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# The transition to E-Government and the preparedness of employees in Sharjah

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## Abstract:

Given the impact of Covid-19 pandemic that has affected the world, the relevance of e-services has never been as high. The UAE government has for many years been engaged to rapidly adopting smart government services within the state sector with the aim of increasing the quality of electronic-based services. The UAE government has developed Vision 2021, which is a strategic plan for the future of the country. Accordingly, the authorities in the Emirate of Sharjah established the Supreme Committee for Digital Transformation. The purpose of this paper is to explore the preparedness of public employees in Sharjah and the extent to which they are ready for the shift to digital services. It provides an evaluation of the preparedness of employees based on an examination of their perceptions of e-government and their level of readiness to engage the digital transformation. The paper uses Everett Rogers' diffusion theory (1962) as the basis for its theoretical framework. Diffusion theory refers to the process whereby novel technologies, products or concepts are diffused and adopted within a social system. A survey was administered to 102 public workers that comprised both quantitative and open-ended qualitative questions. According to the study findings, although significant progress has been achieved, public workers are still for the most part undecided about the broad applications of the shift towards e-services in Sharjah.

**Keywords:** e-Government, digital transformation, employee preparedness, diffusion of innovation, Sharjah, UAE

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## **Introduction:**

Due to the Covid-19 pandemic that has impacted the world, the relevance of electronic services has never been so high. The effects of the pandemic have driven multiple sectors to move online and have led to serious disruptions in various industries. In the context of higher education for example, over the last two decades, universities in the UAE and other parts of the world have debated the shift to online learning with limited concrete results. With the pandemic, the transition to online teaching took only one week to put in place. Other sectors, particularly in government, are making similar efforts to move their services to online platforms through the application of remote work systems. Based on the definition suggested by the Ministry of Human Resources and Emiratization, a remote work system refers to the conditions whereby employees perform their tasks in various locations outside their normal workplaces.

The government of the UAE has concentrated over the past decade on rapidly adopting smart government services within the state sector to raise the quality of its electronic-based services to global standards. The UAE government has developed Vision 2021, which constitutes a strategic plan for the future of the country in the sectors of government services, economy, education, health, environment, housing, and infrastructure. Based on this vision, the authorities in the Emirate of Sharjah established the Supreme Committee for Digital Transformation. In 2017, a decree was issued by His Highness Sheikh Sultan bin Mohammed bin Sultan Al Qasimi, Crown Prince and Deputy Ruler of Sharjah that initiated the establishment of “The Supreme Committee for Digital Transformation” (Government of Sharjah, Executive council, 2017). The aforementioned committee is responsible for establishing policies and strategies for the transition to digital services within the government sector for the Emirate of Sharjah, in addition to developing suitable guidelines for implementing such services (Government of Sharjah Executive council, 2017).

The UAE is one of the most connected countries in the world. It is ranked 1st among all the Arab states and 26th among all 139 countries assessed (World Economic Forum, 2016). A 2018 study found that 100% of UAE residents use the Internet and 99% own a smartphone (Dennis,

Martin, & Wood, 2018). The UAE has the necessary infrastructure for the transition to e-government, but for the transition to be successful depends on the preparedness of government employees in Sharjah for adopting digital government services. This research aims to evaluate the shift to digital services by the government of Sharjah with a primary focus on the present level of preparedness of government workers in Sharjah with respect to e-government. There is a crucial need to investigate this subject, as the authorities in the UAE regard e-government as a crucial aspect of the UAE 2021 plan. Furthermore, due to the ongoing Covid 19 pandemic, the importance of assessing the preparedness of public workers for e-government services has significantly increased.

### **Literature review:**

The existing literature on the significance of Information Communication Technologies (ICTs) in the transition to e-Government is quite extensive. ICTs are defined broadly as technologies that help transform the services and processes utilized within the organizations (Gupta, Dasgupta, & Gupta, 2008). They include, among others, the internet, radio, TV, mobile devices, apps, and software that are used to communicate, store, and manage information among various stakeholders within various sectors and organizations. In the context of the developing world, Ndou (2004) explored the opportunities and difficulties related to e-Government experienced within developing nations. The author concentrated on the problems that went beyond technology. She argued that the reasons behind the deficiencies of government sectors in developing nations included the inadequate conceptualization of e-Government as well as the delayed adoption of advanced technologies. Furthermore, she argues that it is imperative for the leadership to be transformed, and the institutional frameworks and skills to be reinvented.

