE internet users are becoming more practical, and the need for e-government services is extending [8]. Lately, citizens are looking forward to opening media for society and government affairs. The demand is increasing for offices and interactive services over the Internet. At the same time, the current portal services and the level of service cannot meet the citizens' demands [9].

In recent years, the application of e-government in the UAE has received the attention of the authorities and policymakers while recognizing the necessity of using new electronics, information, and communication technologies [10]. The UAE was among the first Arab countries to adopt advanced technologies to improve governance efficiency. The central government of the United Arab Emirates has launched several e-government programs, and the main focus is on improving government services and bringing them in line with international standards, with a special focus on education, health care, judicial, and government services [11].

This study offers practical value. Spending on e-government projects has increased dramatically worldwide over the past decade. However, the rate of citizens 'reluctance to use e-government services remains high in developed and developing countries [12]. This study aims to provide valuable insights for developing effective and successful e-government strategies in the United Arab Emirates to improve e-government resources and help policymakers deal with the low e-government absorption rate by increasing their awareness of the importance of e-government in improving the services provided to citizens and achieving them faster.

The next section focuses on a comprehensive review of e-government and its implementation in the United Arab Emirates. Then the paper discusses the research methodology used in data collection and analysis and presents and discusses the research results. The last sections discuss the implications of our findings for developing a theory of e-government adoption, looking at study limitations and areas for future research.

In this paper, we raise the following research questions:

1. What is the degree of implementation of E-Government success from the point of view of target citizens?
2. What is the degree of citizen satisfaction from the point of view of target citizens?
3. What is the impact of E-Government success on citizen satisfaction from the point of view of target citizens?

2. Literature Review

2.1. E-Government

Most countries of the world have begun to develop their policies in line with the requirements of the modern era to ensure the performance of their functions with the highest possible efficiency, especially in the government sector with many complications in procedures. Many countries started to use information technology to provide electronic government services to citizens [13]. Technology improves serving citizens and provides access to information self-service through the Internet and automated phone systems even outside official working hours. Providing electronic services helps raise performance and the quality of services [14].

The e-government revolves around providing services that help increase the interaction and communication between the government and citizens,

between government and business institutions, and carry out internal government operations electronically to simplify and improve government transactions provided to citizens and businesses alike [15]. The e-government depends on advanced technology, especially computers, to provide citizens and private sector institutions [16].

E-government can be defined as the ability of various government departments and sectors to provide services, transactions, and government procedures using electronic means for individuals and business enterprises or government agencies and departments easily [17]. E-government can also be defined as the ability of government sectors to exchange information and provide services to the citizen and the business sector, with high speed and accuracy, and at the lowest costs via the Internet while ensuring the confidentiality and security of information exchanged at any time and place [18].

2.1.1. The Emergence of E-Government

The traditional government is the organizational entity that the state is working to form, intending to manage its affairs and make strategic political, economic, and social decisions [19]. Moreover, with the technological development and the emergence of the Internet, e-government appeared, as the provision of e-government services via the Internet worked to save money, time, and effort [20].

Political reasons such as globalization and the competition of politicians to gain public approval and support are among the most important reasons for the emergence of e-government [21]. The technical reasons represented by the emergence of the Internet and the low prices, the development of high levels of data encryption methods, and the innovation of electronic signature technology have contributed to e-government in most countries of the world [22]. At the same time, the low costs of technology contributed to the success of e- governments and their use to serve the citizens [23].

2.1.2. E-Government Goals

Rapid technological developments have led to the emergence of new strategies used to facilitate complex government procedures, emphasizing the importance of using e-government as the e-government is based on accountability, flexibility, and good governance. The e-government aims to improve the quality of services, take preventive remedies from the spread of administrative and financial corruption, and provide effective communication between citizens and decision-makers, the importance of e-government can be summarized as follows [24]:

- Increase the effectiveness and efficiency of government sector procedures using information technologies, reduce time and increase accuracy in completing government transactions.
- Reduce government costs by developing business procedures transparent and easy, reducing redundant procedures, and achieving integration and exchange between government data.
- Increase the satisfaction of the beneficiaries of government services by reducing the time spent in completing transactions; to get services and data in the least possible time [25].
- Improve the productivity and efficiency of government agencies, increase the productivity of government employees, and reduce public expenditures by reducing the number of offices and paper consumption.
- Improving the standard of living of individuals in societies that need care, as modern communication technologies allow the government to reach and empower marginalized groups, involve them in the political process, and provide them with goods and services [26].

2.1.3. E-Government Benefits

E-government enhances trust between governments and citizens by using internet-related strategies to engage citizens in the political process [27]. It also reduces the waste of resources, uses technical means to exchange information and ideas between government agencies, and facilitates interaction between citizens and the government, as e-government grants all citizens the right to access information. The e-government helps provide information and electronic services that can help attract new citizens and investors looking for suitable opportunities. The e-government provides direct media and newspapers, radio, and television to promote government business [4].

The e-government can improve the way citizens are served by providing access to information through self-service through the Internet or automated phone systems even outside the official working hours [28]. The e-government can also automate responses to requests for licenses or information to save time and energy for employees to provide better services to auditors who contact directly or attend by themselves to complete some exceptional government transactions [29].

2.1.4. The UAE E-Government

The United Arab Emirates is one of the leading countries in e-government implementation. The UAE sought to implement e-government because of its great importance in saving time and effort, not adhering to official dates and government holidays, and reducing official bureaucratic procedures. The e-government in the UAE included ministries and civil defense bodies Safety and emergency [30]. It also includes economic services departments, such as economic departments

and consumer protection applications, educational and health services departments, as well as services for the environment, infrastructure, transportation and transportation, and social and religious services departments [10].

