

Perceived Risk and Behavioural Intention to Adopt E-Government in Dubai, United Arab Emirates



Ibrahim Salman Yousif Salman Alhammadi

Dissertation submitted to University of Lancashire for the degree of
Doctor of Business Administration

September 2025

**Perceived Risk and Behavioural Intention to Adopt E-Government
in Dubai, United Arab Emirates**

by

Ibrahim Salman Yousif Salman Alhammadi

A thesis submitted in partial fulfilment for the requirements for the degree of
Doctor of Business Administration at the University of Lancashire

September 2025

RESEARCH STUDENT DECLARATION FORM

Type of Award **Doctor of Business Administration**

School **School of Business**

*Sections marked * delete as appropriate*

1. Concurrent registration for two or more academic awards

I declare that while registered as a candidate for the research degree, I have not been a registered candidate or enrolled student for another award of the University or other academic or professional institution

2. Material submitted for another award

I declare that no material contained in the thesis has been used in any other submission for an academic award and is solely my own work

3. Collaboration

Where a candidate's research programme is part of a collaborative project, the thesis must indicate in addition clearly the candidate's individual contribution and the extent of the collaboration. Please state below:

NA

4. Use of a Proof-reader

No proof-reading service was used in the compilation of this thesis.

Signature of Candidate _____



Print name: Ibrahim Salman Yousif Salman Alhammadi

ABSTRACT

E-government (EG) has emerged as a critical tool for enhancing efficiency, transparency, and inclusivity in public service delivery. Despite Dubai's advanced digital infrastructure and global ranking in EG development, adoption remains constrained by citizens' and officials' perceptions of risk and insufficient trust mechanisms. This thesis investigates the impact of perceived risk and behavioural intention on the adoption of EG in Dubai, United Arab Emirates.

The research is guided by the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Risk Perception Theory (RPT), with a focus on risk dimensions including security, privacy, financial, technical, social, and time risks. A qualitative case study methodology was adopted, employing semi-structured interviews with senior government officials and a private sector collaborator. Data were analysed thematically using NVivo to generate insights into risk perceptions, behavioural intentions, and adoption outcomes.

The findings reveal that concerns over privacy and security are the most significant inhibitors of EG adoption, while trust, perceived usefulness, and institutional transparency serve as key enablers. Furthermore, multilingual support, cross-agency collaboration, and robust legal frameworks were identified as essential for mitigating risk and strengthening adoption.

This study contributes to theory by integrating risk perception into established technology acceptance models, to practice by identifying strategies to enhance trust and usability, and to policy by providing evidence-based recommendations for fostering inclusive and citizen-centred EG services. Overall, the research highlights pathways for Dubai to consolidate its position as a global leader in digital governance.

Declaration and Statements

Declaration

This work has not been previously accepted for any degree and is not being concurrently submitted in candidature for any degree.

Signed.....(Candidate) Date 28/09/2025.....

Acknowledgements

First and foremost, I would like to express my deepest gratitude to my parents, whose unwavering support and prayers have been the foundation of every step I've taken in this journey. To my wife and beloved children thank you for your patience, understanding, and precious companionship during the long hours of study and research. To my supervisor's Dr. Olatunbosun Sanusi and Dr. David Babarinde for accepting me unto the programme and their professionalism in supporting and encouraging me during the entirety of this research even when I sometimes doubted myself. I am also sincerely grateful to my dedicated team at work, whose encouragement and cooperation have lightened the burden and inspired me to persevere.

Special thanks go to a group of exceptional leaders who have profoundly influenced my professional journey—their vision, mentorship, and belief in innovation have shaped not only this dissertation but my broader perspective on growth and leadership. This accomplishment is as much theirs as it is mine, particularly HH Sheikh Mohammed bin Rashid Al Maktoum, HH Sheikh Hamdan bin Mohammed Al Maktoum, HH Sheikh Rashid bin Humaid Al Nuaimi, HE Mohammad bin Abdullah Al Gergawi, HE Dhahi Khalfan Tamim, HE Ohood bint Khalfan Al Roumi, HE Omar Bin Sultan Al Olama, HE Maryam bint Ahmed Al Hammadi.

I would also like to extend my sincere appreciation to all decision-makers in the UAE government who possess the vision, leadership, and courage to drive meaningful change. It is my hope that the insights and recommendations presented in this dissertation will serve as a valuable resource to support their ongoing efforts in enhancing public service delivery, improving the quality of life for citizens and residents, and strengthening the global competitiveness of the UAE government. Their role is vital in translating knowledge into action, and I am confident that their commitment will continue to shape a more innovative and sustainable future for the nation.

Table of Contents

CHAPTER 1 BACKGROUND AND INTRODUCTION	1
1.1. INTRODUCTION	1
1.2. RESEARCH BACKGROUND AND RATIONALE	4
1.2.1. <i>Brief Background of EG in UAE</i>	8
1.3. RESEARCH PROBLEM STATEMENT	9
1.4. RESEARCH AIM.....	9
1.5. RESEARCH OBJECTIVES	9
1.6. RESEARCH QUESTIONS	9
1.7. SIGNIFICANCE OF THE STUDY	10
1.7.1. <i>Practical Significance</i>	10
1.7.2. <i>Theoretical Significance</i>	10
1.7.3. <i>Policy Significance</i>	11
1.8. SCOPE OF THE STUDY	11
1.9. ORGANISATION OF THE THESIS.....	11
1.10. SUMMARY	12
CHAPTER 2 LITERATURE REVIEW	13
2.1. INTRODUCTION	13
2.2. ADOPTING E-GOVERNMENT.....	13
2.2.1. <i>EG Diverse Roles</i>	15
2.2.2. <i>Dimensions of EG Adoption</i>	16
2.2.2.1. Government-to-Citizen (G2C) and Citizen-to- Government (C2G).....	16
2.2.2.2. Government-to-Business (G2B) and Business-to-Government (B2G)	17
2.2.2.3. Government-to-Employees (G2E) and Government-to-Government (G2G).....	17
2.2.2.4. Government- to-Nonprofit (G2N)	18
2.2.3. <i>Impact of adopting E-government</i>	18
2.2.3.1. E-Governance Enablers – Role of Organisation Structure and Managers	21
2.2.3.2. ICT Infrastructure and Skills.....	21
2.2.3.3. Socio-cultural	22
2.2.3.4. Legal and Regulatory basis.....	22
2.2.3.5. Security and Privacy	23
2.2.3.6. Underperformance of E-Government	24
2.3. PERCEIVED RISK.....	27
2.3.1. <i>Definition and Concept of Perceived Risk</i>	27
2.3.2. <i>Dimensions of Perceived Risk</i>	29
2.3.2.1. Performance Risk	29
2.3.2.2. Financial Risk.....	30
2.3.2.3. Social Risk.....	30
2.3.2.4. Privacy Risk.....	31
2.3.2.5. Time Risk.....	32
2.3.2.6. Psychological risk/ Emotional Risk.....	32
2.3.3. <i>Impact of Perceived Risk</i>	33
2.3.3.1. Perceived Trust	33
2.3.3.2. Perceived Usefulness.....	34
2.3.3.3. Perceived Ease of Use	34
2.3.3.4. Service Quality	35
2.3.3.5. Information Quality	36
2.3.3.6. Satisfaction (System Information Support Satisfaction)	36
2.3.3.7. Citizen Attitude.....	37
2.3.3.8. System Quality	37
2.3.3.9. Computer self-efficacy	37
2.4. BEHAVIOURAL INTENTION	38

2.4.1.	<i>Definition and Concept of behavioural Intention</i>	38
2.4.2.	<i>Dimensions of behavioural Intention</i>	39
2.4.2.1.	Performance Expectancy	40
2.4.2.2.	Effort Expectancy	40
2.4.2.3.	Social Influence	41
2.4.3.	<i>Impact of behavioural Intention</i>	42
2.5.	E-GOVERNANCE PRINCIPLES AND KEY PILLARS	43
2.6.	SUMMARY	49
CHAPTER 3 TOWARDS CONSTRUCTING A THEORETICAL FRAMEWORK		50
3.1	INTRODUCTION	50
3.2	THEORETICAL FRAMEWORK	50
3.3.	TECHNOLOGY ACCEPTANCE THEORIES	51
3.3.1.	<i>Theory of Reasoned Action (TRA)</i>	52
3.3.2.	<i>Diffusion of Innovation (DOI) Theory</i>	52
3.3.3.	<i>Perceived Risk Theory</i>	53
3.4.	RELATED TECHNOLOGY ACCEPTANCE MODELS	53
3.4.1.	<i>Technology Acceptance Model (TAM)</i>	53
3.3.2.	<i>Technology Acceptance Model 2 (TAM2)</i>	54
3.4.3.	<i>Unified Theory of Acceptance and Use of Technology (UTAUT)</i>	55
3.4.4.	<i>Perceived Risk Model</i>	56
3.4.	KEY ELEMENTS FROM EG THEORIES AND MODELS	58
3.5.	EMERGENCE OF FURTHER EG FACTORS	59
3.6.	SUMMARY	60
CHAPTER 4 METHODOLOGY		61
4.1.	INTRODUCTION	61
4.2.	RESEARCH PHILOSOPHY	61
4.2.2.	<i>Epistemology</i>	62
4.3.	RESEARCH APPROACH	63
4.4.	RESEARCH DESIGN	64
4.4.1.	<i>Case Study of Dubai Government Leaders' Attitudes Towards Perceived Risks</i>	64
4.4.2.	<i>Research Population and Research Sample</i>	66
4.5.	DATA COLLECTION STRATEGY	68
4.5.1.	<i>Data Quality</i>	68
4.5.2.	<i>Data Collection</i>	69
4.5.3.	<i>Data Analysis</i>	70
4.6.	RESEARCH OBJECTIVITY AND BIAS	71
4.7.	RESEARCH VALIDITY	72
4.8.	RESEARCH ROBUSTNESS	73
4.9.	RESEARCH ETHICS	74
4.10.	SUMMARY	75
CHAPTER 5 FINDINGS		76
5.1.	INTRODUCTION	76
5.2.	PROFILE OF STUDY AREA	76
5.2.1.	<i>Participant Demographic Characteristics</i>	80
5.2.2.	<i>Education and Gender</i>	81
5.3.	EVIDENCE OF INTERNAL WORKING STRUCTURE	81
5.4.	EVIDENCE OF TECHNOLOGY AND THE ADOPTION OF EG	82
5.5.	EVIDENCE OF PERCEIVED RISKS AND EG ADOPTION	83
5.6.	EVIDENCE OF BEHAVIOURAL INTENTION	86
5.7.	EVIDENCE OF MITIGATION STRAEGIES, POLICY AND INITIATIVES	88

5.8.	EVIDENCE OF FUTURE DEVELOPMENTS	92
5.9.	CRITICAL REFLEXIVITY	93
5.10.	PROPOSED CONCEPTUAL FRAMEWORK FOR E-GOVERNMENT ADOPTION IN DUBAI	94
5.11.	SUMMARY	96
CHAPTER 6 ANALYSIS AND DISCUSSION		98
6.1.	INTRODUCTION	98
6.2.	GENERATION OF RESEARCH THEMES	98
6.3.	PERCEIVED RISKS INFLUENCING ADOPTION OF EG	98
6.3.1.	<i>Primary Security Concerns</i>	99
6.3.2.	<i>Privacy Risks in Accessing and Sharing Personal Data Influencing Adoption</i>	100
6.3.4.	<i>Technical Risks of E-Government Adoption</i>	101
6.4.	CULTURAL AND SOCIAL FACTORS INFLUENCING PERCEIVED RISKS OF E-GOVERNMENT ADOPTION.....	102
6.5.	BEHAVIOURAL INTENTION AFFECTING ADOPTION OF E-GOVERNANCE.....	104
6.5.1.	<i>Perceived Risk of Data Security Influencing Behavioural Intention</i>	106
6.5.2.	<i>Perceived Risk of Privacy Invasion and Behavioural Intention</i>	107
6.5.3.	<i>Perceived Risk of Technical Failures and Behavioural Intention</i>	108
6.6.	USER TRUST AND PERCEIVED USEFULNESS IMPACTING ADOPTION OF E-GOVERNMENT	109
6.7.	MITIGATION OF PERCEIVED RISKS TO ENHANCE BEHAVIOURAL INTENTION	110
6.8.	SUMMARY	116
CHAPTER 7 CONCLUSION AND RECOMMENDATIONS		118
7.1	INTRODUCTION	118
7.2.	SUMMARY OF KEY FINDINGS.....	118
7.3.	CONTRIBUTIONS TO KNOWLEDGE, PRACTICE, AND POLICY IN DUBAI'S EG ADOPTION	121
7.3.1	<i>Contribution to Knowledge</i>	121
7.3.2	<i>Contribution to Practice</i>	122
7.3.3	<i>Contribution to Policy</i>	122
7.4.	LIMITATIONS OF THE STUDY	123
7.5.	FUTURE RESEARCH	123
7.6.	SUMMARY	124
CHAPTER 8. PERSONAL REFLECTION ON THE RESEARCH JOURNEY		126
8.1	<i>INTRODUCTION</i>	126
8.2	<i>PERSONAL LEARNING AND GROWTH</i>	126
8.3	<i>METHODOLOGICAL INSIGHTS</i>	127
8.4	<i>CHALLENGES FACED</i>	127
8.5	<i>PROFESSIONAL VALUE</i>	128
8.6	<i>WHAT I WOULD DO DIFFERENTLY</i>	128
8.7	<i>CONCLUSION</i>	129
APPENDIX.....		130
REFERENCES.....		134

List of Figures

Figure 3-1: Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), Risk Perception Theory (RPT)	51
Figure 3-2: Technology Acceptance Model	54
Figure 3-3: Technology Acceptance Model 2	55
Figure 3-4: Unified Theory of Acceptance and Use of Technology	56
Figure 3-5: Perceived Risk.....	57
Figure 3-6: Proposed Research Framework Illustrating Elements of Perceived Risk and Behavioural Intention to Adopt EG	58
Figure 5-1: Demographic characteristics of participants	80
Figure 5-2: Proposed Conceptual Framework for the Adoption of EG in Dubai	95
Figure 6-1: NVivo Project map highlighting the main challenges and interrelationships of perceived risks affecting behavioural intention in adopting e-governance extracted from various interview data.....	105
Figure 6-2: Codes extracted from the theme related to strategies to mitigate perceived risks and enhance behavioural intention.	111
Figure 6-3: Word cloud of theme on policy initiatives and government incentives impacting adoption of EG.....	113
Figure 6-4: Word cloud on theme related to strategies to mitigate perceived risks and enhance behavioural intention.	116

List of Tables

Table 1.1 EG Development in the Gulf Countries	4
Table 2.1: Summary of objectives EG and E-governance	15
Table 2.2: EG failure or success reasons.....	25
Table 4.1: The thematic analysis process.....	70

List of Abbreviations

EG	E-government
AI	Artificial Intelligence
GDPR	General Data Protection Regulation
ICT	Information and Communication Technology
ML	Machine Learning
G2C	Government-to-Citizen
C2G	Citizen-to- Government
G2N	Government- to-Nonprofit
TDRA	Telecommunications and Digital Government Regulatory Authority
TRA	Theory of reasoned Action
DOI	Diffusion of Innovation
UTAUT	Unified Theory of Acceptance and Use of Technology

Chapter 1 BACKGROUND AND INTRODUCTION

1.1. INTRODUCTION

General Overview and Background

E-government (EG) is the utilisation of information and communication technologies (ICTs) by the government to interact with and provide services to citizens and businesses (OECD, 2007 and Khan *et al.*, 2021). It is also defined “as the use of ICTs in the internal operations of the public sector to integrate workflows, improve transaction times, and enable open information transfers to address the inefficiency induced by traditional paper-based systems” (Khan *et al.*, 2021; p.2). In this context, Tung and Rieck (2005; p. 418) define EG as “information system aided handling of public administration processes using information and communications technology”. While EG is mostly defined as a digital media tool to provide government services to citizens, Malodia *et al.*, (2021) add it is “socially inclusive, hyper-integrated ICT platforms that are built with evolutionary systems architecture to ensure the efficient delivery of government services with transparency, reliability and accountability.” Additionally, EG is defined as the delivery of government information and services to citizens via the Internet or other digital means (Rana *et al.*, 2017; West, 2004). Within the available definitions, there are common aspects, including the use of technologies and interaction with citizens, businesses, and government sectors. Thus, considering the scope of this study, EG can be defined as the provision of government services through ICT for enhanced inclusivity and efficiency.

Globally, EG is used to deliver better government services, enhance interaction with business and industry, as well as citizen empowerment, and efficient government management. EG utilises information technology to enhance the relationship between government agencies and the public (Janowski, 2015). Technological advancements recognized for delivering global excellence have prompted central and local governments to adopt EG strategies, transforming public administration (Sarayreh and Sriram, 2015; Rana *et al.*, 2017). The primary motives for implementing EG services include improving accountability, transparency, and stakeholder participation (Gaventa and McGee, 2013; Kosack and Fung, 2014). The United States is one of the countries that paved

the way in EG, launching over 1300 initiatives, mainly providing services, between 1993 and 2001 (Akman *et al.*, 2005). This trend was closely followed by other developed nations including the United Kingdom, Australia, New Zealand, Germany and Singapore (Akman *et al.*, 2005 and Curtin, Sommer and Vis- Sommer, 2003). Currently the top ten leaders in EG development are Denmark, Finland, Republic of Korea, New Zealand, Sweden, Iceland, Australia, Estonia, Netherland and the United States (UN, 2022). Each of these countries are high-income countries, indicating a correlation between EG and economic advancement. The UN (2022) states the highest rating countries have a whole government approach featuring a central department led by a high-ranking government officer such as a chief digital technology officer. This central department is responsible for contributing to policy formulation and the coordination of policy implementation in relation to EG. Exploring views on relationships that may affect user acceptability of EG is crucial in the development of policy.

Behavioural intentions encompass the intensity of an individual's goal to attain explicit conduct, which precedes practice act and user acceptability. Sabah (2016) described behavioural goals as a gauge of an individual's obligation to use new technologies in the realm of information and communication technology. Similarly, behavioural intention, also known as social intention, refers to an individual's perceptible reaction within a specific situation towards a given purpose. This behaviour is a key component of potential actions and is influenced by the concept of social control, which guides the influence of target behaviours, resulting in desirable actions when perceived social control is strong (Nzaramyimana and Susanto, 2019). An individual's intention to use innovation can be understood by their attitude towards its use, which is influenced by the ease and usefulness of available data platforms. The significance and acceptance of e-governance technologies have undergone an unprecedented shift in different countries (Singh *et al.*, 2024). Existing literature has acknowledged that information value, perceived usefulness, social stimulus, and government demand significantly impact citizen attitudes towards e-governance (Gupta and Mathur, 2024; Aleisa, 2024; Alharbi *et al.*, 2017). For example, the demand for e-governance services across countries was high among localities and residents during and after the COVID-19 pandemic (Singh *et al.*, 2024). The outbreak led people to use various e-governance platforms, making it easy to continue activities during a time of restrictions on mobilities and limited resources to varying degrees of success (*ibid*). Governmental organisations usually operate in tiers, with distinct protocols, managerial frameworks, and decision-making processes which may

account for the variance in viewpoints (Kumar Suri, 2014; Pandey, 2024). These hierarchical structures within governance could impact on confidence and cooperation, inefficiencies, and poor decision, which may further amplify risks associated with EG projects. The impacts on policy makers and users could be costly and less rewarding. The balance of which must be judiciously weighted. Therefore, it is critical to thoroughly scrutinise the blueprint for delivering public service both to government and users to ensure quality through EG services.

The perceptions of EG are influenced by their sense of risk (Jasimuddin *et al.*, 2017). Dwivedi *et al.*, (2017) conceptualise environmental and behavioural risks as key components of perceived risk. They argue that the unpredictability of internet-connected devices poses a significant environmental risk. The instability of internet-related technology threatens ecosystems, while negative online communication behaviours contribute to behavioural risk. Concerns over sensitive information may deter citizens from using EG platforms (Bhuasiri *et al.*, 2016; Alryalat, 2024; Xie Song, Peng, and Shabbir, 2017). Nguyen (2023) highlighted that the perceived risk during the COVID-19 pandemic affected citizens' intentions to use EG services. In spite of extensive research on the factors influencing EG usage, society remains nervous about these services due to matters primarily related to trust, risk, safety, and confidentiality (Gupta *et al.*, 2024; Abdalla *et al.*, 2024). Accordingly, Saleh and Alyaseen (2022) argued that e-governance has the potential to enhance efficient public service delivery by leveraging innovative communication systems and new infrastructure, such as computer systems. This advancement offers governments and organisations the opportunity to address issues associated with traditional delivery methods. Similarly, the successful implementation of e-governance is considered essential for its effectiveness.

The United Nations emphasises the importance of EG development in achieving the Sustainable Development Goals (SDGs), particularly SDG 10 (Reduce Inequalities) and SDG 16 (Peace, Justice, and Strong Institutions). The United Nations assesses EG progress in 193 member states every two years using the EG Development Index (EGDI), which includes three components: the Online Service Index (OSI), the Telecommunication Infrastructure Index (TII), and the Human Capital Index (HCI). In 2022, Europe had the highest average score for e- government. Denmark, the Republic of Korea, and Finland ranked first to third, respectively (United Nations EG Survey, 2022). The United Arab Emirates (UAE) ranked first in the Arabian region and thirteenth globally, improving its international ranking by eight positions from the previous survey (United Nations

EG Survey, 2022). The UAE exemplifies the rapid adoption of information technologies in both the public and private sectors. The federal government of the UAE launched an EG project to transition traditional transactions and procedures to an online platform (Ayish, 2005). This global voice is significant to reduce inequality within society and improve accessibility of EG within society. Adoption could impact on associated country image and keep the government in alignment with the global vision and best practice. This is important to improve the quality of EG and accelerate the transformation of EG strategy in the country. Conversely, lack of adoption could reduce the country EG ranking, lead to mistrust and uncertainties among the citizens.

Table 1.1 EG Development in the Gulf Countries

The Country	Rating Class	Online service Index (2022)	Online service Index (2020)
United Arab Emirates	VH	0.9010	0.8555
Bahrain	V1	0.7707	0.8213
Saudi Arabia	V2	0.8539	0.7991
Kuwait	HV	0.7484	0.7913
Oman	V1	0.7834	0.7749
Qatar	HV	0.7149	0.7173

Source: Adapted from United Nation EG Survey (2022).

To maintain its position and create a path to continuous development it is imperative that the UAE explores factors influencing EG usage. As shown in table 1.1, UAE is ranked first and very high (VH) within the Gulf states and 11th globally based on 2024 EG development index.

1.2. RESEARCH BACKGROUND and RATIONALE

The gradual acceptance of the internet in UAE for decision-making processes, coupled with the expansion of EG services, has driven researchers to investigate, identify, and evaluate the factors that improve the functionality and utilisation of EG. Numerous studies have been conducted on various topics related to the concept of EG, with a significant focus on key aspects such as its adoption (Savoldelli, Codagnone and Misuraca, 2014; Zhang, Xu and Xiao, 2014); impact (Andersen *et al.*, 2010), and policy development (Kromidha and Cordoba-Pachon, 2014). These studies highlight the importance of EG in contemporary settings with limited resources, where

performance that benefits actors on both sides of transactions hinges on efficiency and effectiveness. Government officials and leaders are increasingly recognizing EG's potential to improve government operations and provide benefits to both their constituents and business partners (Ebrahim and Irani, 2005). Similarly, EG is considered a crucial method for giving individuals online access to government policies, strategies, and services. Consequently, the UAE government aims to use EG portals to expand its public outreach (UAE, 2022). Ensuring the success of EG requires significant investment in appropriate ICTs and training (Mensah, Zeng and Luo, 2020). Thus, research that identifies factors influencing the adoption of EG is crucial to support and justify government resource allocation. This could further support EG introduction and success. Understanding the reasons behind individuals' use of EG services is essential; without this knowledge, efforts to promote EG usage may be ineffective (Dada, 2006; El-Ebiary, 2018).

While EG offers substantial benefits (Kurfali *et al.*, 2017), its success is dependent on user acceptance (Hwang *et al.*, 2004). Previous research has explored EG adoption in Western nations (Akman *et al.*, 2005; Curtin, Sommer and Vis-Sommer, 2008), as well as in Asian countries such as Malaysia, Kuwait, Iran, and China (Mirchandani *et al.*, 2018; Yap *et al.*, 2021). They found that EG is still in its infancy, some governments performed better than other, and trust still a major concern for adoption. Prior research on EG has primarily focused on either the adoption of government-to-government (G2G) systems within public administration organisations, examining various factors influencing EG use at an organisational level (Zheng *et al.*, 2013; Hapsara, Imran and Turner, 2017; Al Sayegh *et al.*, 2023), or has taken a narrower approach, addressing specific issues, challenges, and adoption factors related to EG (Zhao, Scavarda and Waxin, 2012; Safeena and Kammani, 2013). Moreover, while some scholars have sought to identify variables affecting EG adoption, more empirical evidence is still required to identify core concerns and tailored to specific culture (Safeena and Kammani, 2013; *et al.*, 2017; Hapsara, Imran and Turner, 2017).