In 2001, the American Society for Public Administration carried out a study aimed at categorizing the online presence of different countries into five stages: emerging, enhanced, interactive, transactional, and seamless. It revealed that developing nations have barely reached the initial “emerging” stage and have minimal possibilities of advancing to the following “enhanced” stage. Al-Khouri and Bal (2007) presented a discussion on electronic

government within GCC states. The researchers contended that countries in that region are experiencing challenges with making the transition to e-Government as a result of the difficulties with verifying user identities in the online environment. In their study, they discussed the different phases of the e-Government development model proposed by Layne and Lee (2001): 1) Catalogue, 2) Transaction, 3) Vertical integration, and 4) Horizontal integration. In the initial stage, the organization is required to develop its online presence. In the second and third stages, services provided by the government are transformed from different governmental levels into an integrated database. In the last stage, e-government extends to incorporate all levels and departments of the government. During this stage, integration must occur among e-government organizations (Layne & Lee, 2001). To understand the e-government development stage reached by GCC states, Al Khouri and Bal conducted a postal survey along with telephone interviews to investigate the plans and strategies adopted by the government for the implementation of government projects. A question of particular interest in the survey inquired about who is in charge of the implementation of e-services within government organizations. The findings revealed that 61.9% of participants concurred that all public workers have a general responsibility, while information technology workers in particular are pivotal actors in the process of implementing such projects. Additionally, according to a response from the interviews pertaining to e-Government, the IT department should be responsible for preparing the roadmap for the implementation of e-government services for other departments, since such departments are responsible for operating different core tasks (Al-Khouri & Bal, 2007, p. 92).

### **E-Government:**

According to the definition of Ambali (2010), e-government is the utilization of ICTs to deliver convenient e-services to citizens, thus increasing the accessibility for the citizens to all the services provided by the federal government. Ambali assessed the consequences of e-government for the state sector. He contended that the state sectors within developing nations could be confronted by certain challenges due to policymakers. Additionally, he claimed that modern technologies necessitate government

sectors to enhance their performance to ensure that their work efficiency is maintained.

For Al-Khoury (2012), e-government refers to the usage of ICTs to facilitate the availability of government data and functions as a means of delivering public services to the public and business organizations. He argued that for e-government to be successful, a relationship based on trust should be established between the government and citizens. He highlighted the significance of ICTs as a fundamental component of contemporary societies. Nevertheless, the readiness of various aspects in society has particular importance, including social and political sectors. He further concluded that investments made for the development of ICTs, particularly in the government sector, should be parallel to the reorganization of administrative systems.

Alshehri and Drew (2010) discussed the significance of developing effective e-government services to initiate considerable transformations in terms of communication and interactions among the citizens and the government. The primary benefits of the implementation of e-government services include the opportunity to cut costs, enhance services and increase efficiency at both local and regional levels within the government sector. The authors examined the various definitions and meanings pertaining to e-government. According to them, e-government can be defined as digital government and electronic governance. Additionally, they merged the various definitions provided in their study in the following way: e-Government projects use ICTs to enable citizens and organizations to reach government services and documents. Furthermore, the changes made to government services are fundamentally based on the reorganization of structures, processes, and the overall culture within the government. Citizens should be empowered by the transition to e-government.

According to Fang (2002) e-government is “a way for governments to use the most innovative information and communication technologies, particularly web-based Internet applications, to provide citizens and businesses with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in democratic institutions and processes” (p. 1).

Additionally, he elaborated on the eight distinct types of e-Government:: 1) Government to Citizens (G2C), 2) Citizens to Government (C2G), 3) Governments to Business (G2B), 4) Business to Government (B2G), 5) Government to Government (G2G), 6) Government to Nonprofit (G2N), 7) Nonprofit to Government (N2G), 8) Government to Employee (G2E) (Fang, 2002, p.1).

In this article, the definition of e-government adopted is the utilization of state-of-the-art technologies to facilitate access to government services and information to fundamentally change the relationships among citizens, businesses and the government.

