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Impact of Digital Transformation on Smart Government in United Arab Emirates: A Review

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Abstract

Purpose – The purpose of this review paper is to identify and explore the important parameters of digital transformation in smart government services in the United Arab Emirates (UAE). The research aims to understand the impact of digital transformation on the implementation and performance of smart government services, with a focus on improving service delivery and citizen satisfaction. It seeks to establish a guiding framework for understanding the key success factors and challenges related to digital transformation in the context of smart government. Design/method/approach – The paper follows critical thematic literature review based on which extensive literature on relevant themes were review and the interrelationship among them established, leading to proposing a conceptual framework. Findings – The paper uncover the critical success factors for digital transformation in smart government services. Key findings include the impact of factors such as security-privacy, digitalization infrastructure, and digital skills of public employees, citizen-government engagement, digital awareness, and trustworthiness on the successful implementation and performance of smart government services in the UAE. The paper highlights the challenges and roadblocks faced during the digital transformation process. Practical Implications – The findings of this study will provide valuable insights to policymakers, government authorities, and stakeholders involved in digital transformation initiatives in the UAE. By understanding the significance parameters of digital transformation, decision-makers can formulate effective strategies for the successful implementation of smart government services. The results will contribute to improve service quality, citizen satisfaction, and overall efficiency in government operations. Originality/value – This research contributes to the existing literature by focusing on the specific context of the UAE's smart government services and the impact of digital transformation. The research paper originality lies in its comprehensive analysis of success factors and challenges, drawing from existing literature and real-world data. The study proposed guiding framework for digital transformation in smart government will serve as a valuable contribution to the field of digital governance, both in the UAE and globally.

Keywords: Digital Transformation, Smart Government, Digital Infrastructure, Operational Strategy.

Introduction

The world has witnessed and still experiencing fast evolving trends in digital technologies transformation that are causing radical change in our societies today. Digital transformation is regarded as the integration of digital technology into the real work process, which results in a more efficient and robust working culture (Alvarenga et al., 2020) . According to Musa (2021), Digital transformation may also be viewed as the process of using digital technology to adapt and meet the growing expectations of users, as well as to completely change the way organisations work and run, as well as the way value is delivered to users. To summarise, some aspects of digital transformation are self-evident, while others take more thought. When things go digital, there's a lot more information to consider. This means they can observe exactly what works and what doesn't when it comes to a plan or notion. As a result, digital transformation allows employees to make immediate course corrections and make strategic adjustments as needed (Meghana, Hemashri & Kamath, 2017; Srouji, 2020)

Various governments throughout the globe have begun to place a greater emphasis on providing services using smart applications, named "smart-government services." Smart-government improve access to information through location-based services (based on the assumption of anytime, anywhere, and anyway), which leads to more opportunities for public-sector service innovation (Shtait et al., 2018). Smart government modernization will necessitate a significant shift in government service delivery, and they must consider which aspects of digital transformation will be better delivered locally, regionally, and nationally, which is why digital transformation is so important (Oliveira and Santos, 2019).

Government services and transactions must now be dynamic, user-centred, easily accessible, and compatible with cutting-edge smart technology and customers' fast-paced modern lifestyles (Elnajjar et al., 2021). Customers may also collaborate in a variety of activities, such as social activities, thanks to smart government (Feroz, Zo and Chiravuri, 2021). Governments adopt smart government in order to increase demands and promote their culture to other nations as a result of globalisation (Kazim et al., 2021). Smart government, when used correctly, allows for greater effectiveness and efficiency in governmental tasks, as well as improved processes and procedures, improved public service quality, and improved information use in decision-making processes (Furszyfer Del Rio, et al., 2021). It also allows for better communication between different governmental offices. According to a research's survey conducted by Balinado, (2021), there is a need to enhance smart government services by increasing the efficacy of digital transformation in order to promote citizen happiness. However, it may necessitate a thorough awareness of the characteristics of success factors and the problems that must be overcome when it comes to the efficiency of digital transformation in smart government services. As the success rate of smart government services becomes increasingly significant, it is necessary to model and design a successful model of smart government digital transformation.

Many efforts were made by the government and its stakeholders for the success of the e-governance implementation. Researchers have developed research frameworks and had conducted researches to ascertain the key success factors but some of the issues persist.

Researchers like Park- and Lee (2022), reported that 90 percent of UAE firms have accelerated their technology adoption, with at least part of their digital transformation efforts this year completing in a few months what would have taken years previously. When compared to the worldwide standard of 80%, this is a significant improvement. However, it is not without some challenges, as developing any e-system needs a significant amount of time, thinking, and dedication. Despite all of their efforts, most initiatives face significant challenges and roadblocks (Alshamsi et al., 2019; Fei et al., 2019; Hashim et al., 2020; Azevedo and Almeida, 2021).