The United Arab Emirates achieved a distinguished position that qualified it to be one of the world leaders implementing e-government. It ranked 28 in the list of countries that excel in the application of e-government in the global classification adopted by the United Nations in 2012. At the same time, it ranked first at the level of the Middle East and African countries and ranked in fifth place among Asian countries. A set of factors qualified the UAE to assume this position. Perhaps the most important of them are The Emirati leadership's keenness to adopt modern technological developments in information and communication systems and implement them according to the internal environment and international standards. In addition to serious work in many axes related to infrastructure and human resources, developing laws and legislations to create an appropriate climate for investment and business in the field of communication and information technology to use this technology in sustainable economic and social development [11].

The UAE has provided several requirements for the success of e-government, such as the Internet, by providing it at reasonable prices in all places in the UAE and providing phones with operating systems with standard specifications that support the security of government networks. In addition, the UAE sought to provide government applications, raise the degree of their security, and educate citizens about safety and security standards for users to achieve the highest personal safety standards [31].

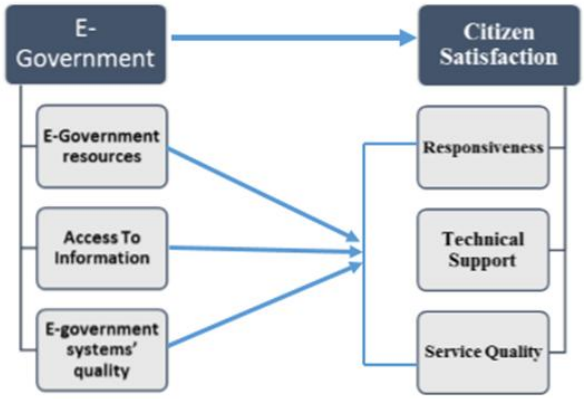

Fig. 1 Model of the study

3. Research Methodology

3.1. The Research Hypothesis

The hypotheses can be presented as follows:

Main Hypothesis (H01): There is no impact of E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the Citizen Satisfaction and its variables (Responsiveness, Technical Support, Service Quality) at $\alpha \leq 0.05$.

This hypothesis is divided into three sub-hypotheses:

H01.1: There is no impact of E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the responsiveness at $\alpha \leq 0.05$.

H01.2: There is no impact of E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the Technical Support at $\alpha \leq 0.05$.

H01.3: There is no impact of E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the Service Quality at $\alpha \leq 0.05$.

3.2. The Research Method

The current research is based on the quantitative approach as it fits the purpose of the study. The quantitative approach is concerned with gathering and examining information in numeric shape from the chosen sample.

3.3. The Research Instrument

The instrument contains 15 questions measuring the impact of E-government success factors on citizen satisfaction in the UAE. The questionnaire was distributed by hand.

The questionnaire contains 3 demographic variables and 15 questions represent study variables (the evaluation of E-government success) as the following: it is formulated into benchmarks or objectives to reach into 3) fields with a total of 15 questions:

- E-Government resources: contains 5 questions.
- E-Government IT: contains 5 questions.
- Dependent Variable (Citizen Satisfaction): it is formulated into 12 questions.

3.4. Data Analysis and Interpretation

The evaluation of E-government success in the UAE was examined. Statistical Package for Social Sciences (SPSS) was used in processing the following statistical techniques and tests in data analysis.

3.4.1. Reliability Test

Frequencies and percentages were figured out by descriptive statistical techniques and linear regression.

Respondents were asked to read each item and select one of the choices as follows:

- Score 5: For the Strongly Agree Answer
- Score 4: For the Agree Answer
- Score 3: For the Neutral Answer
- Score 2: For the Disagree Answer
- Score 1: For the Strongly Disagree Answer

For this study, means were divided into three stages as (1.33) is the length of each stage:

- low: For means 1-2.33
- Moderate: For means 2.34-3.67
- High: For means 3.68-5

3.5. Study Sample

The study population consisted of a random sample from 380 a random sample from the workers in customer happiness centers in UAE. As it is classified into its demographic characteristics in the table below:

Table 1 Demographic characteristics for the study sample

Demographic	Groups	Sample	
		Frequency	Percentage
Gender	Male	203	53.4
	Female	177	46.6
	Total	380	100%
Job Description	Bachelor's Degree	265	69.7
	Master's Degree	64	16.8
	Doctorate Degree	51	13.4
	Total	380	100.0
Years of Experience	Less than 1 year	48	12.6
	1-3 years	51	13.4
	3-5 years	246	64.7
	More than 5 years	35	9.2
	Total	380	100.0%

Table 1 shows that the percentage of males from the sample was 53.4% meanwhile, it was 46.6% for females.

For the variable Academic Level, it seems that the Bachelor's Degree achieved 69.7 %, Master's Degree achieved 16.8%, and Doctorate Degree achieved 13.4%.

For the variable Years of Experience, it seems that the Less than 1 year rank achieved 12.6 %, and 1–3 years rank achieved 13.4 % and 3–5 years rank achieved 64.7 % and finally (More than 5 years) rank achieved 9.2 %.

3.6. Validity and Reliability of the Instruments

The test gave experts to judge the extent to which the test is valid and reliable. For this reason, the test would be designed to meet such requirements of the validity of the test. The experts will be chosen according to their broad experiences in teaching translation.

To reach the reliability of the test and achieve the research goal (the evaluation of E-government success at the example of the UAE), the researcher used the Reliability Test. For measurement Instruments, the reliability of a measure highlights the stability of consistency. The instrument measures the concept and helps assess the 'goodness' of a measure to detect students achieving stability.

