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Policies and laws of the digital customer and the digital government service in the Emirates

Wided Dafri[1*], Nadia Yas[2], Omnia Salem[3], Ahmed A. Khalifa[4], Adel Salem AlLouzi[5]

[1]*College of Security and Global Studies, American University in the Emirates, Dubai, United Arab Emirates.*
[2]*College of Law, Umm Al Quwain University, Umm Al Quawain, United Arab Emirates.*
[3]*Umm Al Quwain University, Umm Al Quwain, United Arab Emirates.*
[4]*College of Information Technology, University of Fujairah, United Arab Emirates.*
[5]*Abu Dhabi University, United Arab Emirates.*

Corresponding author: Wided Dafri (*Email: wided.dafri@aue.ae*)

Abstract

The latest digital transformation in the UAE has radically changed the delivery of government services, as the country has demonstrated a strong commitment to developing a digital environment that contributes to accelerating achievements and improving the lives of citizens and residents. Within the framework of this transformation, many opportunities and challenges emerge that shape the future of the digital government sector in the UAE. This research examines the role of the UAE government in developing its digital services through ambitious strategic initiatives such as a competent government, artificial intelligence applications, and blockchain technologies, in addition to efforts to enhance cybersecurity. We also reviewed the definition of the digital customer, its characteristics, policies, and initiatives to support the digital customer, along with the challenges facing this transformation, such as cybersecurity issues and system integration, as well as the importance of raising awareness and training individuals to reduce the digital gap. Digital transformation in the UAE is not just a technical update but rather part of a comprehensive strategy aimed at achieving economic and social sustainability by improving government performance efficiency and enhancing the quality of life for citizens and residents alike. The UAE's legislative developments in digital transformation indicate a comprehensive vision to create a legal environment that promotes digital innovation while preserving the rights of individuals and institutions. As rapid technological changes continue, the UAE remains at the forefront of countries seeking to update its legislation to keep pace with these changes, reflecting the country's commitment to providing a safe and effective environment for digital services in the future. Digital government services in the UAE are a significant step towards achieving the concept of a competent government, as they meet the needs of citizens and residents conveniently and securely. With continued innovation and development of digital infrastructure, the UAE seeks to meet challenges and achieve the highest levels of efficiency and quality in providing its digital services.

Keywords: Digital customer, Digital government service, Laws, Policies, United Arab Emirates.

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1. Introduction

The United Arab Emirates is one of the leading countries in government digital transformation and providing digital services to customers. This leadership reflects the wise vision and strategic plans established by the emirate's leadership, aiming to enhance the culture of digital government and improve the customer experience in accessing government services [1]. Over the past two decades, the United Arab Emirates has achieved remarkable results in various fields, as it has consistently sought to adopt modern technologies and attain leadership in several sectors. One of the most prominent achievements is the digital transformation of government services, which has significantly enhanced the efficiency of service provision and facilitated access to them. This transformation was not limited to the technological aspect; instead, it coincided with the UAE's adoption of innovative legal and legislative strategies to regulate the digital relationship between the government and customers [2]. The UAE government has also recognized the importance of these legislations and has taken substantial steps in this direction. In 2015, the Personal Data Protection Law was enacted, regulating the collection and use of personal data. Several other legislations related to digital transformation have also been introduced, including e-commerce laws, which ensure the protection of the rights of consumers and users in the digital environment. According to Aboelazm et al. [3], government legislation needs to strike a balance between innovation and regulation. With the increasing use of modern technologies in providing services, legislators face significant challenges in ensuring the security and protection of personal data, promoting innovation, and facilitating access to digital services. Therefore, the law plays a crucial role in regulating this field in a way that guarantees the rights of users and consumers and contributes to sustainable development.

In addition to the "Digital Customer and Digital Government Service" policy, there is a set of other laws and legislation in the UAE that regulate the work of the digital government and the digital customer, the most prominent of which are the UAE Electronic Transactions and Electronic Commerce Law of 2006 [4] the UAE Electronic Government Services Law of 2013 [5] and Federal Law No. (46) of 2021 regarding electronic transactions and trust services. Additionally, there is Cabinet Resolution No. (28) of 2023 regarding the executive regulations of Federal Decree-Law No. (46) of 2021 regarding electronic transactions and trust services. These laws and legislation constitute the legal framework that regulates digital transactions and digital government services in the UAE, ensuring the protection of customer rights and enhancing the regulation of mechanisms for providing digital services safely and effectively. The UAE has achieved remarkable progress in this field through laws and legislation supporting digital customers. Despite its challenges, the chances of success appear promising, thanks to continuous government support and practical cooperation between the public and private sectors [6].

1.1. The Study Problem

Despite the UAE's outstanding achievements in digital transformation, it is essential to understand the laws and regulations related to digital users and digital government services. These laws and regulations must be studied to evaluate their effectiveness in achieving political goals and to identify any gaps or challenges hindering their implementation. The research problem is outlined by the following question: What are the laws and regulations related to digital users and digital government services in the UAE?

1.2. Study Objectives

- Review and analyze the laws and regulations regulating the UAE's digital users and government services.
- Identify the objectives of these laws and regulations and their implementation mechanisms.
- Identify the challenges or gaps facing the implementation of these laws and regulations.
- Provide recommendations to enhance the efficiency of these laws and regulations in achieving the goals of government digital transformation in the UAE.

2. Literature Reviews

Saed [7] entitled The UAE's Experience in Transitioning from E-Governance to Smart Governance aims to identify the most critical features of the UAE's pioneering experience in transitioning from e-governance to innovative governance, characterized by providing government services with high efficiency from anywhere at any time through innovative tools such as mobile applications and other smart devices. It is fast and transparent in its transactions and procedures and responds quickly to various changes surrounding government agencies. This successful experience has enabled the UAE to advance among the world's countries, according to reports issued by the United Nations evaluating the development of e-government worldwide [7].

The study by Al-Aqel and Qashi [8] entitled "Big Data and Artificial Intelligence in Enabling the Transformation to a Smart Government: A Case Study of the United Arab Emirates" explained that artificial intelligence and big data analysis are emerging technologies that have resulted in a new phase of the industrial revolution, known as the Fourth Industrial Revolution. The research aims to provide the theoretical, intellectual, and scientific framework for data and artificial intelligence, highlighting the central role of big data analysis technologies. It also attempts to identify their applications and the extent of their contribution to the digital transformation into an innovative electronic government that meets the aspirations of the citizens of the United Arab Emirates, Abdul Ghani and Khaled [9]. Al-Maria [10], entitled "The Impact of

Digital Transformation on the Development of Arab Judicial Legislation: UAE Legislation as a Model," states that digital transformation has profoundly impacted the judicial system. It is illogical for modern technologies to invade the social, economic, commercial, industrial, and cultural fields yet remain outside the courts. This highlights the keenness of Arab countries to benefit from information technology and modern innovations in facilitating litigation procedures before national courts to achieve prompt justice.