### **Smart government:**

In the literature, various definitions have been given for the concept of smart government and how it is differentiated from the notion of the smart city. According to Anthopoulos and Reddick (2016), smart government is “the next step for e-government, with the use of innovation” (p. 353). Furthermore, they noted that “innovation can lead to the production of new public value, that is ‘value created by the government through services, laws and regulations, and other actions’ and in this respect a triangle controls the migration from e-government to smart government, which consists of politics, values and evidence” (Anthopoulos & Reddick, 2016, p. 353). Hence, smart cities represent a component of the overall structure of smart government as they are the places in which smart government practices are realized.

### **Digital transformation:**

According to the findings of the literature review, there is no consensus regarding the definition of digital transformation. Henriette, Feki and Boughzala (2016) conducted exploratory qualitative research to devise a generalized definition for the notion of digital transformation, which they termed “digitalization”. It is claimed to be a social phenomenon as society is transforming and developing into a new age in which social structures are being comprehensively changed. As a result of the evolving societies, organizations are impacted by the changes that occur to their cultures

and structures. According to the definition of digital transformation in organizations proposed by Henriette, Feki and Boughzala, it is “a disruptive or incremental change process. It starts with the adoption and use of digital technologies, then evolving into an implicit holistic transformation of an organization, or deliberate to pursue value creation” (p.2).

### **UAE Vision 2021:**

The government of the UAE has established a strategy reference of the goals that must be addressed by every Emirate federal institution. The Vision is divided into four parts with objectives that should be reached by 2021, which are: 1) United in responsibility, which emphasizes the significance of embracing the national identity, culture and values of the UAE; 2) United destiny, whereby the government is responsible for continuing the legacy of the founders, guaranteeing the nation’s safety and security, and ensuring that global development standards are maintained; 3) United in knowledge, which seeks to make the citizens of the UAE the driving force of a knowledge economy. An increased number of citizens will pursue higher education while the government will empower them in their chosen discipline by flexibly adapting innovative technologies. A state-of-the-art communication and information infrastructure will be developed that will be advantageous for firms and citizens by enabling transactions and interactions through enhanced connectivity. The final part of the vision is 4) United in prosperity, which is aimed at improving the health and lifespans of the public, providing equal access to high-quality education opportunities, developing the public infrastructure and enhancing the efficiency of public services, and acknowledging the responsibilities of the UAE with respect to environmental concerns. In order to achieve the objectives of the third component, United Knowledge, it is critically important that e-government services are implemented and applied effectively across both private and public sectors.

### **Employees’ preparedness:**

Bernerth (2004) characterizes preparedness for a change to be an emotional state whereby the individual exhibits the readiness to accept and adopt the changes. The transition into a stage that none have identified or previously

experienced requires a combined effort to be accomplished (Samaranayake & Takemura, 2017). As part of the change process, various problems may emerge as a result of the employees' lack of clarity regarding the future. A specific challenge that the agent responsible for transforming the organization may face is unexpected responses. Distinct responses are connected to these factors: personal attributes and attitudes, motivations, expectations, educational level, and individual experiences (Ilgen & Pulakos, 1999).

### **Research question:**

This article aims to investigate a significant transformation in the government institutions operating in the public sector in Sharjah, namely the transition to e-government. As indicated by the abovementioned research, the attitudes and preparedness of employees are critical for the transformation process to be successful. Indeed, Soumyaja, Kamlanabhan and Bhattacharyya (2015) highlighted the importance of investigating the understanding of employees regarding the change. Comprehensive knowledge of the employees' perspectives related to the transformation will assist managers with achieving the anticipated outcomes. This study examines a significant transformation in the government institutions operating within the public sector of Sharjah, namely the transition to electronic government.

The primary research question in this regard is: Are public sector employees in Sharjah prepared for the digital transition to the electronic government?

### **Theoretical framework:**

The theory of innovation diffusion is aimed at understanding the process through which an innovation is adopted by individuals within a social system. The adoption of an innovation requires the "full use of an innovation as the best course of action available" (Rogers in Sahin, 2006, p.14). According to the definition of Rogers, diffusion of innovation is "the process in which an innovation is communicated through certain channels over time among the members of a social system" (Rogers in Sahin, 2006, p.14). This definition comprises four primary dimensions: innovation,

