



Sustainability Towards Quality of Life: Digitalization as an Enabler

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ABSTRACT

The Quality and Institutional Excellence Standards Awards sought to enhance the information technology (IT) approach to accelerating the pace of the Internet of Things revolution (IoT), as the principles of information and communication technology (ICT) focused on the elements of sustainability for societal development in its recent cycle. This research study focused on the practices of modern technologies and their relationship to competitive indicators in the context of social business sustainability to improve the quality of life. This study discussed benchmarks and international practices applied to aspects of modern digitization and technical integration with elements of social sustainability in improving the quality of life. In addition to analyzing the pattern of personal interviews that were prepared with the Community Development Authority (CDA), as the government organization responsible for community development launching the policy of community sustainability standards in the Emirate of Dubai.

The study also included a qualitative research methodology in evaluating and measuring the impact of the efficiency of digital systems on the sustainability of community development through the importance of integrating social policies and initiatives and measuring annual key performance indicators (KPI) according to the fourth generation (4G) standards and CDA strategic plans.

The positive relationship between digitalization and sustainability will ensure the well-being of life for future generations, as international policies will support the success of the social initiative that focuses on the three elements of sustainability in enhancing the quality of life (QOL).

1. INTRODUCTION

Recent years have witnessed a digital transformation in the mechanism of providing electronic services to the public and private sectors, as the acceleration of information technology characteristics has contributed to changing the form of traditional services and enhancing the competitiveness of the business sector and the economy [1][2]. Moreover, the relationship between IT systems and the World Wide Web has contributed to modernizing the concept of integrated digital government globalization based on the automation of government services in a single electronic platform based on innovative policies, strong infrastructure,

big data, and digital communications [3][4].

Digital transformation has been defined as the integration of disruptive technologies such as artificial intelligence, mobile technologies, ICT, big data, and the Internet of Things to enhance electronic connectivity. According to [5][6], social media platforms and electronic channels are widely used by customers to enhance their interaction with the services provided to develop government activities for the well-being of life [7]. Thus, the e-government approach contributes to highlighting the capabilities and enabling factors of information and communication technology through the inclusion of applications and

communication systems in operations to enhance institutional performance and governance in the provision of services with modern technologies [3][8][9].

Here, it can be said that artificial intelligence will be the new guide in the world of digital government based on innovation standards in improving activities and processes to achieve a competitive advantage in service integration [4][10][11].

Business sustainability contributes to the development of the economic sector through the unlimited availability of resources, and the sustainability of alternatives to cover the future needs of society [12][13]. This development has included the concept of sustainability since the eighties through cycles of continuous improvement of TQM practices.

Accordingly, the WCED¹ International Report endorsed the concept of sustainability at a social level to meet the needs of the existence of society without compromising the needs of future generations in innovative ways [14][15].

2. LITERATURE REVIEW

In this part of the study, literary references and normative practices will be analyzed to compare the importance of digital government and the sustainability criterion in improving the quality of life, by focusing on four practical themes that will enhance the well-being of society.

2.1. Digitalization of Government Activities

Digital services are designed to suit various types of marketing services according to customers' needs and expectations, in terms of following up on modern technologies in the world to be available on social media platforms and electronic channels [16]-[20]. This experience raises many challenges, including breaches of security, privacy, and acceptance of e-transformation [5][21][22]. This study research framework included the elements of providing social services (C2C) on social media platforms, where the focus was on evaluating the added value of customers to build an essential element of communication between the two parties via the Internet through **(1)** "*Digital Customer Service*", which aims to measure the size of the database Customized for customers and easy

access to them. **(2)** "*Online Incivility and Dysfunctional Customer Behavior*" Monitoring the level of satisfaction and difficulties encountered by the customer during the period of using the service [23]-[26]. **(3)** "*Customer Perceived Service Climate*" Which reflects the extent to which services are adapted to align and prioritize and identify customer service needs to be distinguished from traditional services [27][28].

The impact of government activities on digitization has helped integrate information and communication technology into the delivery of public services related to health, law, transportation, and commerce [29]-[32]. The government has accomplished activities such as community development, business commerce, health care, and the provision of transportation services [33]. During the Fourth Industrial Revolution, the government developed digital technologies such as Artificial Intelligence, Blockchain, Big Data, ICT, and the Internet of Things to improve social communication and financial transactions [34]-[37]. According to [5][38], government digitization aims to improve economic security through blockchain technology to boost the healthcare sector and online public services [39][40].