Table 2 Cronbach's alpha for the study fields

Field number	Field	Value of (α)
Independent Variables: E-Government Success		
F1-1	E-Government resources	0.808
F1-2	Access To Information	0.874
F1-3	E-government systems' quality	0.793
Dependent Variable: Citizen Satisfaction		
F2-1	Responsiveness	0.826
F2-2	Technical Support	0.714
F2-3	Service Quality	0.776

As shown in the table above, the total Cronbach's alpha for the study fields was above 0.60, leading to the stability of the study results.

3. Study Results

To analyze the data, to explore the evaluation of E-government success; the case of UAE, simple regression, is used as it is shown.

3.1. Main Hypothesis (H01).

There is no impact of E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the Citizen Satisfaction and its variables (Responsiveness, Technical Support, Service Quality) at $\alpha \leq 0.05$.

To test this hypothesis, the researcher uses the multiple regression analysis to check the impact of the E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the Citizen Satisfaction and its variables (Responsiveness, Technical Support, Service Quality), as shown in table 3.

Table 3 Multiple regression test to check the direct effect for E-government success factors and its variables on the citizen satisfaction

Dependent Variable	(R)	(R^2)	F Calculate	DF	Sig*	B		T Calculate	Sig*
Citizen's Satisfaction	0.689	0.474	113.047	3	0.0	E-Government resources	.260	7.802	.0
				376		Access to Information	.278	7.320	.0
				379		E-government systems' quality	.348	9.592	.0

* The impact is significant at level ($\alpha \leq 0.05$)

Table 3 illustrates the impact of E-Government Success Factors and their variables on Citizen Satisfaction. It shows a significant impact for E-Government Success Factors and their variables on the Citizen Satisfaction because the significant value was 0.000 less than 0.05. The value of R is the square root of R-Squared. The correlation between the observed and predicted values of the dependent variable was 0.689. Therefore, the coefficient of determination R^2 0.474 is about 47.4% of the variation in Citizen's Satisfaction explained by E-Government Success Factors in UAE. Restriction Parameter F was 113.047 of the Citizen's Satisfaction will be caused from for E-Government Success Factors.

3.2. Hypothesis H01.1

There is no impact of E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the responsiveness at $\alpha \leq 0.05$.

To test this hypothesis, the researcher uses the multiple regression analysis to check the impact of the E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the responsiveness shown in table 4.

Table 4 Multiple regression test to check the direct effect for E-government success factors and its variables on the responsiveness

Dependent Variable	(R)	(R^2)	F Calculate	DF	Sig*	B		T Calculate	Sig*
				3		E-Government resources	.420	22.572	.000
Responsiveness	0.911	0.829	608.052	376	0.000	Access To Information	.421	19.844	.000
				379		E-government systems' quality	.335	16.504	.000

* The impact is significant at level ($\alpha \leq 0.05$)

Table 4 illustrates the significant impact of E-Government Success Factors and their variables on responsiveness because the significant value was 0.000 less than 0.05. The value of R is the square root of R-Squared, and is the correlation between the observed predicted values of the dependent variable was 0.911. The coefficient of determination R^2 is 0.829; therefore, about 82.9% of the variation in responsiveness is explained by E-Government Success Factors in UAE. Restriction Parameter F was 608.052 of the responsiveness will be caused from for E-Government Success Factors.

3.3. Hypothesis H01.2

There is no impact of E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the Technical Support at $\alpha \leq 0.05$.

To test this hypothesis, the researcher uses the multiple regression analysis to check the impact of the E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the Technical Support, as shown in table 5.

Table 5 Multiple regression test to check the direct effect for E-government success factors and its variables on the technical support

Dependent Variable	(R)	(R^2)	F Calculate	DF	Sig*	B		T Calculate	Sig*
				3		E-Government resources	.094	1.322	.187
Technical Support	0.260	0.067	9.060	376	0.000	Access To Information	.153	1.897	.059
				379		E-government systems' quality	.251	3.257	.001

* The impact is significant at level ($\alpha \leq 0.05$)

Table 5 illustrates a significant impact for E-Government Success Factors and its variables on the Technical Support because the significant value was 0.000 less than 0.05. The value of R is the square root of R-Squared, and is the correlation between the observed and predicted values of the dependent variable was 0.260. Therefore, the coefficient of determination R^2 0.067 is about 6.7% of the variation in Technical Support explained by E-Government Success Factors in UAE. Restriction Parameter F was 9.060 of the technical support caused by E-Government Success Factors from E-government systems' quality. All other fields do not impact technical support.

3.4. Hypothesis H01.3

There is no impact of E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the Service Quality at $\alpha \leq 0.05$.

To test this hypothesis, the researcher uses the multiple regression analysis to check the impact of the E-Government Success Factors and its variables (E-Government resources, Access to Information, E-government systems' quality) on the Service Quality, as shown in table 6.

Table 6 Multiple Regression test to check the direct effect for E-Government Success Factors and its variables on the Service Quality

Dependent Variable	(R)	(R^2)	F Calculate	DF	Sig*	B		T Calculate	Sig*
Service Quality	0.303	0.092	12.626	3	0.000	E-Government resources	.112	2.170	.031

376	Access to Information	.102	1.735	.084
379	E-government systems' quality	.225	4.001	.000

* The impact is significant at level ($\alpha \leq 0.05$)

Table 6 illustrates the impact of E-Government Success Factors and their variables on Service Quality. The result shows a significant impact for E-Government Success Factors and its variables on the Service Quality. Because the significant value was 0.000 less than 0.05, the value of R is the square root of R-Squared, and is the correlation between the observed and predicted values of the dependent variable was 0.303. Therefore, the coefficient of determination R^2 0.092 is about 9.2% of the variation in Service Quality explained by E-Government Success Factors in UAE. Restriction Parameter F was 12.626 of the Service Quality will be caused from for E-Government Success Factor E-government systems' quality, all other field does not impact on Service Quality.