communication, time, and social system. Roger defines an innovation as “an idea, practice, or project that is perceived as new by an individual or another unit of adoption” (Sahin, 2006, p.14). It could take the form of a concept, an instrument, a technology, a design, a technique or a trend. An innovation is not always required to be new; however, the person or social system must perceive it to be new (Rogers, 1983). Communication denotes the manner in which knowledge pertaining to an innovation is disseminated to society members in addition to the channels utilized in the communication procedure (Rogers, 1983). For Rogers (1983), the type of communication that has the greatest influence is interpersonal communication as it enables the process of adopting innovation to transition from awareness to complete adoption. Time is the period of time required for a person (and society) to transition from being aware of an innovation to complete adoption and is a key factor in the measurement of two primary processes: the time taken for a person to adopt an innovation and the time taken for a social system to adopt the innovation. In this context, a social system is defined as a collection of individuals participating in a problem-solving process. It could be comprised of farmers attempting to determine improved methods of fertilizing their land, or a group of educators attempting to enhance their communication with students.

An element of Rogers’ theory that has particular importance is the innovation-decision process, which is comprised of five stages. The initial knowledge stage involves the first occasion that the person encounters the innovation. During this stage, the person enhances their understanding of the what, how and why of the innovation (Rogers, 1983). It incorporates three types of knowledge: (1) awareness-knowledge, (2) how-to-knowledge, and (3) principles-knowledge (Rogers, 1983). In order for the person to adopt the innovation, it is firstly necessary for them to be aware of its existence, then he/she must develop a thorough comprehension of its functionality as well as why adopting it can be beneficial for them (Rogers, 1983). Secondly, the persuasion stage denotes the person’s existing opinion regarding the innovation, which could be positive or negative based on the level of ambiguity. This ambiguity can be remedied by the person interacting and communicating with their immediate peers. The peers and friends with whom they have a trusting relationship have importance for

finding information and forming their opinions regarding the innovation (Rogers, 1983). Thirdly, the decision stage is where the person decides whether the innovation should be adopted or rejected. The person generally decides to adopt the innovation after they have tried it in order to assess its effectiveness and benefits from his/her perspective. The decision to reject the innovation could be made actively or passively. The person is considered to actively reject the innovation when they use it for a short period and then terminate its usage once the experiment is complete (Rogers, 1983). On the other hand, passive rejection is where the person makes no attempt to use the innovation. Lastly, in the implementation stage, the innovation is completely adopted. The probability that the innovation will be adopted on a permanent basis is dependent on how satisfied the person is with its usage (Rogers, 1983). As previously noted, the decision to discontinue usage can occur at any point, even subsequent to the adoption. Hence, discontinuance can come in two forms: replacement and disenchantment discontinuance (Rogers, 1983). The former is where the innovation is rejected in the early stages, whereas the latter occurs after the decision has been made to adopt the innovation but the individual begins to feel dissatisfied.

A further key element of Rogers' theory is his typology of the adopters, which he categorized into five classes: 1) Innovators, 2) Early Adopters, 3) Early Majority, 4) Late Majority, and 5) Laggards. This topology is founded on the concept of "innovativeness", which is the readiness to attempt new things or modify one's behaviors or routines (Rogers, 1983). Innovators account for only a small proportion of the populace and they are pioneers in terms of adopting innovations. They are members of higher socioeconomic classes with respect to their economic prosperity and education levels. They are generally considered to be risk-takers. As they have access to significant sources of funding, they can experiment with new innovations with no concerns for potential losses caused by a lack of profitability. Additionally, they have a thorough understanding of complicated technical and scientific matters and are capable of coping with increased ambiguity.

The second category of individuals who adopt an innovation are defined as early adopters and also only account for a fraction of the society. They have a significant influence in the social hierarchy and benefit from

an increased degree of opinion leadership. The early majority comprise approximately one-third of a system's members, making them the biggest category. Although they have frequent interaction with their peers, they are rarely considered opinion leaders. Their adoption of the innovation is calculated and the process involved can be relatively long. The late majority also account for around one-third of system members. Characterized by skepticism and caution, their decision to adopt is based on peer pressure as well as economic need. The final group who adopt are classed as laggards. Their economic resources are relatively constrained, they regard innovations with suspicion and their point of reference is in the past.

### **Methodology:**

The primary method of collecting data in this study was a survey. Attached to the survey was a letter of informed consent that the participants were required to accept prior to completing the survey. The survey was administered via Google Forms, which enabled PDF reports to be generated for every participant, as well as an extensive Excel spreadsheet that included all responses. Subsequently, Statistical Package for the Social Sciences (SPSS) software was utilized for analyzing the data quantitatively. Thematic content analysis was applied to the open-ended questions.