The study by Qurain [11] clarified the digital transformation model in the United Arab Emirates. This study aims to highlight the role of digital transformation in achieving sustainable development. The digital economy is based on several sub-indicators, including digital infrastructure, economic contribution, empowerment, innovation, and creativity. Paying attention to these and keeping pace with technological developments and the Fourth Industrial Revolution is necessary. To benefit from the phenomenon of digital transformation, the experience of the United Arab Emirates will be highlighted as a model among leading Arab nations. We conclude that digital transformation is a strategic option for Arab countries to achieve progress and keep pace with global developments and changes [12].

The study of Jalila [13] entitled The Role of Digital Governance in the Success and Activation of Digital Transformation - The Model of the United Arab Emirates, aims to highlight the role of digital governance in activating digital transformation. According to the descriptive analytical approach, this study proposes to identify the concept and objectives of digital transformation. It also reviews the obstacles to digital transformation and the requirements for digital transformation [14]. Then, it discusses the benefits, components, and characteristics of digital transformation. At the end of the research, the researcher focuses on the role of governance in the success of digital transformation in the United Arab Emirates. Finally, she concludes with a strategic option to achieve progress in Arab countries and keep pace with global developments and changes.

The study by Moazi and Muhammad [15] entitled “The Reality of Digital Transformation in Arab Countries - The Experience of the UAE as a Model,” indicates that, in light of the widespread use of information and communications technology and its development, the concept of digital transformation has been adopted by most Arab countries to automate their work electronically and transition from regular activities to electronic activities through interaction with citizens, enabling them to obtain information, adding transparency, and granting administrative and service facilities in a simplified form. This shift moves away from bureaucracy and achieves quality in providing institutional services [16].

According to Abdelmoteleb and Nohuddin [17], innovation and digital transformation in the UAE public services: from reactive to proactive. In this era, technology is constantly changing the world; governments need to deliver efficient, accurate, innovative, and proactive services. Many case studies have emphasized the importance of proactive and intuitive public services over reactive services. Machine learning, artificial intelligence, the Internet of Things, and blockchain technologies will increase this importance during the Fourth Industrial Revolution [18]. The Reactive and Proactive Service Delivery Framework can help design, develop, and deliver services that improve people’s well-being [6]. The framework will also help visualize the service delivery maturity model. Case studies and in-depth interview analyses using text analytics were conducted to clarify and validate the framework's components. The results show that proactive service design requires other elements such as ICT infrastructure, data, human capacity, leadership vision, and support policies [19].

According to Saadat [20], entitled Digital Transformation in the UAE: Benefits, Challenges, and Future Trends in the Public Sector, digital transformation is a process in which modern technologies are used in various business areas to pursue continuous changes. This includes strategic and deep integration of digital technologies into core business processes, operations, and methods. This study used a quantitative approach to investigate the impact of digital transformation adoption on transformational change projects in the public sector in the United Arab Emirates. The Diffusion of Innovation Theory (DIT), Acceptance Theory, and Unified Theory of Acceptance and Use of Technology (UTAUT) were used in the causal analysis. This study suggests that digital transformation initiatives in the United Arab Emirates have benefited from strategic alignment with government initiatives, such as strategies related to artificial intelligence components and proprietary technologies [21].

2.1. Digital Customer and Digital Government Service

The customer completes government transactions through digital channels by digitally identifying himself and using a digital wallet to share government documents and other files. Additionally, he utilizes a digital signature and other tools that enable him to complete government transactions securely and digitally without human intervention from the government entity [22]. The digital customer can be defined as the individual who interacts with digital systems and benefits from online services without the need to communicate directly with government officials or visit government offices. The digital customer experience in the United Arab Emirates is characterized by several features and advantages that reflect the government's tireless efforts to improve the quality of digital services and the customer experience. First, the digital customer in the UAE ensures fair and equal access to all digital government services without any discrimination or exclusion. The country's digital policies ensure that these services are provided to all members of society equally, including different groups such as people with disabilities and older adults [22]. Second, the digital customer has the opportunity to participate effectively in decision-making processes and contribute to the development of government services. This is thanks to the UAE government’s adoption of an open government and digital participation approach, which provides customers with direct channels to interact with government agencies and provide their opinions and suggestions [23]. Third: The digital customer has multiple opportunities to continuously enhance their digital skills through initiatives and educational programs provided by the UAE government to develop digital competencies across all segments of society. This enables customers to deal efficiently with digital services and benefit from them [24].

Fourth: The digital customer in the UAE experiences an easy and smooth user experience with digital government services, as these services are characterized by a flexible design that suits the various needs of customers. The UAE government also provides multiple means of support and assistance to customers using these services [2]. Fifth: The digital customer in the UAE enjoys high levels of security and privacy regarding their electronic transactions and personal data [25]. The government establishes necessary controls and legislation to protect sensitive data and information for customers, enhancing confidence in digital services. Sixth: The digital customer in the UAE benefits from the principle of "submitting data once," which allows them to complete their transactions without re-submitting information or previously submitted documents. This contributes to facilitating procedures and saves customers time and effort. Seventh: The digital customer in the UAE enjoys a comprehensive and integrated experience across all electronic government services, as the government seeks to develop a unified digital platform that brings these services together in one place, enhancing ease of use and navigation between different services [26].

The UAE's "Digital Customer and Digital Government Service" policy consists of six main axes, aiming to enhance digital transformation in the government and improve the customer experience in obtaining government services. These axes include the following:

Digital and proactive government services seek to enhance the government's approach to providing proactive digital services to customers. These services include the ability to predict customers' needs and preferences and important events in their lives based on the data and information available to government entities [7]. This axis aims to enable government entities to exchange data and information securely and efficiently by requesting data once, making it easier for customers to complete their transactions without repeatedly submitting the same data multiple times. Government digital enablers focus on improving the shared digital infrastructure and government systems that support connectivity and digital transformation in the country, which the digital government supervises. These enablers include unified digital platforms, digital signature tools, and other innovative tools [27]. Unified Digital Platform This initiative aims to develop an integrated digital platform that combines all digital government services in one location, making it easier for users to access and conduct their transactions efficiently and effectively [28]. Sustainability of Digital Services This axis aims to ensure that digital government services are provided reliably and securely by enhancing the required technical infrastructure and implementing the necessary security and protection mechanisms [29].

2.2. Policies And Initiatives to Support the Digital Customer

Digital Customer Policy: This policy aims to facilitate digital transactions for citizens and residents and includes the following initiatives. The comprehensive digital transformation of government transactions aims to enable individuals to complete all their government transactions through unified digital platforms, facilitating rapid responses to potential digital problems [30]. This includes establishing technical support centers to help users solve the technical challenges they may face while using digital services. “Digital Identity” initiative: Digital identity is a fundamental pillar that enables individuals to benefit from various government services. Its most prominent features include secure verification, which ensures that all digital transactions are conducted reliably and securely, and unified access, which allows for using a single identity to access all government services. Digital Document Wallet: This initiative lets users digitally store and share government documents. It includes the following: cloud storage, which provides the option to save documents on a secure electronic cloud, and ease of access, which enables users to access official documents anytime, anywhere [23]. The UAE aims to enhance digital transformation in government services, which contributes to improving customer experience and government performance efficiency. In this context, the government launched the “Digital Customer and Digital Government Service Policy,” which focuses on providing proactive digital services, activating integrated connectivity between digital systems in federal government agencies, and enhancing confidence in using digital services.