5. Discussion and Conclusion

5.1. Discussion

The current study aims to measure the impact of the success factors of e-government on the satisfaction of citizens in the United Arab Emirates. This paper focuses on implementing e-government and the extent of customer satisfaction with the services provided by e-government in customer happiness centers.

The results revealed the high degree of implementation of E-Government success from the point of view of target citizens. It indicates that the higher departments of the Customer Happiness Centre are interested in supporting the infrastructure and strategies that drive UAE government agencies' smart transformation. Implementing smart government plans in line with the government strategy helps achieve important national indicators and provides conditions of reaching first place in smart services globally.

This result is consistent with the majority of previous studies. It together supports the view that applying e-government implementation in the UAE was highly rated. For example, Sawalha [32] concluded that the activation of e-government contributes to the reduction of paperwork and the speed in responding to customers. Ma & Zheng [33] found that e-government is positively and statistically related to improving organizational performance in government institutions.

The results also showed a high degree of citizen satisfaction from the point of view of target citizens. That indicates the keenness of the Customer Happiness Center senior departments to keep pace with modern trends and enhance the user experience through interaction by heading towards direct marketing through electronic means to complete their government transactions quickly and accurately.

It is often argued that e-government implementation improves customer satisfaction [34]. Our study proved this result. The results showed a statistically significant effect of the application of e-government on customer satisfaction. It has been observed that customers prefer electronic transactions to traditional ones. The UAE government has invested in making great improvements to its services to increase citizen satisfaction [35]. Some of those efforts included the provision of electronic voting devices and rechargeable cards to facilitate payment of government fees and the creation of a government award for the best solutions for technology-based services [36]. To ensure the speedy and efficient implementation of these changes, leaders must begin by removing government restrictions, unifying different bodies, and requiring groups to act collectively.

5.2. Implication of the Study

This study has investigated the impact of e-government success factors on citizen satisfaction in the UAE. The system quality and the quality of the information provided by the e-government affect its users' level of trust. Therefore, this study helps e-government researchers in understanding trust and its aspects. In addition, it shows the importance of investing in building citizens' trust, which will help operate all services of the e-government.

Another implication of this study understands the cost of using e-government, which enables researchers to realize the significant effect of time and money put into using e-government. An easy experience that does not stress the user while using e-government is a significant aspect to satisfy its users [14]. Also, understanding that reasonable fees are one the most crucial aspects to ensure citizens' satisfaction.

Understanding e-government will allow citizens from all segments of society to use it efficiently with a high level of satisfaction [37]. Emirati citizens will realize that making e-government services part of their daily life will relieve them from the redundant journeys to government buildings to get their work done.

Adopting this study in providing e-government services will help Emirati governmental planners enhance citizens' trust in the e-government services. This study helps in boosting citizens' trust level in government as it enhances the quality of the e-government system. The findings show that citizens trust systems more when they know that their information in that system is safe and protected. Therefore, securing the personal information of citizens, who use the services of Emirati e-government, will build their trust in e-government, leaving them satisfied with the experience they had. In addition, e-governments should make their services easily accessible, without any complications or restrictions.

That includes up-to-date information and services on the used system.

Governmental planners should make their best possible effort to optimize the time and money spent to access e-government services [36], [38], [39], [40]. Providing efficient websites with reasonable fees for the e-government services will enhance the experience of citizens serviced by the e-government. Assuring citizens a simple experience of e-government will encourage them to use it continuously.

5.3. Conclusion

The UAE e-government strategy is part of an integrated, comprehensive system that includes all government agencies to improve government services to reach customer satisfaction. It is a developed program with innovative technological dimensions that help customers complete their transactions less quickly and more accurately. However, it faces new challenges such as the increase in the number of cybercrime and the social threats that come from the increase in the number of mobile devices used by citizens, providing an incentive to switch from the Internet to SMS. The successful implementation of e-government requires constant evaluation, as the external and internal environments are dynamic, and some factors change dramatically over time, which calls for continuous keeping up with the best technologies that contribute to the implementation of e-government in a better way.

The practical contribution of the research is that it can be of great value to those in charge of customer happiness centers, given the extent to which customers depend on these services and the barriers to further adoption. The results of this study on the extent of application of e-government services in the UAE can help assess success in achieving current strategies and action plans, as well as helping to formulate new guidelines, strategies, and goals for future e-government development in wider larger-scale environments. An important implication of this conclusion for e-government service administrators is to become more user-focused. Regarding the importance of attitudes and concerns about using technology, this study demonstrates that governments can enhance e-government adoption by emphasizing information quality, service quality, privacy, security, and reliability of government services. This research is expected to help identify ambiguities at the current stage of e-government development in the UAE and suggest ways to create seamless e-government services.

These results provide insight into how e-government websites can serve citizens satisfactorily and comfortably. Decision-makers may reconsider agencies' capacity for electronic exchange by imposing laws and regulations that facilitate coordination between government agencies; it guarantees the protection, privacy, and security of financial and personal data. That could facilitate opening more communication channels to show consumers how to protect and secure their interaction with e-government portals. Future research of this study may be circulated to other countries in the Middle East. Specifically, the impact of e-government on institutional excellence: a comparative study between Gulf countries can be studied.