Non-probability sampling was employed. The objective was not to produce generalizations, but to investigate and comprehend the level of preparedness of public sector workers in Sharjah for the digital transition to electronic government. Purpose sampling was preferred, as this enabled the researcher to concentrate on those participants with suitable attributes and qualifications who could satisfy the aims of the research (Patton, 2002). The participants were all public sector employees working in various organizations. They were deemed to have suitable qualifications to deliberate on and reply to the questions in the survey. A total number of 102 public sector workers in Sharjah responded to the survey.

Both quantitative and qualitative questions were included in the survey. The former comprised yes-no and Likert-scale type questions, while the latter consisted of open-ended questions that encouraged the participants to comment on and provide explanations for their answers in narrative

form. The survey was separated into four primary parts. The first part included questions aimed at determining the demographic characteristics of the participants. The second part incorporated questions related to their computer proficiencies and digital engagement. The other two parts evaluated the preparedness of the employees with respect to the transition to e-government.

Excel spreadsheets were also used supplementary to SPSS. The filter functionality was employed for the purpose of isolating the distinct responses as well as the demographic characteristics of the participants. For instance, to analyze the responses with respect to any differences based on gender, they were filtered so that only those responses corresponding to female participants were shown in one sheet, while the responses given by males were contained in another sheet.

### **Description of the Data:**

With regard to the participants' demographic characteristics, 10 were in the 18-24 age group, 55 were between 25-34, 29 were between 35-44 and 8 were 45 or over (see Table 1). In terms of gender distribution, 72 respondents were female and 30 were male, which is a reflection of the demographic characteristics of the public workers. With regard to education level, the majority of participants had a bachelor's degree, while 18 had a high school diploma, 9 had a master's degree, 7 had a professional diploma, and 1 had a postgraduate degree. The specializations of the participants covered a variety of different professional and academic fields. For example, 16 were specialized in Communication, 9 in Engineering, 19 in Management, 7 in Computer Science, 6 in Law, 8 in Social Science, 2 in Islamic Studies, 1 in Arabic Language Studies, 1 in Psychology, 1 in Strategic Management, 1 in Education, 1 in Career Advising and Counseling, 1 in International Studies, 1 in History, 1 in Accounting, and 2 were specialized in Art.

**Table 1. Demographic characters of the samples**

Variable	Category	Percentage %
Gender	Female	70.59% (72 responses)
	Male	29.41% (30 responses)
Age	18-24	9.8% (10 responses)
	25-34	53.93% (55 responses)
	35-44	28.43% (29 responses)
	> 45	7.84% (8 responses)
Education level	High school	17.65% (18 responses)
	Diploma	6.86% (7 responses)
	University degree	64.71% (66 responses)
	Master degree	9.80% (10 responses)
	PhD	0.98% (1 response)
Professional level	Management	50% (51 responses)
	Executive	39.2% (40 responses)
	Technical	10.7% (11 responses)

Based on the job title framework of the Sharjah government, the respondents' job titles included management, executive and technical, where 51 were categorized as being managers, 40 were executives and 11 had technical positions.

The respondents were required to assess their computer or digital proficiencies and most of them rated them as "Advanced-Good" (79%), and a minority selected "Average" (16%) or "Basic" (5%). A key aspect of e-government is the website or platform used. Hence, the respondents

were asked which websites they utilized to determine their preferences and job necessities. A majority of the respondents (69%) selected the website of the Directorate of Human Resources in Sharjah, which is unsurprising given that many utilize this website in their daily work activities. Other websites utilized by the respondents in relation to their professions included the Sharjah Municipality (26%), Ministry of Interior (25%), Dubai Police (20%), Ministry of Education (13%) and the Municipality of Dubai (6%), while (8%) said they used other websites.

The following question was intended to inquire about the types of government applications the respondents downloaded to their own smartphones. The majority of the employees (62%) had downloaded the Ministry of Interior application, whereas (34%) had installed the Dubai Police application, (20%) had downloaded the Sharjah Park application, (12%) had downloaded the Ministry of Education application, and (17%) said they utilized other government applications.