Recently, the majority of government service delivery has been plagued by severe issues such as an inability to provide high-quality services to clients and a lack of knowledge of their needs. Other studies show that the external situation has a significant influence on the government's service quality and the public's quality attitude. When front-line workers have difficulties with language, knowledge, abilities, courtesy, and helpfulness that are regarded at a low level of standard and quality, poor delivery service results (Furszyfer Del Rio, Sovacool and Griffiths, 2021). When on duty, these officers' attitudes can be described as tardiness, lack of dedication, laziness, and a lack of discipline in their overall job, resulting in issues that contribute to inefficient service delivery (Alshamsi et al., 2019; Fei et al., 2019; Biloria, 2021; Elnajjar et al., 2021). When providing services to citizens, frontline personnel are frequently stressed (Osman et al., 2014). All of these difficulties in smart governance necessitate the implementation of digital transformation.

To improve the efficacy of services supplied to society, people, businesses, and government agencies, the UAE government embraced the digital transformation in smart government project. Many countries throughout the world, though, have taken similar steps. Many of them have failed to properly adopt the digital transformation in smart government and so reap the expected advantages (Almuraqab and Jasimuddin, 2017). Smart government systems have been introduced in a number of regions across the world which is developing methods or procedures for electronic delivery of services is a widespread approach in both developed and developing nations (Azevedo and Almeida, 2021).

The issue that this research attempts to investigate stems from the fact that the UAE's public sector makes minimal use of smart government services and has a lot of space for development by undergoing digital transformation. Smart government must be adopted by the public sector and used to engage citizens (Hashim et al., 2020). As a result, the goal of this research is to look into the positive characteristics that contribute to the success of digital transformation for smart government in the UAE. The study will establish a guiding framework for tackling the important success elements and impediments of future digital transformation in UAE smart government as a consequence of this analysis.

In terms of digital transformation, the UAE is undoubtedly one of the most advanced countries. In terms of digital competitiveness, the UAE leads the Arab world (12th globally)(Hashim et al., 2020). This is the situation, according to the IMD's World Digital Competitiveness Ranking 2019. According to the same poll, the UAE is ranked second in terms of technology, ninth in terms of future preparation, and 35th in terms of knowledge. Other nations with well-developed digital infrastructure, such as South Korea, have been able to take advantage of digital and make it a priority (Almuraqab and Jasimuddin, 2017; Alhanaee

et al., 2021; Elnajjar et al., 2021). As a result, many scholars focus their study on ways to promote digital transition.

However, when it comes to the implementation of digital transformation, many studies have missed the issue of the variables that would affect the impactful smart government. Similarly, the digital transformation undertaken in smart government is still in the early stages, and there is still room for development. It is against this backdrop that the current study is investigating on some of the influence of security-privacy, digitalization infrastructure, and digital skills of public employees, citizen-government engagement, digital awareness and trustworthiness on the smart government implementation and performance in the UAE. This is with the view to ameliorate some of the concerns and questions rose in the previous researches and pave a way effective implementation of the UAE smart government.

Hence, the significance parameters of digital transformation are needed to be identified in order for adoption of smart government service in through digital transformation will provide high performance for the citizen. In this regard, a literature studies, survey and data analysis are necessary to be evaluated in term of the current digital transformation in smart government service. It is important to identify the issues, challenge of implementation and how it can be solved. The experience of the government employees and citizen will be measured from their perception when using the smart government application for inclusive results.

United Arab Emirates (UAE): A Brief Overview

The UAE is located in the southeast of the Arabian Peninsula, bordered by the Persian Gulf, Oman, and Saudi Arabia. It consists of seven emirates: Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al-Quwain, Ras Al-Khaimah, and Fujairah. The official language is Arabic, and the national currency is the United Arab Emirates dirham (AED). The UAE's economy is open, with a high income per person and a large annual trade surplus. It aims to reduce its reliance on oil earnings and is investing in various sectors, such as industrial cities, real estate developments, and financial services.

ICT to Digital Transformation in UAE

Digital transformation in the UAE is driven by emerging technologies, including big data, open government data, mobile government, cloud computing platforms, social networking, and smartphone applications. The country aims to improve the ICT industry through logistical and technical assistance, sustainable development alignment, and inclusive economic growth. Key sectors benefiting from digital transformation include healthcare, pharmaceuticals, entertainment, energy, tourism, and retail. The UAE is expected to accelerate its digital transformation, making it a regional leader in e-commerce and smart government initiatives. Digital transformation involves integrating computer-based technology into an organization's products, processes, and strategies to enhance efficiency and competitiveness. It encompasses IT modernization, digital optimization, and the creation of new digital organizations. The COVID-19 pandemic has accelerated digital transformation, leading to significant investments in technology and services. A robust digital workplace is essential for a successful transformation, as it impacts leadership and organizational culture.

Various definitions of digital transformation highlight its significance as a technology-driven process that disrupts businesses and brings about far-reaching changes in value generation, strategy, and structural processes. It involves the integration of digital technology, resulting in cultural, organizational, and operational shifts within an organization, industry, or ecosystem.