Accordingly, the government sector has adopted the provision of e-services and e-payment processes to facilitate the flexibility and convenience of government services such as transportation and health care. Commented by [6][41][42], digital connectivity using IOT technology, and an e-commerce facility help deliver services and products remotely to members of society [43][44]. Moreover, data security is enhanced through the digitization of legal activities such as commercial trade, construction tenders, and international relations [45].

2.2 Integration of Digital Governments and Sustainability to Improve Quality of Life

The integration of digital technologies has become a part of sustainability initiatives to identify and meet social needs and requirements, leading to the development of quality of life within the government's sustainability plan (*See Appendix A*)

¹ United Nations World Commission on Environment and Development.

[46]-[50]. According to the three-pillar sustainability model, the digitalization initiative focuses on the three factors such as social, economic, and environmental to improve the quality of social life [7][51][52].

Information and Communications Technology platforms and social media have contributed to the digitization of government activities such as online rudeness [53][54]. Online rudeness is the process of determining social satisfaction and the scope for improvement. For example, the public healthcare sector in the UAE is achieving social cohesion by improving the quality of life of Emiratis [8][55][56].

Online consultation for doctors and health examination facilities that use ICT and artificial intelligence to obtain telehealth services is supported as it improves the quality of life by treating critical mental and physical health problems such as obesity and dementia through teleconsultation using digital technologies [57][58].

The convenience of transportation facilities is part of the sustainability plan that has contributed to improving the quality of life [59][60]. [9], commented that the government's sustainability plan has incorporated digitization into customer services supported by database storage. Database storage integrates customization options that improve the social accessibility of government legal, health, transportation, and tourism services [61]-[64]. The social accessibility of services improves financial transactions between members of the community, resulting in economic sustainability [10][65][66]. In addition, waste management technology has been integrated into the reduction of environmental sustainability resulting in the introduction of View a healthy environment [67][68]. Providing a healthy environment improves the quality of life by eliminating critical respiratory diseases such as asthma [69].

2.3 Asian Digitization Practice

China's practice [11] has embraced embedding and empowering the role of startups in providing public services within the digital government initiative as part of sustainability plans in relying on the private sector, through outsourcing government services to develop government work and the supply chain [70]-[74]. Thus, the study was

based on the triple sustainability criteria "economic, environmental and social", to contribute to enhancing the efficiency and effectiveness of services to maintain organizational performance [75]-[77]. Moreover, the introduction of modern ICT has increased the demand for outsourcing and diversified channels for its availability around the clock to overcome social challenges [78][79].

Thus, sustainability included the principles of governance in the management of projects and social initiatives in China, where the focus was on ensuring the opportunity for the community to participate in the development process through feedback in the preparation and updating of policies that constitute the efficiency and effectiveness of social, economic and cultural services [12][80][81][82].

2.4 Conceptual Network for Social Sustainability

In a similar study, concepts of social sustainability dealt with infrastructure standards to enhance community well-being [83]-[86]. The focus was on the foundations of social sustainability, which dealt with understanding the perspective of *Social Infrastructure* and its relationship to *Quality of Life*, to measure the results of its outputs on *Social Sustainability* [87]. Thus, the enactment of policies and laws was the first supporter of the implementation and application of the concept of social sustainability in decision-making through the formation of interdependence or correlation between standards and systems to form a comprehensive picture of the shared benefits between social infrastructure and quality of life [13][88][89][90].

In a similar study [14], the concept of quality of life (QOL) was discussed by issues that negatively affect natural factors, including climate. Where the study was evaluated through three factors (1) concepts of quality of life and indicators, (2) assessment of indicators related to the quality of life, and (3) the correlation of indicators with environmental sustainability. According to the spider diagram (*See Appendix B*), it can be concluded that the concept of quality of life can be measured across many patterns that can lead to social happiness and life well-being [91]-[96].

The following can be concluded that the quality of life is one of the pillars of sustainability that aims to satisfy individuals and social needs to create social

integration compatible with the infrastructure of sustainable social development [97]-[101].

3. RESEARCH METHODOLOGY

The research study will incorporate both qualitative and quantitative approaches in conducting the research methodology. According to [13], qualitative methodology in a research study involves collecting and analyzing existing literature, including journal articles, archival data, newspapers, books, and periodicals. Quantitative methods, on the other hand, focuses on the collection and analysis of numerical data [14]. In this chapter, the qualitative and quantitative methodology will be used to try and expand on the correlation between digital governments and sustainability in improving quality of life.