Some scholars also suggested suitable models for the mainstreaming of e-Governance in developing countries to improve quality of life and competitiveness of the country (Kurfali *et al.*, 2017; Zahid and Din, 2019). Accordingly, Safeena and Kammani (2013) argue that each nation's local environment affects the factors influencing EG adoption. Some studies suggest that since their research has been validated in a specific country, its findings are less likely to be applicable to other communities and nations (Yoon and Barker Steege, 2013). This information is significant

to ensure protection of national identity and national beliefs, attitudes, and behaviour. Other researchers argue contextual studies are a valuable extension of current knowledge on technology acceptance to different socio-economic contexts (Nawafleh, 2018; Sepasgozar *et al.*, 2019; Shahzad *et al.*, 2019; Kumar *et al.*, 2020; Sabani, 2021). Notably, the extant literature indicated that few studies have explored the factors that motivate the adoption of EG in UAE but they didn't extensively critic the relationship between EG perceived risk and behavioural intention (Mensah, 2019; Eid, Selim and El-Kassrawy, 2020). Al-Azri, Al-Salti and Al-Karaghoul (2010) suggested that there are three paradigms which include a set of factors that impact the success of EG namely, the organisational paradigm (top management support and organisational culture, etc.), technology paradigm (flexibility, accessibility etc.), and end-users paradigm (training and awareness, etc.). In addition, Al-Khour (2012) illustrated a six- stage roadmap on how Arab countries should prioritise their EG short and mid-term efforts. This study highlighted the impressive strides UAE had made in developing a whole government approach exhibiting best practice showing at early stages, its potential to continuously improve with judicious evaluation and monitoring of its processes (ibid). Zhao *et al.* (2012) examined the significant challenges in developing and implementing EG in Dubai. These challenges include language issues on websites, e-integration, uptake of EG services, the digital divide, and the quality of websites and e-services. Alharmoodi and Lakulu (2020) argued that the adoption and implementation of EG in the UAE faced barriers such as public awareness, information privacy, data security, trust, and technology training skills, all of which are increasingly important for ensuring the efficient delivery of government services. Sarrayrih and Sriram (2015) assert that the successful adoption of EG depends on both technological advancements and the public's acceptance of this technology.

Previous studies have primarily focused on the factors that drive adoption, such as attitude; participation efficacy; perceived behavioural control; perceived value; subjective norms, perceived usefulness; government capacity; performance expectancy; effort expectancy; social influence and facilitating conditions (Talukder *et al.*, 2019; Li and Shang, 2020; Mensah, 2020; Alarabiat, Soares and Estevez, 2021). In addition, Rodrigues, Sarabdeen and Balasubramanian (2016) highlighted that EG service utilisation in the UAE was influenced by confidentiality and trust, facilitating conditions and attitude towards technology use. They further revealed that performance expectancy and effort expectancy were the predictors of user satisfaction and behavioural intention to use EG services. Furthermore, AlNuaimi *et al.*, (2011) examined the key barriers to the use of

EG services by citizens in the municipality of the Emirate of Abu Dhabi. They found that trust in government, perceptions of usefulness, perceptions of ease of use, quality of the EG information system, and the quality of the information in the EG portal affect the citizens' intention to use EG services. Finally, (Al Sayegh *et al.*, 2023) investigated factors that influence EG adoption among public sector departments with the view to determine how such factors may be used to better facilitate EG adoption across the United Arab Emirates (UAE) public sectors. They found that performance expectancy and facilitating conditions have positive effects on EG adoption. However, there is a lack of research that examines how specific factors may impact the use and adoption of EG services, such as perceived risk (Eid, Selim and El-Kassrawy, 2021; Ismagilova *et al.*, 2022).

According to (Al-Shboul *et al.*, 2014) there are risks associated with EG adoption. In the context of technology acceptance, (Featherman and Pavlou, 2003; Lee, 2009) measured five specific risk facets namely financial, security/privacy, performance, social and time risk. In Asian countries a limited number of studies have been conducted on risk (Al-Zahrani, 2020; Eid, Selim and El-Kassrawy, 2020). Studies showed that the perceived risk was examined using a single construct which fails to show the real characteristics of perceived risk and adequately explain why citizens resist EG services (*ibid*). Researchers also seem unsure which factors are most influential in affecting the decision to use EG (Verkijika and De Wet, 2018; Al-Zahrani, 2020; Eid, Selim and El-Kassrawy, 2020). Accordingly, this study is concerned with the impact of behavioural intentions in the adoption of EG, considering risk or perceived risk as a specific influencing factor may be a prudent starting point for modelling decision making. Technology acceptance models, which explain how individuals adopt and use technology, may aid the study of how factors may impact behavioural intention and EG usage. Theories such as the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT), suggest that factors influencing adoption may be moderated by demographic characteristics. For example, Paccoud *et al.*, (2021) stated that use of digital technology is more common among people of more advantaged socioeconomic status. This may account for the dominance of developed and high-income earning countries in the EG development index (UN, 2022). Additionally, policies should also consider factors such as data privacy, security, and accessibility for all citizens, which are less visible in the current implementation model (Paccoud *et al.*, 2021).

Exploring risk in the background of technology acceptance models may inform the development of a conceptual framework to map relationships that exist in the decision-making process that bridges perceived risk, behavioural intention and the adoption of EG.

1.2.1. Brief Background of EG in UAE

In the Arab world, the UAE has been an outstanding example of the accelerated diffusion of information technologies in government and business sectors. The UAE federal government launched an EG project that sought to carry out previously conventional transactions and procedures online (Ayish, 2005). The initiative launched in 2001 focused on three categories:

- i. E-Services- for the provision of efficient quality electronic mediated services aimed at meeting customer's needs.
- ii. E-Readiness - for strengthening the ability of federal government entities to handle the needed technology, coordination and human resource management) and
- iii. ICT management focusing on infrastructure, training and policy implementations (Al-Khoury, 2012; Alharmoodi and Lakulu, 2020).

According to the EG Development Index compiled by the United Nations (2022), the UAE is ranked 13th in the world, but current improvement reflects 11th position in 2024. As a global leader in EG development the UAE is on a path to the realisation of access and inclusion for all, its pursuit for excellence in the field seems realistic and achievable. The UAE government provides 500 online services, many of which have been streamlined with enhanced usability for all users. The UN commended the UAE's success in engaging citizens and residents in designing public services. The report stated that the UAE developed several strategies related to digital government transformation, including Smart Dubai 2021, and the Emirates Blockchain Strategy 2021 (ibid). The objective of the blockchain strategy was to transfer 50 per cent of government transactions to blockchain by 2021, while the AI strategy focuses on improving government activities in specific sectors, including technology, transport, health, education, water, renewable energy and the environment (UAE, 2024a). The main objective of the UAE digital strategy is to create a broad cross-sectoral government commitment and buy-in for embedding digital aspects into government strategies. In addition, by 2025, the UAE government aims to provide all its citizens with a fast

internet connection and a secure digital infrastructure and has directed entities to digital transformation.

1.3. RESEARCH PROBLEM STATEMENT

The central problem is the gap between Dubai's rapid technological advancement in EG services and the hesitancy of users to adopt them, due to perceived risks and insufficient trust mechanisms. Citizens and officials continue to report difficulties with privacy, data security, and inclusivity. This creates a practical need for new policy interventions, beyond existing strategies, to address adoption challenges.

1.4. RESEARCH AIM

To investigate the impact of perceived risk and behavioural intention on E-Government adoption in Dubai, United Arab Emirates.

1.5. RESEARCH OBJECTIVES

Thus, the main aim of this research is to determine key factors that impact the adoption and use of e-government. Accordingly, the objectives of this study are:

1. To investigate the impact of perceived risk and its diminutions on the intention of UAE communities to use e-government.
2. To investigate the factors affecting the intentions and adoptions of e-governance in the UAE, essential to explore working with communities in forming policy and putting transformative decision-making into practice.
3. To develop a conceptual framework towards articulating the values of e-governance and improve social-economic outcomes in the emirates.

1.6. RESEARCH QUESTIONS

The primary research question for this study is to investigate how perceived risk and behavioural intention impact the adoption EG in Dubai.

Other specific research questions include the following:

1. How does perceived risk influence the adoption of EG in Dubai?
2. How does behavioural intention affect EG in Dubai?
3. Why does Dubai view EG as essential to development goal?

1.7. SIGNIFICANCE OF THE STUDY

1.7.1. Practical Significance

The findings of this study will help in identifying the obstacles that may influence the citizenry in adopting EG services, crucial for effective application of the facility within Dubai. The finding of this research would help in recognising elements that affect the citizens and confirm practical approaches in mitigating perceived risks, enhance positive behavioural intention and encourage user experiences. Accordingly, this understanding ensures the government of Dubai's smart system, supporting increased effectiveness and a transparent system, which aims at satisfying the public. This study helps in nurturing an inclusive EG system, enhancing economic sustainable growth, that assures the effectiveness in service delivery which meets the needs of people.

1.7.2. Theoretical Significance

Theoretically the finding of this research lies in enhancing the understanding of risk and behavioural theory, associated with technology acceptance theory within the focus of public management. The study seeks to add to the existing body of literature through incorporating risk perception theory and behavioural intention theory, providing clear views on how citizens' perceived risk and attitudes enhance their EG adoption within the Dubai system. These research findings could improve existing frameworks, suggest new paradigms, and provide empirical evidence that is aligned with unique socio-cultural ecosystems, thus educating the international dialogue that promote adoption of EG and government innovation.

1.7.3. Policy Significance

It is envisioned that the findings of this research will be of assistance to the policymakers in Dubai in providing an evidence-base for policymaking. To understand specific elements that influence the citizens' perceived risk and behavioural intention to adopt e-government. This study will ensure that policymakers design strategic interventions which can ease perceived risks and foster trust among citizens and government. The finding of this research may be relevant in guiding the progress of new policies that stimulate EG education and sensitization, information safety and user-friendly interfaces. Thus, encouraging public commitment with EG facilities and services. Also, efficient policies resulting from this research can support Dubai's dream of attracting a foremost smart city, confirming efficient service delivery, transparent systems, and all-inclusive governance.

1.8. SCOPE OF THE STUDY

The scope of this study covers perceived risk and behavioural intention to adopt EG in Dubai. The rationale is that perceived risk influences behavioural intention, which fosters the adoption of EG, thereby enhancing public trust, confidence and EG service usage within Dubai. The geographical location for this study is Dubai, United Arab Emirates. The grounds for selecting Dubai as the geographical area are consistent with the government's goals to develop EG services. The country's diversified population encourages rapid digital development, making it appropriate to conduct research on perceived risk and behavioural intentions to better service delivery. This study covers period from 2019 till date, which is essential to document the COVID-19 crisis and the aftermath implications, both of which demand a quick implementation of EG in Dubai.

1.9. ORGANISATION OF THE THESIS

The thesis is organised as follows: Chapter 1 describes the study's introduction and background, the research problem, the research questions and research objectives, significance of the study, scope of the study and operational definition of terms. Chapter 2 discusses the literature review of definitions, concepts and characteristics of perceived risk, behavioural intention to adopt e-government, models, and the theoretical basis review of perceived risk, behavioural intentions to adopt e-government. The chapter scrutinises through empirical research on perceived risk,

behavioural intentions to adopt e-government. Chapter 3 focus on developing the research conceptual framework and journey towards proposing a new research framework for EG. Chapter 4 provides an overview of the research methodology taking an exploratory approach and proposes a conceptual framework for EG adoption in line with the excellence model. This comprises the research design adopted for the survey, the population, the units of analysis and unit of observation, the sample procedures, the data gathering procedures. This chapter describes the development of semi-structured interview questionnaires as well as the method of data analysis. Chapter 5 presents an overview of the UAE government, documenting the findings from fieldwork and justifications for research saturation including participant demographic information and evidence from participants. Chapter 6 presents the analysis and discussion of findings, triangulating with literature review and research questions to glean meaning and better interpretation of data gathered. Chapter 7 presents the conclusion and recommendations of the research, stating summary of key findings and how analysis support research objectives and questions including research contributions, limitations and future research.

1.10. SUMMARY

This chapter provided a brief overview of EG, its characteristics and a discussion on global academic and theoretical perspectives on its adoption. While it is accepted as an invaluable tool in the public administration and the delivery of government services, its effectiveness is contextual. This not only extends to the geographical, demographic, cultural and socioeconomic context within which it sits but also to factors influencing decision making in the adoption of technology. This includes factors such as performance expectancy, trust and perceived risk. While the country of focus, UAE, has successfully delivered EG projects and has climbed to within reach of the top ten countries in the EG development index, there is room for improvement. Directing these improvements requires an in-depth understanding of the factors that may impact the adoption of EG by both citizens and government officials who can be considered the key stakeholders in the process. A gap has been identified in research exploring how and why factors such as perceived risk impact adoption in the UAE. To direct the study, Chapter presents a further exploration of the literature, followed by chapter 3 which discusses the methodology proposed for the collection of data.

Chapter 2 LITERATURE REVIEW

2.1. INTRODUCTION

This chapter aims to review the literature, to provide a comprehensive understanding of the state of research in the field of the adoption of EG. This chapter is organised as follows: the first section presents literature on EG including its definitions, types, advantages and challenges. Following that, a brief overview of e-governance in the United Arab Emirates (UAE) is explained. Theories such as the planned behaviour, technology acceptance model, and unified theory of acceptance and use of technology related to the adoption of technology, specifically focusing on the adoption of EG services, are described. Key pillars and features of EG also captured, to provide visibility on potential measurable standards that institutions could follow to achieve competitiveness and wellbeing of its citizenry. Finally, based on a comprehensive search of the factors influencing the intention to adopt EG are identified and explained.

2.2. ADOPTING E-GOVERNMENT

The history of computing in government organisations can be traced back to the beginnings of computer history. Literature on information technology goes back at least to the 1970s (Kraemer, 1977; Stamper, 1979). However, the literature on EG shows the term emerged in the late 1990s and EG also referred to as digital governance and electronic government, conceptualised for knowledge sharing across multiple institutions (Grönlund and Horan, 2005). In this regard, different perspectives in the literature and research have variously defined the concept of e-government and, the current literature has yet to agree upon a common definition of the concept of EG (Malodia *et al.*, 2021).

The definition of e-governance given by Setiya *et al.*, (2021; p. 119), “the application of Information and Communication Technology (ICT) for providing government services, and exchange of information and communication between the government and the four major stakeholders of a nation: citizens, businesses, employees, and other government organisations,” is similar to some definitions of EG. Basu (2004) argued that e-governance is more than just a

government website on the Internet. According to his study, e-governance and EG have different objectives, as presented in table 2 which indicates that while EG relates to the activities that may be conducted within the government mechanism, e-governance can be seen as the management or regulation of those actions. EG has the ability to improve relationship within citizens, industries, and management to achieve a variety of goals, including improved citizen service delivery, better communications, citizen self-determination, additional competent governments that deliver benefits while cutting corruption, enhanced openness, easier access, revenue-generating growth, and a minimal cost (World Bank, 2005; Zhang *et al.*, 2014; Aleisa, 2024).

The concepts of government and governance are related; however, they are distinct concepts and e-governance conceptually is multifaceted (Umbach and Tkalec, 2022). The existing literature shows that e-Governance and EG are often used interchangeably, or e-Governance is often used as a substitute or replacement for the concept of EG (Bannister and Connolly, 2012). For this discussion, first, the definitions of government and governance are required. According to Hutter and Jones (2007), government is an institutional superstructure that society uses to transform politics into policies and laws. Governance is the result of the interaction of government, public services and citizens throughout the political process, policy development, program design and service delivery (*ibid*). Kaufmann *et al.* (2011, p.222) defined governance as “the traditions and institutions by which authority in a country is exercised. This includes (a) the process by which governments are selected, monitored and replaced; (b) the capacity of the government to effectively formulate and implement sound policies; and (c) the respect of citizens and the state for the institutions that govern economic and social interactions among them.” Bannister and Connolly, (2012) argued that e-governance and EG are not the same and that e-governance is distinct from EG and this distinction is important to scholarship and practice. Hutter and Jones, (2007) claimed that e-Governance is a wider topic than EG which deals with the whole range of the relationship and networks within government concerning the usage and application of ICTs. Table 2.1 deposits distinctions of concepts of e-governance and e-government.

Table 2.1: Summary of objectives EG and E-governance

E-government	E-governance
Coordinating and implementing policy; delivering online services	Facilitating communication between citizens, government organisations, and elected officials, including the process of governing and policymaking
Developing citizen-centric programs	Transformation of the governing process through technology (particularly the web).
Promoting and enhancing citizen participation	E-federalism is the changing relationship between levels of government, and E-democracy is enhancing citizen participation in online voting, addressing issues of ethics, security and privacy.
Aiming to improve the efficiency and effectiveness of online service delivery through analysis and evaluation, benchmarking against other methods of service delivery and measuring its efficiency	Legislative and policy-making environment framework; policy initiatives governments are taking: the regulatory framework, implications of initiatives like the recognition of e-signatures as legally valid, and greater citizen participation in the policy-making process (e-democracy).
Indexing of countries (performance measurement benchmarking), portal analysis, and website analysis	Implications on the international level: cross-border information sharing; international standards and best practices; information management and e-government.

Source: Adapted from Basu (2004).

2.2.1. EG Diverse Roles

To expand on the review of the types of EG and the role of e-governance the next section examines the potential advantages and challenges related to its adoption. EG can be a powerful instrument to advance public administration (UN, 2014) and public service provision (Welch, 2004), as well as to enhance citizen-government interactions (Im *et al.*, 2014), and to improve internal government efficiency (Parent *et al.*, 2005). Researchers have attempted to identify and investigate the advantages of EG. Abusamhadana (2021) argued that EG systems can lead to key advantages including reduction of corruption prospects, efficiency of government services delivery, access to government services, and cost reduction. Similarly, Ndou (2004) found that the development of

EG led to cost reduction and efficiency gains, quality of service delivery to businesses and customers, transparency, anti-corruption, accountability, increase the capacity of government, network and community creation, improve the quality of decision making, and promote use of ICT in other sectors of the society. Moreover, researchers argued that a central motivation for providing EG services is to increase accountability, enhance transparency, and increase stakeholder participation (Moon, 2002; Gaventa and McGee, 2013; Kosack and Fung, 2014). According to Moon (2002), the potential benefits of the provision of EG services are enhanced by web-based service delivery including, for example, the suitability of e-commerce. Digitalization may reinforce democratic structures, as it enhances the transparency and accountability of governments, and a secure government intranet and central database can increase efficiency and cooperation between different governmental agencies (ibid).

2.2.2. Dimensions of EG Adoption

Studies have identified different types of EG. for instance, Al-Sulami and Hashim (2018) noted three types of EG services: Government to Citizen (G2C), Government to Government (G2G), and Government to Business (G2B). Solinthone and Rumyantseva (2016) highlighted four types, adding Government-to-Employee (G2E) to the aforementioned three. Fang (2002) added an additional four, Citizen-to-Government (C2G); Business -to-Government (B2G); Government-to-Nonprofit (G2N)) Nonprofit-to-Government (N2G). Within each of the types of EG exist a number of interactions with varied motivations, purposes and consequences. The next section explores the different types of EG in order to provide a platform from which to determine the need and approach of research into the adoption of EG.

2.2.2.1. Government-to-Citizen (G2C) and Citizen-to- Government (C2G)

G2C and C2G have similar meanings, as they are both used to show the interactions between citizens and government. The key feature of the G2C is that it provides information and online access to public services for citizens (Kumar *et al.*, 2017). Fang (2002, p.7) states G2C “provide(s) the momentum to put public services online, in particular through the electronic service delivery for offering information and communications.” According to Safeena and Kammani (2013), G2C is an EG service, from the government to citizens in the form of delivering “valuable information and know-how.” G2C focuses on interactions between government and citizens to support

transactions such as tax payment, licences, and obtaining passports and basic citizen services such as licence renewals, ordering of birth/death/marriage certificates as well as other types of services such as education, health care, hospital information and libraries (Solinthone and Rumyantseva, 2016). On the other hand, C2G is an EG service “offered for payment of bills and other valuable feedback from the citizen to government,” for instance, electronic voting and online participation (Safeena and Kammani, 2013, p.70). However, G2C and C2G are new concepts within the UAE and will require a clear governance framework for implementation and collective acceptance.

2.2.2.2. Government-to-Business (G2B) and Business-to-Government (B2G)

G2B involves the sale of government goods and services along with procurement facilities and has benefits for both businesses and governments including more efficient communication channels (Kardaras and Papathanassiou, 2008 and Al Sayegh *et al.*, 2023). Due to the large number of purchases that governments make from the private sector, there is a need to develop faster and more cost-effective routines to handle the typical procedures for procurement (ITC, 2008). According to Safeena and Kammani (2013), while the G2B provides transactions and procurement facilities for government purchases and calls for tenders, B2G provides communication, collaboration, transactions and procurement of goods and services for business initiatives (Fang, 2002). Governments develop e-procurement systems to improve document management, reduce costs, reduce processing time, improve access to markets for goods and services, and increase transparency of public decision-making (ITC, 2008). G2B should, however, build on a solid ecosystem, which reflects the voices of businesses for better transparency and enables them to play a key role in achieving the UAE vision.

2.2.2.3. Government-to-Employees (G2E) and Government-to-Government (G2G)

G2E and G2G are very closely related with both geared towards improving the efficiency, effectiveness and transparency of intra- and inter-departmental interactions within government and with government employees (Hutter and Jones, 2007). In the context of G2E, government services include the features of G2C services as well as the services that cover government employees, such as the provision of human resource training and development that improve day-to-day functions and work processes of employees (Solinthone and Rumyantseva, 2016; Al Sayegh *et al.*, 2023). According to UNESCO (2005), G2E includes employment opportunities, work guidelines, rules

and regulations, benefits and pay structures for government employees, employee welfare schemes, work rules and regulations and government housing.

G2G focuses on providing government services through intergovernmental relations (ITC, 2008) which are carried out at two levels, the local or domestic level and the international level. G2G services are transactions between central/national and local governments and between departmental and affiliated organisations and offices. At the same time, G2G services are transactions between governments and can be used as tools of international relations and diplomacy (Solinthone and Rummyantseva, 2016). Employees work-life balance, satisfaction, working environment and readiness for the future and adaption to workplace are critical areas that should be considered towards vision implementation.

2.2.2.4. Government- to-Nonprofit (G2N)

In G2N the government provides information and communication to nonprofit organisations, political parties as well as members of Congress, social organisations and legislature for example (Fang, 2002). While the purpose, motivations and consequences of the adoption of EG may differ within each type of EG there are commonalities such as transactional purposes, the exchange of information and increased efficiency in service delivery. The government, as a key stakeholder in transactions and purveyor of EG tools and techniques seems to be an actor to engage in this research. As too are citizens who form the populus of users of EG portals. Leaders and key decision makers from these two groups may be able to provide deep insight into the use and adoption of EG. The study may provide a template from which further studies can be designed as well as useful findings for the development of a conceptual framework. However, the government should support the third sector to ensure limited overlap on responsibilities and ensure a more focus objectives on core concerns of the citizens of the UAE. This should also be managed within the vision and agenda of the government, to reduce friction.

2.2.3. Impact of adopting E-government

Studies showed that EG has become an essential prerequisite and an important key to economic growth. Goloshchapova *et al.*, (2023) argued that EG has been considered an effective tool to boost economic prosperity and help reduce uncertainty (e.g., lack of information and instructions), as

well as to deal with corruption (e.g., recording all communications with officials and making easier to report the fraud). Similarly, Al-Refai (2020) states that EG is an important key to the success of financial development in enhancing economic progress. According to Mensah's (2019) the impact of EG on the economy includes alternative, more cost-effective delivery of services, consolidation of common internal services, redeployment and rebalancing of the civil service, reduction of transaction expenditures, promotion of internal and foreign investments, increased international trade, increased economic cooperation, better financial management in place, business planning processes in place for all major operations, integrated development planning capacity linked to financial resource allocation processes, increased capacity to manage natural resources sustainably, improved revenue collection on taxes and service levies, increase in employment, and economic growth.

EG is considered to bridge the gap between government and society as illustrated by Rimjhim and Kumar (2018) who reported that EG implementation promotes democratisation, improves the transparency of public decisions, effectiveness and efficiency of service delivery, modernization, cheaper delivery of services, and control over government expenditure. According to Twizeyimana and Andersson (2019), EG can improve service provision among citizens, expanding the possibilities of open government, increasing ethics and professionalism, trust in government, and welfare and social value. In addition, EG implementation can result in citizen participation in public administration, enhance awareness of citizens toward government programs, and improve the transparency of public decisions (Shim and Eom, 2008; Sabani *et al.*, 2019 and Avotra *et al.*, 2021).

In Mensah's (2019) study, the impact of EG on the social/citizen encompasses increased gender equality, IT literacy and reduction of the internal digital divide, increased access to and quality of education, improved education management capacity, better delivery of and access to health services, improved health management capacity, improved social security, improved social welfare, integration and coordination of social and economic policy, improved public safety and security, increased capacity for rational distribution of public funds, move to a development-oriented and people-centred service delivery culture, improved quality of the environment, and improved environmental management capacity.

In general, EG assumes that the use of ICTs leads to radical change in public sector governance (O'Neill, 2009b). According to O'Neill (2009a) EG can lead to instrumental (fundamental change in management and service delivery with knock on effects on structures and/or practices) and systemic transformation (fundamental revision of existing governance arrangements in public administration). The shift can result in a number of benefits including better accountability and transparency in public administration, better coordination and cooperation between government agencies, higher coordination and cooperation between the different levels of government, alliances and partnerships with the private sector and non-governmental organisations, improved communications and public relations, increased awareness of rights of civil society and obligations of government, greater public participation in governments' affairs, streamlined government structure and business processes, decentralisation and redefined role of local government, enabling legal infrastructure, enabling policy and regulatory frameworks, promotion, protection, and compliance of human rights, promotion of regional integration of countries, enhanced capacity to coordinate and cooperate at the international level (Mensah, 2019). EG not only provides faster services while being more cost-effective (Carter et al., 2016) but can also provide public services more directly, tailored to the needs of users (Molnar *et al.*, 2015). It can also reduce the administrative burden and other bureaucratic hurdles for government employees (Zawaideh, 2016).