The scientific novelty can be described as This study proposes a new model for the success factors of e-government services and their impact on citizen satisfaction. In addition, this study is among the first studies that categorized citizens' satisfaction into three factors - responsiveness, technical support, and service quality - and integrated them into a model that emphasized the concept of service quality and technical matters as a basis for achieving citizen satisfaction. Moreover, the study revealed the role of satisfaction and service quality in developing citizens' understanding of the importance of electronic services. The results of this study fill a knowledge gap about citizens' satisfaction with and loyalty to e-government services. The study also contributes to the existing literature by presenting the available resources factor as a strong determinant of the e-government quality dimensions.

The current study has several limitations that indicate potential pathways for future research. First, the sample size of 380 citizens cannot represent a country as large and diverse as the United Arab Emirates. Although we considered a sample representative of the target population, some inherent bias cannot be avoided despite best efforts. This study focuses on citizens who are the main users of government websites. However, non-profit organizations, business organizations, and public/private sector organizations are also important target groups for e-government services. Future research could also consider other variables that may affect e-GSVC, including personal characteristics such as gender, age, education, Internet experience, and the e-government experience of respondents.

References

[1] MUNYOKA W. Exploring the factors influencing e-Government use: empirical evidence from Zimbabwe. *Electronic Journal of Information Systems Evaluation*, 2019, 22(2): 78-91. http://dx.doi.org/10.34190/EJISE.19.22.2.002

[2] ALZAHRANI L., AL-KARAGHOULI W., and WEERAKKODY V. Analysing the critical factors influencing trust in e-government adoption from citizens' perspective: A systematic review and a conceptual framework. *International Business Review*, 2017, 26(1): 164-175. https://doi.org/10.1016/j.ibusrev.2016.06.004

[3] MENSAH I. K., ZENG G., and LUO C. E-Government Services Adoption: An Extension of the Unified Model of Electronic Government Adoption. *SAGE Open*, 2020, 10(2).

[4] CHOI T., & CHANDLER S. M. Knowledge vacuum: An organizational learning dynamic of how e-government innovations fail. *Government Information Quarterly*, 2020, 37(1): 101416. https://doi.org/10.1016/j.giq.2019.101416

[5] ROSENBERG D. Use of e-government services in a deeply divided society: A test and an extension of the social inequality hypotheses. *New Media & Society*, 2019, 21(2): 464-482. https://doi.org/10.1177%2F1461444818799632

[6] GOUNOPOULOS E., KONTOGIANNIS S., KAZANIDIS I., and VALSAMIDIS S. The Impact of the Digital Divide on the adoption of e-Government in Greece. *Knowledge Enriching-Engaging-Empowering Social Sciences*, 2020: 401-411. http://dx.doi.org/10.18502/kss.v4i1.6002

[7] CONNOLLY J. M., BODE L., and EPSTEIN B. Explaining the varying levels of adoption of e-government services in American municipal government. *State and Local Government Review*, 2018, 50(3): 150-164. https://doi.org/10.1177%2F0160323X18808561

[8] ZIBA P. W., & KANG J. Factors affecting the intention to adopt e-government services in Malawi and the role played by donors. *Information Development*, 2020, 36(3): 369-389. https://doi.org/10.1177%2F0266666919855427

[9] YERA A., ARBELAITZ O., JAUREGUI O., and MUGUERZA J. Characterization of e-Government Adoption in Europe. *Public library of Sciences one*, 2020, 15(4): e0231585. https://doi.org/10.1371/journal.pone.0231585

[10] ALHARMOODI B. Y. R., & LAKULU M. M. B. Transition from e-government to m-government: challenges and opportunities-case study of UAE. *European Journal of Multidisciplinary Studies*, 2020, 5(1): 61-67. https://doi.org/10.26417/453fgx96c

[11] ZHAO F., NAIDU S., and WALLIS J. An empirical study of e-government adoption in the United Arab Emirates: A social cognitive perspective. *Information Polity*, 2019, 24(1), 91-109. http://dx.doi.org/10.3233/IP-180087

[12] MBAIDIN H. O. The Impact of ICT Critical Success Factors in Strategic planning: an Applied Study in Jordanian Government Agencies. *Indian Journal of Economics and Business*, 2021, 20(2): 281–298. https://doi.org/10.5281/zenodo.5409342

[13] HOU H. The application of blockchain technology in E-government in China. *26th International Conference on Computer Communication and Networks*. Institute of Electrical and Electronics Engineers, New York, 2017: 1-4. https://ieeexplore.ieee.org/document/8038519

[14] MAHLANGU G., & RUHODE E. Towards a multidimensional model for assessing e-government service gaps. *South African Journal of Information Management*, 2020, 22(1): 8. http://dx.doi.org/10.4102/sajim.v22i1.1234

[15] AL-RAWAHNA A. S. M., CHEN S. C., and HUNG C. W. The barriers of e-government success: An empirical study from Jordan. *International Journal of Managing Public Sector Information and Communication Technologies*, 2018, 9(2). https://dx.doi.org/10.2139/ssrn.3498847

[16] KAMOLOV S., & KONSTANTINOVA A. E-government: way of modernization and efficiency enhancement of public governance. *Law and management. XXI century*, 2017, 1: 13-21. https://doi.org/10.24833/2073-8420-2017-1-42-13-21

[17] ALEXOPOULOS C., CHARALABIDIS Y., ANDROUTSOPOULOU A., LOUTSARIS M. A., and LACHANA Z. Benefits and obstacles of blockchain applications in e-government. *Proceedings of the 52nd Hawaii International Conference on System Sciences*. Association for Information Systems e-Library, Grand Wailea, 2019. http://dx.doi.org/10.24251/HICSS.2019.408

[18] PÉREZ-MOROTE R., PONTONES-ROSA C., and NÚÑEZ-CHICHARRO M. The effects of e-government evaluation, trust and the digital divide in the levels of e-government use in European countries. *Technological Forecasting and Social Change*, 2020, 154: 119973. https://doi.org/10.1016/j.techfore.2020.119973