Data collection will be achieved through information and computer technology. The qualitative methodology will be conducted by collecting and analyzing data provided by the Community Development Authority (CDA), which plays a critical role in regulating and enhancing social development standards in the UAE. Data collected will focus on the digital services provided by the government, including delivery of public health services, business e-commerce, community development, transport, and information development.

Quantitative data, on the other hand, will be collected through online platforms like social media. The study framework involves providing social services (C2C) that add value to the welfare of citizens online. Social media will enhance data collection by analyzing the feedback provided by customers who utilize the various social services. The study will collect data that focuses on customers' security when conducting online activities and the reception and acceptance of the transformation from physical services to online social services. The combination of both qualitative and quantitative research methodology will allow the research to achieve reliable and credible results that will be used to develop informed judgment of the topic.

4. DATA GATHERING AND ANALYSES

This research study included the practices applied

in the Community Development Authority², CDA aims to regulate and enhance the standards of social development (*See Appendix C*) in Dubai through "policy analysis and development, proposing legislation, developing and monitoring quality standards and systems, and ensuring the availability of social services" to achieve sustainable social development [12][102][103].

Furthermore, CDA sought to apply the best methodologies and electronic applications in the main services to enhance the infrastructure in line with the strategy of the Smart Dubai Plan by applying the ITIL³ approach, project management methodology, and Gartner Research in the CDA environment to create innovative ideas and techniques to predict smart services that help in achieving CDA strategic indicators and initiatives related to social sustainability [104], which included the "Green Society" initiative by creating a virtual platform that reduces energy consumption and activating "MPLS"⁴ technology to simplify network management and data transfer [14][105][106].

According to the interview and CDA social sustainability criteria (*See Appendix D*) we conclude the following, it is observed that the Digital Government services In UAE provided periodic benefits services such as tuition fees, social assistance, air conditioning fees, and house maintenance [107]-[112]. This service provides by the digital government, and that helps to cover the basic expenses without the line of entitlement. In the current periods, it is observed that the digital alteration or transformation in mechanism helps to provide the services related to electric and other expenses to the private as well as the public sectors [113]-[118]. In UAE, the Digital government services help to change the traditional services in the community and increase competitiveness [119]-[122]. It is observed that the UAE digital government using modern technologies in the mechanism, Artificial intelligence, and the smart platform, and the CDA applies the digital technologies in the main service by the latest system [123]-[127]. The aim of using these technologies and the smart platform is to activate the artificial intelligence in the system to renew the files and ensures the quality of life. From the

² A government body established in 2008 by Law No. (12).

³ ITIL - IT Infrastructure Library framework.

⁴ MPLS - Multiprotocol Label Switching.

primary research, it has been found that the smart application, internal joint initiatives, and the executive councils help to update and improve the services [128].

Thus, technologies and AI have been used to increase the effectiveness of digital government applications. It has been found that the mechanism in designing the social services, dependence on the information technologies, and the implementing e-transformation in the service are the main challenges faced by the authority of the community development to activate the digital services [129]-[134]. To improve the business continuity, the community development authority and the digital government service provider uses sustainability, adds the digital government indicators, and the various electronic services help to improve the business continuity [135]-[139].

Mainly the sustainability and the component of life that social needs, element of the electronic services help to concentrate on the sustainable development and to gain the community wellbeing to improve the quality of life [140]-[144]. From the primary research, it is also observed that the link between the government services and sustainability in UAE is these both aspects help to create a positive impact on the stakeholders, influence the decision-making process and provide institutional goals. The sustainability principles help to add better services and digital technologies in the government services by adding the sustainability policy [145]-[148].

Moreover, based on the literature review conducted, the Government activities regarding digitalization have been helpful for the public service as it has provided great aid to information technology [149]-[151]. With the betterment in the information technology, the digitalized activities of the Government have been helpful for the administration in improving different sectors such as healthcare, transportation, law, and commerce. Along with that, the Government has been able to conduct activities such as community development [8]. During the period of the fourth revolution, the Government has adopted digital technologies like AI, Big Data, ICT, Blockchain, etc [9][152][153]. These have helped in boosting economic security along with improving financial transactions and social communication. With digitalization, the Governments sectors have started to allow the e-payments methods that have largely benefited the

people from the community. Furthermore, it is found that data security is also increased because of the e-commerce facilities [154]-[160].