One of the most notable significances of implementing a digital transformation into an organization's operations is the huge increase in efficiency. The way employees connect with one another across departments, the continual flow of data throughout the company, and the smooth transition from one phase to the next within the customer's lifecycle (Ahmed et al., 2021). All of these benefits add up to a more efficient business process that saves time, money, and resources.

A trend of data explosion has emerged in recent years. Access to more data than ever before is vital for a service company and data volumes are only increasing (Srouji, 2020). However, just a few businesses make advantage of this data. Many don't have the tools or processes in place to turn it into usable management data. There is no doubt that the COVID-19 epidemic has radically altered the way we operate. Organizations have had to figure out how to swiftly integrate digital solutions so that remote workers can be productive and efficient. Companies have advanced the digitalization of their customer and supply-chain contacts, as well as their internal processes, by three to four years, according to a recent McKinsey Global Survey of CEOs. In addition, their portfolios' share of digital or digitally enabled items has increased by seven years. Based on the statistic on the forecast of digital transformation spending in figure 2.5, it can be seen that there is significance changes between before and after covid-19 impact.

A robust digital workplace, on the other hand, is critical to this adaptive and versatile personality. This will help employees to be productive and involved in the transition without feeling overwhelmed or disconnected. It is inadequate to simply have the technology in place. Digital transformation enables this, as it has an impact on leadership and influences culture from the top down.

Smart Government

Smart Government is a concept that involves leveraging information and communication technologies (ICTs) to enhance government operations and citizen services. It has its roots in the digital revolution that has transformed various aspects of society, including government services. Smart Government aims to integrate physical, digital, public, and private contexts to engage and collaborate with citizens both passively and actively. It focuses on using technology and innovation to improve government performance and service delivery.

Smart Government is the application of information technologies and innovation by governments to improve their performance and service delivery. It involves using ICTs to connect and integrate physical, digital, public, and private contexts, engaging and collaborating with citizens both passively and actively. The history of Smart Government traces back to the 1970s when the computer industry opened to the public and it was officially applied to government in the 1990s. Internet technology played a crucial role in enabling Smart Government applications.

In the UAE, the Smart Government initiative was introduced by His Highness Sheikh Mohammed bin Rashid Al Maktoum in 2013. It aims to encourage government entities to adopt mobile phone services and cutting-edge technology to enhance their services. The definition of Smart Government varies slightly among researchers, but they generally agree that it involves the intelligent integration of ICT and technology to improve government management and service delivery.

Smart Governance Model

The results of a research conducted by Bolı var and Meijer (2015), reported the findings of a theoretical and empirical investigation on the existing models of smart governance. The models were reviewed and re-casted on the basis of their analysis. Some of the first steps taken to review the model; they eliminated one of the detected overlaps in the dimensions from the literature review and; they brought in the new elements that was identified in their empirical research findings. The researchers (Bolı́var, & Meijer, 2015) eliminated the overlap by way of taking smart outcomes from the defining basics of Smart governance and presented them as those elements that are generating problems for empirical research. Their argument was that the desirable outcomes in the definition of a concept makes it attractive for practitioners but reduces its value for empirical study. The survey further indicated that the second overlap was found in the theoretical model, which is concerned with the use of ICT and collaboration, taken as key elements of Smart governance implementation strategies. This overlap was reduced by the choice of technology as an important element of Smart governance as well as collaboration.

In the new model, therefore Bolı́var and Meijer (2015), added ‘‘organizational action’’ to the implementation strategies to emphasize on the importance of the needed activities to transform the organization into Smart governance. Some empirical researches (like Bolı́var, & Meijer, 2015) typically establishes the significance of the dimensions, categories, and values in the literature. These actions provided interesting insights into the prominence of certain values. Also, innovation was identified as an important element in smart cities but was not considered as a constitutive element of Smart governance in early literature. The major reason for this addition was informed by the frequency of usage by practitioners to the definition of Smart governance. Based on these few arguments, a new smart governance model was developed (Figure 1).