[19] TWIZEYIMANA J. D., & ANDERSSON A. The public value of E-Government–A literature review. *Government information quarterly*, 2019, 36(2): 167-178. https://doi.org/10.1016/j.giq.2019.01.001

[20] CHO J. S. Evolution of e-government: Transparency, competency, and service-oriented government with Korean government 3.0. *Journal of business and retail management research*, 2017, 12(1): 62-68. https://jbrmr.com/cdn/article_file/content_43294_17-10-04-21-35-41.pdf

[21] ROBLEK V., BACH M. P., MEŠKO M., and BERTONCEL T. Best practices of the social innovations in the framework of the e-government evolution. *Amfiteatru economic*, 2020, 22(53): 275-302. http://dx.doi.org/10.24818/EA/2019/53/275

[22] OTHMAN M. H., & RAZALI R. Whole of government critical success factors towards integrated e-government services: A preliminary review. *Jurnal Pengurusan (Universiti Kebangsaan Malaysia Journal of Management)*, 2018, 53: 73-82. https://doi.org/10.17576/PENGURUSAN-2018-53-07

[23] OTHMAN M. H., RAZALI R., and FAIDZUL, M. Key Factors for E-Government towards Sustainable Development Goals. *Development*, 2020, 29(6s): 2864-2876. http://sersc.org/journals/index.php/IJAST/article/view/15798/7975

[24] AGBOZO E. The role of data-driven e-government in realizing the sustainable development goals in developing economies. *Journal of Information Systems & Operations Management*, 2018, 12(1): 70-77. http://jisom.rau.ro/Vol.12%20No.1%20-%202018/JISOM-SU18-A07.pdf

[25] CP Y. H., & SUSANTO T. D. E-Leadership: The Effect of E-Government Success in Indonesia. *Journal of Physics: Conference Series*, 2019, 1201(1): 012025. http://dx.doi.org/10.1088/1742-6596/1201/1/012025

[26] MAWELA T., OCHARA N. M., and TWINOMURINZI H. E-government implementation: A reflection on South African municipalities. *South African Computer Journal*, 2017, 29(1): 147-171. http://www.scielo.org.za/pdf/sacj/v29n1/09.pdf

[27] NAM T. Does e-Government raise effectiveness and efficiency? Examining the cross-national effect. *Journal of Global Information Management*, 2019, 27(3): 120-138. https://www.igi-global.com/article/does-e-government-raise-effectiveness-and-efficiency/227389

[28] ELENEZI H., TARHINI A., ALALWAN A., and AL-QIRIM N. Factors affecting the adoption of e-government in Kuwait: A qualitative study. *Electronic Journal of e-Government*, 2017, 15(2): 84. https://www.proquest.com/openview/59b12d90cf90663477d95d541ba75371/1?pq-origsite=gscholar&cbl=406306

[29] MOKONE C. B., EYITAYO O. T., and MASIZANA-KATONGO A. Critical success factors for e-Government projects: The case of Botswana. *Journal of E-Government Studies and Best Practices*, 2018: 1-14. http://dx.doi.org/10.5171/2018.335906
[30] AL H. M. *E-Government in the United Arab Emirates: A Study of the Abu Dhabi Government Contact Centre*. United Arab Emirates University, Abu Dhabi, 2019. https://scholarworks.uaeu.ac.ae/all_theses/746/
[31] SAWALHA S., AL-JAMAL M., and ABU-SHANAB E. The influence of utilising Facebook on e-government adoption. *Electronic Government, an International Journal*, 2019, 15(1): 1-20. https://www.inderscienceonline.com/doi/pdf/10.1504/EG.2019.096573
[32] MA L., & ZHENG Y. National e-government performance and citizen satisfaction: a multilevel analysis across European countries. *International Review of Administrative Sciences*, 2019, 85(3): 506-526. https://doi.org/10.1177%2F0020852317703691
[33] NGUYEN T. T., PHAN D. M., LE A. H., and NGUYEN L. T. N. The Determinants of Citizens' Satisfaction of E-Government: An Empirical Study in Vietnam. *The Journal of Asian Finance, Economics, and Business*, 2020, 7(8), 519-531. https://doi.org/10.13106/jafeb.2020.vol7.no8.519
[34] BERNHARD I., NORSTRÖM L., LUNDH SNIS U., GRÅSJÖ U., and GELLERSTEDT M. Degree of digitalization and citizen satisfaction: a study of the role of local e-government in Sweden. *Electronic Journal of e-Government*, 2018, 16: 59-71. https://academic-publishing.org/index.php/ejeg/article/view/651/614
[35] ALKRAIJI A. I. Citizen satisfaction with mandatory E-government services: A conceptual framework and an empirical validation. *Institute of Electrical and Electronics Engineers Access*, 2020, 8: 117253-117265. https://ieeexplore.ieee.org/document/9123870
[36] SAENGCHAIA S., SRIYAKULB T., and JERMSITTIPARSERTC K. Linking e-Government with Citizen Satisfaction through Transparency, Accountability and Transformation of Government: An Empirical Study in Thailand. *International Journal of Innovation, Creativity and Change*, 2020, 12(11): 589-607. https://ijicc.net/images/vol12/iss11/121133_Saengchai_2020_E_R.pdf
[37] WEERAKKODY V., IRANI Z., LEE H., HINDI N., and OSMAN I. Are UK citizens satisfied with e-government services? Identifying and testing antecedents of satisfaction. *Information Systems Management*, 2016: 33(4): 331-343. https://doi.org/10.1080/10580530.2016.1220216
[38] ERSOZ S., & DEMIR ASKEROĞLU E. Generations X, Y, Z and their Perception of E-Government Services: Case of Turkey. *Online Journal of Communication and Media Technologies*, 2020, 10(1): e202002. http://dx.doi.org/10.29333/ojcmt/6428
[39] MA L., & WU X. Citizen engagement and co-production of e-government services in China. *Journal of Chinese Governance*, 2020, 5(1): 68-89. http://dx.doi.org/10.1080/23812346.2019.1705052
[40] KISOKA R. E. *Factors Affecting the Use of E-Government Services in Tanzania: A Case Study of NECTA*. Mzumbe University, Morogoro, 2020. http://repository.costech.or.tz/handle/11192/4650