It has been found also that the Government of the UAE has been successful in setting social cohesion by determining social satisfaction through the facility like online rudeness [11][161]. Digitalization in the health care service has emerged with facilities like online diagnosis, online health checks up, and tele-consultancy facilities that have been considered a part of the sustainability plan [162]-[167]. The integration of the e-commerce facility in sectors like transportation, legal, and tourism service has improved the community's financial transactions, which ensures economic sustainability. Implementing AI technologies in waste management also have helped the Government to ensure environmental sustainability [168]. Hence the digitalization has helped the Government to ensure a better quality of life for the people [169]-[171].

In addition, research revealed the Asian country China has implemented digital facilities in public services like transport or healthcare [172]-[175]. China has relied on the private sectors to implement digital technologies as a part of the sustainability plan regarding social, economic, and environmental sustainability with the help of Government outsourcing [13][176]. China has ensured the scope for society to participate in the digital development process so that diverse channels are being open for mitigating social challenges [177]-[180].

The literature review has also found that the enhancement of lifestyle and well-being of the people is referred to as social sustainability [181]-[184]. It is dependent on the standard of the infrastructure of the respective countries. Hence the Government is responsible for maintaining a good infrastructure to produce social sustainability and improvement in lifestyle.

• **Recommendation**

- Increase in the number of academic studies and research (Qualitative and Quantitively) in the field of digital technology.
- Emphasis should be placed on social innovation (policies and strategies) to guide the best use of technology and the Internet of Things.

- Highlight the role of digital ethics at all levels, to reduce the misuse of digital technology in the field of privacy.
- The benefits have to be identified and accordingly addressed.
- Cybersecurity is such a big data concern that data protection experts need to be dedicated to the digital world.

5. CONCLUSION

In conclusion, it is clear to us that we can identify the positive relationship between e-government and social sustainability, which affects improving the quality of life for humans and society, as it is related to the volume of policies and initiatives whose outputs can be measured and managed within the key performance criteria and indicators for sustainability and quality management to improve social satisfaction.

Moreover, smart technologies have helped from an e-government perspective by highlighting the role of governance in the credibility of digital transactions in the privacy of society and the preservation of the sustainability of natural resources.

Therefore, the conclusion of our recommendations was based on the following KPIs formulated and measured annually by the CDA, to enhance the quality of life enablers. Since these indicators or KPIs are considered as a variable value that can affect the level of social well-being;

- The percentage of correlation between CDA objective and sustainability.
- The percentage of building using eco-friendly A/C.
- The percentage of achieving the results of social sustainability objective.
- The percentage of saving in database environment cost.
- The percentage of achieving Dubai paperless strategy.
- Reduction percentage in several printers.

Thus, to achieve the competitive rate of strategic indicators, CDA shall strengthen the focus of community awareness and include the community in the results of its initiatives, provided that its future projects include the concept of business sustainability governance.