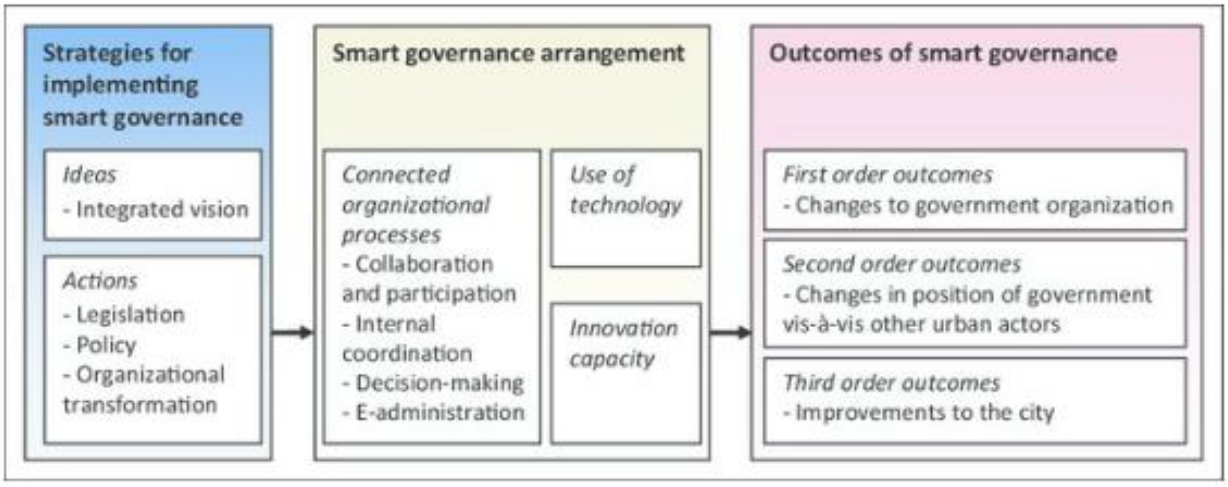

Figure 1: A smart governance model (Bolı́var, & Meijer, 2015)

It is important to note that the achievement of smart government implementation is also hinged on certain framework. Thus, they are framework for the activities that make up of the E-government, also known as the enablers and barriers for smart government are depicted in the figure. Figure 2.2 shows the integrated framework, strengthening data, design and delivery (enablers) to address barriers relating to access, affordability and ability smart governance offers a graphic representation of an integrated framework for developing inclusive e-government. To fully leverage on the integration of the enablers, firstly identify the barriers to digital inclusion of the large majority of the society as it relates to access, affordability and ability. When the challenges are known, the need to develop a targeted implementation strategy is paramount so that leaving no one behind that is grounded in data, design and delivery optimization.

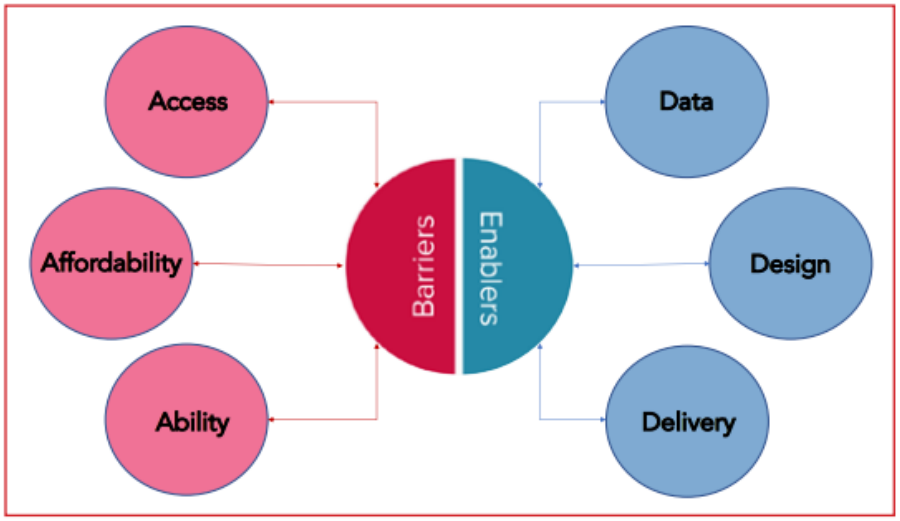

Figure 2.2: An integrated framework for e-government (UN, 2022)

Recent studies on Smart Government have focused on various aspects, including webpages and IT-related topics, Covid-19 related studies, literatures on Smart Government, public reaction related research, data security, and the success factors of Smart Government initiatives. The UAE has become one of the prominent places for researchers to study Smart Government due to its leadership role in the Middle East region and its focus on technology adoption and innovation.

However, many recent studies still lack a specific focus on digital transformation in Smart Government and its positive impact. Some researchers have examined the determinants of competitive advantage and the necessity for a blended strategy approach that incorporates Smart Governance building blocks. Challenges in Smart Government implementation in the UAE include slow adaptation to digital transformation culture, adaptation costs, low number of technology experts, security and privacy concerns, low digital awareness among citizens, and lack of political or leadership will.

Theoretical Framework and Research Model

This study incorporates three theories and models to explain the relationships among the variables of interest: the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh, Morris, Davis, and Davis (2003), the Diffusion of Innovation Theory

(DOI) by Rogers (2003), and the Technology Acceptance Model (TAM) proposed by Davis (1989).

Unified Theory of Acceptance and Use of Technology (UTAUT)

The UTAUT theoretical model suggests that the actual use of technology is determined by behavioural intention. The likelihood of accepting the technology depends on the consistent effect of four key constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003; Chan et al., 2010; Marikyan & Papagiannidis, 2021). UTAUT examines the acceptance of technology, determined by the effects of performance expectancy, effort expectancy, social influence, and facilitating conditions.