2.3. UAE Institutional Excellence Policies and Their Link to Digital Services

The United Arab Emirates adopts advanced policies in institutional excellence, aiming to enhance government performance and provide high-quality services to citizens and residents. Digital transformation is essential to these policies, as the government seeks to integrate digital technology into its operations and services to achieve efficiency and effectiveness [31]. This system represents a framework for evaluating and improving the performance of government agencies in the country. The latest version, GEM 2.0, focuses on promoting innovation and adopting digital technology to achieve institutional excellence. The system includes three main axes: achieving the vision, distinctive value, and enablers; each includes standards that support digital transformation and its applications in government services [32]. This policy was issued in 2023 to raise the quality of digital services provided by government agencies. It is based on international best practices and defines the roles and responsibilities of government agencies to ensure the provision of integrated and effective digital services, which contribute to achieving institutional excellence [33]. Institutional excellence policies in the UAE seek to integrate digital technology to improve performance and service delivery. Digital transformation is considered a means of achieving efficiency and effectiveness in government operations, which positively reflects on the quality of services provided and enhances customer satisfaction [34]. In addition, these policies contribute to enhancing innovation and developing advanced digital solutions that meet society's needs.

2.4. Artificial Intelligence Policies and Their Impact on Institutional Excellence in the United Arab Emirates

In 2017, the UAE launched the UAE Strategy for Artificial Intelligence, the first of its kind in the region. The strategy aims to achieve complete reliance on artificial intelligence in services and data analysis by 2031. The goals include improving government performance, accelerating achievement, and creating innovative work environments that enhance institutional

excellence [35]. The UAE issued the "Charter for the Development and Use of Artificial Intelligence" to achieve the national strategy goals and establish the country's position as a global center for the development and application of artificial intelligence. The charter covers the principles of promoting awareness of the responsible use of technology and ensuring the sustainable development of artificial intelligence applications for the benefit of society [34]. AI contributes to the automation of administrative processes, reducing human errors and increasing the efficiency of institutions. Many government agencies in the UAE rely on artificial intelligence technologies to improve service delivery and reduce the time and costs associated with it [36]. Artificial intelligence opens new horizons for innovation by developing advanced solutions that improve the quality of government services and contribute to their sustainability. Innovation is one of the essential criteria for achieving institutional excellence, according to the government excellence system [37]. Artificial intelligence enables institutions to use big data to analyze trends and make decisions based on accurate scientific foundations. This raises performance efficiency and achieves institutional excellence goals [38].

2.5. Digital Transformation Risk Management Policies in the UAE

The UAE attaches great importance to managing digital transformation risks, given the increasing role of digital technology in providing government services and economic activities. The policies aim to ensure safe and sustainable digital transformation and enhance trust in digital infrastructure [39]. The National Cybersecurity Strategy was launched to protect the country's digital infrastructure. The strategy aims to improve the ability of institutions to confront cyber threats and provide comprehensive protection for sensitive information. This is achieved by adopting cyber risk management systems and using artificial intelligence technologies to monitor and prevent cyberattacks [40]. As part of the digital transformation, the Personal Data Protection Law was issued in 2021, which aims to regulate the process of collecting and processing data and ensuring its privacy. This policy seeks to enhance digital trust by providing a comprehensive legal framework for managing the risks of data privacy breaches [41].

2.6. The Importance of Digital Interaction in Improving Government Performance

The importance of the digital customer in enhancing government performance is increasing in the United Arab Emirates, which is considered a pioneer in government digital transformation [42]. The government is constantly seeking to develop and improve its digital services provided to customers, reflecting the close connection between this digital transformation and the increasing efficiency and effectiveness of government performance in various sectors. Enhancing the concept of digital government and providing proactive services, the digital customer and digital government services policy launched by the UAE government aims to enhance the concept of digital government by providing proactive digital services. By focusing on the needs and requirements of customers, the government can design and deliver digital services more effectively and efficiently, which contributes to improving the customer experience and increasing their satisfaction with government services. Increasing government efficiency and improving resource utilization, the new policy seeks to enhance government efficiency in providing services through the optimal use of human, financial, and technical resources [43]. By developing digital infrastructure and enhancing integration among the digital systems of government entities, the government can provide faster and more responsive services to customers while achieving cost and resource savings [44].

Activating comprehensive and integrated connectivity between digital systems as the government seeks to achieve full integration among digital systems in federal government agencies allows for safe and effective data exchange. This integration enables the government to provide more comprehensive and integrated services to customers while ensuring rapid responses and delivering accurate data necessary for decision-making. Enhancing trust in digital services: The new policy also aims to enhance trust in using all kinds of digital services in the country. By providing secure and reliable digital services and maintaining the confidentiality and privacy of customer data, the government can gain customers' trust and encourage them to switch to these services [45]. Achieving customer satisfaction and enhancing their experience in obtaining digital government services is the primary goal of this policy. By focusing on customer needs and designing services to suit them, the government can provide a distinguished experience that reflects their satisfaction and loyalty toward the government [46]. The digital customer plays a pivotal role in improving government performance in the UAE. By focusing on customer needs and developing digital services in line with them, the government can achieve greater efficiency and effectiveness in providing its services, which enhances customer trust and satisfaction. This is the basis for the UAE's continued leadership in government digital transformation [47].

2.7. The Development of Digital Legislation in the UAE

Over the past two decades, the UAE has witnessed continuous development in its digital legislation, keeping pace with rapid technological changes and protecting the rights of citizens and residents. By establishing an integrated legal framework that regulates all digital transactions in the public and private sectors, the UAE has built a legislative environment that effectively promotes digital transformation. Federal Law No. 1 of 2006: Electronic Transactions and Digital Signatures: The Electronic Transactions and Digital Signatures Law is one of the most prominent pieces of legislation issued by the UAE to promote the use of technology in government transactions. This law ensures that all online transactions are legal and carry the same legal value as traditional transactions [48]. It also creates a secure environment that enhances trust in electronic systems between individuals and the government. This law has been amended several times to keep pace with developments in the information technology sector, including addressing issues related to digital signatures in commercial and official transactions. This law reflects the country's commitment to ensuring the integrity of online digital transactions by setting reliable standards and rules for usage [49].