EG offers an avenue for sustained improvements in service provision and delivery at reduced costs which may improve efficiency and excellence. However, as a transformational tool EG can be met with resistance and challenges. Therefore, understanding factors that may influence acceptance and learning lessons from previous iterations is necessitated. In this vein the next section examines challenges of adopting EG. Previous research studies have indicated that EG development faces several challenges and risks of EG failure. In this section, first, the challenges are outlined, followed by an exploration of the reasons for EG failure. The review of the literature led to the identification of several challenges to EG implementation including organisational and managerial, IT infrastructure and skills, socio-cultural, legal and regulation and security and privacy, all of which will be discussed below.

2.2.3.1. E-Governance Enablers – Role of Organisation Structure and Managers

Research shows that organisational structure and management (leadership) play a critical role in both pre-and post-EG implementation (Glyptis *et al.*, 2020; Samsor, 2021). Edmiston (2003) claimed that manager's behaviour, support and attitude towards ICT projects are crucial factors influencing the ICT restructuring of the public sector. In addition, Savoldelli *et al.* (2014) and Nimfa and Buruche (2019) argued that managerial factors can influence the adoption of EG with barriers to the realisation of benefits including lack appropriate skills (eg project management) and resistance to change (Twizeyimana *et al.*, 2018; Khan *et al.*, 2021; Sharma *et al.*, 2021;). Factors such as lack of organisational structure and coordination were discussed by Twizeyimana *et al.*, (2018) which can include consideration for planning and management, training for the public, ICT and IT staff members for using ICT resources can affect the results of EG roll-out (Sarrayrih and Sriram, 2015). Within the organisational context, e-governance promotes rationalised workflows among digital platforms, replacing traditional paperwork (Lynn *et al.*, 2022; Udoh, 2024). This shift encourages effective service delivery, reduces operational expenses, and fosters coordination within various departments. Furthermore, it supports data-driven planning by ensuring real-time access to reliable and comprehensive information, which is crucial for decision-making, monitoring, and appraising managerial performance within the organisation (Rauscher, 2024). In terms of managerial perception, e-governance equips leadership with tools to detect inaccuracies and enhance control mechanisms (Mu and Wang, 2025). As a result, it helps to improve communication channels among government organisations and stakeholders, enabling participatory governance and avoiding common bureaucratic blockages. This demonstrates that managers can allocate resources more effectively to ensure prompt service delivery, owing to improved information management systems.

2.2.3.2. ICT Infrastructure and Skills

Researchers argue that the lack of proper ICT infrastructure and poor technical infrastructure are significant barriers to the development and implementation of government organisations' capabilities to provide online services and transactions, resulting in reduced EG performance (Ebrahim and Irani, 2005). Mensah (2020), Al Mudawi *et al.*, (2020) and Glyptis *et al.*, (2020) noted that the lack or non-availability of adequate ICT infrastructure is a key stumbling block to

EG success. Samsor (2021) and Sharma *et al.*, (2021) respectively add ICT literacy and technological and network deficiencies (Sharma *et al.*, 2021) as challenges to the successful implementation of EG. Addressing issues of availability of infrastructure and technologies is far from straightforward as even with the availability of innovative technologies, government agencies are faced with additional barriers to adopting EG systems and services such as socioeconomic (Dwivedi and Lal, 2007; Dwivedi and Williams, 2008), technical skills (Kamal *et al.*, 2009) and political landscape (Irani *et al.*, 2008) for example.

2.2.3.3. Socio-cultural

Previous studies have emphasised that national culture, as a source of acceptable norms and behaviours, is closely related to the rate of IT adoption in a country (Erumban and de Jong, 2006). This cultural aspect may influence online expectations, preferences, and experiences of the public and their attitudes towards EG (Zhao, 2011). Al Mudawi *et al.*, (2020) noted that socio-cultural characteristics such as lack of trust can hinder the use of information and technology in service delivery. In addition, Samsor, (2021) argued that the main challenges to EG implementation are not technical, but a culture that is not fully exposed to new technologies. Creating an enabling environment for the adoption of EG may begin with examining relationships between and amongst parties to understand the socio-cultural dynamics that influence use (Twizeyimana *et al.*, 2018; Al Mudawi *et al.*, 2020; Sharma *et al.*, 2021 and A. Z. Khan *et al.*, 2021).

2.2.3.4. Legal and Regulatory basis

As EG has an institutional dimension, a strong legal and regulatory environment is a must for the success of EG implementation (Samsor, 2021), without a legal and regulatory basis, the adoption of EG is threatened (Glyptis *et al.*, 2020). Studies indicated that Legal and regulation systems (ibid), Government plans and strategies and Laws and policies (Twizeyimana *et al.*, 2018) are among the challenges in EG implementation in developing countries. E-governance plays a focal role in reinforcing both the legal and regulatory models within public management. Accordingly, by digitising government procedures, e-governance fosters agreement with the relevant laws and regulations, promotes transparency, and allows accountability (Selvakumar *et al.*, 2025). Further, it provides a strong platform for the application and implementation of legal standards via electronically documented records, digital initials, and audit trails, thereby reducing chances for

dishonesty and managerial unprofessional conduct (Troitiño *et al.*, 2024). The legal aspect of e-governance stimulates the prevalent use of information communication technology in government as a means of improving governance and advancing democratic principles by increasing the legitimacy of public decision-making and social justice (Zou *et al.*, 2023). Moreover, this ensures that laws and regulations are adopted consistently and equitably in the UAE. It also enhances free accessibility to legally recorded information, enabling citizens to better understand their fundamental rights and obligations (Bertot *et al.*, 2010). Legal processes such as licensing, permit applications, and dispute settlement are quicker and more efficient, which reinforces the rule of law and strengthens social trust in official legal bodies. Regarding regulatory procedures, e-governance enhances real-time monitoring and automated compliance checks. Regulatory authorities can trace, investigate, and respond to violations in a timely manner through digital platforms (Nooren *et al.*, 2018). Again, it signifies recording obligations for industries and establishments, while aiding officials in reducing red tape and updating oversight practices.

2.2.3.5. Security and Privacy

Security and privacy challenges are among the main challenges in developing countries due to data insecurity and privacy concerns (Signore *et al.*, 2005), especially during the transaction stage (Samsor, 2021). Researchers argued that the absence of laws aimed at the protection of citizens' rights, data protection and data security leads to distrust in obtaining EG services and therefore to failure (Glyptis *et al.*, 2020; Bulus and Nimfa, 2016). A critical obstacle in implementing EG in developing countries is citizens' concerns regarding high data security (Sarrayrih and Sriram, 2015), privacy and security issues (Sharma *et al.*, 2021), and lack of trust (Abusamhadana *et al.*, 2021; Alharmoodi and Lakulu, 2020; Sharma *et al.*, 2021). The challenges to the effective implementation of EG highlight the importance of tailoring EG projects to resources and capacity of those responsible for the delivery of government services. Examples of EG systems that have been impacted by challenges are explored in the next section. Within the stances of security and privacy, e-governance adoption presents significant rewards and critical challenges (Udoh, 2024). E-governance systems manage a huge volume of sensitive individual, economic, and governmental records (Zakrzewska and Miciuła, 2021). As such, the operation of resilient cybersecurity measures becomes indispensable to shield this information from threats like hackers, identity theft, and information breaches. The United Arab Emirates prioritises cybersecurity as an element of its

national programme, with the Telecommunications and Digital Government Regulatory Authority piloting information protection and digital service standards (Rahman *et al.*, 2023). Nevertheless, as e-governance grows, so do confidentiality matters related to information surveillance and illegal access, which must be considered appropriately (Ishrat *et al.*, 2025). Again, to build trust, the UAE has to continue improving legal frameworks to align with global privacy practices. The law encourages citizen control over their information while promoting government transparency for sustainability (Batool *et al.*, 2021). To better understand, e-governance success actually relies on protecting digital privacy and assuring secure digital facilities. Moreover, security gaps can wear down public self-confidence in digital governance approaches (Kumar *et al.*, 2024). Thus, recurrent practices of investing in protected infrastructure, employee training, and privacy awareness are necessary.

2.2.3.6. Underperformance of E-Government

In this section, an analysis of the reasons behind the restrictive performance of EG projects is conducted. Despite the tremendous potential of EG projects and their implementation across the globe, which include substantial investments in infrastructure and citizen services enhancement (Ebrahim and Irani, 2005; Kim *et al.*, 2007). The majority of EG projects in developing countries do not achieve all their objectives (Dada 2006; Anthopoulos *et al.*, 2016.) Research shows that 35% of EG projects did not achieve their objectives, 49% achieved some, and only 15% all in developing countries (Brekhna, 2014). An example of an EG project that is struggling to attain objectives in developing countries is mobile government (mGov) (Alqaralleh *et al.*, 2020). While it is still in early stages and its actual acceptance rate is still below expectations due to key challenges such as the availability of electricity and internet and the lack of mobile tools (Twizeyimana *et al.*, 2018)

The extant EG research highlighted various reasons for EG project performance. Kim *et al.*, (2007) noted that the possible reasons for implementation failure include overly ambitious project scale and scope, lack of political will to transform government functions, and inadequate capacity

to design and implement. Anthopoulos et al. (2016) identified the top failure reasons and factors in EG project failures, which are presented in table 2.2.

Table 2.2: EG failure or success reasons

Reason	Description/ examples
Design–reality gaps	Concern hard-soft gaps
Missing focus	Unclear objectives or absence of need
Content issues	Change management
Skill issues	Deficiencies in skills or an unaligned team on the project
Execution issues	Schedules and/or plans that are unrealistic or reactive
Regulatory issues	lack of or missing corresponding legal framework, failure due to legal disputes
External factors	Outside the project organisation
Missing user satisfaction	Ineffective projects do not meet the expectations of users, and the products of unsuccessful projects are not of public interest and utility
Organisational power	Organisation structure and relations
Politics	Appropriate political support
Education	Appropriate skills for project operation
Project management issues	Underestimate of timeline
A lack of clarity in business needs and vision	No clear objectives have been identified for the project
Security and privacy	Project products do not provide security for sensitive information or transactions
Finance and operational costs	Operation and maintenance costs were underestimated and not secured for the deliverables
ICT and system development process	Problems about infrastructure

Source : Adapted from Anthopoulos et al., (2016).

In conversation about the performance of EG initiatives it is useful to consider the instrument of change. The degree to which an organization is ready for change influences its agility; it follows that preparation and the ability to foresee opportunities and threats is crucial to the achievement of continuous development (Almazrouei *et al.*, 2024). Readiness for change (beliefs, attitudes and intentions of public workers in relation to change and its usefulness in conjunction with the capacity to change) can also be determined by the structure of the instrument of government (*ibid*). Formalized structures can be seen as a flexible structure, with defined points of access determined by strategic management and organisational goals for example, which lends well to the needs of the public and change. Indicating the importance of strong leadership committed to the development and maintenance of policies conducive to change. In the absence of the support of public personnel, effort to attain change may prove fruitless according to Hameed *et al.*, (2017) who found behavioural resistance to be a factor in the less than optimal performance of government change initiatives. The communicators of change (leaders) should first identify the gap between the present situation and the desired state to enable them to better plan and convey the course of change (*ibid*). Those delivering change messages ought to be appropriately skilled which could not only instill confidence but also gain buy-in, enhancing gains from action. Communication appears to be a key factor in enhancing readiness for change with messages relayed through media that should be tailored to the culture and attributes of the audience with methods including persuasion, active participation and human resource management practices (Shrivastava *et al.*, 2022). This can be linked to perceptions about the impact of proposed changes on job security and legal protections for example (Hameed *et al.*, 2017). Mechanisms through which to address resistance to change may include addressing motivation, organisational commitment and organizational identification. Encouraging organizations to adopt a more organic structure that mirrors society can facilitate enhanced change management and agility which in turn can create public value (Looks *et al.*, 2024). Normalising change to incorporate innovation into routine organizational life requires resilience building into processes that appears to be crucial to continuous improvements to align with the current change trends and goals of transformation (Errida and Lotfi, 2021). Rather than being a deterrent to the adoption of EG the above reasons and descriptions can serve as a platform from which to tailor appropriate projects to the needs and capabilities of both service providers and users. Understanding the needs, preferences and

motivations of the adoption of EG in specific environments is paramount illustrating the relevance of the research.

2.3. PERCEIVED RISK

2.3.1. Definition and Concept of Perceived Risk

According to Zhao and Khaliq (2024), risk plays a critical role in adopting technology and in behavioral theory. Additionally, some scholars defined perceived risk as "the nature and amount of risk perceived by a consumer when contemplating a particular purchase decision" (Cox and Rich, 1964). Accordingly, Peter and Ryan (1976) defined the perceived risk as "the expectation of losses associated with the purchase and acts as an inhibitor to purchase behaviour" (Peter and Ryan 1976, p.185). Similarly, Perceived risk is referred to as a subjective assessment of the potential for negative outcomes when making a decision. This plays a central part in conduct, decision-making and managing risk (Zhao and Khaliq, 2024). The concept of perceived risk encompasses several dimensions, including financial risk, functional risk, physical risk, social risk, psychological risk, and time risk. Financial risk involves the potential for economic loss, while functional risk pertains to the performance and use of specific services (Meyliana, Fernando and Surjandy, 2019). Physical risk includes concerns about safety and health services, social risk relates to the potential for social embarrassment and loss of status, psychological risk involves the potential for adverse emotional impacts, and time risk reflects the possibility of wasting time on poor choices. The concept of perceived risk is important for governments, businesses, and legislators, as it influences people's trust and behaviour (Zhao and Khaliq, 2024). High perceived risk can prevent individuals from using services, adopting new technologies, or engaging in certain activities. Therefore, approaches to ease perceived risk, like providing open information, offering better assurances, and maintaining strong brand reputes, are central for maintaining confidence and inspiring optimistic decision-making processes.

Perceived risk levels can be related to previous exposure to a situation, awareness of such a situation, exposure to risk factors, and personality aspects (Gidron, 2013). Cunningham (1967) claimed that perceived risk consisted of the size of the potential loss if the results of the act were not favourable and subjective feelings of certainty that the results would not be favourable, hence there may be no generally agreed definition of risk in relation to EG. This lack of consensus may

stem from the fact that the definition of risk is often determined by researchers and the specific aims and scope of the studies. As a result, different disciplines may employ varying definitions of risk (Holland, 2019). Loh and Ong (1998) pointed out that, users' concerns about security-related issues are, one of the key determinants for the widespread adoption of a new system. In the context of adopting technology, researchers have examined the impact of perceived risk on the adoption of internet banking (Lee, 2009; Yiu *et al.*, 2007), website usability (Belanche, Casaló and Guinalú, 2012), robot restaurants (Seo and Lee, 2021), and online banking (Reepu and Arora, 2022) and Citizens' EG Services Adoption (Li, 2021). In the context of IS, perceived risk is negatively associated with attitude toward the adoption and use of technology (Faqih, 2011; Habib and Hamadneh, 2021; Jiang *et al.*, 2023). The role of perceived risk in EG services adoption has been explored in numerous studies (Gefen *et al.*, 2002; Hung *et al.*, 2006; Bélanger and Carter, 2008; Li, 2021). Verkijika and De Wet (2018) highlighted that as EG websites need to be accessed via the Internet, thus citizens may suffer some sort of loss when using an EG system. Warkentin *et al.*, (2002) noted that perceived risk may have a synonymous impact on EG. In the context of EG adoption (Gefen *et al.*, 2002) defined perceived risk "as a citizen's subjective expectation of suffering a loss in pursuit of a desired outcome." Alhadid *et al.*, (2022) stated that citizens might have a negative view impacting their attitude toward reusing EG services and applications. In addition, if citizens perceive EG services to be associated with risk, they will be less likely to adopt such services (Bélanger and Carter, 2008; Verkijika and De Wet, 2018).

The main features of perceived risk (Ryu, 2018; Vieira *et al.*, 2024) are as follows:

- i. Perceived risk enhances decision-making processes; it enables individuals to make more informed and precise decisions by encouraging them to carefully assess the different risks that come with certain services provided. Similarly, it contributes to better or stronger outcomes and an increased feeling of self-assurance in decision-making.
- ii. Perceived risk increases security; implies that people are inclined to employ security measures to protect themselves and others when there is a high perceived risk of threat connected with a specific accomplishment or set up. This results in increased safety and fewer misfortunes or damages.

- iii. Perceived risk promotes trust; this occurs when perceived risk contributes to increased trust among individuals or societies. Thus, people are more likely to trust the team and have optimism regarding the organization's capacity to fulfill its promises because they believe it is capable of defending its privileges and reducing possible threats.
- iv. Perceived risk increases loyalty; this implies that people's fears about adopting new services or goods hinder them from transferring to a trusted brand, promoting the growth of a genuine and memorable audience. Perceived risk can lead to adverse results, including security threats, customer lack of loyalty, and innovation, research and development.

2.3.2. Dimensions of Perceived Risk

To maintain and improve its position as a global leader in EG it is imperative that considerations for the impact of risk are made. While the topic of risk and its management is an extensive topic this research intends to view it from a high level through the main categorizations identified in the literature. Risk can be seen as the conviction by a citizen that they will suffer some sort of loss when using an EG system (Verkijika and De Wet, 2018). Although, it can be thought of as a thing to be avoided, risk can also be classed as an opportunity or a threat providing managers the opportunity to plan, learn, develop and achieve goals systematically (Schäffer and Storek, 2022). The effective management of risk through informing business decisions can enable a more effective use of resources and enhance strategic, contingency and business planning, reducing waste and improving overall efficiency (Chitakornkijasil, 2009). The literature review showed that most of the studies considered perceived risk as a single factor, however, perceived risk is a multi-dimensional construct (ibid). Thus, the dimensions of perceived risk are reviewed as follows.

2.3.2.1. Performance Risk

A brand or product may not perform as we expected leading to a potential performance loss and a failure to meet expectations (Jacoby and Kaplan, 1972 and Horton, 1976). Lutz and Reilly (1974) and O'Bannon *et al.*, (1988) add comments on the subjective uncertainty determined by factors such as quality. In the context of the adoption of technology, Lee (2009) and Park and Tussyadiah (2017) viewed a failure to deliver desired benefits due to poor functionality as a performance risk, as do Featherman and Pavlou (2003) who discuss the frequency of website breakdowns and

disconnections which can inhibit e-service evaluation. Yiu *et al.* (2007) pointed out that sudden breakdown of web servers may lead to unexpected losses while conducting online transactions. A systematic review analysing the critical factors influencing trust in EG adoption from citizens' perspective, conducted by Alzahrani *et al.* (2017), shows that performance risks are considered an important type of risk influencing trust to adopt e-government. Kumar *et al.* (2017) argued that poor reliability and quality of government websites dissatisfy the users and discourage citizens from using them. In addition, citizens have argued that they have mixed experience with different EG services. They have explained that some EG services are good and meet their expectations; however, many are not that effective and useful, and some are of no use.

2.3.2.2. Financial Risk

Existing literature like (Jacoby and Kaplan, 1972) emphasised that financial risk captures the financial losses experienced after the adoption of products. Similarly, Lee (2009) commented on the loss of money after purchase and included maintenance costs. In the consumer electronics context, the literature suggests that perceived financial risk by an individual is a significant factor responsible for technology adoption and usage behaviour (Gupta *et al.*, 2019). Hirunyawipada and Paswan (2006) noted that financial risk decreases the consumers' willingness to search for information about new products. Thus, when the losses from the adoption of new technology or products become critical, individuals are less likely to engage in a search for information about new products to reduce risk (Conchar, 2004). A study conducted by (Malik *et al.*, 2013) identified that perceived financial risk is most significant in the intention to adopt m-commerce. Other studies also indicated financial risk negativity associated with trading apps (Fan, 2022), and bank payment services (Gupta *et al.*, 2019). Rotchanakitumnuai (2008) found that financial risk is a crucial determinant that decreases EG service value.

2.3.2.3. Social Risk

Consumption decisions are influenced by expectations about how those decisions will be evaluated by others (Parry *et al.*, 2021). Horton (1976) observed that social risk exists when the possession of products is linked to status. Likewise, Lee (2009) sees social risk as a loss of status because of the use of a product or service. This can have an influence on consumers' purchasing behaviour (Zhang *et al.*, 2011). In addition, Boksberger *et al.*, (2007) empirically showed that perceived

social risk is a statistically significant component of perceived risk. However, in comparison to other components, namely perceived functional risk, perceived psychological risk, and perceived physical risk, the perceived social risk scores low. A study conducted by Namahoot and Laohavichien (2018) on Internet banking explored social risk as one dimension of overall perceived risk. Their study explored how Internet banking services may result in dissatisfaction, however, they did not examine the effect of social risk on intentions to use Internet banking. The study indicated that social risk is statistically associated with perceived risk, with a negative impact on intention. However, findings from studies on online consumer behaviour showed that the influence of social risk on attitudes towards the use of online banking (Lee, 2009), as well as that of online consumers (Zhang *et al.*, 2011), was insignificant. Lee (2009) argued that customers do not care about social pressure from their friends/family/work group with regard to online banking. Rotchanakitumnuai (2008) conducted a study measuring EG service value with the E-GOVQUAL-RISK model, including social risk. The study indicated that e-revenue adoption does not create social risk.

2.3.2.4. Privacy Risk

Privacy is defined in terms of individual control over the disclosure and subsequent uses of personal information (Westin, 1968 and Lee 2009). Privacy and security concerns are most salient to online settings (Miyazaki and Fernandez, 2001). People are most concerned about privacy risks associated with the unauthorised collection and secondary use of personal information (Pan and Zinkhan, 2006), as well as the illegal abuse of personal private information (Ortiz *et al.*, 2018). Privacy risk in an online environment has been studied from a variety of perspectives including online retailers (Miyazaki and Fernandez, 2000), customer's perception of the quality (Wolfenbarger and Gilly, 2003), and intentions to use e-service (Featherman *et al.*, 2010). Featherman *et al.* (2010) found that security and reliability concerns influenced privacy risk, which in turn, influenced the usefulness and the e-service adoption. Rotchanakitumnuai (2008) showed that privacy risk has a negative relationship with the value of EG service. In addition, Abri *et al.*, (2009) highlighted that privacy is a key concern among online users, and many believe that it might become one of the most important barriers to e-services development. Carter and McBride (2010) argued that due to their concern for information privacy, many citizens are reluctant to disclose personal information over the Internet.

2.3.2.5. Time Risk

The principles and key pillars of e-governance are reflected in the UAE's National Digital Government Strategy, which outlines eight core dimensions: inclusivity, resilience, transparency, user-centricity, efficiency, security, innovation, and collaboration. These dimensions are designed to ensure that digital transformation aligns with both global best practice and the specific socio-economic context of the UAE. According to the UAE Government (2022), these pillars guide policy and service delivery in ways that are measurable, scalable, and aligned with the Sustainable Development Goals (SDGs).

Time spent researching and purchasing products or services online can prove fruitless if performance does not meet expectations (Lee, 2009). This can increase perceived risk of using such products or services and reduce intention behaviour (Zhang *et al.*, 2011; Yang *et al.*, 2015; Park and Tussyadiah, 2017; Alrawad *et al.*, 2023) and according to Hirunyawipada and Paswan (2006) encourage high-technology product adoption. In the field of online services, especially EG, the reasons for time risk can be divided into two categories. Firstly, issues related to the use of the EG website, including the technical aspects of the web page, website search facilities, complexity, and accessibility. Secondly, creating an account on the EG website and the account authentication process requires users to spend extra time and effort to finalise the process (Alrawad *et al.*, 2023; Forsythe *et al.*, 2006).

2.3.2.6. Psychological risk/ Emotional Risk

Psychological risk is anything that may affect a person's peace of mind or self-perception (Featherman and Pavlou, 2003). Considering UTAUT, Martins *et al.*, (2014) found that psychological risk positively influences perceived risk. In the context of marketing, studies have confirmed that psychological risk has a negative effect on intention (Bhukya and Singh, 2015). Rotchanakitumnuai (2008) argued that psychological risk can arise from potentially negative outcomes of conducting e-revenue transactions via the Internet in EG services. The limited studies on perceived risk on EG and mixed results from studies of consumer behaviour indicate that levels and understandings of perceived risk are contextual. This can be seen as illustrating the need for the study of specific environments such as that of the government in Dubai to unpack the complexities that may influence behavioural intentions to adopt EG. Consequently, this study

conceptualises perceived risk in accordance with Ryu (2018) as legal risk, security risk, and operational risk.

2.3.3. Impact of Perceived Risk

To gain a deeper understanding of existing literature on the factors influencing the adoption of EG, a comprehensive search for articles has been conducted. Due to the scope of this study, the researcher chose to include only empirical studies on government and citizens. This is because most transactions in EG will be between these two parties in different capacities whether as business, employees or personal use for example. In addition, the articles were limited to those recently published (2018 - 2023). The comprehensive literature review indicated that several studies have been performed to test and empirically validate the factors determining individual's adoption and usage of EG services. Based on the findings, more than 55 factors applied by researchers demonstrate the factors that impact the adoption of e-government. A discussion of a selection of these factors follows.