### **Awareness of the E-Government initiatives:**

The government has established UAE Vision 2021, which establishes objectives for the future and the specific areas in which e-government should be developed. A total of 66% of the employees said they had awareness of the UAE Vision 2021 plan, while 34% said they had no knowledge of the vision. A follow-up question in this part inquired whether the government employees in Sharjah were aware of the Higher Committee of Digital Transformation of Sharjah, and 67% of the employees said they had no knowledge of it, while 34% were aware of the committee. With regard to their sources of knowledge of the UAE Vision 2021 and the Higher Committee of Digital Transformation of Sharjah, the primary sources were social media networks and communication with their peers with 51% and 30%, respectively.

### **Respondents' perceptions of the organization's preparedness:**

To investigate the extent to which the organizations were committed to completing digitalization, the respondents were asked whether the online presence of their organizations indicated their preparedness for the

transition to digital services. Most of the employees (92) stated that the organization for whom they worked had a presence online, while 7% said they did not. A follow-up question asked to the employees who replied “Yes” indicated that the majority of their organizations operated either a website, an application or a social media account, with 70% indicating website, 75% stating social media and 34% said their organization had developed an application. This question permitted the respondents to select more than one option when responding.

The respondents were asked to estimate the volume of paper utilized within their organization as an indication of the extent to which their organization is committed to complete digitalization. Approximately 55% of the employees said that the amount of paper used by their organization had decreased, while 33% said it had remained the same, and the responses of 11% indicated that it had in fact increased.

The study findings indicated that the most frequent device utilized within government organizations is the desktop computer (95%), followed by smartphones (45%), tablets (13%) and only (6%) stated that their organization had adopted smartwatches or smart TVs within their operations.

The perceptions of the respondents with regard to the question “Is the use of advanced technology a key factor in your company’s development?” demonstrated the extent to which they were willing to accept and adopt innovative technologies at work. There was complete agreement among the respondents, where 67% replied ‘strongly agree’ and 33% indicated they ‘agree’ (see Table 2).

**Table 2.**

Question	Category	Percentage %
The use of advanced technology is a key factor for your company's development?	Agree	32.67%
	Strongly Agree	67.33%
	Disagree	0.00%
	Strongly Disagree	0.00%

In response to the question “How do you rate your organization’s technological development?”, 47 of the employees indicated that it was either average or poor. More respondents said it was Average (37%), while (25%) rated the development as Good, 28% perceived the technological development to be Very Good, and only (9%) said it was Poor.

In terms of the employees’ opinions regarding the digital transformation of their organizations, 55% of the employees perceived it to be Average, 23% noted that it was Slow, and 20% rated the digital transformation to be Fast.

The survey contained two questions in Likert scale form. They were asked to state the degree to which agreed or disagreed with two statements: “The e-government transformation will facilitate my organization’s operations” and “The e-government transformation will facilitate customer services”. With regard to the first statement, 98% of the respondents indicated that they either agreed or strongly agreed, while only 2% responded with Disagree or Strongly Disagree.

In response to the second statement, “The e-government transformation will facilitate the customer services,” greater than 50% of the employees responded that they Strongly Agreed or Agreed (97%), while only 2% of responses indicated that the employees Disagreed or Strongly Disagreed (see Table 3).

**Table 3.**

Question	Category	Percentage %
The e-government transformation will facilitate organizations' operations	Agree	30.00%
	Strongly Agree	68.00%
	Disagree	1.00%
	Strongly Disagree	1.00%
The e-government transformation will facilitate the costumer services,	Agree	26.73%
	Strongly Agree	71.00%
	Disagree	26.73%
	Strongly Disagree	0.99%
	Agree	0.99%

In terms of the statement “My organization considers its online presence to be very important”, 92% of the respondents replied with Strongly Agree or Agree, while only 8% indicated that they Disagreed (see Table 4.).

**Table 4.**

Question	Category	Percentage %
My organization considers it online presence as very important	Agree	34.00%
	Strongly Agree	58.00%
	Disagree	8.00%
	Strongly Disagree	0.00%

Additionally, to further the exploration on the significance of an organization's presence on the Internet, the respondents were required to advise whether their organization had plans to develop their online presence. The majority of respondents (69.70%) said that their organization had plans for the future, whereas (33.30%) indicated that their organization had no clear plans to develop their online presence.

Another question inquired whether the organizations for whom the respondents worked had established a strategic plan for digitally transforming their services. Approximately 75% of the employees responded that their organization had such a strategic plan, while only 25% said that their organization had not developed a plan.