Federal Law No. 5 of 2012: Combating Cybercrimes: In 2012, the UAE legislator passed the Anti-Cybercrime Law, an important step to protect individuals and institutions from crimes that may arise in the digital space. This law addresses piracy-related crimes, electronic forgery, and online fraud. It includes strict penalties for violators to create a safe electronic environment that guarantees the rights of all concerned parties. The importance of this law is evident in its response to modern cyber threats facing many electronic systems worldwide. It is considered a fundamental protection for online information privacy and sets strong guarantees to enhance cybersecurity and protect users' data (Federal Law No. 5 of 2012 and its amendments).

Personal Data Protection Law (PDPL): To promote and protect the rights of individuals in the digital space, the UAE issued the Personal Data Protection Law (PDPL) in 2021. This law is considered one of the most advanced legislations in the region, as it requires companies, government, and private institutions to obtain explicit consent from individuals before collecting or processing their data. It also requires these entities to establish precise mechanisms to ensure transparency in the use of personal data [41]. The law includes a set of measures to protect personal data, such as technical protections and policies related to individuals' rights to access, update, or request the deletion of their data. The law also requires companies to report any breaches of user data immediately. It further establishes mechanisms for accountability and penalties against entities that do not comply with its provisions [50]. This legislation reflects the importance of maintaining trust between users and digital services, which enhances the UAE's ability to attract investment and expand in artificial intelligence and big data.

Cybersecurity Law 2019: In light of the increasing cyber-attack threats, the UAE adopted the Cybersecurity Law in 2019, which aims to protect the country's digital networks and electronic systems. This law includes strict rules for protecting sensitive data and vital digital infrastructure. It requires government and private institutions to apply the highest cybersecurity standards to protect their systems from cyber-attacks [51]. Under the supervision of this law, the National Cybersecurity Center works to provide the necessary guidance to institutions on digital security and ensure coordination between government agencies in dealing with cyber crises. The law also includes procedures for monitoring, detecting threats, and responding immediately to cyber-attacks, which contribute to reducing digital risks. This legislation is considered one of the fundamental pillars on which the UAE relies to successfully achieve digital transformation, as it ensures a safe and sustainable environment for all digital government services and services provided to the public [52].

2.8. Digital Government Services in the UAE

Digital services in education: The UAE is considered a pioneer in technology in education, as it has launched digital educational platforms such as the "Abu Dhabi Education Platform." Students can access their curricula, interact with their teachers, and attend online classes through these platforms. These platforms also provide options for distance learning and analysis of students' academic performance using artificial intelligence tools. The UAE seeks to ensure the integration and unification of digital instruction across the country through the digital education strategy that aims to provide all educational services effectively online [53]. Digital healthcare services: The UAE offers innovative healthcare systems that aim to enhance healthcare efficiency and the quality of medical services. The Medcl platform was launched to provide remote medical consultation services online, allowing patients to communicate with doctors without visiting the hospital. In addition, hospitals and health centers are adopting electronic medical records systems to facilitate the exchange of information between different healthcare institutions. Digital health initiatives focus on improving access to healthcare services by providing digital solutions such as innovative applications and developing secure environments to protect health data [54].

Digital services in transportation: The innovative "Tankal" initiative launched in the UAE provides integrated digital services for all means of transportation. Citizens and residents can book tickets, follow public transportation, and track traffic through smartphone applications. The project also includes innovative transportation systems that rely on artificial intelligence to determine the best routes in major cities such as Dubai and Abu Dhabi. In addition, work is underway to develop self-driving transportation, which will be part of the government's plan to transform into a smart city [55]. Digital Services in Local Government: The "Tamm" service, launched by the Abu Dhabi government in 2016, provides a unified portal that allows all UAE residents to access more than 1,000 government services online or through smartphone applications. This service includes transactions related to passports, business licenses, and residence renewals, which contributes to saving time and effort for citizens and residents [56].

2.9. Analysis of Factors Affecting the Digital Transformation of Government Services in the United Arab Emirates

The United Arab Emirates is considered one of the leading countries in the digital transformation of government services, as it has achieved remarkable accomplishments in this field in recent years. Several factors have contributed to the success of this digital transformation, the most prominent being the wise leadership of the UAE, which has adopted a clear and ambitious vision for digital transformation. It has developed strategies and action plans to implement this transformation at various government levels. This strong strategic vision by the leadership is the main factor contributing to the UAE's remarkable success in this field [46]. The UAE has an advanced technological infrastructure that includes high-quality communications networks, modern data centers, and cloud computing services. This substantial infrastructure has enabled the government to provide citizens and residents with effective and secure digital services [57]. The UAE seeks to invest large sums in advanced digital technologies, including artificial intelligence, blockchain, and cloud computing. These investments have made the government services system more innovative and effective. The UAE government has worked to enhance beneficiary satisfaction by improving their experience with its services, whether citizens or residents, as part of its main goals in the digital transformation process [58]. This was reflected in simplifying procedures, facilitating access to digital services, and providing comprehensive and customized solutions. This trend resulted in a significant increase in the levels of beneficiary satisfaction with government services provided through digital channels [54].

2.10. Advantages of Digital Transformation

The most prominent advantages of digital transformation in the United Arab Emirates are evident in the following points. Improving the quality of life and enhancing community well-being. Digital transformation has contributed to providing competent, fast, and innovative government services to citizens and residents, which has led to improving the quality of life and increasing the level of general satisfaction [59]. The UAE has developed comprehensive digital platforms to provide high-efficiency educational, health, and social services, which have contributed to facilitating access to them and better meeting the needs of society. Digital technologies have also helped promote healthy and sporty lifestyles through advanced applications and programs that encourage physical activity and motivate the adoption of healthier lifestyles [60]. Enhancing productivity and efficiency in economic sectors: Digital transformation has increased productivity and performance levels in various economic sectors in the UAE through the adoption of advanced technologies for managing operations and resources [61]. It has also contributed to developing digital infrastructure and improving the quality of communications and the Internet, which has enhanced the ability of companies to innovate and provide more competitive products and services. Additionally, it has contributed to the growth of the e-commerce and digital financial services sectors in the UAE, supporting overall economic progress.

Improving government efficiency and enhancing transparency, Digital transformation has contributed to developing work systems and mechanisms within the UAE government, leading to increased levels of efficiency and productivity in various government agencies. It has also helped enhance transparency and accountability by providing updated data and real-time information to citizens and residents via digital platforms. This transformation has reinforced the principles of good governance and raised the quality of decision-making by relying on advanced digital data and analysis [62]. Digital transformation has contributed to the development of advanced surveillance and public security systems using artificial intelligence and Internet of Things technologies to enhance community security and safety. It has also improved the capabilities of security agencies to predict and respond quickly to any emergency or disaster by leveraging digital data and analysis. Additionally, it has contributed to improving traffic safety and reducing road accidents through innovative applications and systems to monitor and control traffic [63].