2.3.3.1. Perceived Trust

Trust is defined as “the willingness of a party to be vulnerable to the actions of another party based on the expectations that the other party will perform a particular action important to the trust or, irrespective of the ability to monitor or control that other party” (Mayer *et al.*, 1995, p. 172). In addition, trust is defined by Chung and Kwon (2009) as the feeling of security and the willingness to rely on someone or something. In the online context, perceived trust has been identified as a crucial driver for adoption because trust is relevant to dealing with uncertainty and risk of vulnerability (Belanche, Casaló, and Flavián, 2012). The literature revealed that trust fundamentally influences the adoption of EG (Al Sayegh *et al.*, 2023) and, due to its ability to reduce uncertainty, it is essential for the effective delivery of EG services (Eid *et al.*, 2020). Within studies from UAE, Jasimuddin *et al.*, (2017) and Eid *et al.*, (2020) extended the TAM model with trust and also significant variables related to EG acceptance. Jasimuddin *et al.*, (2017) examined two types of trust, including trust in technology and trust in government. The findings of their study showed that trust in technology had a positive effect on users' intention to use EG services, while the results indicated that perceived trust in government has no impact on the intention to use

EG services. Similarly, Eid *et al.*, (2020) showed that the usefulness of m-government is influenced by trust and risk.

2.3.3.2. Perceived Usefulness

Perceived usefulness is the degree to which an individual thinks and believes a technology would improve performance or productivity (Tsui, 2019), enhance their life and make it stress-free (Alqaralleh *et al.*, 2020). Perceived usefulness was examined in 25 studies in which researchers explored the links between perceived usefulness and EG adoption. Across the empirical tests of TAM and other models perceived usefulness has consistently been a strong determinant of usage intention (Sachan *et al.*, 2018). In addition, perceived usefulness increases the ability to access useful information provided by the government using technology (Shahzad *et al.*, 2019). While some studies indicated that perceived usefulness is a significant predictor of citizens' adoption of EG (Shahzad *et al.*, 2019; Alqaralleh *et al.*, 2020), Jasimuddin *et al.*, (2017) found insignificant results regarding the effect of perceived usefulness on users' intention to use smart government services in the UAE. The study by Eid *et al.*, (2020) confirmed that factors such as ease of use, currency, accuracy, security, trust, and risk influence perceived usefulness, with usefulness having the strongest effect on UAE citizens' intention to use m-government services.

2.3.3.3. Perceived Ease of Use

Perceived ease of use is cited in 15 studies as playing a significant role in shaping EG adoption, the easier it is believed digital technology is to use the higher the possibility of its acceptance (Dahi and Ezziane, 2015). In technology acceptance studies, perceived ease of use is a relevant antecedent of trust in technology (Agag and El-Masry, 2017), attitude toward technology (Izquierdo-Yusta *et al.*, 2015) and acceptance of m-commerce (Malik *et al.*, 2013). The studies emphasise the importance of ease of use in adoption models to gain a more comprehensive understanding of citizens' acceptance of EG services. Talukder *et al.*, (2019) noted that an individual's intention to use can be determined by the ease of use and less complexity in the EG system. It is also a significant antecedent of citizen satisfaction (Alqaralleh *et al.*, 2020), attitude (Eid *et al.*, 2020; Alarabiat *et al.*, 2021).

Some researchers however argue that ease of use does not guarantee users will fully adopt innovations, for example in instances where it does not meet their needs (Shrestha and Vassileva, 2019). Lee, Ramasamy and Subbarao (2025) state that more complex systems may be perceived as more useful as they may be perceived to be more trustworthy and secure. This indicates that ease of use may be linked to a lower perceived value hampering adoption. Förster, 2024 similarly argues that expert users may prefer more complex systems that can offer features that enable control and customisation. The influence of other factors on the perceived ease of use such as culture require consideration (Lee, Ramasamy and Subbarao, 2025). Pointing to the cross sectionality and complexity of understanding and addressing perceived risk and its impact on technology acceptance.

2.3.3.4. Service Quality

Service quality is one of the important factors in using and continuing to use a system (Mensah, 2019; Alqaralleh *et al.*, 2020; Li and Shang, 2020; Nookhao and Kiattisin, 2023). However, since services are intangible, including a high level of uncertainty surrounding services, consumers or users cannot easily evaluate service quality before purchase (Jeng, 2016). When consumers or users believe that the service provider can fulfil its promise about service quality, they tend to have higher affective commitment which leads them to have positive feelings towards the service provider (Erkmen and Hancer, 2015; Jeng, 2016). This may point to the significance of performance over service quality (Mao *et al.*, 2023). Safeena and Kammani (2013) argued that in the past, government agencies paid little attention to service quality, but this changed with the EG approach. Li and Shang (2020) argued that citizens' assessments of EG service quality depend on the services available on government portals, therefore service functionality should be given more attention to improve service quality. Mao *et al.*, (2023) posit that service quality is more linked to trust than risk, it could be argued that in enhancing trust perceived risk may be addressed. Service quality is usually assessed after adoption, therefore its application as impacting adoption may more appropriately apply to return custom or as an influence on other users (Hoang and Le Tan, 2023).

2.3.3.5. Information Quality

Information quality is dependent on its reliability, relevancy, accuracy, precision, timeliness, currency, format, availability, completeness, sufficiency, volume, objectivity, personalization, consistency, and understandability (Kalankesh *et al.*, 2020 and Li and Shang, 2020). In the context of information systems (IS), it is defined as “the desirable characteristics of the system outputs; that is, management reports and Web pages” (Petter *et al.*, 2008, p.239). DeLone and McLean (1992) suggested that quality measures which included information quality and system quality are important constructs related to the success of IS. This is buttressed by Carter and Bélanger (2005) and Nookhao and Kiattisin (2023) who state it is a vital component of high-quality EG and a good user experience. Studies indicated that information quality has a significant influence on citizen satisfaction (Nookhao and Kiattisin, 2023), trust in EG learning services (Al-Omairi *et al.*, 2021), and adoption of EG (Shuib *et al.*, 2019). Jiang *et al.*, (2021) add that information available on social media adds to the risk profile in the adoption of technologies such as EG. While there may be an increase in the quality of information, the motivations of those disseminating and consuming information can influence based on a number of factors including beliefs, financial benefits and preference for example. Additionally, what denotes quality may be subjective.

2.3.3.6. Satisfaction (System Information Support Satisfaction)

Satisfaction is considered one of the central concepts in management (Santoso and Nelloh, 2017) and user satisfaction is often used for the measurement of information system success (Aggelidis and Chatzoglou, 2012). Technology-based applications have promised easy access to government services, but have not guaranteed citizen satisfaction (Sachan *et al.*, 2018). However, citizens' satisfaction is known as one of the most important influences in the adoption and diffusion of EG (Weerakkody *et al.*, 2016). Anthopoulos *et al.*, (2016) argued that one of the reasons for EG project failure is missing end-user satisfaction from adoption. This research shows that if citizens' relationship-based satisfaction with EG services is low, initiatives may prove less impactful (Irani *et al.*, 2012; Weerakkody *et al.*, 2016; Alkrajji, 2020).

2.3.3.7. Citizen Attitude

Attitude is defined as "the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question"(Ajzen, 1991, p. 188). Studies from various fields, such as luxury brand consumption (Schade *et al.*, 2016), eco-friendly products (Prakash *et al.*, 2019), and Online Shopping (Redda, 2019) have shown attitude as a significant predictor of behavioural intention. The concept of attitude is widely utilised in IS acceptance models. Consequently, various studies in this field have examined the role of attitude in the use of technology, such as chatbot users (Gümüş and Çark, 2021), mobile apps (Pop *et al.*, 2023), internet banking (Safari *et al.*, 2022). Researchers in EG have empirically examined citizen attitudes toward EG services and found there to be a positive correlation between attitude and EG adoption (Verkijika and De Wet, 2018; Zahid and Din, 2019; Eid *et al.*, 2020). While this may indicate a path towards adoption alignment with government goals, for instance those of efficiency and cost effectiveness for the protection of public monies and societal good ought to be factored in (Chan *et al.*, 2021).

2.3.3.8. System Quality

System quality measures desirable characteristics of an information system including ease of use, system flexibility and reliability, response times (Petter *et al.*, 2008; Li and Shang, 2020). Furthermore, Wang and Teo (2020) argued that system quality in e-government service leads to user satisfaction and willingness to use the system, for example. Studies have shown that system quality impacts trust, usefulness, e-learning values (Al-Omairi *et al.*, 2020) and user satisfaction (Al-Zahrani, 2020; Nookhao and Kiattisin, 2023; Wang and Teo, 2020). The provision of a quality system needs to be coupled with user capability; this includes not only access to devices but also the skills to use them effectively across populations (Palma *et al.*, 2023). Indicating a dependence on inclusivity.

2.3.3.9. Computer self-efficacy

Computer self-efficacy derives from Bandura's (1977) notion of self-efficacy which gauges the extent to which one perceives the ability to organise, execute actions and achieve computer-related tasks (Afari *et al.*, 2023). As EG services are provided for all people with differing abilities computer and internet self-efficacy becomes a key factor in its adoption (Almukhlifi *et al.*, 2019;

Hu *et al.*, 2019; Leggett, 2018). Jokisch *et al.*, (2020) argued that the current generation of older adults may have low self-efficacy in areas related to modern technology, such as the internet and computers because they simply did not have any significant learning and educational experiences. The factors detailed above are varied, however commonalities exist, most significant of which is that characteristically they can all be classed as risks in management. An exploration of how perceived risk may impact behavioural intentions seems an appropriate focus for the proposed study. The next section takes a closer look at perceived risk in technology acceptance.

2.4. BEHAVIOURAL INTENTION

2.4.1. Definition and Concept of behavioural Intention

Behavioural intention refers to an individual's expressed willingness to engage in a specific behaviour and is a widely recognised predictor of actual technology adoption. In the context of e-government, behavioural intention reflects the degree to which users are motivated to utilise digital services, based on perceived usefulness, ease of use, and confidence in government platforms. As highlighted by the Technology Acceptance Model (Davis, 1989) and subsequent studies, behavioural intention is shaped by attitudes towards technology, perceived performance outcomes, and external social influences. It serves as the bridge between individual perceptions and actual adoption behaviour. Can be defined as an obvious response to predefined targets in a given scenario (Conner and Norman, 2022). Such behaviours are parts of spotless potential and social control inside such external social control that is relied upon to direct the influence of goal line on behaviour, according to the assumption that a positive goal delivers a conduct where social control is larger (*ibid*). Therefore, a person's behavioural intention for using innovation would be evident based on their attitudes towards its use, which can be influenced by usefulness and availability. A person's intentions regarding their behaviour are determined by their local inclinations towards those behaviours and the variable loads that people encounter (Conner and Norman, 2022). The public's behavioural intentions are directly influenced by conceptual standards due to others' usage of technology (Camilleri, 2019; Nzaramyimana and Susanto, 2019). Behavioural intentions are the motivations driving individuals to perform specific actions, particularly in adopting specific approaches for future use (Ajzen, 2011). Individuals often judge an act or behaviour based on their beliefs, leading to attitudes that arise from various personal opinions (Ajzen, 1991). These attitudes

result in either favourable or adverse reactions, which subsequently influence future behaviour. Therefore, understanding the elements that shape these mindsets is crucial. According to Kim and Hunter (1993), several concepts elucidate the interaction between behaviour and state of mind. These concepts trace the link between attitudes and behavioural intentions. Mindsets play a crucial role in predicting behavioural motives and increasing the likelihood of engaging in certain behaviours. The strong influence of beliefs on behavioural intention has been recognized across various information-system-using scenarios. The variable was chosen purposely to assess people's behaviour intent toward use of EG services. In the extant literature on behavioural intention, it is often employed as a multidimensional concept with various dimensions that help to predict and understand individuals' intentions to perform a particular behaviour. Previous research has examined the attributes of behavioural intention in diverse contexts as a multidimensional variable. For instance, Ajzen (1991) and Leonard et al. (2017) identify behavioural intention as a construct comprising attitude, subjective norms, and perceived behavioural control. Davis (1989) conceptualises behavioural intention through two dimensions: perceived usefulness and perceived ease of use. Additionally, researchers like Venkatesh et al. (2003) consider behavioural intention as a multidimensional construct including performance expectancy, effort expectancy, and social influence.

2.4.2. Dimensions of behavioural Intention

To give a deeper awareness of behavioural intention concepts in a range of contexts, a number of behavioural intention dimensions have frequently been included into a variety of theoretical frameworks and models, such as the theory of planned behaviour, technology acceptance model, and unified theory of acceptance and use of technology. Accordingly, this study determined that it was necessary to align its views with the approach of Venkatesh *et al.*, (2003), who conceptualised behavioural intention as a multidimensional construct made up of performance expectancy, effort expectancy, and social influence. These are discussed below:

Culture significantly influences performance expectancy in the adoption of e-government. Users' cultural values and societal norms shape how they perceive the usefulness and reliability of digital services. For example, in collectivist societies, trust in government institutions and social influence

may amplify positive performance expectations, whereas in more individualistic cultures, personal experience and perceived efficiency play a stronger role. Studies such as Hofstede (2001), Erumban and de Jong (2006), and Alharbi et al. (2017) have demonstrated that cultural dimensions directly affect how citizens assess the expected outcomes of e-government systems, particularly in multicultural environments like Dubai.

2.4.2.1. Performance Expectancy

Performance expectancy has been regarded as the extent to which individuals anticipate that using an established system will help them achieve their goals and improve their job performance (Bajunaied *et al.*, 2023). It also serves as a dynamic behavioural intention measure to understand the acceptance of online government services, based on the unified theory of acceptance and use of technology (Venkatesh *et al.*, 2003; Hidayatullah *et al.*, 2019). This concept has been extensively studied across various contexts. Performance expectancy reflects the anticipated benefits that citizens and government personnel foresee from adopting digital government services, such as increased efficiency, speed, and ease of use, which significantly influence the decision to select these services. Research indicates that when people perceive online government resources as useful for completing tasks more effectively, their willingness to use them increases (Nookhao and Kiattisin, 2023). Empirical studies have demonstrated the importance of performance expectancy. For instance, AlAwadhi, Alansari and Alsaber (2023) found that performance expectancy is a strong predictor of the willingness to use electronic government services. Similarly, Schaupp *et al.* (2010) reported that performance expectancy enhances people's willingness to use EG services in the United States. Moreover, performance expectancy is often considered alongside other factors such as perceived comfort, accessibility, and confidence to provide a more comprehensive understanding of behavioural intention. Performance expectancy appears to be directed by the information made available by suppliers and its processing and application by users, illustrating a construct that may be difficult to map and predict in diverse settings.

2.4.2.2. Effort Expectancy

Effort expectation can refer to the perceived ease of use of a system, which is crucial for enhancing service delivery and understanding behavioural intent, especially in technology adoption (Rizkalla

et al., 2024). This concept, grounded in technology adoption theory (Venkatesh *et al.*, 2003) posits that a platform's ease of use significantly impacts its users (Al-Adwan and Al-Debei, 2024). The goal of effort expectation is to make emerging technologies more user-friendly by minimising their complexity and learning curve. Surveys show that people are more inclined to adopt systems they find user-friendly. For instance, when it comes to online government services, users are more likely to engage if the functions are clear and easy to navigate (Venkatesh *et al.*, 2003). Evidence suggests that effort expectancy directly affects user satisfaction and the overall effectiveness of a system, which in turn strengthens the intention to use it (Rizkalla *et al.*, 2023). Moreover, effort expectancy interacts with factors such as expected outcomes, social influence, and favourable conditions to shape behavioural intentions. High levels of effort expectancy can reduce potential barriers to acceptance, making innovations more accessible and appealing to a wider audience. Empirical research supports the notion that decreasing the effort required to use a system leads to higher adoption rates and continued use over time (Tiwari *et al.*, 2023; Davis, 1989). However, for some users' complex systems are considered more trustworthy. Understanding the user and their motivations appears to be significant in the discussion of behavioural intention.

2.4.2.3. Social Influence

Social influence is portrayed as the primary measure of behavioural intention, signifying the extent to which citizens consider that key others (such as family, relations, friends, peers, and coworkers) believe in using a specific method (Venkatesh *et al.*, 2003; Bajunaied *et al.*, 2023). Social influence emphasises the role of social pressure groups and agreements in shaping technology acceptability and decision-making. As a result, social influence is relevant in an atmosphere where the opinions of individual groups, peers, friends, and subordinates hold substantial value (Nimfa and Buruche, 2019). For instance, in an institutional setting, teams are more likely to accept the use of new technology because they believe their colleagues and supervisors expect them to behave so. Further, social influences can differ depending on cultural and socioeconomic variables, particularly within a collectivist society, which generally places more emphasis on communal views than individual cultural circumstances (Kamarudin *et al.*, 2021; Jasimuddin *et al.*, 2017; Mensah *et al.*, 2020). Scientific studies have consistently shown the importance of social influence in determining behaviour intentions, making it an essential element of the successful implementation of new technologies (Dash *et al.*, 2023; Rizkalla *et al.*, 2023). The influence of

social issues may, however, decline over time as people become more aware about technology and shape their own attitudes and beliefs.

2.4.3. Impact of behavioural Intention

The literature indicates that behavioural intention can have a positive or negative impact on EG adoption, a topic still debated in academic circles (Csótó, 2021). Extant studies investigating the impact of behavioural intentions on the adoption of EG services predominantly employ paradigms such as the Technology Acceptance Model, the Theory of Planned behaviour, and the Unified Theory of Acceptance and Use of Technology (Khamis, 2023; Bajunaied *et al.*, 2023). Research findings highlight several significant factors influencing individuals' intentions to use EG services (Hidayatullah *et al.*, 2023; Nookhao and Kiattisin, 2023). Key drivers of behavioural intentions include perceived value and perceived ease of access. When citizens perceive EG services as valuable and user-friendly, their intention to adopt these services increases (Almaiah and Nasereddin, 2020).

The principles and key pillars of e-governance are reflected in the UAE's National Digital Government Strategy, which outlines eight core dimensions: inclusivity, resilience, transparency, user-centricity, efficiency, security, innovation, and collaboration. These dimensions are designed to ensure that digital transformation aligns with both global best practice and the specific socio-economic context of the UAE. According to the UAE Government (2022), these pillars guide policy and service delivery in ways that are measurable, scalable, and aligned with the Sustainable Development Goals (SDGs).

Additionally, studies from various countries show that accessible platforms and the perceived effectiveness of EG services enhance adoption rates (Al Sayegh *et al.*, 2023). Trust in government and confidence in the security and privacy of EG platforms are also crucial. Scientific research indicates that citizens' willingness to engage with EG services is significantly influenced by their confidence in governmental information privacy practices (Ramirez-Madrid *et al.*, 2024). This is particularly important in regions where concerns about confidentiality breaches and data exploitation are prevalent. Social influence plays a vital role in shaping behavioural intentions (Almaiah and Nasereddin, 2020). This implies that approvals and support from friends, family, and community leaders can significantly impact an individual's decision to use EG services

(Mensah *et al.*, 2020). The desire to conform to social norms and benefit from shared experiences often drives this influence. Furthermore, factors such as age, educational level, and social status also affect behavioural intentions. Early studies found individuals with greater technological knowledge, higher intelligence, and wealth are more likely to use EG services (Czaja *et al.*, 2006), however, with the shift in dynamics, availability and accessibility of technology and digital literacy this trend is shifting to a broader spectrum aiding inclusivity (Tokovska *et al.*, 2023).

2.5. E-GOVERNANCE PRINCIPLES AND KEY PILLARS

The UAE's National Digital Government Strategy is drafted in eight dimensions, tailored to the UAE's development plan. The dimensions are:

1) Leaving no one behind (Inclusive by default)

Evidence from practical literature indicates that e-government adoption in the United Arab Emirates (UAE) progressively reveals the nation's pledge to inclusiveness under the "leaving no one behind" principle. For instance, Aldhaheeri and Hudin (2022) and Chen and Kim (2024) establish that e-government has decisively rooted inclusivity in digital governance through strategies targeting all categories of citizens, including persons with disabilities within the UAE. Using survey-based analysis, the study shows a positive relationship between inclusive strategic structures and user satisfaction among marginalized individuals. Similarly, Nahedh Alsehani, Abdul Wahab and Shuib, (2024) assessed digital distinctiveness structures and concluded that mobile access and simplified authentication processes have significantly reduced obstacles for low-income and less-educated end users. Also, Al Sayegh et al. (2023) studied national e-service usage patterns across demographic segments and confirmed that although the UAE has achieved strong digital diffusion, inequalities remain among migrant workers and rural inhabitants due to digital literacy gaps. These suggest that while the UAE's e-government platforms are designed to be inclusive by default, continuous adaptation and targeted digital capacity-building are essential for ensuring full participation across all societal clusters. This aligns with the UAE's broader development plans.

2) Resilient

E-government adoption in the United Arab Emirates (UAE) gradually emphasizes the importance of building resilient governance systems within the digital domain. Resilience, in the context of e-governance adoption, refers to the flexibility and continuity of e-government service delivery in response to the needs and challenges of society. Similarly, Elayah (2025) upheld that enhancing the effectiveness of public service delivery, as well as promoting government transparency, relies not only on technological infrastructure but also on the dynamic involvement of citizens. Adaptive technology supports reliable user interaction across various languages. Moreover, while the UAE aims to achieve broad digital resilience, this remains uneven due to disparities in digital knowledge, particularly among rural residents and the less privileged. Additionally, e-governance is reshaping modern societies through the digitalisation of public services, thereby promoting transparency, accountability, and citizen participation (Efthymiou, 2025). Therefore, resilience in e-government is not static but requires continuous improvement to address emerging societal challenges. Based on this discussion, these developments align well with the UAE's e-governance strategies as a country committed to contemporary, problem-solving approaches.

3) Fit for the digital age

Fit for the digital age is a condition where there is readiness and proficiency of structures, organisations, or strategies to operate successfully within the progressing landscape of digital technology. In today's unified world, this impression indicates more than merely adopting digital devices; it represents a holistic change that confirms agility, all-inclusivity, security, and an innovation-oriented culture in providing services and results (Gillani *et al.*, 2024). A design that is fit for the digital age holds digital-first initiatives, facilitating real-time messaging, data-driven decision-making processes, and user-centred systems. In e-governance, being fit for the digital age shows the harnessing of modern technological tools like artificial intelligence, cloud computing, big data, and block chain technology to build smarter, responsive public service structures in the UAE (Badran, 2024). This consists of seamless service access through digital uniqueness platforms, virtual portals, and portable applications that lessen administrative bottlenecks and foster citizen satisfaction. Accordingly, the UAE is a leading model of this new change. With its all-inclusive e-governance approach, nations like the UAE through systems such as UAE Pass and

podiums like DubaiNow can supply integrated and adapted services across many sectors (Eid, Selim and El-Kassrawy, 2021). Digital platforms need to be accessible to all sectors of society, including individuals of determination, rural people, and non-native speakers. Additionally, this involves not only practical infrastructure but also digital knowledge enterprises and policy structures that support fairness and data confidentiality. In the long run, being fit for the digital age involves more than employing technological tools; it signifies building an innovation culture, trust, and a focus on continuous improvement that nurtures people, boosts service delivery, and motivates socio-economic progress within the rapidly changing digital world.

4) User-driven

User-driven is an approach in policy, service provision, and improvement that emphasises the needs, capabilities, and feedback from final-users at the core of enhancement processes. Instead of adopting a top-down framework, a user-oriented system highlights participation, commitment, and openness to interacting directly with the products, services, or platforms. In the realm of the digital age, user-oriented designs are vital in certifying significance, user-friendliness, and satisfaction (Santarsiero *et al.*, 2023). In e-governance, a user-focused initiative involves vigorously interacting with citizens in the creation and improvement of digital facilities (Song, Zhang and Meng, 2025). Besides, it may include surveys, feedback mechanisms, co-design workshops, and user behaviour analytics. Thus, such techniques help governments recognise what types of values users prioritise most, whether it is ease of accessibility, language preferences, data secrecy and mobile alertness. Accordingly, the improvement of digital stages turns out to be more spontaneous, all-encompassing, and adaptable (Salih, 2024). Also, these platforms offer modified experiences, accessible interfaces, and multilingual backing, reflecting insights gained directly from the users. It nurtures teamwork between service workers and recipients, reassures an innovation culture aligned with real-world requirements, and confirms that digital change efforts remain grounded in human-centred strategic principles in the context of the UAE.

5) Digital by design

Globally, governments are embracing e-government services for updating administrative practices and meeting the needs and expectations of their citizens (Patergiannaki and Pollalis, 2024). Digital by design is a transformational principle that demands incorporating digital technology within the

foundation of services, structures, and institutional operations from inception (Piccoli, Grover and Rodriguez, 2024). It highlights new design processes and clarification of digital tools within the organisation, rather than depending on digitizing the current manual processes. This strategic approach fosters innovation, adeptness, and resilience within the public and private systems. Accordingly, public governments that implement digital by design initiatives move beyond solely shifting offline services online. Instead, they harness digital facilities, data analytics, automation processes, and cloud skills to build efficient, transparent, and citizenship-oriented services. Also, this initiative promotes responsiveness, minimizes bottlenecks, and ensures all-inclusivity by permitting wider coverage of necessary services, particularly for less-privileged persons. Similarly, within the private sector, firms that embrace digital by design are more focused and competitive. Moreover, by embedding digital competencies into service or product development, customer commitment, and internal procedures, they can best adapt to fast-changing marketplace demands and technological advancements (Hong, 2024). Thus, this framework supports data-driven strategic decision-making, effective quality, and accessible innovation. Digital by design stimulates holistic transformation that reflects digital capability development, leadership commitment, and policy orientation. Therefore, this requires strong digital governance models that assure interoperability, cybersecurity, and confidentiality protection (Mustafa *et al.*, 2025). Significantly, it supports sustainability toward reducing paper practices, travel-associated emissions, and other inadequacies shared in analogue processes.