In response to the question “Which department is responsible of the digital transformation?”, around 50% of the employees stated that the responsibility should not be designated to a particular department, 27% stated that the responsibility for the organization’s digital transformation should be assigned to the IT department, 27% said it was the responsibility of the Strategic department, 22% believed that the Human Resources department were responsible, 16% said the Central Management Office should take the responsibility, and 15% noted that the responsibility for the transformation to digital services should be allocated to the Finance department.

### **Discussion:**

We will initially evaluate the potential relationship between the respondents’ demographic characteristics and their opinions of their preparedness as well as that of their organizations with respect to the transition to e-government. Subsequently, the diffusion of innovation theory will be applied to the study findings.

Correlations were not found among education level, the administrative position of the employee, age and the respondents’ answers to the survey questions pertaining to employee preparedness and their opinions on e-government and the transition to digital services. However, correlations were detected between gender and the perceptions of the employees’ preparedness. The gender distribution of the respondents was 70.5% female and 29.4% male. It appears that the public workers in Sharjah have equal perceptions regarding the progress of their organizations with respect to the digital transformation. Approximately 50% of the respondents from both genders stated that the speed of the transformation was Average. Nevertheless, with respect to the question about whether the employees were aware of the Sharjah Digital Transformation Committee, from the

total number of 72 females, 50 of them stated that they had no knowledge of this committee, whereas 22 said they were aware. Conversely, of the 30 male employees surveyed, 7 expressed that they had no knowledge, and 12 said they had heard of the committee. The female employees had increased awareness of the shift to digital services compared to their male colleagues. With the respect to the question regarding their perceptions of their organization's strategic plan for implementing the digital transformation, 47 females replied with yes and 20 said no, whereas 26 responded positively and 4 negatively.

With respect to the question pertaining to the employees' knowledge about UAE Vision 2021, the answers revealed an insignificant relationship between awareness and gender. The female respondents were asked about their awareness of UAE Vision 2021, with 28 responding that they had no knowledge, while 44 said they did. The answers given by the males were similar to those of the females, with 7 expressing they had no awareness and 22 stating that they did have knowledge of the plan.

### **Communication channels:**

Communication is a key aspect of Rogers' diffusion of innovation theory. This incorporates comprehension of the manner in which individuals in a social system are given information pertaining to an innovation and the channels through which this occurs. In the survey, participants were asked about how public workers in Sharjah were informed about UAE Vision 2021 and the Sharjah Digital Transformation Committee. The findings indicate that the most frequently utilized channel is social media, as approximately half of the respondents stated that these were the channels through which they received information. This was followed by interpersonal communication with their peers at work with a total of 32.3% of respondents, then broadcast media with 7.3% and radio with 5.8%. The channel with the least effect was the print media as only 5.8% of respondents stated that their source of information was newspapers.

## **Diffusion of innovation and shift to e-government:**

This study adopted the diffusion of innovation theory to investigate the process via which public workers in Sharjah adopt e-government. The four components of Roger's theory are innovation, time, communication channels, and social system. Innovation in this case refers to e-government, time is the period of time it takes for a social system to adopt an innovation, as well as the time it takes for the innovation to be adopted by individuals; in other words, to transition through the five stages of the innovation-decision process, namely knowledge, persuasion, decision, implementation, and confirmation. The social system denotes the public employees working in the following government organizations in Sharjah: NAMA, Women Advancement Establishment, Sharjah Electricity and Water Authority, Sharjah Roads & Transport Authority, Sharjah social services department, Sharjah Art Foundation, Sharjah Municipality, Sharjah Executive Council, Sharjah Electronic Government, Sharjah Commerce and Tourism Development Authority, Sharjah Urban Planning Council, and Sharjah Media City. In terms of the innovation, the study explored the level of adoption of ICTs by the government institutions, including mobile applications, websites, smart screens, smartphones and smart watches.

The findings of the survey revealed that the most effective channels for communicating information to public workers regarding e-government were social media networks. Such channels are utilized in the process of transferring information regarding innovation throughout the social system. The different communication channels analyzed in the study were social media, interpersonal communication, broadcast media and print media. Furthermore, the results of the survey showed that approximately half of the participants gained awareness of the shift to e-government through social media. Personal communication within the workplace was another channel that was deemed to have effectiveness, as 32.3% of the employees stated that they became aware of e-government developments as a result of communication with their colleagues. For Roger, the most efficient channel of communication is interpersonal communication. Given the nature of social media, a medium that facilitates interpersonal communication, the findings confirm Roger's theory.