According to Al Qudah [64], empowering citizens and residents and improving customer experience the UAE has developed comprehensive digital platforms to provide government and private services efficiently and quickly. Digital transformation has enhanced citizen participation in decision-making and interaction with government agencies through advanced applications and electronic portals. It has also helped facilitate access to services and reduce customer burden through easy-to-use and mobile digital applications and solutions [65]. Promoting sustainability and preserving the environment. Digital transformation has contributed to the development of innovative solutions for managing the environment and conserving natural resources in the UAE. It has helped improve the efficiency of energy and resource use across various economic sectors by adopting advanced digital technologies. Additionally, it has contributed to reducing the carbon footprint and achieving environmental sustainability goals through innovative digital applications and solutions. The UAE's advantages and achievements in digital transformation highlight the commitment of its wise leadership and government to enhancing digital infrastructure and enabling citizens, residents, and businesses to benefit from modern technologies. Current trends indicate that the UAE will continue its success in this field, benefiting from its leadership and accumulated expertise, thereby strengthening its position as a leading global destination for innovation and digital competitiveness [66].

2.11. Challenges Facing the Digital Operator

Despite the advantages of digital transformation, the digital customer faces many challenges that may affect their experience with government services. The most prominent of these challenges is compatibility between digital systems and government platforms: despite the UAE's remarkable progress in digital transformation and the development of e-government services, there is a significant challenge in ensuring compatibility and integration between different digital systems and government platforms. Digital users still face difficulties navigating between these platforms and integrating the services provided, negatively affecting their experience of obtaining digital government services efficiently and quickly. Trust in digital services: Enhancing users' trust in the digital services provided by the government is one of the most prominent challenges facing digital transformation in the UAE. Many users still prefer traditional methods of dealing with government agencies due to a lack of sufficient confidence in information security and the extent of their data protection when using digital services [67]. Digital skills for users: Despite the high rates of digital technology penetration in the UAE, there is a gap in digital skills among some categories of users, especially the elderly and people with special needs. This poses a challenge to the participation of these individuals in benefiting from the available digital services.

Access to digital services: Despite the great efforts made by the UAE government to promote digital inclusion and ensure universal access to e-services, there is a challenge in ensuring that all customers can access these services quickly and without obstacles, especially people with special needs and individuals living in remote areas. The importance of raising awareness and education: Despite the remarkable progress in providing digital government services in the UAE, there is a continuous need to raise awareness among customers about these services and how to benefit from them effectively. Many customers are still not fully aware of the various advantages and features of the digital services [65]. Cybersecurity and data protection: Enhancing cybersecurity and protecting customer data are among the most prominent challenges facing digital transformation in the UAE. The need to develop strong and continuously advanced protection systems to confront increasing cyber threats has become urgent to gain customers' trust in digital services [55]. In light of these challenges, the UAE government continues its intensive efforts to develop its digital strategies and policies, ensuring that these issues are addressed comprehensively

and effectively. These efforts aim to improve the digital customer experience and enable citizens to fully benefit from the state's advanced and innovative government services.

2.12. Future Opportunities for Digital Government Services

Employing artificial intelligence to enhance government services: Artificial intelligence is one of the most prominent future opportunities to improve the digital services provided by the government. Artificial intelligence can play a vital role in analyzing data, anticipating citizens' needs, and increasing the efficiency of government decision-making. Blockchain applications in enhancing transparency: Blockchain technology has gained wide attention in various fields, including the government sector. This technology is expected to significantly enhance transparency and security in digital transactions [68]. Developing digital services through augmented and virtual reality technologies: Modern technologies, such as augmented reality (AR) and virtual reality (VR), present promising future opportunities in the UAE. These technologies can be exploited to provide interactive experiences in government services, such as conducting interviews with officials via virtual reality or virtual visits to government facilities [69]. The UAE faces significant challenges in digital government services, including enhancing cybersecurity and modernizing digital infrastructure. However, the future opportunities are no less significant, as emerging technologies such as artificial intelligence, blockchain, and augmented reality offer promising prospects for improving government services and delivering them to citizens more effectively and securely. The UAE can continue to lead the way in digital transformation by investing in these emerging technologies and enhancing public-private sector collaboration.

3. Study Methodology

The study relies on a descriptive analytical approach, reviewing a set of laws and government initiatives related to digital transformation in the UAE. The research also analyzes international studies and government reports to identify challenges and opportunities associated with digital transformation in the country. Secondary data from various sources, such as laws, official reports, and academic studies, support the investigation of the research topic. This research focuses on the legal and regulatory aspects that underpin the implementation of digital transformation projects, as well as highlighting advanced technologies that enhance the effectiveness of innovative government services.

4. Results

Through a comprehensive analysis of the UAE's experience in providing digital government services, several important results can be drawn that highlight the successes and challenges faced by the government during this digital transformation. The UAE has successfully implemented digital transformation strategies, achieving a comprehensive transformation in several government sectors, such as health, education, transportation, and legal affairs. This has contributed to enhancing the efficiency of services and the speed of completing transactions [1]. Studies have also shown that digital government services have directly contributed to improving the experience of citizens and residents, as they can now access these services without having to visit government offices, saving them time and effort [70]. Moreover, online government services have helped enhance transparency and reduce bureaucracy, making processes faster and more transparent while minimizing corruption and obstacles that previously hindered progress. Supporting the national economy, digital transformation has contributed to reducing government costs by decreasing the use of paper and simplifying procedures, which has led to strengthening the digital economy and attracting foreign investment. Technological challenges remain; despite the successes achieved, digital transformation in the UAE faces some challenges related to information security and data privacy, in addition to integration between different government systems [55].

Social and Cultural Challenges Resistance to digital transformation remains challenging for some individuals, especially among groups that may lack experience in using technology. Overcoming these challenges requires ongoing efforts to provide appropriate training and education for these groups. [71]. Achieving Efficiency and Speed: The digital transformation of government services has significantly contributed to reducing the time required to complete procedures and increasing the speed of service delivery, which has enhanced customer satisfaction. Enhancing Digital Security: Despite the challenges associated with cybersecurity, the UAE has taken significant steps to enhance digital security by developing advanced strategies to protect data and personal information. The UAE faces significant challenges in digital government services, including enhancing cybersecurity and modernizing digital infrastructure. However, future opportunities remain promising, as modern technologies such as artificial intelligence, blockchain, and augmented reality offer new horizons to improve government services and deliver them to citizens more effectively and securely [40].

Enhancing reliance on artificial intelligence and blockchain technology. Technologies such as artificial intelligence and blockchain are a bright future for government services, as they play an important role in raising the quality of services and enhancing security and efficiency. The UAE's legal and regulatory legislation demonstrates the government's commitment to achieving a comprehensive and secure digital transformation in line with the latest global technological developments. By developing legal frameworks such as the Electronic Transactions Law and the Personal Data Protection Law, the UAE ensures a balance between innovation and privacy protection, which enhances the trust of citizens and residents in the digital services provided by the government [62]. The UAE continues to lead the way in digital transformation as it works hard to achieve a competent government that provides distinguished services to citizens. By enhancing infrastructure, updating legislation, and activating the role of political leadership, the UAE will remain a role model in the government's digital transformation at the regional level. In addition to the UAE's digital strategies and developments in providing digital government services, the country continues to achieve the highest levels of efficiency and transparency by expanding the use

of artificial intelligence, blockchain, and the Internet of Things technologies. These digital transformations reflect the results of government performance and their positive impact on the quality of life for citizens and residents [65].