6) Data-Driven

A data-driven initiative within e-governance adoption refers to the strategic use of data to support policy decisions, fostering public service delivery processes and enhancing transparency in government tasks. As governments increasingly embrace digital transformation, data becomes a critical asset for real governance (Piccoli, Grover and Rodriguez, 2024). This approach allows the structure to make evidence-based decisions rather than depend on outdated practices. Also, one of the main benefits of data-driven e-governance is value-added efficiency within service delivery (Wang *et al.*, 2025). Hence, governments can assess real-time data to understand citizen requirements, optimally allocate resources, and update bureaucratic practices. For instance, predictive analytics would assist in forecasting service demands in areas like healthcare services, education, or infrastructure facilities, confirming proactive responses. Furthermore, digital

platforms create huge volumes of user data that, when investigated, offer new insights into service application, user fulfilment, and performance indicators (Panori *et al.*, 2021). A data-driven initiative can enhance transparency and accountability within service delivery in the context of e-governance. Open statistics portals and public dashboards permit citizens to access information on government activities, budgeting, and performance indicators. This degree of openness builds trust and reassures civic commitment in the economy. Additionally, governments could use the data to measure the social impact of policies, monitor corruption, and implement remedial engagements where necessary. Data-driven approaches help identify missing links within access to digital service delivery, permitting targeted interventions for marginalized persons (Ramos-Maqueda and Chen, 2025). Thus, it ensures that e-governance approaches are equitable and all-inclusive. Therefore, adopting a data-driven approach in e-governance is indispensable for contemporary, responsive, and citizen-focused governance. It promotes decision-making, service delivery efficiency, inclusiveness, and public responsibility as core mainstays of the digitally empowered society.

7) Open by default

The e-governance, by default, signifies the practice of digital tools to change and increase the effectiveness, accessibility, and fairness of government service delivery and processes (Albous and Alboloushi, 2025). In the present era, this aids as a dynamic mechanism for spanning the opening between governments and its citizens by allowing unified exchange of information, that encourages active citizen participation and stimulates responsibility. E-governance provisions inclusive enlargement by systematising administrative procedures, abridging service delivery, and dropping inflexible blocks (Olimat and Antwi-Boateng, 2024). In the same vein, by default, e-governance promotes data-driven decision processes and enhances the sensitivity of public organisations. Furthermore, e-governance, through its design, encourages transparency and decreases corruption via digital review trails, open data porches, and feedback reviews. This helps in empowering citizens to embrace authorities responsible, while also nurturing trust within the public institutions (Tariq, 2025). Significantly, in emerging nations like UAE, e-governance has the imminent ability to overcome infrastructural tasks and advance traditional margins by leveraging portable technology knowledge and internet accessibility. Again, e-governance, by default, can be a transformative initiative that redefines public management. This improves service

delivery and efficiency in governance, at the same time, strengthens representative engagement, guaranteeing that governance benefits more citizen-focused in the future digital sphere.

8) Proactiveness.

Proactiveness in government's capability refers to anticipating citizen necessities, resolving issues in advance, and delivering services without imminent formal requests. In the context of the UAE, proactiveness is a core approach for reconfiguring public service delivery and attaining smart governance. The UAE government demonstrates this strategy via approaches such as the UAE Smart Government Policy and the Artificial Intelligence Policy 2031 (Yasmin, Refae and Eletter, 2024). Accordingly, these frameworks underline the use of predictive analytics, big data, and Artificial Intelligence (AI) to stimulate decision-making and automate service delivery. Proactiveness within the UAE can be extended to social service delivery. That is, systems mechanically recognise and assist susceptible citizens through unified databases, permitting timely wellbeing support. A practical instance is the Mohammed Bin Rashid Smart Majlis, which allowed citizens to share their thoughts and feedback directly with management, promoting participatory and approachable governance (Kuriansky, 2024). Furthermore, the United Arab Emirates' e-governance framework strengthens flexibility and readiness. This was witnessed during the COVID-19 pandemic, where proactive digital measures supported remote work, distance education, and real-time health tracking, indicating the liveliness of the UAE's digital structure (AlShamsi, Bin Ahmad and Jasimuddin, 2025). Therefore, by embracing proactiveness within e-governance, the UAE can enhance efficiency, cut bureaucracy, and shape confidence in public societies. This can serve as an ideal for other countries seeking to reform their public governance in the digitalized society.

At the centre of initiatives to digitise public services are those on either side of transactions who will be utilising its products. Requiring significant investments EG projects must be supported and spearheaded by leaders who hold decision making powers. Attention must therefore be given to understanding the position of government leaders (as key stakeholders) and their attitudes to adopting EG. This in itself is a significant undertaking, however, a starting point exploring behaviour intention, as an antecedent of action, that influences technology acceptance is applied to direct the focus of the study.

2.6. SUMMARY

In this chapter, the main concepts of the research were explored, with a background of e-governance from the global perspective given followed by that in the UAE. According to data from the UN EG survey the UAE currently positions among the top 15 countries for e-government globally. As a strategic objective the UAE hopes to not only maintain momentum in development gains but also improve its global ranking and achieve its digital strategy goals. An exploration of theories of technology acceptance illuminated factors that may influence the adoption of EG in this pursuit. From the literature reviewed there were contradictory findings concerning the link between risk factors and the adoption of technologies. Risk as a concept in management seems under researched particularly as it relates to the adoption of EG in Dubai. Perceived risk perceptions in the context of EG evaluations and usage particularly in the UAE context have not been investigated. Understanding how it may influence behavioural intentions to develop a conceptual framework may provide a platform from which to contribute to the formulation of policy for continuous improvement. The next chapter reviews the various theories and models associated with this study, towards developing a tailored framework for EG within UAE.

Chapter 3 Towards Constructing a Theoretical Framework

3.1 INTRODUCTION

This chapter seeks to bring together concepts to construct a theoretical framework for the adoption of EG. The section starts by documenting common theories and models adopted in E-governance and presents illustrations to demonstrate elements such as interaction of perceived risk and behavioural intention. These theories and models are relevant for this study to understand the relationship between each factor that may influence e-governance particularly behavioural intention and perceived risk. A research framework is then proposed based on understanding of risk, intention and adoption. This to ensure e-governance framework proposed aligned with the changes and future needs of the society.

3.2 THEORETICAL FRAMEWORK

The incorporation of a theoretical model for EG adoption in Dubai brings together new insights drawn from the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and Risk Perception Theory (RPT) to provide an inclusive understanding of citizen interaction with e-government service delivery. This framework focuses on how psychological awareness, social impacts, and contextual risks collectively shape citizens' behavioural intentions and the subsequent adoption of e-government platforms. Considering the context of Dubai, behavioural intention serves as a principal concept influenced by three main UTAUT dimensions: performance expectancy, effort expectancy, and social influence (Venkatesh et al., 2003). These factors guide citizens' perceptions of the relevance of e-government systems and services, the ease of their use, and the influence of social networks or government support. Similarly, perceived risk, drawn from RPT, consists of performance risk, privacy risk, and time risk. These concerns can diminish trust in e-governance platforms, particularly in a culturally diverse society like Dubai, where varying levels of digital literacy and trust expectations are present. The TAM model also supports the framework by reinforcing the importance of perceived usefulness and ease of use, both of which are fundamental to stakeholder acceptance (Lederer et al., 2000). Likewise, RPT provides a robust risk-based lenses, which is particularly relevant in the

UAE, where both citizens and expatriates may possess heightened awareness of data confidentiality, virtual transaction security, and service reliability. Accordingly, this integrated framework is particularly well-suited to the United Arab Emirates' Digital Government 2025 vision. By aligning this model with the nation’s cultural and technological realities, the framework ensures that e-government service platforms are widely accepted, trusted, and efficiently utilized, ultimately contributing to the UAE’s digital transformation and the advancement of high-quality e-governance.

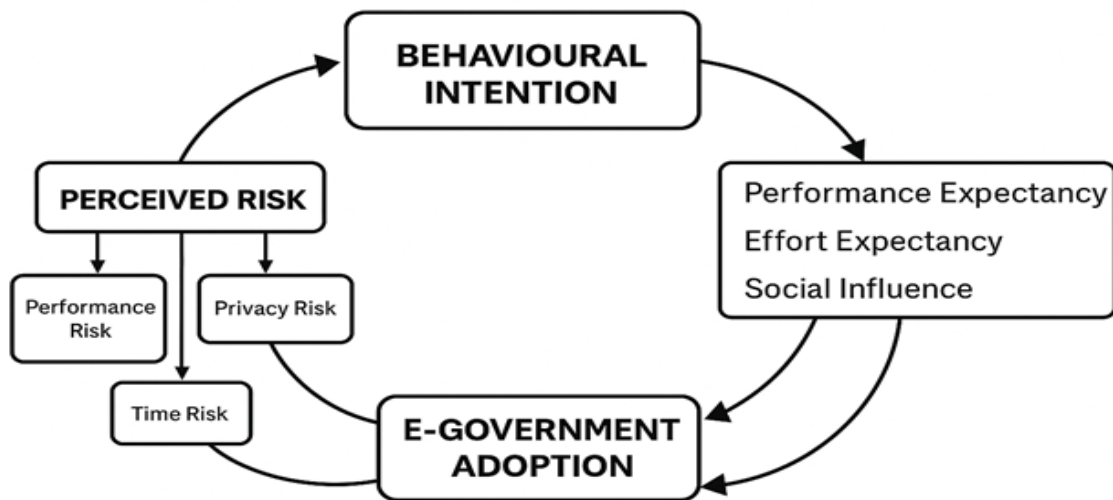


Figure 3-1: Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), Risk Perception Theory (RPT)

Source: Researcher’s Design (2024)

Figure 3-1 demonstrates how the Theory of Reasoned Action (TRA), Diffusion of Innovation (DOI) Theory, and Perceived Risk Theory provide complementary perspectives on technology acceptance. It highlights how individual attitudes, innovation characteristics, and perceived risks interact to shape behavioural intention in the adoption of e-government services.

3.3. TECHNOLOGY ACCEPTANCE THEORIES

In the field of technology acceptance several theories have been proposed. A review of studies conducted between 2013 and 2017 revealed Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) are widely used theories by researchers

as the theoretical basis for many studies in the field of e-government. Both theories are based on the theory of reasoned action theory of reasoned action (TRA).

3.3.1. Theory of Reasoned Action (TRA)

TRA, a psychology or cognitive based theory, developed by Fishbein and Ajzen (1975) has been used to predict and explain how people make decisions about engaging activities. This theory is one of the most widely used theories of human behaviour with its four main constructs being attitude, belief, intention and subjective norms (ibid). Later work on the theory examines the links between attitude and behaviour across industries and domains (Ajzen, 1991). According to TRA, when a person evaluates the proposed behaviour positively (attitude), and they believe that others want them to accomplish the behaviour (subjective norm), this leads to a higher intention, and a stronger intention to engage in a given behaviour leads to performing the behaviour (Mimiaga et al., 2009). The key application of the TRA in technology acceptance is in the prediction of behavioural intention (readiness or likeness to use) (Lederer *et al.*, 2000). However, the theory is not focused on the need to use products such as ICT and therefore may not be sufficient on its own to consider the adoption of EG in this study.

3.3.2. Diffusion of Innovation (DOI) Theory

Diffusion of innovation (DOI) theory, also known as innovation diffusion Theory, was developed by Rogers (1962), is one of the oldest social science theories and popular theories in the diffusion of new technology. This theory is used to explain how, why, and at what rate new ideas and technology spread through specific groups of individuals and organisations. According to Rogers (1995) diffusion refers to the means of informing members of societies about innovation (a new idea, practice or object). DOI theory details a decision-making process with main steps including knowledge, persuasion, decision, and confirmation (Nimfa, *et al.*, 2021). Once a person is introduced to an innovation, they will be persuaded by their feelings to make a decision about engagement. Their experience in engagement will lead to a further decision on whether to accept or reject the innovation (Kwangsawad and Jattamart, 2022). Rather than solely being influenced by one's feelings, other variables including type of innovation, methods of communication and social culture can influence the rate of adoption (Rogers, 1995). Technology acceptance theories do not by themselves adequately account for the extension of use to wider populations. As

identified there are a number of factors that can influence the adoption of new technologies. These are explored in the next section.

3.3.3. Perceived Risk Theory

Researchers have defined perceived risk as an unavoidable belief that the result could be negative (Meyliana and Fernando, 2019; Zhao and Khaliq, 2024). Existing studies have acknowledged that high levels of perceived risk can significantly impact public confidence and trust in decision-making. Perceived risk is a complex concept influenced by various factors, including the classification of the service or product, which can change the context of perceived risk. Earlier scholars identified six types of perceived risk: security, performance, financial, time/opportunity, social, and psychological influences (Ryu, 2018). These factors are primary influences during the initial acceptance stage of EG (Abdalla *et al.*, 2024). While web-based services do not directly threaten public safety, this study describes perceived risk as the intensely contingent expectation of setbacks when evaluating specific online operations in e-government, such as online service delivery.

3.4. RELATED TECHNOLOGY ACCEPTANCE MODELS

3.4.1. Technology Acceptance Model (TAM)

TAM was proposed by Davis, Bagozzi, and Warshaw (1989) to explain the acceptance/adoption and usage of information technology (Lederer *et al.*, 2000). TAM has been widely used by researchers to predict the behavioural intentions of individuals toward acceptance and use of technologies based on perceived ease of use and usefulness (Venkatesh and Davis, 1996). Also, Davis (1989) indicated that beliefs influence attitudes which lead to intentions, which in turn influences behaviours (actual usage) (Seo and Lee, 2021). Similar to TRA the model includes attitude towards the use and behavioural intention to use. Attitude towards use is the user's evaluation of the desirability of employing a particular information systems application (Lederer *et al.*, 2000). In TAM, perceived usefulness (PU) and perceived ease of use (PEOU) are critical elements that influence behavioural intention. Davis (1989) states perceived usefulness is the level of belief that using a specified tool will enhance performance. Literature shows that both of the

variables are key determinants of acceptance and usage behaviour (Davis, 1989; Lederer *et al.*, 2000).

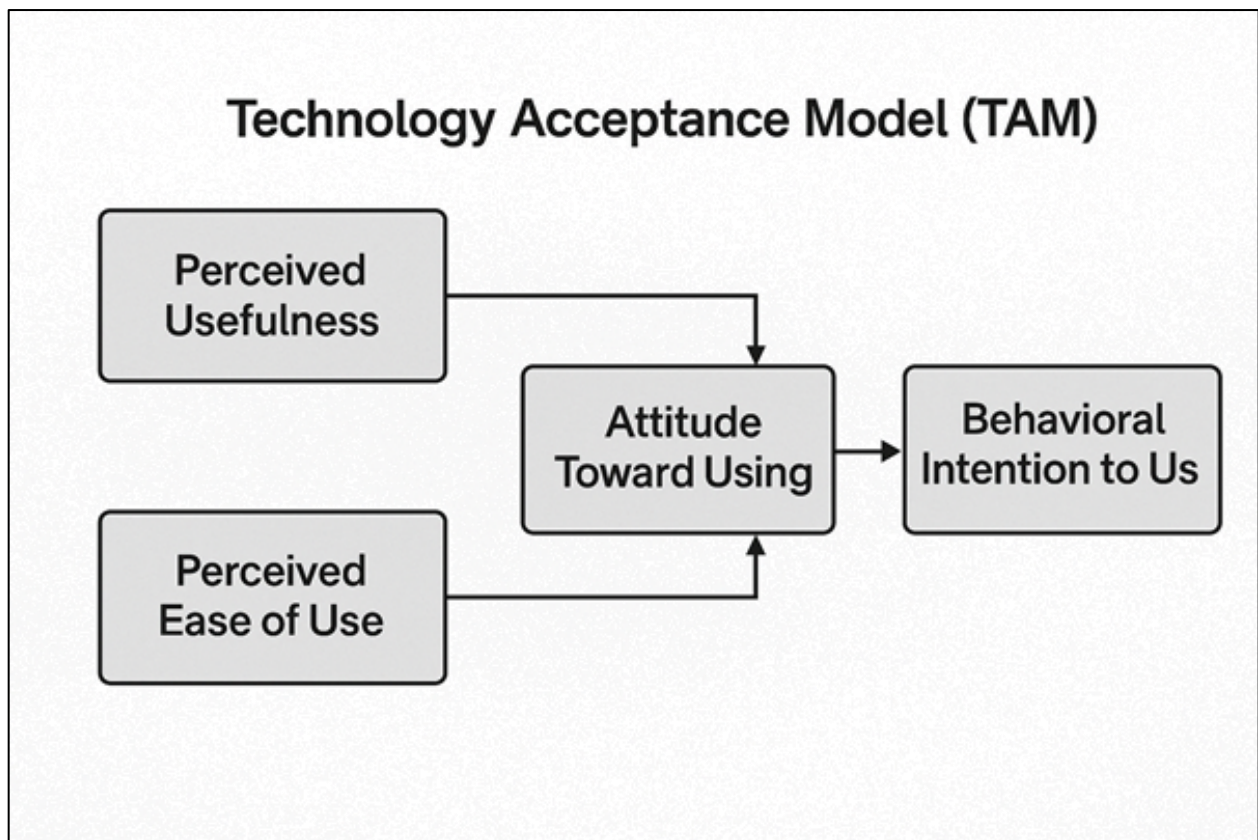


Figure 3-2: Technology Acceptance Model

Source: Adapted from Davis, Bagozzi, and Warshaw (1989)

3.3.2. Technology Acceptance Model 2 (TAM2)

Venkatesh and Davis (2000) extended the TAM to account for external variables and better explain and predict behavioural intention. TAM2 includes subjective norm, voluntariness, and image (as social influence processes) and job relevance, output quality, result demonstrability, and perceived ease of use (as cognitive instrumental processes) (ibid). The researchers found attitude aligns with the effects of key beliefs on behavioural intention (Dong and Gao, 2024).

The TAM2 model is presented below:

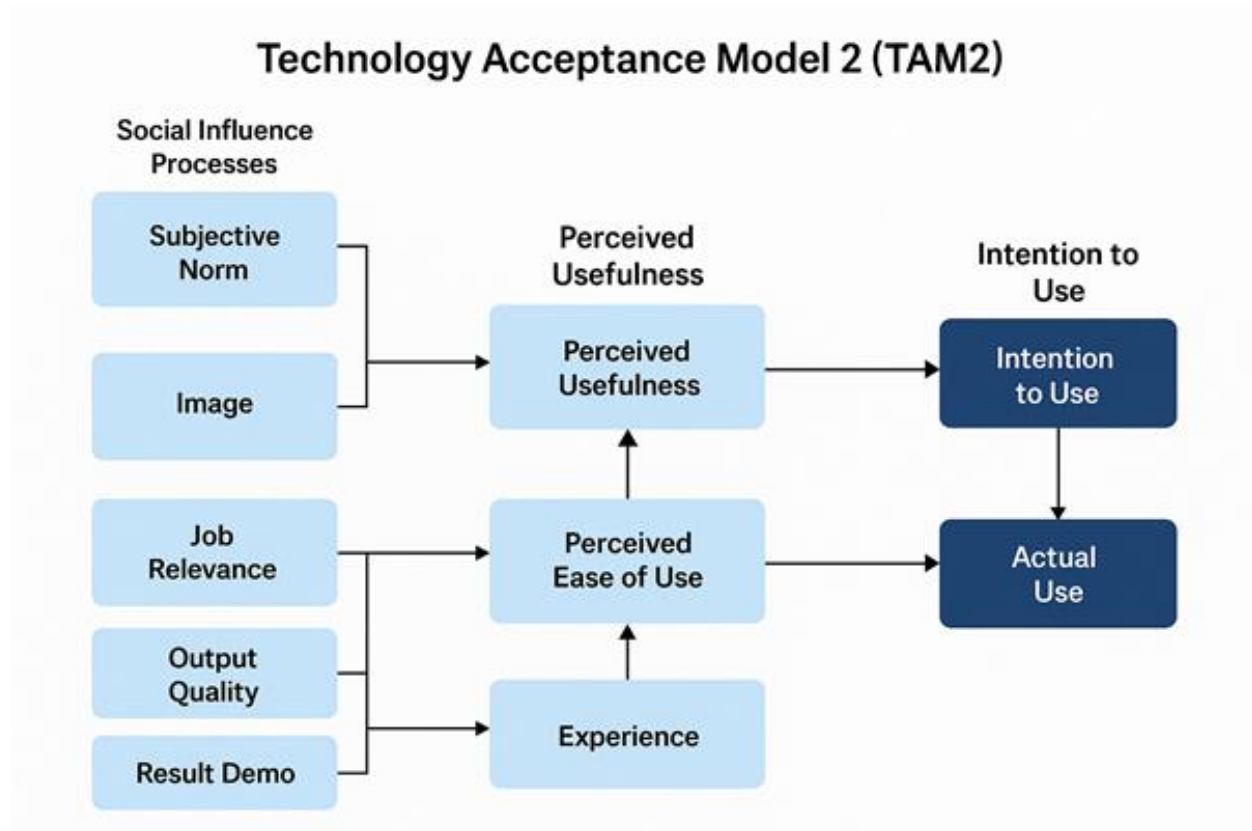


Figure 3-3: Technology Acceptance Model 2

Source: Adapted from Venkatesh and Davis (2000).

3.4.3. Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh *et al.*, (2003) presented the UTAUT model to explain individual acceptance of IT and usage intention. Within this model eight earlier models are consolidated, including TRA and TAM. UTAUT includes four main factors: performance expectancy (PE), social influence (SI), effort expectancy (EE), and facilitating conditions (FC) which predict behavioural intention and use behaviour. In addition, gender, age, experience and voluntariness of use are applied as moderating factors of behavioural intention and subsequent use behaviour. There were other theories identified from the review of literature including, Theory of Planned behaviour (TPB), Social Cognitive Theory (SCT) and Decomposed Theory of Planned Behaviour model (DTPB), which are included

in the UTAUT they are not explored in detail here but are recognised for the contribution in mapping technology acceptance.