Performance expectancy is defined as "the degree to which an individual believes that using the system will help him or her attain gains in job performance" (Venkatesh et al., 2003). Effort expectancy is defined as "the degree of ease associated with the use of the system" (Venkatesh et al., 2003). Effort Expectancy is constructed from perceived ease of use and complexity. Social Influence is defined as "the degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh et al., 2003). Facilitating conditions are defined as "the degree to which an individual believes that an organization's and technical infrastructure exist to support the use of the system" (Venkatesh et al., 2003). Marikyan and Papagiannidis (2021) suggest that UTAUT is better suited to explain technology adoption and usage in an organizational setting compared to other theories like planned behaviour.

Diffusion of Innovation Theory (DOI)

The Diffusion of Innovation (DOI) Theory, developed by E.M. Rogers in 1962, explains how new ideas, behaviours, or products (innovations) spread within a social system. The adoption of an innovation does not occur simultaneously in a social system, as different individuals go through unique phases of adoption. This theory classifies adopters into categories: innovators, early adopters, early majority, late majority, and laggards, based on their characteristics and willingness to adopt an innovation. Understanding the characteristics of the target population is crucial for the successful deployment of new technology in smart government.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a framework used to explain how individuals and organizations adopt and use technology in their undertakings. TAM, proposed by Davis in 1989, focuses on two key factors that influence an individual's intention to explore the use of new technology: perceived ease of use and perceived usefulness. Users' perceptions of a technology's ease of use and usefulness significantly impact their intention to adopt and use it. TAM has been widely used to study technology adoption and has been found to be consistent with investigations into the factors influencing technology adoption by various groups, including older adults.

Therefore, this study has incorporated the UTAUT, DOI Theory and TAM frameworks to generate better scholarly outcomes. Figure 3 depicts a framework based on the theoretical review.