5. Recommendations

Developing technical infrastructure: The UAE must continue enhancing its digital infrastructure to keep pace with rapid technological innovations such as artificial intelligence and blockchain technology. The government should invest in updating digital systems periodically to ensure the stability and effectiveness of the services provided. Improving training and qualification of government employees: Specialized training programs in digital technology should be enhanced for all employees in government sectors. Training initiatives can improve employees' ability to deal with modern technologies efficiently. Enhancing cybersecurity and data protection: Information security and privacy protection should be a priority for the government when providing digital services. It is recommended that strong mechanisms be established to protect citizens' and residents' personal data from cyber threats [72].

Strengthening international partnerships: The UAE needs to continue its efforts to establish strategic partnerships with leading countries in the field of digital government to benefit from global best practices and apply them in government services. Increasing engagement with citizens: The government needs to continue enhancing communication with the public through opinion polls and innovative applications to ensure that the services provided effectively meet the needs of citizens. Encouraging innovation in the provision of government services: Encouraging innovative initiatives in the government sector can improve the quality of services. The UAE should work to stimulate innovation in providing digital services through awards and incentive initiatives. Strengthening cooperation with the private sector: The UAE government needs to continue strengthening its partnerships with private companies in information and communications technology to adopt the latest technologies and innovative solutions in government services. Increasing investment in training and awareness programs: The government should intensify its training and awareness programs for all segments of society to enhance social acceptance of digital transformation, especially among the elderly and groups less familiar with technology. Improving integration mechanisms between government systems: It is essential to develop integrated systems within e-government to ensure smooth data exchange between different government entities, thereby enhancing government performance, efficiency, and providing more flexible services.

6. Conclusion

The UAE's digital transformation journey has witnessed rapid developments at various levels over the past decades, with laws and legislation playing a fundamental role in establishing the foundations of this transformation. Law No. 9 of 2022 regulating the provision of digital services in the Emirate of Dubai is one of the most prominent legislative developments in this field. This law obliges government entities, the judiciary, and non-governmental entities in Dubai to digitally provide their current and future services to customers. The law also sets out the rules for digital services, including the terms and procedures related to judicial, commercial, civil, and e-commerce transactions. It allows customers to access digital channels to obtain services and adopt digital identity and electronic security requirements. In addition, the law requires customers to update their data with entities providing digital services. His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE, in his capacity as Ruler of Dubai, has issued a set of laws related to digital government, including the Law Establishing the Dubai Digital Authority, the Law on the Dubai Digital Government Establishment, and the Law Establishing the Dubai Data and Statistics Establishment. At the federal government level, the UAE Digital Government launched the "Digital Customer and Digital Government Service" policy in 2021, which aims to enhance proactive digital services, improve customer experience, and increase the efficiency of government performance.

This policy is based on six main pillars, including digital and proactive government services, one-time data requests, digital government enablers, a unified digital platform, and continuity of digital services, in addition to promotion and awareness. Additionally, there are several other legislations related to digital transformation and digital government services in the UAE, such as the Law Regulating the Dissemination and Exchange of Data in the Emirate of Dubai, the Dubai Government Financial System Law, and the Dubai Judicial Authority Law, along with several decisions and regulations issued by the competent authorities. This comprehensive set of laws and legislations confirms the UAE government's commitment to developing the necessary legislative structure to support the digital transformation process, improve the quality of digital government services provided to customers, and enhance information security and privacy. These laws form the basis for establishing the country's integrated digital government system. Furthermore, legislative efforts aim to enable customers to fully benefit from digital services and motivate the public and private sectors to advance in the digital transformation process. These efforts also seek to establish the necessary controls and standards to ensure information security and data protection, thereby enhancing customers' confidence in digital services. In general, the laws and legislation issued in the UAE reflect the government's commitment to developing a legislative and regulatory environment that enables customers to benefit from digital services entirely and encourages government and private entities to progress in the digital transformation process. These laws are the central pillars for achieving the UAE's vision of being one of the most advanced countries in digital government and electronic services.

References

[1] Emirates Government, "The UAE strategy for government services 2021–2025. Telecommunications and Digital Government Regulatory Authority," 2021. Retrieved: https://dgov.tdra.gov.ae/publications/the-uae-strategy-for-government-services. 2021.

[2] UAE Government, "UAE government digital transformation report 2023–2024. Telecommunications and Digital Government Regulatory Authority," 2023. Retrieved: https://u.ae/en/resources/publications. 2023.

[3] K. S. Aboelazm, F. Tawakol, E. Ibrahim, and H. Sharif, "Improving public sector procurement methods in international practices: A comparative study," *Journal of Lifestyle and SDG'S Review*, vol. 5, no. 2, pp. e03287-e03287, 2025. https://doi.org/10.47172/2965-730x.sdgsreview.v5.n02.pe03287

[4] UAE Federal Law No 1 of 2006, "Electronic transactions and electronic commerce law. Ministry of Economy," 2006. Retrieved: https://www.moec.gov.ae/en/federal-law-no-1-of-2006-on-electronic-commerce-and-transactions. 2006.

[5] Prime Minister's Decision, *UAE electronic government services law*. UAE: Prime Minister's, 2013.

[6] K. S. Aboelazm, "Supreme Constitutional Court review of the legislative omission in Egypt in light of international experiences," *Heliyon*, vol. 10, no. 17, p. e37269, 2024.

[7] M. Saed, "The experience of the United Arab Emirates in transitioning from e-governance to smart governance," *Journal of Intellectual Excellence for Social and Human Sciences*, vol. Special Issue, pp. 180–193, 2021.

[8] A. Al-Aqel and K. Qashi, "Big data and artificial intelligence to enabling the transformation to a smart government: Case study of the United Arab Emirates," *Namaa Journal of Economics and Trade*, vol. 6, no. 1, pp. 23-50, 2021.

[9] A. Abdul Ghani and M. Khaled, "Big data analysis technologies and their role in digital transformation of electronic government in the UAE," *Namaa Journal of Economics and Commerce*, vol. 5, no. 2, pp. 40–56, 2021.

[10] A. M. Al-Maria, "The impact of digital transformation on the development of Arab judicial legislation (Emirati legislation as a model)," *Journal of the College of Islamic and Arabic Studies for Girls in Alexandria*, vol. 4, no. 37, pp. 853–914, 2021. https://doi.org/10.21608/bfda.2021.218873

[11] R. Qurain, "The UAE's digital transformation model and its role in achieving sustainable development," *Journal of Economic and Financial Research*, vol. 9, no. 1, pp. 300–329, 2022.