The model is presented below:

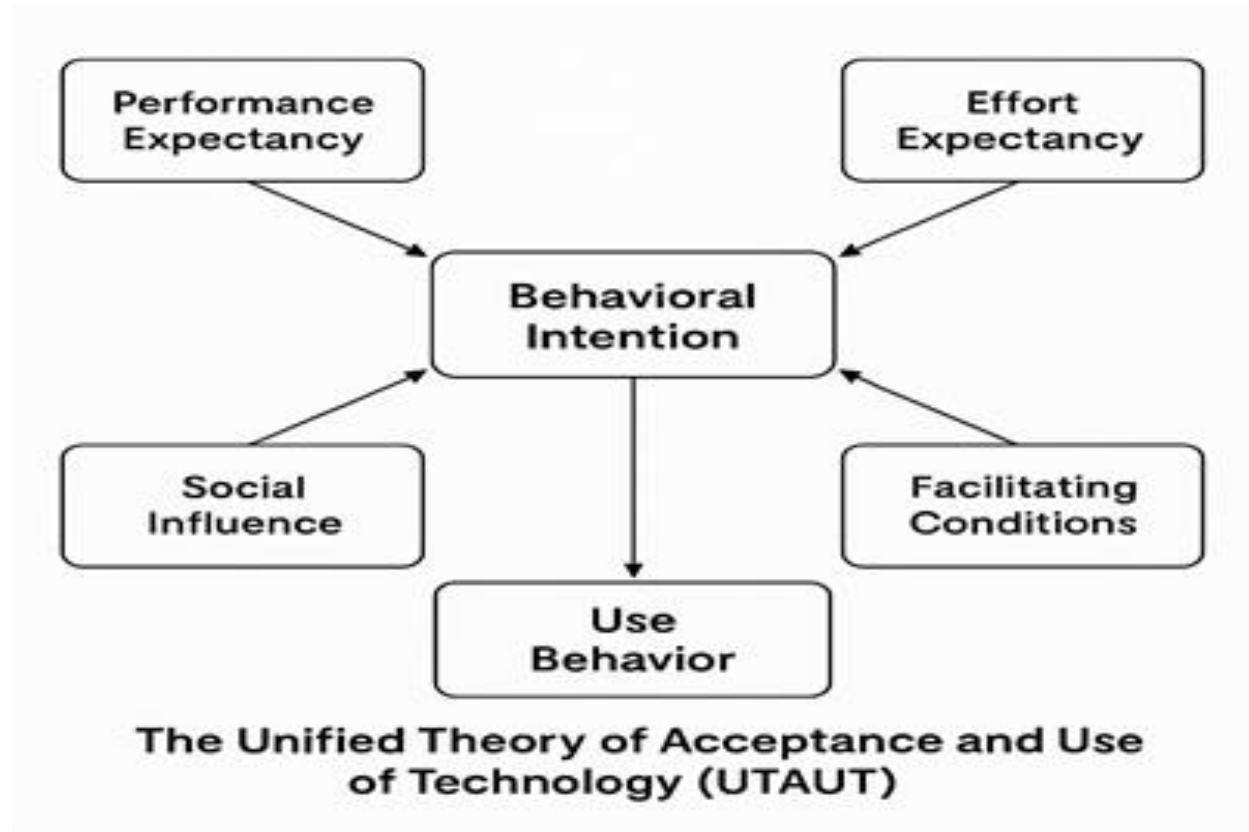


Figure 3-4: Unified Theory of Acceptance and Use of Technology

Source: Adapted from Venkatesh et al., (2003)

3.4.4. Perceived Risk Model

The concept of perceived risk developed by (Bauer, 1960; Chen and Li, 2017). Perceived risk is referred to as the users' subjective assessment of sustaining losses while using a specific system (Marriott and Williams, 2018). The Perceived Risk Model, in the context of e-governance adoption, helps explain why some residents may hesitate to use e-government services. This model focuses on six classifications of risks that influence public behaviour. These include performance, financial, psychological, social, physical, and time risks. Performance risk (PR) arises when users doubt that e-governance services will function as expected, potentially leading to service delivery

failures or mistakes. Financial risk (FR) concerns worries about financial losses, such as online payment fraud. Psychological risk (PR) refers to fear or uneasiness about using unfamiliar digital systems, especially for those who are less tech-savvy. Social risk (SR) reflects the potential negative judgment from others regarding trust in or satisfaction with online government interactions. While physical risk (PhR) is minimal, it can involve consequences from misinformation, such as inaccurate digital health records. Lastly, time risk (TR) refers to frustrations caused by slow systems, repeated logins, or unclear complaints. These perceptions of risk collectively influence citizens' intentions to adopt or reject e-governance. When perceived risks are high, trust in the system decreases. For successful adoption, the government must address these issues through secure digital tools, transparency, user-friendly design, and ongoing public awareness. Minimizing perceived risks not only increases usage but also fosters accountability, inclusion, and trust in the delivery of public e-government services. The model is illustrated below:

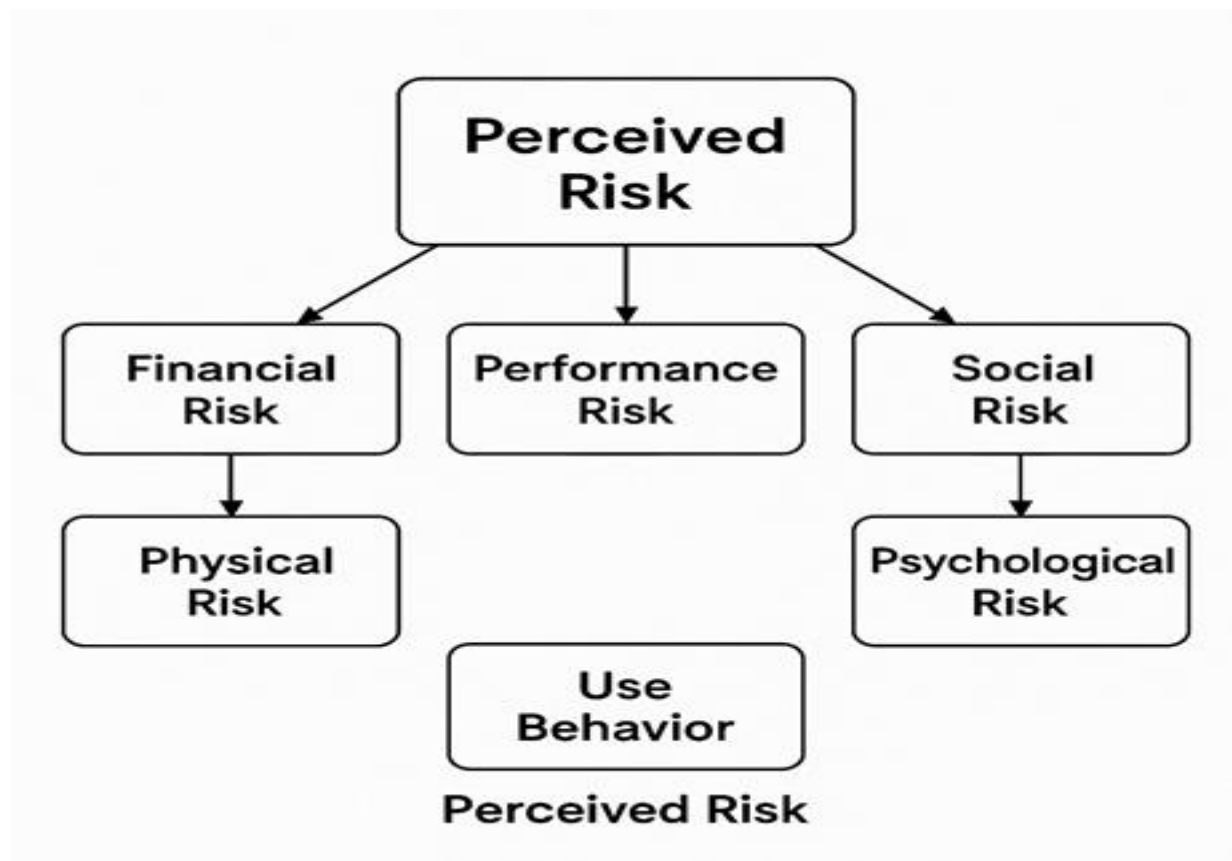


Figure 3-5: Perceived Risk

Source: Adapted from Bauer (1960).

3.4. KEY ELEMENTS FROM EG THEORIES AND MODELS

Below elements illustrates perceived risks (such as performance risk, privacy risk, and time risk) and behavioural intentions (such as performance expectancy, effort expectancy, and social influence) in EG adoption by identifying stakeholder participation and beliefs (including those of citizens, employees, organisations, and the government). Through investigation, it can determine how such risks and intentions influence behaviours and beliefs regarding EG. This paradigm aids in identifying fundamental concerns, opportunities, and motivations, leading to a refined understanding of stakeholders' views. It guides specific approaches to promote EG adoption and effectively communicates detailed stakeholder requirements and concerns.

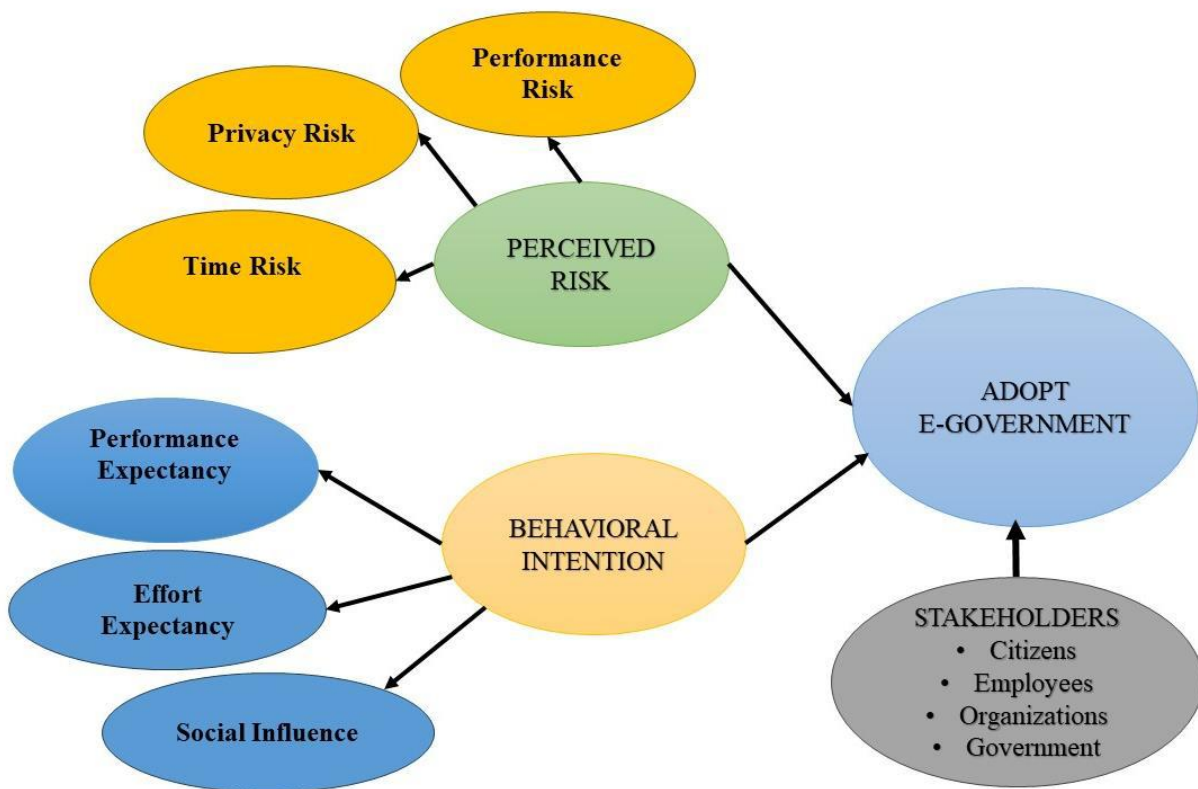


Figure 3-6: Proposed Research Framework Illustrating Elements of Perceived Risk and Behavioural Intention to Adopt EG

Source: Researcher's Design (2024)

Figure 3-6 presents the proposed research framework developed in this study. It integrates dimensions of perceived risk (security, privacy, technical, and social) with behavioural intention constructs (performance expectancy, effort expectancy, and trust). This framework illustrates the interrelationships that influence adoption of e-government in Dubai, emphasising the critical role of risk perception in shaping intention.

3.5. EMERGENCE OF FURTHER EG FACTORS

More factors emerge from literatures regarding the impact of behavioural intention on EG adoption. These points raise concerns about potential hazards to EG implementation, including insufficient study of performance, privacy, and time issues (Choi and Chandler, 2020). Performance risk, the concern that EG services may not meet citizens' expectations, has received minimal attention, especially in Dubai (Eid *et al.*, 2021) and further, more empirical evidence is needed to understand the impact of privacy risk on various demographics, including concerns about data security and exploitation in Dubai (Ismagilova *et al.*, 2022). Likewise, information on time risk when using EG services is limited, particularly in areas with varying levels of digital literacy (Salama and Farag, 2024). Other factors include a lack of understanding of the ongoing adoption and sustainability of EG services. Most studies focus on initial uptake rather than sustained behavioural intentions (Liu *et al.*, 2023). Hence, more in-depth research is needed on behavioural intentions in emerging economies especially in Dubai, where infrastructural and socioeconomic factors may pose unique barriers to EG adoption. In addition, the influence of behavioural intention on EG adoption in relation to emerging technologies like blockchain remains underexplored (Ekanem and Kim, 2023). Additionally, there is insufficient empirical data from Dubai to fully comprehend the context of performance expectancy, effort expectancy, and social influence in embracing EG (Al Sayegh *et al.*, 2023). Accordingly, addressing these gaps can lead to a better understanding of the factors affecting EG adoption and inform policy responses in Dubai, Kingdom of the United Arab Emirate (UAE). This information is essential as it provides further evidence of perceived risk in up taking EG and gives visibility to other factors that may prove useful as backup to behavioural intentions of users and policy makers.

3.6 SUMMARY

This chapter presents relevant models that form the theoretical foundation of the study and explain the origin of the selected variables. The models reviewed include the Technology Acceptance Model (TAM), Technology Acceptance Model 2 (TAM2), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the Perceived Risk Model. These models support the development of the research framework, particularly in exploring the relationship between perceived risk and behavioural intention to e-governance (EG) adoption in Dubai UAE. The chapter also identifies main research gaps that this study aims to address. The next chapter explores methodology adopted in this research to investigate perceived risk and behavioural intention.

Chapter 4 METHODOLOGY

4.1. INTRODUCTION

This chapter provides an outline of the research which is divided into three sections. The first section looks at research philosophy, ontology and epistemology. The research aims to understand the influence of perceived risk on motivation and intentions to use EG in Dubai. The literature review revealed a dearth of information on the perceived risks of adopting EG amongst leaders in government. In seeking information to identify perceived risks of adopting EG service and the impact this may have on intention, the chapter goes on to discuss the preliminary findings from the review of the literature to support the approach proposed. Taking an exploratory approach, as it does not seek to test or follow any theories or hypotheses but rather seeks to develop a more detailed conceptual framework to illustrate the relationships that impact EG adoption to align policy and initiatives with the Government Excellence Model for continued socio-economic development. Next, the chapter looks at the data collection and analysis methods selected to illustrate the consideration given to developing a robust study that produces useful results.

4.2. RESEARCH PHILOSOPHY

Saunders, Lewis and Thornhill (2023) state ‘research philosophy refers to a system of beliefs and assumptions about the development of knowledge.’ This study may unveil the motivations and barriers, which may result from beliefs and assumptions as discussed in Chapter 2, influencing the adoption and use of EG services in the UAE. It is accepted that the research may or may not lead to the development of new theories or frameworks (Kuechler and Vaishnavi, 2012; Rahimi and Oh, 2024). Existing literature acknowledged that there are different research philosophies, with none being better than the other. What is of importance is adopting a philosophy that is appropriate to the context of the study. Research philosophy can be described as being composed of ontological assumptions (reality, the nature of being) and epistemological assumptions (the nature of human knowledge - origins, methods and limitations) (Saunders, Lewis and Thornhill, 2009 and 2023). The ontology and epistemology of the research, discussed below to lay the foundations of the research design.

4.2.1. Ontology

Researchers identify two ontological positions: objectivism and subjectivism, to assist in the determination of reality and therefore what can be studied (Mierzwiak, 2024). Objectivism proposes social entities exist in reality external to social actors while subjectivism (constructivism/interpretivism) which considers feelings, attitudes, perceptions and the resultant actions create social phenomena (Saunders, Lewis and Thornhill, 2009).

The objectivist considers EG usage exists externally of intentions, they assume adoption can be observed to identify patterns influencing behaviour. This approach is likely to employ methods to quantify usage (Saunders, Lewis and Thornhill, 2009, Zikmund *et al.*, (2013), for example it may be more concerned with how many people use EG or IT equipment. From a subjectivist/constructivist stance the adoption of EG is constructed by its users, based on formed opinions (*ibid*). The researcher from this stance seeks to understand why or how these opinions about adopting EG are formed. Implying that there may be the potential to construct opinions and to develop a theoretical framework for the conceptualization of links between perceived risk and the adoption of EG. The social constructivist would argue that as opinions are open to change, influenced by a number of factors including, for example, culture and access to information, they are likely to vary amongst individuals and society. This on the one hand could impede the generalisability of the findings of a study but also could add to knowledge and perhaps reveal new and innovative insights and paths to problem solving or further study. In this manner the constructivist is best advised to consider options for verification of data including careful consideration of the research design and data collection methods from the constructivist standpoint.

4.2.2. Epistemology

Epistemology captures the ‘how’ of knowledge gathering, epistemology, guides the research approach indicating the importance that it must be afforded (Darlaston-Jones, 2007 and Saunders, Lewis and Thornhill, 2023). It is what the researcher believes constitutes valid knowledge and how it can be collected (*ibid*). Where the quantitative researcher would take a positivist approach using observation to produce law-like generalisations (Saunders, Lewis and Thornhill, 2009). This involves the employment of existing theory to develop theses to be confirmed or refuted (*ibid*).

The qualitative researcher in seeking to understand the subjective experiences is more likely to travel the path of interpretivism looking for meaning and motivation (Babu *et al.*, 2013). Interpretivism according to Saunders et al., (2009) is a social phenomenon that belief that social actions are constructed based on perceptions and consequent actions. Hence, the adoption and design of EG is complex and varied from nation to another, often influence by culture, perception, intention, history and multiple dimensions. The complex interactions in transactional environments such as that of a government system would be difficult to investigate using defined laws. The risk of applying laws in these settings is their inability to gain rich insights into the complex world under investigation which can emanate from understanding different social actors (human beings) (Silverman, 2000 and Saunders, Lewis and Thornhill, 2009).

Another philosophical position is realism which sees there is a reality independent of the mind. There are two lines of thought within this direct and critical realism. Direct realism argues what is seen is accurate and critical realists propose senses can deceive, opening the door to a mental processing of information (Bhaskar, 2020). This research adopts a constructivist approach to understand how perceived risk influences the adoption of EG. A constructivist assumes behavioural intentions are shaped by social actors and subjective experiences (Park, 2023). Such as how users of EG may be sceptical in adopting EG in UAE based on technological exposure or raised issues of trust and transparency when questions on EG arises or errors occurred. Necessitating the exploration of individual narratives and relational dynamics through enquiry. The constructivist ontological position recognizes that subjective experiences shape intentions and focuses on the derivation of meanings and motivations that drive actions. In adopting an interpretivist epistemology, the study does not assume, hypothesise or test any theories, rather it takes an inductive approach using the data collected to develop theory (Bell, Bryman and Harley, 2022).

4.3. RESEARCH APPROACH

A research methodology is a crucial tool from which to begin to solve problems, using a structured approach to ensure trustworthiness of findings in qualitative studies (Noble and Smith, 2015) or validity (accuracy), reliability and relevance in quantitative studies (Rajasekar, Pitchai and Veerapadran, 2006; Mukherjee, 2020). The credibility, transferability, dependability and

confirmability of a study can be said to contribute to its trustworthiness (Noble and Smith, 2015). Dictated by the research philosophy described in section 4.2, this research was suited to qualitative methodology. A well-defined and documented methodology allows for the replicability of the study and the verification of results. Through ensuring the application of suitable methods, tools and techniques the validity and reliability of the findings are increased (ibid). A research methodology can reduce the risk of bias, for example, through the careful selection of participants in line with the study aims and objectives (Pannucci and Wilkins, 2010). Similarly, the data collection and analysis process are suitable to the research questions. The applied methodology called for ethical considerations to protect the rights of participants and ensure no harm came to them. Consideration was also made for the welfare of the researcher.

4.4. RESEARCH DESIGN

In determining the design of the study, the lead was taken from the review of the literature as presented in the previous chapter which revealed the dearth of literature exploring behavioural intention and its link to perceived risk as an influence on the adoption of EG in Dubai. Adding knowledge to this field informed the design of a conceptual framework to elucidate policy recommendations that can be made to contribute to efforts in the UAEs strategy to be a leader in excellence and deliver on the digital government strategy. The research did not intend to collect any numerical data or test any theories or hypotheses, but rather sought meaning and understanding for which a qualitative method seemed most appropriate (Bell, Bryman and Harley, 2022). The design of a study can be seen as the bridge that connects the end product to the question(s) of the study (Mukherjee, 2020). It directs data collection and analysis methods to answer the research question (Chun et al., 2019). In the quest to understand intentions and motivations, potentially garnering new knowledge, this study can be described as exploratory. The complexity in transactional environments discussed in section (4.2.2) dictated an exploratory approach as it presented an avenue through which the researcher was afforded the opportunity to find out what may be happening (Rendle *et al.*, 2019).

4.4.1. Case Study of Dubai Government Leaders' Attitudes Towards Perceived Risks

This study adopted a case study design to explore perceived risk and its impact on behavioural intention to use EG. The case study is an empirical inquiry or research strategy geared towards the

gathering of in-depth information for the development of theory (Yin, 2003; Eisenhardt and Graebner, 2007; Priya, 2020; Bell, Bryman and Harley, 2022). Eisenhardt and Graebner (2007) state case studies can offer unique rich descriptions of phenomena from which theory can emerge. The method has been criticised as being subjective and open to bias that can compromise validity of findings (Tempelaar, Rienties and Nguyen, 2020). However, the process of theory building involves the cyclical drawing of new information from data gathered which can increase the accuracy of findings (Eisenhardt and Graebner, 2007). Yin (2003) argues that case studies are more suited to questions of why and how. However, some researchers posit they can also answer questions of what, in their ability to uncover descriptions of phenomena (Ary *et al.*, 2019). While the study did not intend to test theory it sought to explore views or interpretations of the patterns of relationships that exist between perceived risk, identified in chapter 2 as a less researched factor, and behavioural intention to adopt new technologies such as EG. The uncovering of which produced findings and a conceptual framework that shed light on concepts or principles that may apply in other contexts (Yin, 2003). It is acknowledged the results of this research are not intended for generalisation but as a path to understanding the dynamics that may need to be considered in the development of policies and initiatives for continuous development in Dubai and potentially across UAE.

Other factors considered in maintaining the rigour of the study include a description of the researcher's positionality (Yip, 2024). The researcher is a UAE government official based in Dubai as the lead for performance and excellence. While this infers contextual knowledge about the organisation of focus, the phenomena of interest remains under researched, justifying the selection of a descriptive and exploratory approach to uncover the complex relationships influencing behaviours. There was a need for flexibility in this endeavour as it was not known what may be revealed and what direction this may lead to. Techniques that allowed for the deconstruction of complexities to facilitate the identification of patterns were employed. In addressing how researcher positionality may influence the study Yip (2024) suggests reflexivity to enhance credibility and trustworthiness of findings. Reflexivity can be described as a process of continuous critique and evaluation of one's subjectivity and contextual influence on the research (Olmos-Vega *et al.*, 2022). The goal of reflexivity differs amongst researchers; it could be to neutralise it to limit subjectivity, explain it or capitalise on it, for example (*ibid*). According to Walsh (2003), there are four types of reflexivity: personal (reflections on expectation, assumptions, reactions to context,

participants and data); interpersonal (consideration of relational influence of context, people and result); methodological (impact and nuance of methodological decisions); contextual (cultural and historical context of project).

The researchers position in this study situated them in a space from which to benefit from their own knowledge of the organisation of focus. This was of use in the selection of participants and methods of data collection. In line with the types of reflexivity identified above the researcher kept a reflexive journal. The next sections present the approach taken in this study to the selection of participants, methods of data collection and analysis. The appropriateness of which are crucial to the study's efficacy, reliability and validity (Priya, 2020).

4.4.2. Research Population and Research Sample

Collecting data from the entire UAE government and citizenry was impractical within the context of this research in terms of resources, including time and finances, and practicality. This necessitated the adoption of a process of selecting a smaller group of participants to match the scope and resource availability. Hence, this research focus on key players within the ministry of cabinet, affairs, climate change and environment and municipalities. This according to Saunders, Lewis and Thornhill (2009) can make the research process more efficient, saving time, money and lead to increased accuracy of data that is rich in content. Purposive sampling also known as non-probability refers to the purposeful selection of participants who have insight into a specific concept (Silverman, 2000 and Campbell *et al.*, 2020). The sample size of five participants was selected in line with qualitative research standards, where smaller samples are sufficient to generate rich, in-depth insights (Creswell, 2018; Guest, Bunce, & Johnson, 2006). Guest et al. (2006) demonstrate that thematic saturation can often be reached within the first six interviews, making a sample of five appropriate for a focused case study of senior government officials in Dubai.

This sampling method selection can be an iterative process and enables the researcher to align study participants to the research aims and objectives. Selecting representatives of a wider population can raise concerns about bias - how are we sure that all views are truly represented. Factors to consider to counter such concerns are saturation points (Bell, Bryman and Harley, 2022). The subject matter under investigation in this study is unique, one which only a selection of

government employees may have insight into. This indicated the need to recruit participants who have access to that knowledge to ensure the reliability of the data collected and results (Campbell et al., 2020). As does the philosophical position of the researcher, interpretivism, as discussed in section (4.2.2.) which dictated the gathering of subjective views from participants who have direct experience or insight into the adoption of EG. The consideration to be given to trustworthiness in qualitative studies is discussed by Noble and Smith (2015) and Stahl and King (2020). The researchers recommend mechanisms that can enhance trustworthiness and acknowledge it is not an exact process. These include: consideration of personal biases which can influence findings; reflecting on methods employed to ensure appropriateness of data collection and analysis; use of rich descriptions for transferability; verify meanings with participants and data triangulation - using a number of sources of information.

A small sample is usually selected from the target group, in doing so an assumption is made that the sample is representative. The population of interest must first be identified, out of which participants are picked for their knowledge, expertise, experience or even willingness and availability to take part in the study. Participants were approached through emails, telephone and in-person meetings maintaining professionalism and respect. The size of the sample rather than being determined alone by the resources available for the study should also be driven by consideration for efficacy, credibility, reliability and ethics. This limited the threat of omitting relevant information that can render the findings weak or invalid (Sarfo *et al.*, 2021). Creswell (2013) introduces the concept of data saturation, the point at which no new information is being revealed. Some researchers query whether data saturation can truly be achieved and offer that it is theoretical as it is assumed (Sarfo *et al.*, 2021). This raises questions about what would happen in the event that data saturation is not achieved. Sarfo *et al.*, (2021) offer that the depth or quality of the data gathered rather than the quantity of data should be considered and should sample sizes from previous studies using comparable strategies. Case studies, they report, range from 4 to 25 participants (*ibid*). While the researcher acknowledges the debates about saturation, the aim of the study is to gather in depth information. A study by Considine and Lewis (2007) found that leaders known for providing strategic information are likely to be seen as innovators indicating their potential to influence and have specific knowledge the adoption of EG.

This study identified government officers and stakeholders that align with existing research on perceived risk and behavioural intention to implement EG in departments. Four senior government officials and one senior leader of a research organisation working on projects with the government were selected based on their experience, influence, and diversity of perspectives. The researcher prioritised individuals with decision-making authority and relevant experience in the EG field. To ensure comprehensive data collection, interviews were conducted sequentially. Conceptual saturation, the point at which no new information is uncovered, was reached after five interviews. All participants were required to speak English or Arabic (main languages spoken in UAE) per the known languages of the researcher who conducted the interviews.

4.5. DATA COLLECTION STRATEGY

The objectives of this study were met using semi-structured interviews. Data collection in case studies is flexible to the context of the study and can include a number of techniques including in-depth interviews, observations, questionnaires and the study of documents (Priya, 2020). The exploration of emerging themes was conducted using thematic analysis to determine additional lines of enquiry to pursue.

4.5.1. Data Quality

Saunders, Lewis and Thornhill (2009) stress the importance of meticulous planning in ensuring the data collected is of quality. In achieving this endeavour the researcher guarded the research reliability by firstly attentively gathering information of global experiences of EG adoption through secondary data. The development of clear research questions and the development of a conceptual framework also add to the rigor of the study (Johnson, Adkins and Chauvin, 2020). Interviews were conducted over teams which allowed for flexibility, familiarity and an open and frank discussion within which the researcher was able to clarify meaning with interviewees. The coding of data through thematic analysis can add to the trustworthiness of a study (Nowell *et al.*, 2017), prompting its selection as described later in this chapter. Recordings of the interviews were transcribed for analysis using computer software which, whilst reliant on human input, to a degree points to rigor in detecting correlations and relationships between themes (Tang, 2023). Identifiers were removed to anonymise information.