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APPENDIX

A – The Model

B – Quality of Life Dimensions

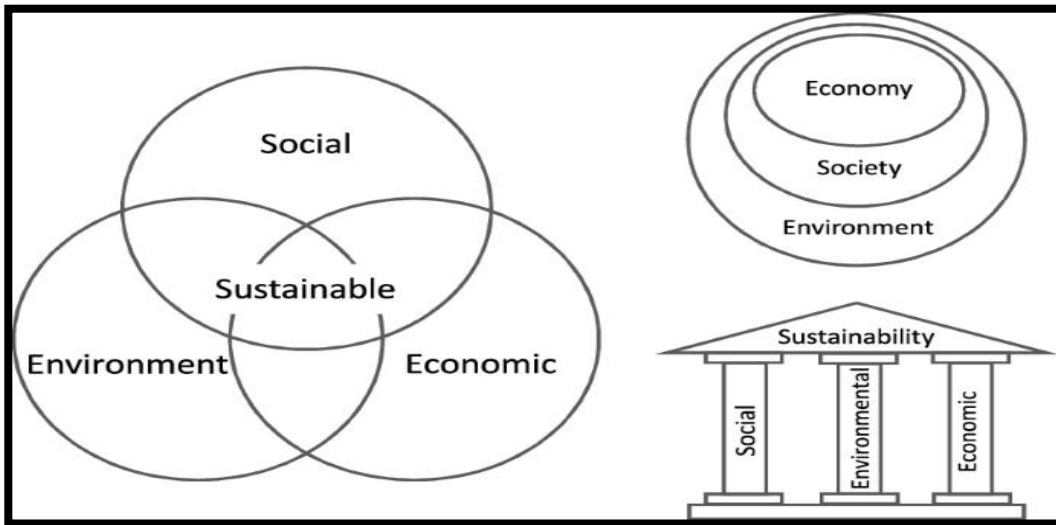
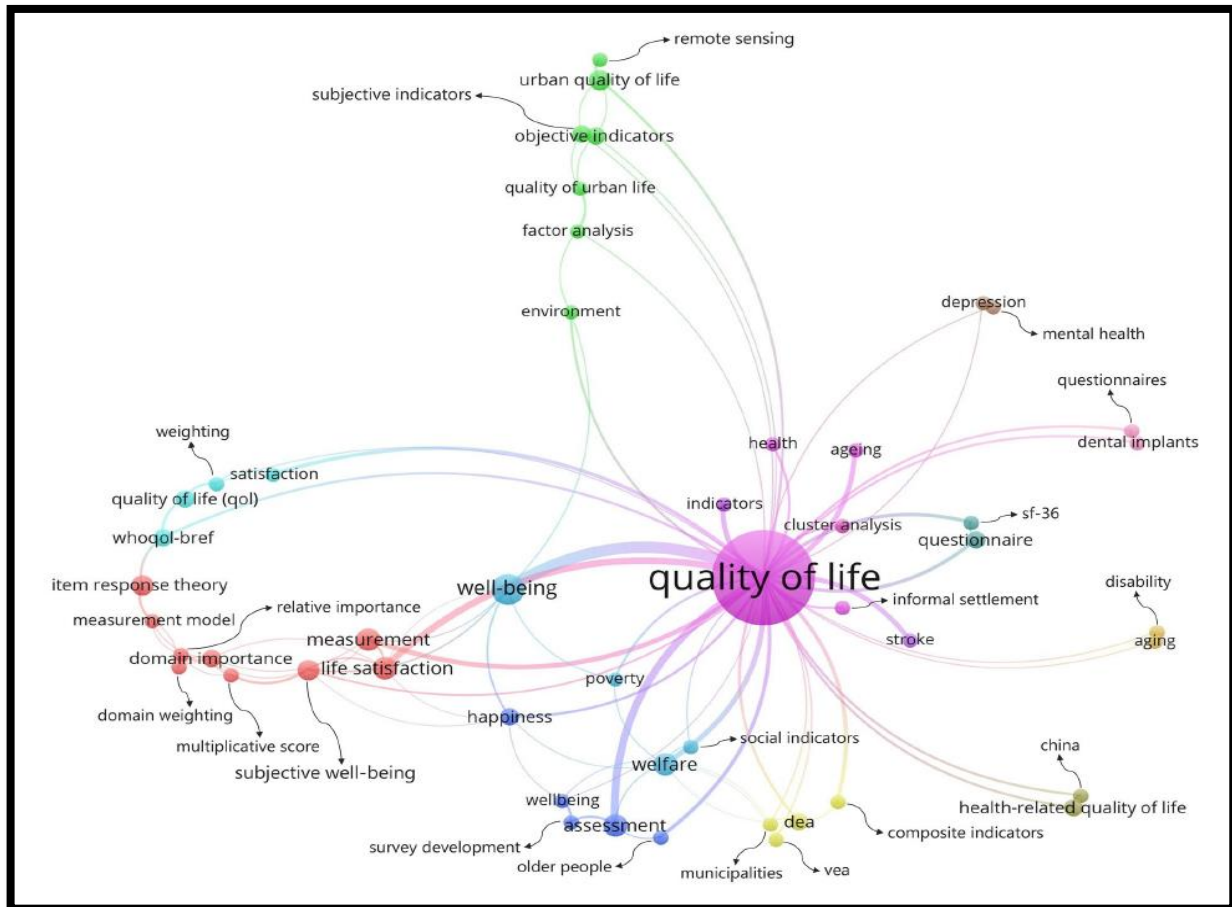