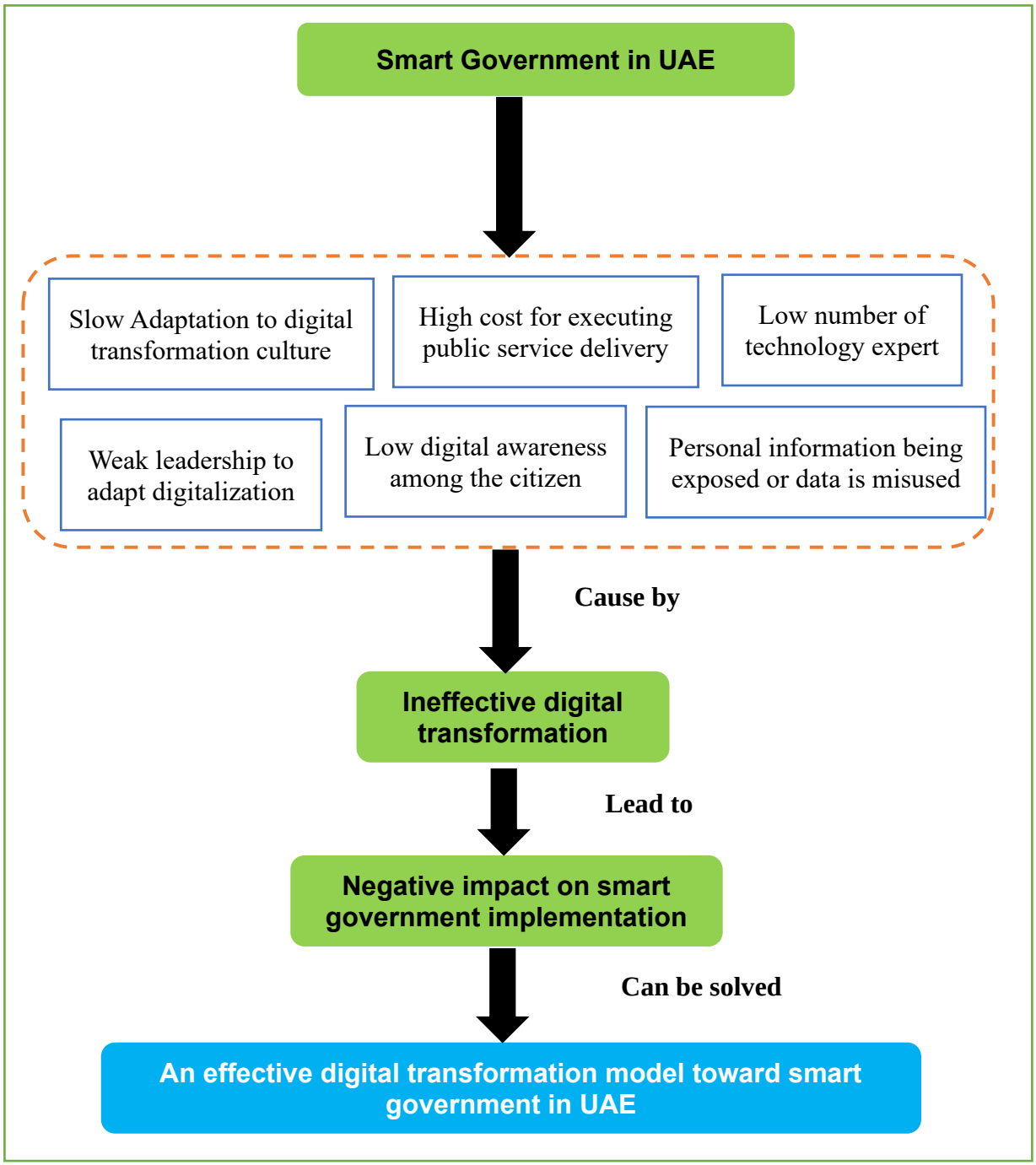

Figure 3: Theoretical framework

The following Figure 3 depicted the theoretical framework of this research based on existing literatures. The aim of this study is to enhance positive impact of digital transformation towards smart government implementation at United Arab Emirates. The current challenges are described as figure 3. These entire problems may cause by ineffective digital transformation which effect on negative impact of smart government service towards citizen. Therefore, to solve this problem, we propose on the effective digital transformation toward smart government in UAE. As presented in figure 4 representing the papers' conceptual framework.

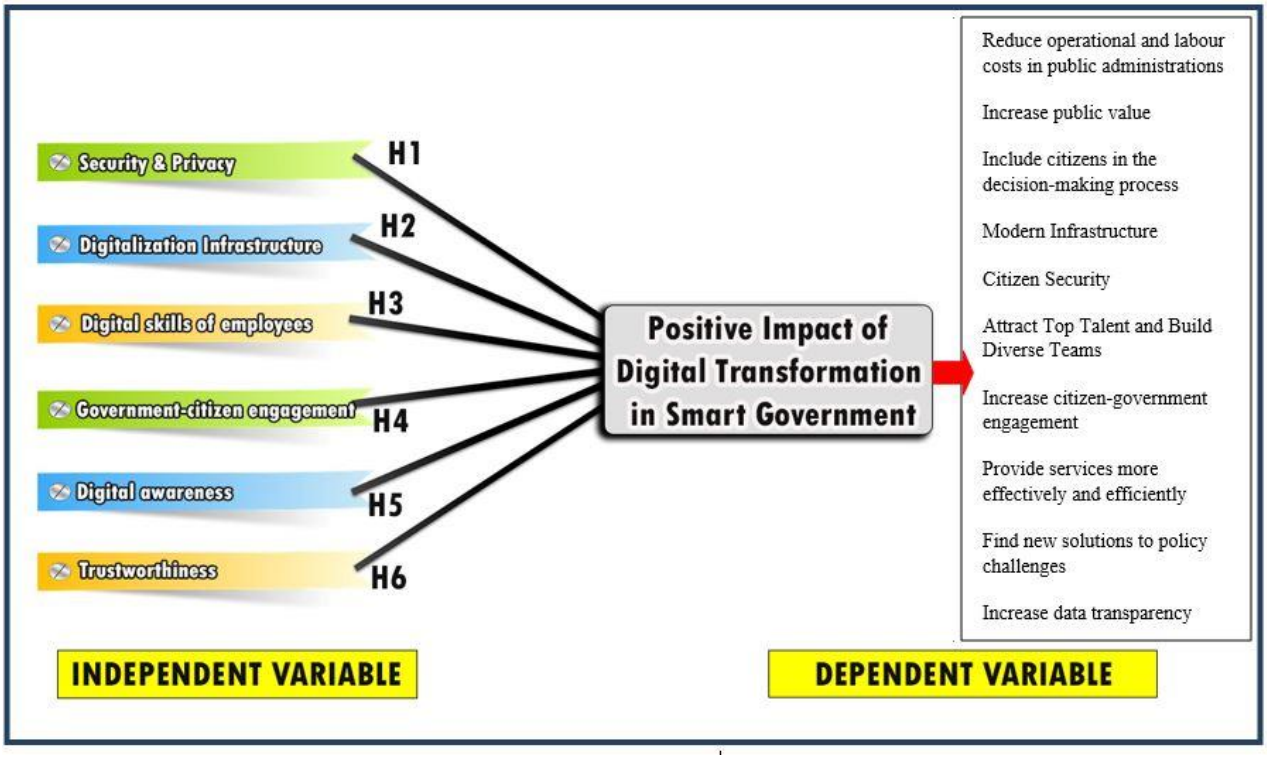

Figure 2.3: Conceptual Framework

Figure 4. Proposed Framework

The conceptual model proposed in the study address the gaps identified in previous research. Regarding the implementation of digital transformation in smart government, there are several elements that should be considered for its positive impact. The work presents an analysis of the attributes for user acceptance in smart health studies among citizens.

Hence, based on the literature studies, "privacy and security" is the most concerned factor influencing the success of digital transformation for smart government adoption; it does not differ significantly from other factors. All six attributes (security and privacy, digitalization infrastructure, digital skills of public employees, citizen-government engagement, digital awareness, and trustworthiness) are crucial and require attention for the success of digital transformation towards smart government adoption. These factors will be tested as independent variables contributing to the dependent variable, which is the positive impact of digital transformation in smart government implementation. They will be analysed for model development to achieve accurate results. Thus, the proposed framework focuses on effective digital transformation for positive impacts on smart government in the UAE. The factors are highlighted in the following subheadings.