Interviewees were provided with an overview of the research purpose and provided the opportunity to raise any questions or concerns before the interviews began. This included managing expectations of time commitment expected with the option for pauses in appreciation for the schedules of interviewees, building an atmosphere of trust and respect. Laying solid foundations to enhance reliability and reduced bias in adding elements of flexibility, review and reflection.

4.5.2. Data Collection

Interviews can be considered as a purposive method of data collection through purposive discussion. The employment of a semi-structured approach with open ended questions allowed the interviews to remain focused on the research questions and eliminated potential bias whilst allowing for adaptability (Saunders, Lewis and Thornhill, 2009). Probing questions were used to gather additional information and clarify meaning to ensure researcher perception was minimised (Kallio *et al.*, 2016). This approach facilitated the collection of rich data. The researcher employed active listening to ensure engagement and build rapport beneficial to the flow of insightful information. Interviews were reviewed at the end of each session to consolidate understanding of messages being conveyed and direct additional questioning. While the building of rapport can improve data quality by enhancing the probability of collecting more complete data, the risk of bias due to social desirability exists (Larson, 2019 and Horsfall *et al.*, 2021). In recognition of this the researcher assured participants of confidentiality and modified questions as appropriate whilst maintaining focus on the research questions (*ibid*). Triangulation can be achieved in a number of ways including by comparing findings with literature reviewed, through differing data collection methods such as focus groups or qualitative data. In this study triangulation through focus groups and observations was deemed unnecessary due to the need to gather information from key stakeholders with specific information and the timeframe for data collection. In addition to the risk of confirmation bias, focus groups could have been difficult to arrange within the schedules of the interviewees which can reduce the depth of information offered and be complicated to analyse within the resource limitations (Roller and Lavrakas, 2015). The use of a digital platform for interviews enabled transcription through the platform and facilitated seamless analysis.

4.5.3. Data Analysis

Saunders, Lewis and Thornhill (2009) stress the importance of a thorough process of data analysis that is suited to the research question and data collection methods. The study sought to understand how perceived risk and behavioural intention influence the adoption of EG. The detection of themes within decision making enabled the construction of a conceptual framework to illustrate the process revealed. Thematic analysis seeks to understand experiences, thoughts or behaviours in a systematic way by coding data (Kiger and Varpio, 2020 and Naeem *et al.*, 2023). Thematic analysis can be described as having a six step process that should include repetition and ensure rigour and trustworthiness of findings (Braun and Clarke, 2006 and Kiger and Varopio, 2020) as shown in table 4.1.

Table 4.1: The thematic analysis process

Steps in thematic analysis	Description	Data Analysis from Findings
Step 1: Transcription, Familiarization With the Data, and Selection of Quotations	Review of data collected to identify initial themes, patterns and quotes. Reflections can also be noted.	Data collected from participants daily are digitally transcribed and checked manually for any errors or omissions.
Step 2: Selection of Keywords	Designate keywords to elucidate participant's experiences and perceptions. Characteristics of keywords - realness; richness; repetition; rationale; repartee; regal.	Key words emanate from literature review and findings. Using NVivo these patterns are dominant in the participants conversations and captured using word cloud.
Step 3: Coding	Assign codes to data (index) to capture core themes to identify information relating to research questions.	Data from participant are broken down into their component parts. These parts are labels and themes identified.

<p>Step 4: Theme Development</p>	<p>Create themes giving consideration to patterned meanings linking research questions and data.</p>	<p>This data are processed using thematic analysis which involves themes identifications, data classification from further coding and themes development.</p>
<p>Step 5: Conceptualization Through Interpretation of Keywords, Codes, and Themes</p>	<p>Identify social patterns and definitions that align with research to understand relationships.</p>	<p>Common themes such as perceived risk, trust and awareness were identified and documented and interpreted.</p>
<p>Step 6: Development of Conceptual Model</p>	<p>Guided by existing theories a unique representation of data is presented.</p>	<p>Themes are triangulated with literature review to propose a new Conceptual framework.</p>

Source: Adapted from Braun and Clarke, (2006); Kiger and Varopio, (2020); Naeem et al.; (2023)

Using this process the researcher began analysing data from the beginning of the interview process to unveil emerging themes and keywords to develop a code and inform further inquiry. Interviews were conducted via teams, recorded and transcribed. Data was coded and categorised using NVivo software.

4.6. RESEARCH OBJECTIVITY AND BIAS

In any research project, questions of objectivity and bias must be addressed openly. This study relied on purposive sampling, focusing on leaders in government organisations and a specialised private-sector body involved in e-government initiatives. Their perspectives provided valuable insights into policy and implementation, but it is recognised that they do not fully capture end-users' experiences. Acknowledging this limitation is important, since it highlights the lens through which the findings should be understood.

The research was conducted in English. However, some participants responded in both English and Arabic, and this was deliberately allowed by the researcher. Certain Arabic terms and

expressions do not have direct English equivalents, and permitting participants to respond in the language they were most comfortable with ensured that meaning was preserved. To support this process, the researcher, fluent in both Arabic and English, used Google Translate as a supplementary tool. All translations were then carefully reviewed, refined, and verified by the researcher to confirm accuracy and retain the intended nuance of participants' responses. This approach reduced the risk of misinterpretation and maintained fidelity to the participants' perspectives.

The choice of purposive sampling was deliberate. Leaders and senior officials were selected because their experience and institutional knowledge provided unique insights into how risks, policies, and practices shape the adoption of e-government. While this could appear to bias the findings toward managerial perspectives, it also enabled the study to capture system-wide patterns that might not have emerged from a broader but less specialised group. At the same time, the study acknowledges that future research should complement these insights with the perspectives of frontline staff and service users.

Finally, the researcher applied reflexivity throughout the process, being conscious of how translation, interpretation, and sampling could influence the results. Where possible, findings were compared against existing evidence and contextual realities to provide balance and depth. By taking these steps, the study sought to remain objective while recognising that all research is, in some way, shaped by the context in which it is conducted.

4.7. RESEARCH VALIDITY

In the justification of research studies consideration needs to be given to the validity, replication and repetition of findings (Bryman and Bell, 2003) which can lend to the trustworthiness of a study (Rose and Johnson, 2020). In designing this research the literature was systematically reviewed and analysed to direct the methodology employed, framing of research questions, selection of subjects and methods of analysis, identified by Rose and Johnson (2020) as contributing to the trustworthiness of studies. In consideration of reliability a consistent approach was taken in the selection of a semi-structured approach with a guide to ensure interviews remained focused on the subject matters whilst allowing for flexibility through which to reveal new and in-depth information. To maintain the internal validity of findings, interviews were recorded and

transcribed so as to capture the views of participants, probing questions enabled the researcher to clarify meaning to limit bias.

4.8. RESEARCH ROBUSTNESS

Yin (2003) lists five standards against which a case study can be judged for robustness.

The case study should:

1. Be significant - it should be unique and of national or public interest.

As identified through a search of the literature there was a dearth of literature exploring perceived risk and its relationship to behavioural intention in the adoption of EG in Dubai. With the increasing use of technology in improving efficiency and in light of goals of economic transformation this study may contribute to the development of policy to move towards the capturing of optimal gains.

2. Be complete - gather all relevant information.

Relevant information was gathered on the adoption of EG across the globe, this was narrowed down to the UAE and Dubai. The information gathered is documented in the literature review, pointed to some of the perceived risks and behavioural intentions to adopt EG and guided the development of a proposed conceptual framework. As there was limited information on perceived risk and behavioural intention to adopt EG in Dubai this case study is deemed to be complete.

3. Consider alternative perspectives.

The view of leaders with different backgrounds and experience, whose buy-in was revealed as essential to the adoption of innovations were taken into consideration in exploring the relationship between risk and behavioural intention. The literature revealed diverse populations alongside influence from social, cultural and political factors may impact uptake of EG services. With detailed knowledge of the general state of affairs leaders were adjudged to adequately provide an overview covering alternative perspectives.

4. Display sufficient evidence.

The findings of the research that are presented in the following chapter are in an unbiased and balanced manner. Semi-structured interviews were adopted with thematic analysis used to develop themes for discussion and analysis. As data saturation was reached after five interviews sufficient evidence was determined to have been collected.

5. *Be composed in an engaging manner*

To ensure this study commands the interest of the reader the interviews are documented to illustrate the views of the participants in an engaging and digestible manner. The structure of the key findings garnered from the interviews with reference to the literature review guides the reader through the intricacies of the relationships identified. This contributes to the discussion on the development of future policy to create a pathway to continuous improvements in the adoption of EG in Dubai.

4.9 RESEARCH ETHICS

Ethics in research refers to the manner in which studies should be conducted in relation to the subjects of the study and those who may be affected by it (Saunders, Lewis and Thornhill, 2009). Ethical considerations should be made throughout the study from the formulation of questions to the presentation of findings (ibid). In keeping with the University's code of ethics the researcher applied for ethical approval to conduct a qualitative study in UAE. Research programme approval was gained. Informed consent was acquired through consent forms which was stored according to university policy. PIS include information about the researcher, research purpose and scope; requirements of taking part; participant rights; how data was used and reported and whom to contact in case of any queries. Participants were afforded the opportunity to pose questions and express any apprehension.

As the researcher is an employee of the organisation being studied no gatekeeper was required for interactions with government employees, however, the appropriate people were informed of the project and its purposes. As participation was voluntary participants were free to withdraw at any time for any reason. Provisions were made for participants to choose to withdraw from the study before analysis; as no participants indicated as such all data gathered was included in the study. Data was anonymised to remove any identifying information. This was clearly communicated

verbally during the recruitment process and stated in the consent form. Upon completion of data collection, participants received a debriefing and were furnished with additional contact information in case they desired further contact. Confidentiality was maintained by the anonymisation of responses. The study is being reported as a thesis for a Doctorate in Business Administration. The researcher shared findings with participants to gain feedback throughout the project. This ensured participation extends to the construction of the conceptual framework that is useful and driven by accurate information leading to the validity and reliability of the study.

4.10. SUMMARY

This chapter has described the philosophical interpretivist positioning of the researcher which has informed the selection of qualitative methods for data collection. In seeking to gather in depth data into the relationship between perceived risk, behavioural intention and its impact on the adoption of EG in Dubai. Semi-structured interviews were conducted to explore themes identified first in the literature and during the interview process. Throughout the data collection process steps were taken to ensure the accuracy of information gathered including confirming understanding with participants. The next chapter deposit the research findings carried out using semi-structured interviews with participants.

Chapter 5 Findings

5.1. INTRODUCTION

This chapter begins with a profile of the study area, providing an overview of the organization under study, the UAE government. This is followed by a presentation of the findings from semi-structured interviews conducted with key stakeholders in Dubai, beginning with a demographic profile of the participants, followed by their views on the general and key achievements in EG in Dubai. Responses to inquiry into perceived risk and behavioural intention of EG adoption are then presented. In total five high level participants were interviewed till data saturation achieved, with 4 representing different sectors in government and 1 from the private sector, working on various projects with UAE government with a focus on market research.

5.2. PROFILE OF STUDY AREA

The UAE has an estimated population of 10.48 million with approximately 11.4 % being Emirati and the remaining 88.4% being expatriates with the majority from South Asia (World Bank, 2025). Arabic is the main language with English a widely spoken second language followed by those spoken by expatriates. The UAE has a presidential government with the president (head of government and state) with a Council of Ministers headed by a Prime Minister. It is a constitutional federation, with two levels of government that have a degree of autonomy protected by the constitution. The policy making body, the Supreme Council is composed of the rulers of the seven Emirates under whose authority rests matters of national importance such as defence, foreign affairs and economic policy (Sarker and Al Athmay, 2017). Each of the Emirates maintain a degree of autonomy in the planning and delivery of services (Ahmed, Al Amiri and Abudaqa, 2024). The distinctiveness of the UAE's legal system and political environment is illustrated by the intricate balance of both traditional and modern systems with Islamic ideals being upheld while the needs of the various and contemporary communities are acknowledged (ibid). In brief the rights of citizens as covered by the constitution can be summarized into ten categories:

1. The federation, its constituencies and principal aims
2. The fundamental social and economic basis of the federation
3. Public freedom, rights and duties
4. The federal authorities
5. Federal legislations, decrees and authorities in charge
6. The emirates
7. Allocation of legislative, executive and international jurisdiction between the federation and the emirates
8. Financial affairs of the federation
9. Armed forces and security forces
10. Final and transitional provisions (UAE, 2025).

The UAE government has a centralized and formalized structure which has traditionally not been associated with organizational agility (Almazrouei *et al.*, 2024). Historically led by the state, economic development in the UAE has shifted to include marketization with the adoption of concepts such as strategic, performance and quality management and corporatization in the public sector to drive efficiency (Sarker and Al Athmay, 2017). In developing its political system and planning for the future the UAE has sought to increase responsiveness to the socio-economic needs of the country to ensure resilience to change associated with global development (ibid). Taking the course of management theory the UAE government has adopted wide ranging techniques and policies to pursue sustainable excellence in its performance and delivery of services (Zairi, 2019). The Government Excellence Model (GEM) is utilised in the evaluation and performance of government agencies in the UAE with the aim of achieving sustainable growth and a competitive advantage for the betterment of well-being in society (Al Zaabi, 2019 and UAE, 2024b). The UAE is committed to becoming a knowledge driven economy focussing on innovation with a path to

attainment presented in the Centennial Plan 2071. The plan is geared towards gains in service development and delivery (Abuzanjali and Bashir, 2024).

In striving for excellence the UAE government lists the following fundamental factors:

- Ambitious vision - integrated government structure characterized by partnerships for the development of human capital and a resilient economy.
- Enhancing wellbeing - consideration for the wellbeing of all stakeholders to encourage active engagement for sustainable gains.
- Leadership at the helm - ensure commitment of leadership to spur innovation and the adoption of initiatives.
- Anticipating and adapting - establish a system of evaluation that results in the anticipation of threats and challenges and facilitates learning from mistakes for transformation.
- Inspiring confidence - the governance structure should instill confidence in stakeholders fueling trust, transparency and integrity.
- Embracing the ecosystem - ensure an understanding of the ecosystem including external stakeholders to facilitate a collaborative approach for the benefit of citizens.
- Outcome-based measurement - an understanding of the needs of stakeholders should be the driving force of initiatives.
- Benefits realisation - maximise returns on investments utilising schemes and initiatives that increase government efficiency and effectiveness.
- Leading government - be a global competitor exhibiting distinctive capabilities with smart enablement.
- Transformational and disruptive mindset - propel anticipation and adaptation for optimal future innovation and growth.

In viewing government as an open system GEM offers a platform from which to understand and enhance the activities and relationships surrounding and within government (Al Zaabi, 2019). GEM Leadership commitment in the adoption of initiatives is a critical factor in the delivery of GEM (Al Zawati, Bashir and Alsyouf, 2020). Challenges to public service innovations such as the adoption of EG in the UAE as cited by Abuzanjali and Bashir (2024) include deficiencies in resources (e.g. budget and skills), innovation culture (e.g. managers risk aversion, low incentives) and communication. Additionally, regulation and legislation may limit innovation. According to Abuzanjali and Bashir (2024) implementing the GEM inherently focuses on developing a robust human capital strategy which could stand the Dubai government in good stead to capture desired gains in EG adoption. The researchers suggest that to progress the government should expand people engagement and democracy. UAE's governance strategy seeks to respond to public opinion to maintain stability and aid steady development (UAE, 2025). The UAE government has proven effective at driving efficiency, for example in fostering a welcoming business environment through investments in infrastructure and favourable tax policy (Bin Braik and Alawadhi, 2025).

'We the UAE 2031' is a national plan to guide the country on its development path. The goal is to situate the UAE as an influential economic hub and secure its positions as a global leader. (UAE, 2023). The plan has four pillars:

1. Forward Society - achieving the prosperity of society by enhancing the capabilities of the citizens to maximise their effective contribution in all sectors
2. Forward Economy – reflecting the UAE's belief in the importance of human capital as the main driver of the next 10-year development plan
3. Forward Diplomacy - consolidating the pivotal role and influence of the UAE based on respect for human values
4. Forward Ecosystem - enhancing the government performance and the UAE's infrastructure and its development according to the latest technological methods, including the development of digital infrastructure. (ibid)

5.2.1. Participant Demographic Characteristics

The study sample consisted of participants from diverse professional backgrounds and held prominent roles across various sectors, including financial services, healthcare, artificial intelligence, market research, consultancy, sectoral strategy, public health, and food security. Their educational backgrounds varied, having educational qualifications up to doctoral level. All participants were based in Dubai and primarily engaged in full-time roles. These professionals occupied senior positions with decades of experience particularly in the field of adoption of technology. The duration of interviews varied from 30 to 45 minutes.

Figure 5-1: Demographic characteristics of participants

Role	Field	Position	Location	Contract	Years of Experience	Departments	Date
R1	Financial services, the healthcare sector, and artificial intelligence	Advisor	Dubai	Full-time	25	Digital Transformation and AI company	Nov 27
R2	Market research and consultancy	Director	Dubai		24	WHY5 Research Company	Nov 04
R3	Sectoral Strategy Performance	Director	Dubai	Full-time	20	Ministry of Cabinet Affair	Nov 28

R4	Food Sector	Assistant Undersecretary	Dubai	Full-time	30	Ministry Of Climate Change and Environment	Dec 19
R5	Public health and the environment.	Executive Director	Dubai	Full-time	28	Ajman Municipality and Planning Department	Nov 07

Data saturation was achieved after five interviews as no new information or relevant insights are forthcoming from research questions. It was determined unlikely that seeking additional participants from the chosen sample would not lead to the revelation of additional information. The sections that follow present key findings of the interviews.

5.2.2. Education and Gender

All participants were men educated to degree level and above with all five being high ranking employees. It is acknowledged that the vision of leaders is reflected in the collective voices of citizens including women. The government's commitment to championing women in driving socio-economic growth is woven into the fabric and core of operations, making it more inclusive and representative of all genders (UAE, 2025).

5.3. EVIDENCE OF INTERNAL WORKING STRUCTURE

The four participants working at top levels in government departments worked in the food sector, Prime Minister's office, finance and public health. The participants from the private sector worked in a market research consultancy firm which has worked on projects across the public sector. Headed by ministers or director generals who are supported by advisors and other officers, each ministry has an undersecretary who oversees assistant undersecretaries responsible for various departments. In the Ministry of Health (MoH) for example these departments include support services, health regulation and public health. With the bulk of public sector employees

employed within these departments utilizing and developing innovations to deliver services. Guided by leadership and in line with national strategy each ministry plans a range of initiatives to promote equity of access to services and economic transformation. The MoH has invested in health information systems to improve access to information and better serve the changing needs of Dubai's citizenry (Al Rand *et al.*, 2024 and Kuriansky 2024).

The research consultancy included in this study works across sectors and borders utilising human insights to help organisations achieve goals. In assisting clients the organisation provides advice on innovation and communication to enable feedback loops that may facilitate continuous development (Why Five, 2025).

5.4. EVIDENCE OF TECHNOLOGY AND THE ADOPTION OF EG

Interviews began with an exploration of the adoption of electronic systems and technology in the UAE over the last 10-15 years. There was a consensus that overall there has been pioneering, rapid and successful adoption of e-services and technology by the government of UAE. With the identification of several contributing factors, including the clear vision of leadership supported by targeted investments. Digital transformation was also a vivid objective of the UAE government deposited by participants, which was mentioned as part of improving efficiency and achieving economic diversification for sustainable development. Participants mentioned that as an early adopter of EG, UAE has secured its spot as a pioneer. They also conveyed that while diversity is a desirable and economically beneficial goal when faced with demographic diversity this can present a challenge.

The following comments were offered by participants:

“So, the government has been, especially since early 2000, making a very great investment in information communication technology, and ICT infrastructure.” (Participant 1)

“This shows the vision of his highness Sheikh Mohammed the vice president of UAE from long time I'm in UAE since the last more than 20 years 20 years I remember since the launch of Dubai internet city, Dubai media city the vision was clear from his highness Sheikh Mohammed to adapt you know to transform how government services perceived and how it's done at that time now

when we see UAE and Dubai specifically is one of the advanced cities that deals with smart initiatives like this.” (Participant 2)

5.5. EVIDENCE OF PERCEIVED RISKS AND EG ADOPTION

Participants reported concerns about security, whether it be related to cybersecurity threats or the loss of personal information, were the main perceived risks impacting EG use and adoption. Alongside this was the risk posed by the diverse population of Dubai, whose unique needs would have to be considered in planning the employment of EG services.

“Maybe one point that is always being raised is the security and the privacy. It is about the protection of the user data, and secure transaction mechanisms in terms of how we secure the information of the individuals. Considering that there are different privacy, especially when it comes to the regions...Yes, there are two main elements. One is the cybersecurity of the data and another element is the accelerated pace of technological changes.” (participant 3)

Participants highlighted cybersecurity and hacking as major risks in adopting e-government services. These concerns align with the findings of Bélanger and Carter (2008), who emphasised that security and privacy risks significantly shape user trust in e-government systems. More recent studies (AlHogail, 2018; Alraja, 2021) confirm that fear of data breaches, identity theft, and hacking incidents reduces users’ behavioural intention to adopt digital platforms. By contrast, respondents in this study suggested that while cybersecurity remains a risk, continuous investment in Dubai’s smart infrastructure and regulatory frameworks has begun to mitigate these fears. This demonstrates both alignment with global literature on perceived security risks and a unique local perspective on how strong governance can reduce such concerns.

“First, let me talk about data. Data is the uranium, it is the fuel, it is the petroleum for analytics. So, when you implement e-government initiatives with such huge investments in technology, data breaches, data misuse, data misinterpretation, and all challenges for e-government initiatives. Secondly, UAE is a unique population of not just Emiratis, but a very cosmopolitan European, American, Australian, and Indian population. There's a lot of nationality. So, when you have different people from different countries, for example, European data privacy laws, and GDPR, it

is a huge constraint when the UAE government is processing the data for European citizens, right?” (participant 4)

The significance of compromise of sensitive data was aptly summarized by participant 5 - “... so any simple breach can cause the public to lose trust in e-government.”

While Dubai has achieved significant progress in its digital transformation journey, participants highlighted the perceived risk posed by less than optimal linkages or networking and infrastructure.

“Maybe the network and the servers, some areas doesn’t have good network, it won’t be accessible in remote areas. This could be considered as a challenge. The main challenge is the linkage to external servers from the bank or the institution the information is in. For example if you have a problem with the bank today, it will be hard to access anything till the problem is resolved from the bank’s side. So that’s the project we are currently working on, the central bank resolves a lot of these issues.” (participant 1)

“Related to this, it is a huge technology and integration challenge. When you bring different technologies into e-government, then how are you going to seamlessly ensure data flow? Secondly, how can you ensure maintenance of software, and updates of this software, which are related and serving the same citizen service? How are they going to be done? The third thing I told you is literacy. How digitally literate are the users of this technology in the government?” (participant 4)

Paradoxically, infrastructural gains associated with the adoption of EG were identified as a potential perceived risk in the continued expansion of initiatives.

“You know, the growth of data centers, the dependency on more consumption of electricity, of natural resources. So, that is the IT infrastructure dependence, which is a risk accordingly. As more and more AI gets integrated and is used for some of the services, is there a problem of AI ethics and bias? ...The fifth and largest risk is the increasing financial burden for the government.” (participant 4)

Financial risks of EG adoption were identified for stakeholders under differing guises; cost of investment and timing risks for government and cost to public users of acquiring new technology to engage with EG, for example.

“Of course, as we mentioned earlier, adopting an advanced technical setup can pose challenges. Financial aspects and costs are significant factors. However, I don’t believe there is an issue with budgets for ministries, especially since the UAE is an advanced country that adopts the best standards. ... But for end-users, the cost of accessing services could be high, which might be a challenge or barrier to using government services.” (participant 2)

“Yes, it can be considered as a challenge because it is also related to the face of change, because currently the technology, what we could adopt in one government entity, could be in millions. But if we are the earlier adopters of that technology, but maybe we are going from another entity, if we waited for a few times, this technology, as you know, now if you notice that, for example, a certain laptop, if you buy it today, it could cost you 13,000. But if you wait for one year or two years, the price could go down 50 percent. The same thing could happen to the government. So at a larger scale, when we invest in the infrastructure, the data lakes, and the digital enabling environment for all those things, over time, this could be a risk that we could have.” (participant 3)

Employees as users of EG systems within government reportedly perceive risks to their positions on the introduction of new technologies.

“There might be a fear of losing jobs, a fear of that. It might impact our job, a fear that I will not be able to use these digital tools. ...because any change will have some elements of the organizational barriers that are related to the bureaucratic resistance when it comes to the digital transformation or sometimes the policy gaps that we are trying to overcome in certain areas and the insufficient sometimes training, because insufficient training could lead to insufficient level of services being provided.” (participant 3)

“You could have huge change management resistance to adopting, learning, and using these technologies. Thirdly, you may not build a digitally literate population because citizens may not be ready for it. Fourthly, costs, as I mentioned to you unless we raise external investments and we

get external support to sustain some of these forward-looking technologies.” (participant 4) One participant indicated a risk presented by literacy gaps.

“So, clearly, there is a digital gap, a digital literacy gap, which is a risk. There is a digital divide, which is a risk, because not everybody may have access to and understanding of technology as, you know, a technology-savvy person will.” (participant 4)

Despite the identified perceived risks of EG and the collection, dissemination and storage of data participants spoke of the necessity of the data and the opportunities presented for growth and development.