Figure 1- Three Pillars of Sustainability Model



C - CDA Social sustainability criteria

#	Criteria	Practices
1	Educational workshops and awareness	That the community contribute to the consolidation of values and family solidarity by supporting the children of needy families in meeting their educational needs and reducing financial accumulation.
2	Health insurance	Supporting the elderly and meeting their living needs which includes the health / living field
3	Empowerment plan	In the process of signing the agreement with Al Tayer Group, it will enable individuals from the Emirati community
4	Human rights	Preserving civil rights through harmony between the parties of society and all nationalities without compromising moral values
5	Community engagement (volunteer)	The Volunteer Law has contributed to inculcating the concepts of strengthening social cohesion through voluntary community initiatives for Emirati society without charge, which has contributed to the presence of investors of other nationalities wishing to contribute or volunteer in a way that serves the community
6	Fair labor practices	Among the repeated initiatives during the month of Ramadan, which are concerned with honoring the worker and adopting the target group based on the size of the shareholders
7	Social policies	Update policies to align with international needs, practices, and surrounding variables

D - CDA Interview Question

Managerial level – Interview (Khalid Alramsi-Excellence Department Director)

1- **What are the digital government services provided to the community, and contribute to the development of social life?**

Periodic benefits service (house maintenance,

tuition fees, air-conditioning fees, social assistance). These services help the category of citizens without the line of entitlement (low salaries) in covering basic expenses.

2- **How has technology or artificial intelligence been used to provide round-the-clock digital government services to ensure the quality of life?**

The UAE focused on the perspective of modern technologies in the mechanism of providing government services. His Highness Sheikh Mohammed bin Rashid insisted that visits be reduced, and services are made more flexible by providing them with the latest electronic technologies. Moreover, the applications help in understanding the needs of consumers and predict when visits and requests will be made. Thus, the stored data has helped accelerate the pace of applications to achieve sustainability in meeting social needs.

3- How effective is the use of digital government applications in improving the quality of services?

Smart applications have become an important element in our daily lives, as they constitute the main leadership axis that supports us in making daily decisions, on which we have become completely dependent. Thus, government applications facilitated the traditional procedures, which were consuming a lot of time and effort to be accomplished through one window.

4- What are the challenges faced by the Community Development Authority in activating the digital government?

It can be said that the mechanism of designing social services is still facing a major challenge in the application of digital government, as the majority of service recipients are elderly and cannot use the applications. Moreover, accelerating the concept of digital government is a prerequisite for the standards of excellence, and here lies the main challenge in educating the database to go to electronic services, which facilitate the process of prospecting and approvals of the terms of service.

5- How are digital government applications evaluated to improve business continuity?

There are operational indicators that are measured periodically to assess the efficiency and effectiveness of the digital government, in addition to the initiatives launched by the Executive Council, such as a paper government and 100% electronic services around the clock, all of which are in the interest of business continuity.

6- How can the development of digital government services in the social field contribute to improving the quality of life?

Quality of life is the new government orientation through the sustainability of the requirements and

availability of the components of life that serve social needs, and here is the component of electronic services that are compatible with the working mechanism.

7- From Community Development Authority perspective, what is the link between government services and sustainability?

Sustainability aims to consider the environmental consequences in all decision-making processes to sustain social services, where smart applications help the decision-making process.

8- How do sustainability principles affect digital government services?

Governments play a key role in achieving development goals and objectives through the development and implementation of frameworks, standards, and legislation for social sustainability policy, and the focus of governance has been to ensure the participation of civil society.

Managerial level – Interview (Aisha Harib - Head of the Department of Social Responsibility)

1- What are the digital government services provided to the community, and contribute to the development of social life?

According to the law establishing the Community Development Authority, the authority's competence is to provide social services to the Emirati community (social benefits, services for the elderly, groups most vulnerable to harm, human rights protection, neighborhood councils) and the authority sought to convert 80% of its services into smart services provided through electronic applications.

2- How has technology or artificial intelligence been used to provide round-the-clock digital government services to ensure the quality of life?

Artificial intelligence is the modern approach to government services, as the authority seeks to provide services through smart platforms and applications around the clock to serve all segments of society. Therefore, the main services are considered a basic requirement that is provided on the smart services platform to adapt to the nature of the needs, including the call center and self-update on the benefits service.

3- How effective is the use of digital government applications in improving the quality of services?

There is a major requirement by the Executive

Council to update and develop services on government application platforms, and internal and joint initiatives are being prepared between government agencies to improve and reduce government work procedures. Thus, the number of transformed services is measured annually, in agreement with the management team, to select urgent services and follow up on feedback on previous services.