Security and Privacy

Data security refers to a set of processes and practices designed to protect critical information technology (IT) ecosystem, including files, databases, accounts, and networks (Ray and Chaudhuri, 2021). Utilizing the smart government service quality scale, Yen et al. (2021) identified sources of smart government and design management strategies to address security and sustainability issues. Data security is a primary concern during the implementation of smart government as it can significantly impact the success of the service

(Merritt et al., 2021). Both external and internal stakeholders' trust in the security and privacy of digital transactions is essential for the effective implementation of smart government services (Strikwerda, 2020). Protecting personal user data made available by smart governance is essential, referring to it as security and privacy (Joh, 2019).

User perceptions of security and privacy play a crucial role in building a strong reputation for the use of smart government services (Strote et al., 2021). For efficient and successful growth of smart governance, privacy and security are necessary (Althunibat et al., 2021). The significance of this issue is demonstrated by the potential illegal access to protected information, which may lead to a loss of user confidence and ultimately the failure of smart government initiatives (Keesman, 2021). Therefore, public administrators must prioritize privacy and security concerns, as these issues could jeopardize the viability of smart government initiatives (Kazim et al., 2021).

Employee's Digital Skills

To manage a smart government service rollout successfully, the government must possess the necessary IT expertise. IT skills complement an organization's objectives and vision, allowing the government to create value for its residents (Ziemba, 2021). Smart government service deployment requires not only technical infrastructure but also trained resources to provide IT capabilities (Atreides, 2021; Domashova and Kripak, 2021; Manny et al., 2021). Having employees who understand the mission and vision of digitalization and how to execute that digital transformation effectively is crucial to ensure the implemented smart government service is user-friendly.

The complexity of smart government requires more technical skills and operational effort to maximize the odds of success, yet many governments lack access to the necessary technical personnel (Li and Shang, 2020). The shortage of municipal government IT workers is a barrier to user adoption of e-government (Manoharan and Ingrams, 2018). Additionally, local governments often struggle to deploy smart government services due to inadequately trained IT workers, who are lured by higher compensation offered by private sector enterprises (Sandhu and Fussey, 2021). Municipal administrations may need to seek external help for certain sections of the implementation due to a lack of technical expertise (Ali, Mazen and Hassanein, 2018). To ensure the success of smart government implementation, governments must prepare proper technological talents.

Government-Citizen Engagement

Investigating government-citizen interaction is critical for undertaking digital transformation in smart government. Citizens' expectations of government service are shaped by their interactions with private sector businesses (Altameem et al., 2006). Citizens must see value in the services provided by the government through smart government for engagement to occur (Twizeyimana & Andersson, 2019). As part of client-centricity, smart government must meet the demand, and the government must assess the level of preparedness of its clients (Waheduzzaman & Miah, 2015). Top-level management must support organizational reforms that result in the integration of a client-centric culture into the government's fabric (Yaghi & Al-Jenaibi, 2018). There is a crucial collaborative aspect in public service delivery as a tenet of client-centricity.

The government should incorporate feedback from various stakeholder consultations into the design of smart government (Rabe et al., 2018). A client-centric government can accelerate the realization of e-government's results (Mokone et al., 2018). However, being client-centric does not guarantee positive smart government outcomes if the services fail to match citizens' expectations (Waheduzzaman and Miah, 2015). Thus, public managers' commitment to changing

Digital Awareness

Digital awareness is essential before delving into the technical aspects of digital transformation for smart government. Citizens often do not engage in digitization initiatives because they are not prepared to embrace them or are unwilling to engage with them (Effendi and Susanto, 2019; Khalid and Lavilles, 2019; Ziemba, 2021). Research backs up these findings, as the lack of engagement in smart government and e-government efforts hampers implementation (Ali, Mazen and Hassanein, 2018; Xianjun, Minghong, and Xiaoli, 2019; Alpern, 2020; Domashova and Kripak, 2021). Active citizen participation is necessary for the successful implementation of smart government programs (Fenech, Baguant, and Ivanov, 2019). Therefore, public administrations must aggressively promote digital knowledge among the population to ensure the success of smart government implementation.

Trustworthiness

The two aspects of trustworthiness in digital transformation in smart government are trust in the Internet and trust in the government. Trust in the Internet is defined as "the sense of confidence in the electronic marketer's dependability and integrity" (Al, 2017). Meanwhile, Hasan et al. (2019) characterized trust in the government as "One's judgments regarding the integrity and capacity of the entity delivering the service." Citizens' desire to use smart government services is influenced by trustworthiness. Citizens must trust both the government body and the technology used to execute essential services to accept digital transformation in smart government (Tanaka et al, 2021).

Digitalization Infrastructure

The deployment of smart government services relies heavily on digital infrastructure. The capacity to integrate the dimensions of government, people, and service through digitalization infrastructure is required for smart government digital transformation (Biloria, 2021). The cornerstone of digital transformation in smart government services is the digitalization infrastructure, which comprises hardware, software, apps, and networking (Kalra, 2019).