In terms of Roger's concept of time, the study findings indicated that the innovation-decision process can be prolonged. Although the majority of respondents had some knowledge about e-government, there was a general lack of clarity about the specific details. Numerous participants (67%) had no awareness of the UAE Vision 2021, and many of them also had no knowledge of the Supreme Committee for Digital Transformation. It was not possible to identify the time taken for the innovation to be adopted by the social system.

The purpose of the open-ended questions was to assess the opinions of the participants regarding the social system, specifically management responsibilities. Only a limited number of comments were received, and these largely comprised brief statements offering praise and encouragement. Based on the data collected, it can be understood that the political authorities in the UAE promote innovation and the adoption of technology. It was also determined that the government in Sharjah has a hierarchical culture. Adoption decisions are dependent on the organization's leadership, but the majority of participants were reticent about commenting on their managers and the role of government leadership. From the responses to the open-ended questions, it was not possible to ascertain areas in which the management could improve and promote the process of adoption among employees.

According to Rogers' theory, there are five different kinds of adopters according to the time taken for the innovation to be adopted: Innovators, early adopters, early majority, late majority, and laggards. In the present study, all five categories could not be identified; hence, more qualitative detailed analysis is recommended to produce enhanced results.

### **Limitations:**

The purpose of this study was to evaluate the preparedness of government employees in Sharjah working in various fields, specializations and profession levels. The primary limitation was the limited number of participants who completed the survey. In spite of the wide circulation of the survey utilizing a variety of different resources, the number of completed surveys received was relatively limited. Another limitation of the research was the quality of the responses given to the open-ended questions.

### **Conclusion:**

This study examined the preparedness of public workers in Sharjah regarding the transition to e-Government. The ability to adopt and utilize state-of-the-art technologies is a prerequisite for maintaining a highly-qualified product or work. The government of the UAE has established various strategic plans aimed at promoting the knowledge of citizens regarding technology, which will be beneficial for the quality of their work. While many people are capable of adopting new methods and technologies, they require detailed guidelines, education and direction. Therefore, the process of successfully transitioning to e-government necessitates effective two-way communication among employees and their direct managers.

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## استعداد موظفي حكومة الشارقة للتحويل إلى الحكومة الرقمية

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### ملخص البحث:

تتعدد تحديات العصر الحالية وأبرزها جائحة كورونا التي شكلت أزمة عالمية، فإن استخدام الخدمات الإلكترونية يعد من أهم الحلول تأثيراً وأكثرها منفعة. وعملت دولة الإمارات العربية المتحدة -مثل العديد من الدول- على مواكبة واستقطاب أحدث الممارسات الحكومية الذكية، وذلك بهدف الوصول إلى أعلى المعايير العالمية في مجال التقنيات والخدمات الحكومية الإلكترونية. وضعت حكومة دولة الامارات رؤية الإمارات ٢٠٢١، والتي تنص على وضع أهداف استراتيجية لأهم القطاعات. وعلى ضوء هذه الرؤية قررت حكومة إمارة الشارقة تنظيم اللجنة العليا للتحويل الرقمي. وتهدف هذه الرسالة للبحث في استعداد وجاهزية موظفي حكومة الشارقة للتحويل الرقمي. كما توضح مدى استعداد الموظفين للتحويل الرقمي عن طريق دراسة قابلية الموظفين للتغيير نحو المعاملات الإلكترونية، ووعيهم لأهمية التحويل إلى الحكومة الإلكترونية. استندت الرسالة على نظرية انتشار الابتكارات لأستاذ دراسات التواصل إيفرت روجيرز لعام (1962). تنص النظرية على فهم كيفية انتشار المعلومات والتقنيات الجديدة وتبنيها مع مرور الوقت من قبل النظام الاجتماعي. في هذه الرسالة تم تحليل استبانات لعدد 102 موظف في حكومة الشارقة. وقد بينت تحليل النتائج لهذا البحث أن الموظفين في حالة تردد حيال التحويل للحكومة الإلكترونية.

**الكلمات الدالة:** الحكومة الإلكترونية، الحكومة الرقمية، التحويل الرقمي، جاهزية الموظف، نشر الابتكار، الشارقة، الإمارات العربية المتحدة

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