参考文:

[1] MUNYOKA W. 探索影响电子政务使用的因素：来自津巴布韦的经验证据。信息系统评估电子期刊, 2019, 22(2): 78-91. http://dx.doi.org/10.34190/EJISE.19.22.2.002
[2] ALZAHRANI L., AL-KARAGHOULI W., 和 WEERAKKODY V. 从公民的角度分析影响电子政务采用信任的关键因素：系统回顾和概念框架。国际商业评论, 2017, 26(1): 164-175. https://doi.org/10.1016/j.ibusrev.2016.06.004
[3] MENSAH I. K., ZENG G., 和 LUO C. 电子政务服务采用：电子政务采用统一模型的扩展。圣人公开赛, 2020, 10(2).
[4] CHOI T., 和 CHANDLER S. M. 知识真空：关于电子政务创新如何失败的组织学习动态。政务信息季刊, 2020, 37(1): 101416. https://doi.org/10.1016/j.giq.2019.101416
[5] ROSENBERG D. 在深度分裂的社会中使用电子政务服务：社会不平等假设的检验和延伸。新媒体与社会, 2019, 21(2): 464-482. https://doi.org/10.1177%2F1461444818799632
[6] GOUNOPOULOS E., KONTOGIANNIS S., KAZANIDIS I., 和 VALSAMIDIS S. 数字鸿沟对希腊采用电子政务的影响。知识丰富-参与-赋权社会科学, 2020: 401-411. http://dx.doi.org/10.18502/kss.v4i1.6002
[7] CONNOLLY J. M., BODE L., 和 EPSTEIN B. 解释美国市政府采用电子政务服务的不同程度。州和地方政府审查, 2018, 50(3): 150-164. https://doi.org/10.1177%2F0160323X18808561
[8] ZIBA P. W., 和 KANG J. 影响马拉维采用电子政务服务意图的因素以及捐助者所发挥的作用。信息发展, 2020, 36(3): 369-389. https://doi.org/10.1177%2F0266666919855427
[9] YERA A., ARBELAITZ O., JAUREGUI O., 和 MUGUERZA J.欧洲电子政务采用的特征。公共科学图书馆一, 2020, 15(4): e0231585. https://doi.org/10.1371/journal.pone.0231585
[10] ALHARMOODI B. Y. R., 和 LAKULU M. M. B. 从电子政务到移动政务的过渡：阿联酋的挑战和机遇——案例研究。欧洲多学科研究杂志, 2020, 5(1): 61-67. https://doi.org/10.26417/453fgx96c
[11] ZHAO F., NAIDU S., 和 WALLIS J. 阿拉伯联合酋长国采用电子政务的实证研究：社会认知视角。信息政体, 2019, 24(1), 91-109. http://dx.doi.org/10.3233/IP-180087
[12] MBAIDIN H. O. 战略规划中信息通信技术关键成功因素的影响：约旦政府机构的应用研究。印度经济与商

业杂志，2021, 20(2): 281–298. https://doi.org/10.5281/zenodo.5409342

[13] HOU H. 区块链技术在中国电子政务中的应用第 26 届计算机通信与网络国际会议。纽约电气和电子工程师学会，2017: 1-4. https://ieeexplore.ieee.org/document/8038519

[14] MAHLANGU G., 和 RUHODE E. 迈向评估电子政务服务差距的多维模型。南非信息管理杂志, 2020, 22(1): 8. http://dx.doi.org/10.4102/sajim.v22i1.1234

[15] AL-RAWAHNA A. S. M., CHEN S. C., 和 HUNG C. W. 电子政务成功的障碍：来自约旦的实证研究。国际公共部门信息和通信技术管理杂志，2018, 9(2). https://dx.doi.org/10.2139/ssrn.3498847

[16] KAMOLOV S., 和 KONSTANTINOVA A. 电子政务：公共治理的现代化和效率提升之路。法律与管理。二十一世纪，2017, 1: 13-21. https://doi.org/10.24833/2073-8420-2017-1-42-13-21

[17] ALEXOPOULOS C., CHARALABIDIS Y., ANDROUTSOPOULOU A., LOUTSARIS M. A., 和 LACHANA Z. 区块链应用在电子政务中的好处和障碍。第 52 届夏威夷国际系统科学会议论文集。大威雷亚信息系统电子图书馆协会，2019. http://dx.doi.org/10.24251/HICSS.2019.408

[18] PÉREZ-MOROTE R., PONTONES-ROSA C., 和 NÚÑEZ-CHICHARRO M. 电子政务评估、信任和数字鸿沟对欧洲国家电子政务使用水平的影响。技术预测与社会变革，2020, 154: 119973. https://doi.org/10.1016/j.techfore.2020.119973

[19] TWIZEYIMANA J. D., 和 ANDERSSON A. 电子政务的公共价值——文献综述。政府信息季刊，2019, 36(2): 167-178. https://doi.org/10.1016/j.giq.2019.01.001