[12] K. S. Aboelazm, E. Ibrahim, H. Sharif, and F. Tawakol, "Policies of civil service leadership reform in Egypt and the United Arab Emirates in light of the United Kingdom's experience," *Journal of Lifestyle and SDGs Review*, vol. 5, no. 2, pp. e03304-e03304, 2025.

[13] I. H. Jalila, "The role of digital governance in the success and activation of digital transformation: The model of the United Arab Emirates," *Journal of Legal and Economic Studies*, vol. 5, no. 3, pp. 846–864, 2023.

[14] K. S. Aboelazm, F. Tawakol, E. Ibrahim, and S. A. Ramadan, "The legal framework for BOT contracts in Egypt and the United Arab Emirates," *Journal of Lifestyle and SDGs Review*, vol. 5, no. 2, pp. e03286-e03286, 2025.

[15] G. Moazi and S. H. Muhammad, "The reality of digital transformation in Arab countries: The experience of the UAE as a model," in *Proceedings of the Eighth National Conference on the Transformation to Digitization and the Digital Economy in Algeria (pp. 1–15). Faculty of Economics, Commerce, and Management Sciences, Djillali Bounaama University, Khemis Miliana, Algeria*, 2023.

[16] E. Ibrahim, H. Sharif, and K. S. Aboelazm, "Legal confrontation of cyber blackmail: A comparative study," *Journal of Lifestyle and SDGs Review*, vol. 5, no. 2, p. e04039, 2025. https://doi.org/10.47172/2965-730X.SDGsReview.v5.n02.pe04039

[17] A. A. S. Abdelmoteleb and P. N. Nohuddin, "Innovation and digital transformation in UAE public services: Reactive to proactive," in *The 3rd International Conference on Management and Communication. European Proceedings of Social and Behavioural Sciences (EpSBS)*, 2023.

[18] N. Yas and H. Abdulrahim, "The civil protection of trademarks according to the UAE law," *Research Journal in Advanced Humanities*, vol. 5, no. 2, p. 10.58256, 2024.

[19] N. Yas, Y. Al-Bayati, M. I. Sarhan, and Z. G. Abdijabar, "Environmental pollution and its relationship to the media and the law: Awareness of the dialectics of the complementary relationship," *Research Journal in Advanced Humanities*, vol. 5, no. 1, 2024. https://doi.org/10.58256/cfrs0347

[20] M. A. Saadat, "Digital transformation in the UAE: Benefits, challenges, and future trends in the public sector," *Computers*, vol. 13, no. 11, p. 281, 2024.

[21] H. Yas *et al.*, "The negative role of social media during the COVID-19 outbreak," *International Journal of Sustainable Development and Planning*, vol. 16, no. 2, pp. 219-228, 2021.

[22] Ministry of Cabinet Affairs, *Digital customer policy: Framework for digital identification, digital wallets, and digital signatures*. United Arab Emirates: Ministry of Cabinet Affairs, 2021.

[23] Digital Transformation in the UAE, *Digital transformation report 2020: Enhancing customer experience and government services*. Abu Dhabi, United Arab Emirates: TDRA, 2020.

[24] H. Yas, A. Mardani, Y. K. Albayati, S. E. Lootah, and D. Streimikiene, "The positive role of the tourism industry for Dubai city in the United Arab Emirates," *Contemporary Economics*, vol. 14, no. 4, pp. 601–614, 2020.

[25] H. Yas, A. Alkaabi, N. A. ALBaloushi, A. Al Adeedi, and D. Streimikiene, "The impact of strategic leadership practices and knowledge sharing on employee's performance," *Polish Journal of Management Studies*, vol. 27, no. 1, p. 343, 2023.

[26] N. Yas, W. Dafri, H. Yas, and F. Shwedeh, "Effect of e-learning on servicing education in Dubai. In Artificial Intelligence in Education: The Power and Dangers of ChatGPT in the Classroom." Cham: Springer Nature Switzerland, 2024, pp. 623-639.

[27] L. Wessel, A. Baiyere, R. Ologeanu-Taddei, J. Cha, and T. B. Jensen, "Unpacking the difference between digital transformation and IT-enabled organizational transformation," *Journal of the Association for Information Systems*, vol. 22, no. 1, pp. 102–129, 2021.

[28] Telecommunications Regulatory Authority & Digital Government, *Digital customer policy*. Abu Dhabi, UAE: Telecommunications Regulatory Authority and Digital Government, 2023.

[29] M. H. Amini, H. Arasteh, and P. Siano, "Sustainable smart cities through the lens of complex interdependent infrastructures: Panorama and state-of-the-art," *Sustainable Interdependent Networks II: From Smart Power Grids to Intelligent Transportation Networks*, pp. 45-68, 2019.

[30] T. Janowski, "Digital government evolution: From transformation to contextualization," vol. 32, ed: Elsevier, 2015, pp. 221-236.

[31] N. K. Hanna, *Transforming government and building the information society: Challenges and opportunities for the developing world*. New York: Springer, 2010.

[32] M. Al-Shamsi and H. Al-Najjar, "Digital transformation in UAE's public sector: A path to excellence," *Journal of Government Excellence*, vol. 18, no. 3, pp. 45–62, 2021.

[33] United Arab Emirates Government, "Digital government service level policy," 2023. Retrieved: https://www.uaelegislation.gov.ae. [Accessed January 16, 2025]. 2023.