According to Alketbi (2018), the advanced infrastructure of digitalization might have a significant influence on the success of digital transformation in smart government. Digital infrastructure has strategic significance as a facilitator of organizational and operational process improvement, a cost-cutting facility, and a resource for the creation of enhanced services (Wahdain and Ahmad, 2005).

In addition to digital transformation, the CSF requires digital infrastructure standards to facilitate government department coordination and the integration of a shared digital platform to maximize smart governance (Taherdoost, 2019). For e-government to work properly, the utilization of digital infrastructure needs a standardized and codified

methodology (Zaineldeen et al., 2020). An open standard facilitates the interoperability of different apps and smart government services from many sources without incurring additional costs or risk (Chang et al., 2019).

Digital transformation can lead to long-term improvements across the public sector, making it more efficient, inclusive, and participatory. By leveraging technology, governments can better understand data, improve decision-making, and enhance citizen-government engagement. Overall, digital transformation enables Smart Government to deliver better services and improve the quality of life for citizens.

Conclusion

In conclusion, this research aims to contribute to the understanding of critical success factors in the implementation of digital transformation within the context of smart government services in the UAE. By examining factors such as security-privacy, digitalization infrastructure, employee digital skills, citizen engagement, digital awareness, and trustworthiness, the research work seeks to provide insights into how these elements impact the effectiveness of digital transformation initiatives. The study addresses gaps in the literature by emphasizing the need for a multidisciplinary approach and more recent case studies to guide organizations in their digital transformation journey. The findings have broader implications for governments globally as they navigate the challenges and opportunities presented by the integration of digital technologies into public services.

Theoretical Implications

The theoretical implications of this research lie in its contribution to the understanding of critical success factors that underpin the effective implementation of digital transformation in the context of smart government services, specifically within the United Arab Emirates. By identifying and analysing factors such as security-privacy, digitalization infrastructure, digital skills of public employees, citizen-government engagement, digital awareness, and trustworthiness, the research enriches the theoretical framework for digital transformation initiatives. Furthermore, the exploration of these factors and their impact on smart government practices offers insights into the complex interplay between technological, organizational, and societal aspects in achieving successful digital transformations. The research work also highlights the need for a multidisciplinary approach that integrates various domains, such as technology, strategy, and change management, to comprehensively address the challenges and opportunities of digital transformation in government contexts.

Practical Implications

The practical implications of this research are significant for both the United Arab Emirates government and other nations striving to enhance their smart government services through digital transformation. By identifying and understanding the critical success factors, such as security-privacy, digitalization infrastructure, digital skills, citizen engagement, digital awareness, and trustworthiness, governments can formulate targeted strategies to optimize their digital transformation efforts. This research work provides a valuable framework for decision-makers and policymakers to design and implement effective smart government initiatives, leading to improved service quality, citizen satisfaction, and operational efficiency. Furthermore, the insights gained from this study can guide organizations in overcoming challenges related to skill gaps, legacy systems, and resistance to change, fostering a

smoother transition towards a more digitally enabled and citizen-centric government service delivery model.

Limitations and Future Studies

It's important to acknowledge several limitations of this research. Firstly, the study's scope is focused on the United Arab Emirates, which may limit the generalizability of findings to other countries with different contexts and levels of digital transformation maturity. Additionally, the research relies on survey data and self-reported responses, which might introduce response bias and subjectivity. Furthermore, while this study explores the impact factors of digital transformation on smart government initiatives, it does not delve deeply into the specific strategies and approaches for overcoming identified challenges. Future studies could address these limitations by conducting cross-country comparisons, incorporating more diverse research methods, and exploring practical implementation strategies in greater detail. Moreover, research could also consider the evolving landscape of emerging technologies and their implications for digital transformation in smart government, thus providing more up-to-date insights into this rapidly changing field.

Recommendation

This research aims to address significant gaps in the existing research on digital transformation in the United Arab Emirate (UAE). Specifically, it seeks to delve into the essential impact factors that underpin the success of digital transformation initiatives within the realm of smart government services. By establishing correlations between the government domain, digital transformation challenges, and the outcomes of smart government implementation, this study aims to contribute a comprehensive understanding of the subject. Moreover, it emphasizes the need for in-depth case studies to extract practical insights and best practices, adopting a multidisciplinary approach that considers strategic, organizational, cultural, and technological aspects. Importantly, this research intends to bridge the gap in recent studies by providing up-to-date insights into the rapidly evolving landscape of digital transformation beyond the confines of 2021.

To address these gaps, future research should focus on conducting comprehensive studies that explore the impact factors of digital transformation and their correlation with smart government initiatives. Additionally, more case studies and practical implementation research would be valuable for organizations seeking guidance on their digital transformation journey. A multidisciplinary approach that considers business strategy, organizational culture, and technological aspects would further enhance the understanding of successful digital transformation implementations. Finally, researchers should aim to include more recent data and trends to keep up with the rapidly evolving landscape of digital transformation.

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