[20] CHO J. S. 电子政务的演变：韩国政府 3.0 的透明度、能力和服务型政府。商业与零售管理研究杂志，2017, 12(1): 62-68. https://jbrmr.com/cdn/article_file/content_43294_17-10-04-21-35-41.pdf

[21] ROBLEK V., BACH M. P., MEŠKO M., 和 BERTONCEL T. 电子政务演进框架下社会创新的最佳实践。安菲特鲁经济，2020, 22(53): 275-302. http://dx.doi.org/10.24818/EA/2019/53/275

[22] OTHMAN M. H., 和 RAZALI R. 政府对综合电子政务服务的全部关键成功因素：初步审查。管理杂志（马来西亚国民大学管理学杂志），2018, 53: 73-82. https://doi.org/10.17576/PENGURUSAN-2018-53-07

[23] OTHMAN M. H., RAZALI R., 和 FAIDZUL, M. 电子政务实现可持续发展目标的关键因素。发展，2020, 29(6s): 2864-2876. http://sersc.org/journals/index.php/IJAST/article/view/15798/7975

[24] AGBOZO E. 数据驱动的电子政务在实现发展中经济体可持续发展目标中的作用。信息系统与运营管理杂志，2018, 12(1): 70-77. http://jisom.rau.ro/Vol.12%20No.1%20-%202018/JISOM-SU18-A07.pdf

[25] CP Y. H., 和 SUSANTO T. D. 电子领导：印度尼西亚电子政务成功的影响。物理学杂志：系列会议，2019, 1201(1): 012025. http://dx.doi.org/10.1088/1742-6596/1201/1/012025

[26] MAWELA T., OCHARA N. M., 和 TWINOMURINZI H. 电子政务实施：对南非城市的反思。南非计算机杂志，2017, 29(1): 147-171. http://www.scielo.org.za/pdf/sacj/v29n1/09.pdf

[27] NAM T. 电子政务是否提高了效力和效率？考察跨国效应。全球信息管理杂志，2019, 27(3): 120-138. https://www.igi-global.com/article/does-e-government-raise-effectiveness-and-efficiency/227389

[28] ELENEZI H., TARHINI A., ALALWAN A., 和 AL-QIRIM N. 影响科威特采用电子政务的因素：定性研究。电子政务电子期刊，2017, 15(2): 84. https://www.proquest.com/openview/59b12d90cf90663477d95d541ba75371/1?pq-origsite=gscholar&cbl=406306

[29] MOKONE C. B., EYITAYO O. T., 和 MASIZANA-KATONGO A. 电子政务项目的关键成功因素：博茨瓦纳案例。电子政务研究与最佳实践杂志，2018: 1-14. http://dx.doi.org/10.5171/2018.335906

[30] AL H. M. 阿拉伯联合酋长国的电子政务：阿布扎比政府联络中心的研究。阿拉伯联合酋长国大学，阿布扎比, 2019. https://scholarworks.uaeu.ac.ae/all_theses/746/

[31] SAWALHA S., AL-JAMAL M., 和 ABU-SHANAB E. 利用脸谱网对电子政务采用的影响。电子政务，国际期刊，2019, 15(1): 1-20. https://www.inderscienceonline.com/doi/pdf/10.1504/EG.2019.096573

[32] MA L., & ZHENG Y. 国家电子政务绩效和公民满意度：欧洲国家的多层次分析。国际行政科学评论，2019, 85(3): 506-526. https://doi.org/10.1177%2F0020852317703691

[33] NGUYEN T. T., PHAN D. M., LE A. H., 和 NGUYEN L. T. N. 公民对电子政务满意度的决定因素：越南的实证研究。亚洲金融、经济和商业杂志, 2020, 7(8), 519-531. https://doi.org/10.13106/jafeb.2020.vol7.no8.519

[34] BERNHARD I., NORSTRÖM L., LUNDH SNIS U., GRÅSJÖ U., 和 GELLERSTEDT M. 数字化程度和公民满意度：对瑞典地方电子政务作用的研究。电子政务电子期刊，2018, 16: 59-71. https://academic-publishing.org/index.php/ejeg/article/view/651/614

[35] ALKRAIJI A. I. 公民对强制性电子政务服务的满意度：概念框架和实证验证。电气和电子工程师协会访问, 2020, 8: 117253-117265. https://ieeexplore.ieee.org/document/9123870

[36] SAENGCHAIA S., SRIYAKULB T., 和 JERMSITTIPARSERTC K. 通过政府的透明度、问责制和转型将电子政务与公民满意度联系起来：泰国的一项实证研究。国际创新、创造力和变革杂志, 2020, 12(11): 589-607. https://ijicc.net/images/vol12/iss11/121133_Saengchai_2020_E_R.pdf

[37] WEERAKKODY V., IRANI Z., LEE H., HINDI N., 和 OSMAN I. 英国公民对电子政务服务是否满意？识别和测试满意度的前因。信息系统管理, 2016: 33(4): 331-343. https://doi.org/10.1080/10580530.2016.1220216

[38] ERSOZ S., 和 DEMIR ASKEROĞLU E. X、Y、Z 世代及其对电子政务服务的看法：土耳其案例。通信与媒体技术在线杂志, 2020, 10(1): e202002. http://dx.doi.org/10.29333/ojcmt/6428

[39] MA L., 和 WU X. 中国电子政务服务的公民参与和共同生产。中国治理杂志, 2020, 5(1): 68-89. http://dx.doi.org/10.1080/23812346.2019.1705052

[40] KISOKA R. E. 影响坦桑尼亚电子政务服务使用的因素：坦桑尼亚国家考试委员会的案例研究。姆宗贝大学, 莫罗戈罗, 2020. http://repository.costech.or.tz/handle/11192/4650