[34] A. Hussein and S. Al-Kuwaiti, "The role of digital transformation in achieving institutional excellence: A case study of the UAE government," *International Journal of Digital Government*, vol. 12, no. 4, pp. 89–104, 2020.
[35] M. Mansoori and H. Al-Najjar, "UAE artificial intelligence strategy: A path to excellence," *Journal of Government Innovations*, vol. 15, no. 2, pp. 55–70, 2020.
[36] M. Al-Shamsi and H. Al-Najjar, "Operational efficiency through AI in UAE government institutions," *Journal of Advanced Public Administration*, vol. 19, no. 1, pp. 34–50, 2022.
[37] R. Khan, S. Al-Mutairi, and A. Hassan, "Innovations in artificial intelligence and their impact on institutional excellence," *International Journal of AI and Public Policy*, vol. 9, no. 3, pp. 88–105, 2020.
[38] M. A. Ashaari, K. S. D. Singh, G. A. Abbasi, A. Amran, and F. J. Liebana-Cabanillas, "Big data analytics capability for improved performance of higher education institutions in the Era of IR 4.0: A multi-analytical SEM & ANN perspective," *Technological Forecasting and Social Change*, vol. 173, p. 121119, 2021. https://doi.org/10.1016/j.techfore.2021.121119
[39] H. Y. Khudhair and A. Mardani, "The major issues facing staff in Islamic banking industry," *International Journal of Economics and Management Systems*, vol. 6, pp. 200–211, 2021.
[40] UAE Cybersecurity Council, *Annual cybersecurity report 2021*. United Arab Emirates: UAE Cybersecurity Council, 2021.
[41] Federal Decree-Law No. 45 of 2021, "Personal data protection law. United Arab Emirates Official Gazette," 2021.
[42] H. Y. Khudhair, A. Jusoh, A. Mardani, K. M. Nor, and D. Štreimikienė, "Review of scoping studies on service quality, customer satisfaction and customer loyalty in the airline industry," *Contemporary Economics.*, vol. 13, no. 4, pp. 375-387, 2019.
[43] V. Ndou, "E-government for developing countries: Opportunities and challenges," *Electronic Journal of Information Systems in Developing Countries*, vol. 18, no. 1, pp. 1-24, 2004.
[44] C.-L. Chen, Y.-C. Lin, W.-H. Chen, C.-F. Chao, and H. Pandia, "Role of government to enhance digital transformation in small service business," *Sustainability*, vol. 13, no. 3, p. 1028, 2021. https://doi.org/10.3390/su13031028
[45] D. M. West, *Digital government: Technology and public sector performance*. Princeton, NJ: Princeton University Press, 2005.
[46] S. Al-Obaidli, *Smart government experiences in the Gulf states: The UAE as a model*. Abu Dhabi: Emirates Center for Strategic Studies, 2021.
[47] K. Yang and S.-Y. Rho, "E-government for better performance: Promises, realities, and challenges," *International Journal of Public Administration*, vol. 30, no. 11, pp. 1197-1217, 2007.
[48] M. Halabi, "The legal and regulatory challenges of making e-transactions a defining part of the Lebanese economy," Doctoral Dissertation, Lebanese American University, 2021.
[49] M. I. A. El-Haija, "The role of proof of written vice electronic documents: A study of the laws of Jordan and the United Arab Emirates," *Global Journal of Politics and Law Research*, vol. 12, no. 2, pp. 1–19, 2024.
[50] B. Malkawi, "Legal approaches to the regulation of digital trade by Middle Eastern countries," *Research Handbook on Digital Trade*, pp. 233-251, 2023.
[51] N. AllahRakha, "Cybersecurity regulations for protection and safeguarding digital assets (Data) in today's worlds," *Lex Scientia Law Review*, vol. 8, no. 1, pp. 405-432, 2024. https://doi.org/10.15294/lslr.v8i1.2081
[52] Y. Li and Q. Liu, "A comprehensive review study of cyber-attacks and cyber security; Emerging trends and recent developments," *Energy Reports*, vol. 7, pp. 8176-8186, 2021.
[53] S. M. Jasimuddin, N. Mishra, and N. A. Saif Almuraqab, "Modelling the factors that influence the acceptance of digital technologies in e-government services in the UAE: a PLS-SEM Approach," *Production planning & control*, vol. 28, no. 16, pp. 1307-1317, 2017.
[54] A. M. Al-Khouri, "eGovernment strategies the case of the United Arab Emirates (UAE)," *European Journal of ePractice*, vol. 17, no. September, pp. 126-150, 2012.
[55] F. Al Ali, M. Stephens, and V. Pereira, "Government e-services and reputation: Case of UAE," in *Doing Business in the Middle East*. London, UK: Routledge, 2023, pp. 235-252.
[56] H. Al Mansoori, A. B. Ali, and M. K. al Hassan, "Nature and quality of smart government services: The case of the UAE," *International Journal of Enhanced Research in Science, Technology & Engineering*, vol. 5, no. 1, pp. 53-64, 2016.
[57] A. Al-Khalifa, "Role of leadership in driving E-government success in UAE," *Journal of Public Sector Leadership*, vol. 12, pp. 55–72, 2020.
[58] A. J. Al Sayegh, S. Z. Ahmad, K. M. AlFaqeeh, and S. K. Singh, "Factors affecting e-government adoption in the UAE public sector organisations: The knowledge management perspective," *Journal of Knowledge Management*, vol. 27, no. 3, pp. 717-737, 2023.
[59] D. Qasim, A. Shuhaiber, A. Bany Mohammed, and M. Valeri, "E-entrepreneurial attitudes and behaviours in the United Arab Emirates: An empirical investigation in the digital transformation era," *European Journal of Innovation Management*, vol. 27, no. 8, pp. 3014-3034, 2024.
[60] Y. I. Dahshan, "Criminal protection of data in light of digital transformation," Faculty of Law, Zagazig University, 2022.
[61] A. I. Alzarooni, S. M. Alhashmi, M. Lataifeh, and J. Rice, "Navigating digital transformation in the UAE: Benefits, challenges, and future directions in the public sector," *Computers*, vol. 13, no. 11, p. 281, 2024. https://doi.org/10.3390/computers13110281
[62] F. F. Al-Atabi, *Informatics and its political impact on Arab systems*. Cairo, Egypt: Al-Arabi for Publishing and Distribution, 2020.
[63] R. A. AlDhaheri, I. F. Sulaiman, and H. A. A. Matrooshi, "The relationship between digital transformation and quality of UAE government services through machine learning," presented at the International Conference on Advanced Machine Learning Technologies and Applications (pp. 412-421). Cham: Springer International Publishing, 2022.
[64] M. Al Qudah, "Digital transformation and wise leadership: Challenges and opportunities evidence from government institutions in UAE," *Journal of Police and Legal Sciences*, vol. 15, no. 2, p. 5, 2024.
[65] S. Al-Otaibi, "Digital legislation in the UAE: An analytical study," *Journal of Law and Technology*, vol. 8, pp. 45–68, 2023.
[66] G. Mohammed, S. Ines, and K. Hayet, "The digital transformation experience in the United Arab Emirates," *International journal of economic perspectives*, vol. 18, no. 11, pp. 1963-1980, 2024.
[67] R. Mortada, F. Fielden, R. Broweller, and T. Guicotti. (2024) Government digital transformation in the Middle East: Accelerating the pace of implementation and sustaining impact. *Human Resources Friend Magazine, Federal Authority for Government Human Resources, (19), December 2024*.

[68] S. Al-Falahi, "The role of legislation in combating cybercrimes in the UAE," *Journal of Legal Research,* vol. 15, pp. 112–130, 2023.
[69] O. Signore, F. Chesi, and M. Pallotti, "E-government: challenges and opportunities," presented at the CMG Italy-XIX Annual Conference (Vol. 7, No. 2, pp. 177-198), 2005.
[70] R. Rabie, "Digital transformation model in the United Arab Emirates and its role in achieving sustainable development," *Journal of Economic and Financial Research,* vol. 9, no. 1, pp. 300–329, 2022.
[71] Mariam, *Training and education for these groups*. Abu Dhabi, United Arab Emirates: Ministry of Cabinet Affairs, 2021.
[72] National Cybersecurity Center, *Cybersecurity strategy and data protection guidelines*. Abu Dhabi, United Arab Emirates: National Cybersecurity Center, 2020.