4- What are the challenges faced by the Community Development Authority in activating the digital government?

This part fully complies with the size and strength of the Information Technology Department, as it depends on the capabilities and enablers that must be available in the work environment and how to reach the customer segment and educate them about the total awareness of the need to use smart services.

5- How are digital government applications evaluated to improve business continuity?

There are basic indicators developed by the smart government to ensure that government services conform to digital government standards, in addition to the role of the Community Development Authority in obtaining the ISO certificate for business continuity that supports the business sustainability period during crises.

6- How can the development of digital government services in the social field contribute to improving the quality of life?

The development of government services has contributed to achieving standards of compliance with the regulations and laws enacted by government agencies to comply with sustainable development (standards and regulations), as the outputs of sustainable development focus on achieving community well-being by adopting awareness workshops, the importance of health insurance, financial empowerment initiatives, and social policies.

7- From Community Development Authority perspective, what is the link between government services and sustainability?

In CDA Sustainability is defined as a business/ethical approach to creating long-term value by looking at how the processes in the Environmental CDA operate in social, economic,

and environmental terms. Part of our sustainability mission is to deliver CDA (services) objectives within sustainable approaches, which aim to make a positive impact with stakeholders (external and internal).

8- How do sustainability principles affect digital government services?

The Community Development Authority seeks to manage and measure social sustainability practices regularly by aligning the strategic agenda with key performance indicators. Furthermore, design the operational processes according to ISO26000 CSR Practice Standards. In addition to launching policies related to the governance of social sustainability, such as (volunteer policy, sustainability in human rights, and institutional partnership).

Managerial level – Interview (Amal Alsiri - IT Department Director)

1- What are the digital government services provided to the community, and contribute to the development of social life?

CDA provides, through its digital channels, many social services, volunteering services, social facility licensing services, and human rights protection services, as these services aim to enhance the well-being of the UAE society. These services are available through smart applications, the official website, and the Customer Happiness Center.

2- How has technology or artificial intelligence been used to provide round-the-clock digital government services to ensure the quality of life?

Currently, CDA applies digital technology in its main services through the latest systems that are compatible with the needs of society and that are available on smart applications. It also aims to activate artificial intelligence in the analysis of requests and the renewal of private files for beneficiaries.

3- How effective is the use of digital government applications in improving the quality of services?

Quality standards are complied with through continuous improvement based on feedback analysis observations and updates received from periodic measurement indicators, where the focus is on sustainability and raising the satisfaction of channel users. There is also an indicator of

customer happiness about the services of the Community Development Authority, which requires continuous improvement of the mechanism of service delivery and the quality of applications that contribute to enhancing the level of service.

4- What are the challenges faced by the Community Development Authority in activating the digital government?

From an IT perspective, the main challenges in implementing e-transformation are the presence of several resistances to change by employees who have completed more than 15 years, depending on the nature of government and individual culture. In addition to the main capabilities that exist in the government entity, which is characterized by weak infrastructure and lack of capabilities to implement the smart government structure that is followed in preparing and developing employee culture, in addition to that, the e-government included the need to move to change patterns and practical procedures to be on the smart platform as soon as possible.

5- How are digital government applications evaluated to improve business continuity?

To maximize the impact of sustainability in all departments and achieve excellence in sustainability, we believe that in the long run, sustainability adds a significant impact on the quality of the relationship between employees, customers, and investors by instilling social sustainability practices, which is reflected in the efficiency and effectiveness of organizational performance of government services.

6- How can the development of digital government services in the social field contribute to improving the quality of life?

Recently, the authority's strategy has been developed to align with the sustainability strategy to attract a larger segment of investors and shareholders, and there is also a report on sustainability practices in the GRI report.

7- From Community Development Authority perspective, what is the link between government services and sustainability?

Government services in government agencies are compatible with the systems of the Executive Council and the smart government, where standard indicators have been allocated to ensure

full commitment and achieve the vision and institutional goals of the institution. Here was the link to the sustainability criterion in performance through the activation of many programs and initiatives related to job satisfaction and job affiliation, where the Community Development Authority wants to improve employee productivity by setting smart goals on an annual basis linked to the authority's strategy.

8- How do sustainability principles affect digital government services?

By committing to the operational initiatives concerned with preserving the environment and the strategic plans that have been developed by the Department of Sustainability and Investment.