“The most important of these are security risks, which are responsible for protecting personal data. Additionally, data is considered a vital asset for protection against threats.” (participant 5)

“I always say, thanks god, that we have the challenge and the opportunity, and if there was no challenges, there wouldn't be opportunities to improve and develop.” (participant 1)

With people at the centre of all development, initiatives and systems the factors that influence them were explored as potential avenues to understand adoption rates.

5.6. EVIDENCE OF BEHAVIOURAL INTENTION

Behavioural intentions precede actions as discussed in Chapter 2. Equipped with information including system dynamics, initiatives and government objectives people perceive risks that inform decisions. These decisions can, however, also be influenced by cultural and social factors that can shape beliefs. Culture was discussed as a tool in influencing the adoption of technology and e-services. Communication was highlighted as a means through which to not only inform but also to address issues of trust and knowledge gaps per the following comments:

“I am saying that today, communication channels have opened the possibility for every individual to communicate. Whether to provide awareness, or to comment on posts, or he himself is capturing moments or videos and posting them. Platforms nowadays like WhatsApp and snapchat, all of it is interconnected.” (participant 1)

“Communication and culture are powerful tools for building trust with the general public. This process requires continuous collaboration between the implementing entity and the public to establish mutual trust. We mentioned that the communication and transparency from the institutions and the ministries who provide the services is very important for building trust I mentioned this briefly so this is the most important in building trust with the employees the external angle or the external factor that they need to focus on is transparency and communication about the benefits of availing the government services.” (participant 2)

“Because the media here is very influential in creating awareness, in transferring and [explaining] all the complexities.” (participant 4)

The increasing use of social media in the relaying of information has changed the landscape and reach of media outlets both formal and informal.

“So one of the roles of the media is to promote the digital, digital transformations. What are the services that were transformed, the transformation channels and also creating the digital literacy? What, how to use it? What are the channels? What are the procedures? ...In addition to that is showcasing the success stories, because now the digital and the media in terms of how they can show, how, what are the success factors and the story of the digital transformation.” (participant 3)

“For example, the TM platform in Abu Dhabi, a payment platform for government assets, has spread through social media. Today, social media is the driving force.” (participant 5)

The adoption of EG appears to have adapted culture within government organisations and society, creating openness and fostering trust. The media, as well as disseminating information, may act as a feedback service to government entities.

“I can tell you even from a healthcare perspective as you may know, with the advent of G42, M42, and the investment that the UAE government has been making, especially about blockchain technology, distributed ledger, and cryptocurrencies, the UAE government has facilitated not just investment in technology, but an openness in culture in adopting these technologies.

The media, we believe what the media says. That is the psychology of the human. So the more media communication happens, the better trust is built between the government and the public. Thirdly, media could also be a feedback channel to the government, to the public, to the government in terms of how successful the initiatives are, to the public as to how forward-looking the government is, what is working, and what is not working.” (participant 4)

The perceived risks, cultural and social factors explored intersect with behavioural intentions in the decision making processes that result in actions or inaction in respect of EG adoption.

“...guiding the customers, guiding the users establishing a profile the benefit of that we have your data we serve you better. For example, initiatives such initiatives will make them believe in the initiative, the government service or the digital service itself. Then the next step is about how do we deal with your data because that could be a concern for example but we UAE is in an advanced stage when it comes to when it comes to building trust with the general public on availing digital services.” (participant 2)

“...the employees are the arm that would enable the digital transformation. ...we can see the role that the employees play in the digital transformation, whether they act as the enabling employees for the digital transformation or the employees who will use the digital to serve a customer or as part of their operational processes.” (participant 3)

participant 3 succinctly expressed the importance of trust in the discussion of EG adoption which was also highlighted by all participants:

“If we have trust, everything will follow. And it is the highest of service continuation and service digital adoption.”

The discussion of perceived risks and behavioural intentions led to the exploration of mitigation as the means to understanding the current picture and factors to consider in planning initiatives to secure sustainable gains in EG adoption.

5.7. EVIDENCE OF MITIGATION STRAEGIES, POLICY AND INITIATIVES

The presence of risk is a given in the process of management which can serve as an opportunity to educate and improve people and systems for the attainment of goals (Schäffer and Storek,

2022). The interviews revealed steps currently being undertaken to mitigate perceived risk and build trust amongst users with strong leadership as key determinants in the achievement of transformation through the adoption of EG (Glyptis *et al.*, 2020; Samsor, 2021):

“..the country in general and Dubai in particular have a lot of interest in this matter, and we may be one of the first countries to focus on the cybersecurity topic in systems and procedures, as for procedures, systems, and user awareness. All users [employees] attend risk awareness sessions and how to act if something has happened, and also how to interact with the system and how to protect themselves from these risks.” (participant 1)

“We will say don't fear. We will enable you. We will train you. We'll provide all the digital and people who are not fit for that role. We can multi-skill them to fit another position. So they are happy and they are enabled to use it. We tackle each point according to the voice of employees and the fear and risk that is associated with that point.” (participant 3)

The development of products and services associated as tools digital transformation built to increase efficiency was revealed:

“Now we have “Mabrouk..Ma Yak” Initiative (Congratulations on what you have achieved), a set of services all in one service. And this is the government's approach: to have a set of services integrated into one service. Reducing all procedures and integrating services, diversifying communication and services channels. All these actions build trust with users.” (participant 1)

“Malathi is a great investment with G42 to create a blockchain-based distributed agent, which gives equitable access to patient information, whichever healthcare provider they go.” (participant 4)

“Innovation in our work is a priority, such as the X10 or 10X initiative launched by Sheikh Hamdan some time ago. This initiative has been implemented by all government institutions in Dubai to drive development and improvement.” (participant 5).

The effective resolution of data breaches was highlighted:

“Most government systems nowadays are linked to biometrics; the verification is very advanced and secure. And if anything happens, it is resolved immediately. And everything is with the verification, whether fingerprint, face recognition, or pin code. This is one of the thing that I always see as enhancing the topic of cybersecurity. I remember that from a while, some people tried to access and the issues that happened was resolved immediately. There was no delay in tracking the problem.” (participant 1)

The creation of partnerships and sharing of information through improved communications were identified as tools that lend towards the reduction of risks and challenges:

“What you have highlighted is very important because the collaboration, we see it in the government transformation. It happens in three areas between the government entities themselves, and the government, they share the resources and also between the government entities and the private sector and also between the government entities and the global organization. Of course, would bring many benefits in terms of these partnerships can bring benefits related to the resources sharing in terms of resources and information.” (participant 3)

“Being transparent in communication about the risks will allow the citizens to make their own informed decisions on which public, in which government initiatives they want to be part of. When I say government initiatives they want to be part of, it is not just as an end-user of the government initiative. For the UA government to continue to do this successfully, we need more and more public participation. ... So it is fostering a mutual trust, not just building a one-way trust but possibly.” (participant 4)

Recognition of and compliance with GDPR laws was equally highlighted:

“So to comply, we have taken the standards and developed a certain standard that we call UAE standards for digital enabling, where information that is not needed for the digital transformation, we don't put in our systems. We have encrypted some of the information to ensure we comply with the users, for example, from the European nations, that it complies with data protection. Also, we are reporting regularly of the data as per their standards about what we have. And this created some certain compliance and ease of use of the data. So we comply.” (participant 3)

The judicious setting of strategic objectives and performance indicators to illustrate progress was identified as a means to building trust:

“...what we aim in all that we are doing is to build trust between what we do with all our stakeholders, including the citizens, the investors, the public sector, and the business sector. So how do we build this trust? What we are aiming for in terms of the digital services and the government that we are doing, is that we measure the digital transformation through clear indicators or KPIs.

Enabling digital transformation is a strategic objective that we have set for all federal government entities.

Each government entity needs to understand what are the odds on and the risks of the association of the digital transformation that they can adopt within their strategic plan for each cluster of their government services, meaning that they can prepare as part of their strategic plan, clear initiatives and projects that would lead to the successful adoption for the services that are readily available to be digitally transformed.” (participant 3)

Some participants made recommendations to strengthen initiatives and advised caution in delivery:

“As a recommendation, it is basically to strengthen a completely anonymous and neutral public audit and feedback system for some of these services. So that the public can, without fear of repercussions, if they like something, they don't like something, they're able to convey or communicate.” (participant 4)

“No matter how many laws or regulations I create, a simple mistake could destroy everything I have built. Therefore, employee training and qualifications are very important for these matters and should be in place by default.” (participant 5)

While caution is advised the advancement of digital tools can have wide ranging impacts for government as articulated by participant 5:

“Even the issue of corruption is under control, as fairness is maintained among users. All of this builds trust, and secondly, you become the face of the institution's reputation, showing that its services are running smoothly and accurately.”

One participant provided a succinct summary the key components of an environment conducive to the adoption of EG:

“But some of the factors that may contribute to fostering such an environment of trust in the digital era include, like what you mentioned, security and privacy we said that we have a robust mechanism to safeguard your personal and sensitive information from unauthorized access and all those trusts that would provide to the citizens and the users, including encryption and privacy policies that we are using, it is already highlighted. I would say another point is the transparency in terms of the open information that we provide, clear information, and accessibility to the users that are being user publishable, not the private data. So it will provide the right environment for transparency, service tracking, and accountability mechanisms in this regard, including also another element is reliability and service quality.” (participant 3)

With the current state of initiatives illuminated during the interviews thoughts on the future were explored.

5.8. EVIDENCE OF FUTURE DEVELOPMENTS

Interviewees offered thoughts on the future direction of efforts to further encourage the adoption EG in Dubai in support of UAE 2031 including the integration of AI and technology driven partnerships:

“Currently, AI is the latest hot topic that everyone is discussing. In government or digital services, it has numerous benefits. It can simplify data collection, information gathering, data linkage, and analysis, and provide insights into how people access government services. This can be applied both internally and externally for users in the future.

Right now, you have the coders, Sheikh Ahmed, and Sheikh Hamdan, the Crown Prince of Dubai.

launched the Koders Initiative Arab Koders Initiative They're all sitting in UAE A lot of young Arab programmers and coders Sitting in UAE under the leadership of Sheikh Hamdan to innovate in the area of AI.

... AI especially is gonna be a game changer for government services Especially when it comes to data analytics Understanding consumer needs, customer needs” (participant 2)

“So what we see in the future is that the government will depend heavily in terms of digital enabling and it will create a greater collaboration across sectors. In the future, we will not focus on the sectors in terms of digital innovation enabling, but we will talk about cross and collaborative sectors in terms of digital enabling, including the technology-driven partnerships and also the focus on the sustainability and the long term of related to the other factor of the sustainable factors of the SDGs.” (participant 3)

The approach of exploring EG adoption, perceived risk and behavioural intention from a leadership perspective appears to have unearthed a deep understanding of the current landscape and opportunities for improvement. Building trust into models for the adoption of EG for the creation of a conducive transparent environment. The advancement in technology in line with current trends across the globe appears to include the incorporation of AI which may present both challenges and opportunities to development goals.

The literature reviewed and findings and data gathered resulted in the development of a conceptual framework for the adoption of EG in Dubai which is presented in the next chapter.

5.9. CRITICAL REFLEXIVITY

Systems of government vary across nations with culture both organisational and societal creating unique interactions and experiences affecting overall performance. Critical self-reflection was employed to ensure the researchers positionality did not impact the data collection process (Olmos-Vega et al., 2022; Yip, 2024; Walsh, 2003). The researcher, as a government leader, had an understanding of the mechanisms of government and EG within Dubai and access to other leaders as participants in the study. The positionality of the researcher added a degree of credibility to the study lessening resistance to participation. While this could introduce questions of bias, a deep insight, however, was not assumed and interviews were approached with openness to new ideas and information. This was further enhanced by the building of rapport necessary which drew out rich descriptions. participant engagement in the study illustrated an acceptance or willingness to

adapt for the betterment of government performance in the delivery of services. While the delivery of services can often attach to public users, who can be assumed to be the primary focus or user, through interviews it became apparent that EG while accepted and valued by leaders can present risks (perceived and actual) for employees. The researcher observed mixed feeling but commitment to action from participants when discussing the topic of perceived risk justifying originality and authenticity of research. It also highlighted the need to, through further research at a later time, gain insight from a wider range of employees to add to understanding of the dynamics at play in the conversation of the adoption of EG and its implications for the organisation of government and society.

An open-ended approach was adopted to limit directing comment with an awareness of the study questions at hand used to probe. The separation of the professional role and researcher role was crucial in this process as the goals of each can conflict. While the professional objectives may dictate the achievement of specific details, the researcher in this study sought to explore phenomena. Not a natural switch but with practice and continued daily analysis of the results proved attainable. The thematic analysis and use of NVivo as described in chapter 5 facilitated the capturing and reflection of participant insights over those of the researcher.

5.10. PROPOSED CONCEPTUAL FRAMEWORK FOR E-GOVERNMENT ADOPTION IN DUBAI

Data collection was guided by the framework presented in section 3.6, illustrating the factors that may influence the adoption of that EG. Previous studies have primarily focused on the factors that enhance adoption, such as attitude, participation efficacy, perceived behavioural control, perceived value, subjective norms, perceived usefulness, government capacity, performance expectancy, effort expectancy, social influence, and facilitating conditions. However, despite understanding these facilitators, perceived risk continues to influence and, in some instances, hinder the adoption of EG. It is acknowledged that the factors that enhance adoption are wide ranging and will vary in different spaces. By unpacking the factors influencing relationships that exist between stakeholders and in specific environments, patterns of behaviour may be unveiled to not only influence adoption but also contribute to knowledge and best practice. The adoption of EG services

in Dubai, as revealed by this research may be dependent on a complex network of relationships between technological, cultural and social, and economic factors that impact perceptions of risk and behavioural intentions. This is reflected in the conceptual framework proposed in figure 5.2. Dubai's EG adoption. It is envisioned this will contribute to the desired transformative change in governance, with several socio-economic influences and implications which planners ought to identify and mitigate as appropriate.

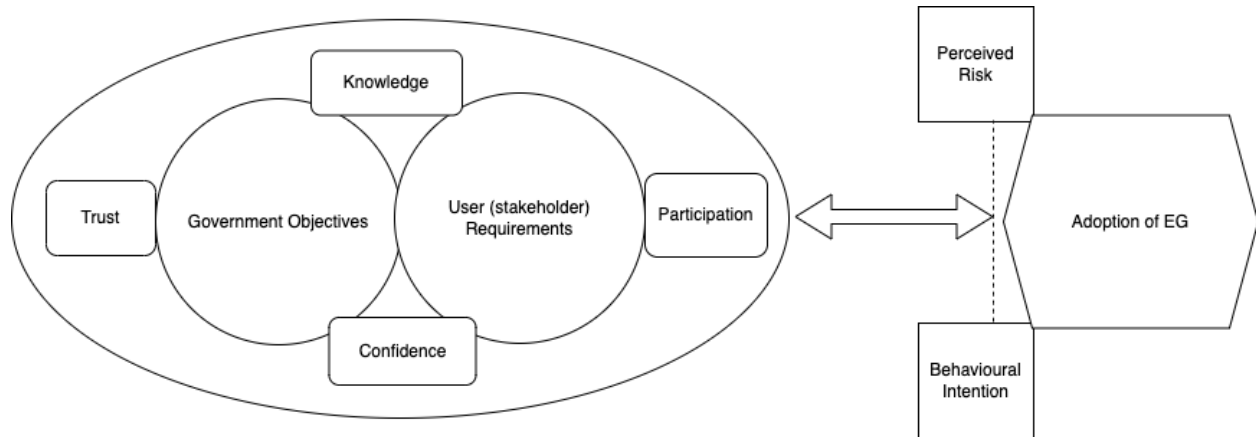


Figure 5-2: Proposed Conceptual Framework for the Adoption of EG in Dubai

Source: Researcher's Design (2024).

Interviews with senior officials revealed that relationship building with a focus on encouraging user participation, through the provision of knowledge or information can foster trust and confidence that creates an enabling environment for the adoption of EG. This enabling environment should address the perceived risks that may impact behavioural intentions of use. As proposed in this framework links between phenomena work both ways. Perceived risk and behavioural intentions that result in both positive and negative experiences impact the enabling environment - encouraging or discouraging participation, increasing or decreasing trust and confidence and providing knowledge (information). The capturing of the information from experiences can be used by the government to reconsider objectives and plan further programmes or initiatives. Building mutually beneficial relationships can enable both the government and users to improve, with opportunities for the acquisition of new skills, networks and innovation, optimal conditions for economic growth (see section 1.2.1). One of the most salient themes emerging from the exploration of EG adoption was the role of EG initiatives for promoting expansion and

diversification of products, services and user base. This can facilitate economic diversification and sustainable growth in a number of ways. Furthermore, the automation of public services allows the workforce to focus on higher-value tasks. This contributes to a more knowledge-intensive economic structure. This perspective is relevant with the policy frameworks that view EG not only as an administrative function but as a tool for promoting a knowledge-based economy (see section 2.2.1). To put this into context economic diversification is a main strategic goal for Dubai to reduce dependency on oil revenues and promote other growth in sectors such as finance and tourism, research and development. The research reinforces the notion that EG adoption is not merely a governance tool but a catalyst for structural transformation in the economy. Efforts to improve the adoption of EG would contribute to the attainment of national goals illustrating the significance of this research. In this connected reciprocal environment when system or user needs change, governments will be more responsive and efficient as they will be more readily equipped to align policy and priorities to enable the most appropriate adaptations. Beyond administrative convenience, EG systems enable governments to respond proactively to emergent challenges, such as economic shocks or public health crises, for example. The COVID-19 pandemic provided a global case study in how digital government services can sustain operations when physical interactions are restricted. Gains in the public sector could compel and inspire private sector actors to follow suit fostering innovation and the formation of collaborative partnerships. While the inspiration of the private sector via government digitalization is an important phenomenon, the ability of private firms to replicate government-led innovations depends on factors such as capital availability, regulatory support, and workforce capabilities. The UAE Centennial 2071 initiative aims to position the country as a global leader in innovation, sustainability, and economic competitiveness. With clear strategic vision driving government objectives and resultant initiatives Dubai could adopt the conceptual framework to ensure progress towards the attainment of goals.

5.11. SUMMARY

The Semi-structured interviews revealed perceived risks existing in the adoption of EG from the viewpoint of senior leaders within Dubai government departments and a close collaborator from the private sector. The main perceived risks identified were related to privacy and security

concerns. Knowledge gaps were identified as a perceived risk by employees as users of EG in the delivery of EG services and processing of data. Employees may equally perceive a threat to their employment by the introduction of digital tools. Behavioural intention as the precedent to actions were identified and linked to social and cultural factors as both influencers and potential agents of change. The research revealed the efforts Dubai government entities are employing to mitigate the impact of perceived risks and enhance trust in relationships surrounding the adoption of EG. The next chapter present a robust information on the analysis and discussion, to triangulate data gathered from findings with literature review.

Chapter 6 ANALYSIS AND DISCUSSION

6.1. INTRODUCTION

In this chapter the analysis and discussion of findings from the interviews are captured. Thematic analysis was utilized during the process of interviewing for familiarization with data and coding which enabled the early identification of themes and guiding of subsequent questioning. Perceived risks and behavioural intentions as identified by participants are explored in this chapter to begin to understand the challenge they present to the adoption of EG. To garner meaning from the data collected in the interviews NVivo, a qualitative analysis programme, was utilized to generate a codebook to identify codes and relationships between themes.

6.2. GENERATION OF RESEARCH THEMES

The key questions under investigation in this study are discussed in this section to illuminate findings from information provided by participants. NVivo was used to conduct data analysis after data was transcribed and cleansed. Word frequencies were utilised within NVivo to visualise the data which revealed main themes in the discussion of perceived risks of adoption of EG in Dubai as security concerns, privacy risks involved in accessing and sharing personal information, and technical risks, such as system reliability and service availability. The sections below discuss the revealed risks in detail.

6.3. PERCEIVED RISKS INFLUENCING ADOPTION OF EG

The adoption of EG in the UAE, in general, and in Dubai, in particular, is not only a technological shift but can also be referred to as a socio-political transformation that overlaps with cultural, organizational, and ethical challenges. These challenges are not isolated but are interwoven into a fabric of systemic challenges which require refined tailored solutions. The level of risk posed by challenges appears to be directed by a person's perception of the complex interplay of several factors. With an enabling environment, this can translate as opportunities for innovation and growth to contribute to the maintenance of the UAE's positioning as a forerunner in EG (Ryu,

2018; Vieira et al., 2024). Based on interviews with main stakeholders, this analysis critically discusses the perceived risks which influence EG adoption as reported by participants.

6.3.1. Primary Security Concerns

The interviews unanimously identified cybersecurity breaches and data privacy violations as existential threats to the adoption of EG. With data being at the centre of all EG functions in respect of its collection, sharing and storage of data understanding and mitigating risks associated with its handling were a key feature of discussion (see section 2.3.2.4). Highlighting its overall importance in navigating the topic of EG adoption and pointing towards a paradox: while EG systems of Dubai develop on data collection (e.g., biometrics, financial records, health data), this dependency could be the cause of risks of misuse.

Cyber threats such as denial of service attacks, phishing, spamming, and identity misrepresentation create vulnerabilities which can compromise government systems. This fear is not hypothetical and can be illustrated by scenarios such as Dubai's reliance on biometric authentication (e.g., fingerprints, facial recognition) as a safeguard. These advanced systems may reduce bureaucracy, improve convenience, efficiency and accessibility (Mensah, 2019 and Goloschchapova et al., 2023), however, they remain vulnerable to sophisticated attacks, as acknowledged by participants. Being mindful of this can create opportunities for system enhancements through sharing and learning for continuous improvements.

Network infrastructure and system accessibility were also found to be a concern. Although this is more of an infrastructural challenge rather than a direct security risk, unreliable networks can exacerbate security vulnerabilities as these expose weaknesses in system continuity and availability (see sections 2.3.2.1 and 2.3.3.8). This potentially increases susceptibility to cyber-attacks.

Another significant challenge is the linkage of EG platforms with financial systems. While Dubai has advanced financial security measures, there is dependency of government systems on external financial institutions. This could become a single point of failure or targets for cyber threats. It also illustrates the cross-sectionality of risk, perhaps indicating the importance of collaborative working and sharing of experience and best practice.

6.3.2. Privacy Risks in Accessing and Sharing Personal Data Influencing Adoption

As stated, data is the foundational element of EG. It was likened to petroleum or uranium by interviewees for its immense value in the domain of analytics and decision-making. Governments increasingly rely on vast amounts of data for enhancing service delivery and policymaking (Saleh and Alysen, 2022). However, this reliance is usually the cause of multiple risks. As a player on the global stage with not only a multi-cultural population but also dealings both public and private with international entities it is essential that in planning EG expansion consideration is given to the implications it carries. For example, compliance with General Data Protection Regulation (GDPR) and other international data protection frameworks provides a layer of complexity. European expatriates may demand GDPR-level protection, whilst other people would prioritize convenience over privacy. This tension risks fragmenting trust in EG systems, as one-size-fits-all solutions do not adequately deal with heterogeneity of geographies and culture.

In addition to some of the complexities presented by the dynamic demography of Dubai, unauthorized access to data create could several challenges for EG initiatives. As there are large-scale investments in technology, any data breach can have serious consequences. This can not only cause public distrust and damage to reputation but also prove costly in associated litigation for example. Compliance with international data protection laws, such as the GDPR, is a major constraint when processing the data of European citizens. Even the mere perception of a data breach can cause a loss of trust among residents. If sensitive information such as health records were to be leaked, the impact on public confidence in government systems would be much more. Thus, while data is an important asset for e-governance, it is simultaneously a significant risk factor (Carter and McBride, 2010 and Malik *et al.*, 2013). Thus, privacy concerns in Dubai's EG adoption are a fundamental issue. This is particular in relation to personal data access and sharing. With the increasing digitization of government services, biometric and financial data of citizens are being stored and utilized in interconnected digital platforms. One of the primary risks in personal data privacy is the potential for unauthorized access via systemic failures. Interview data indicated that there is a strong regulatory framework existing in Dubai, it also suggests that there is also a high degree of government oversight and control over personal financial data. Although automation increases convenience, it also raises questions about the extent to which personal data is shared and processed without explicit user consent. This could raise concerns regarding data

sovereignty and individual privacy. Another privacy-related concern was found to be related to data sharing between different government entities and private sector organizations. Alongside the increase in automated processes in EG in Dubai, a Cybersecurity centre, laws and procedures have been introduced to protect against attacks.

6.3.4. Technical Risks of E-Government Adoption

The adoption of EG in Dubai presents many technical risks that could affect system security, reliability, and accessibility (see section 2.2.3.2). Despite the advanced digital infrastructure of the city, vulnerabilities are present in areas such as network stability particularly in less connected areas, system failures, and data integration challenges.

While external hacking is a major concern, security breaches can also occur owing to negligence of employees or deliberate misuse. The research indicated that security awareness programs mainly focus on government employees rather than the public. This, it was suggested by participants, can not only improve competency but also trust and can enable the transfer of skills to public users. However, selective training leaves open the possibility that external users, who also interact with digital government platforms, may inadvertently expose systems to risks through weak passwords, phishing attacks, or misuse of personal devices when accessing government portals. Another significant technical risk in EG adoption is the potential for system failures and network overloads, which can cause service disruptions. Furthermore, EG involves the integration of multiple databases and digital services in various government departments and external entities. This makes interoperability a potential risk factor. Mismatches between systems, outdated data structures, and inconsistencies in data formats can lead to errors, delays, or loss of information. The increased dependence on digital platforms means that any failure - whether due to a cyberattack, a software bug, or infrastructure limitations - can severely impact government operations and public services.

The reliance on centralized databases and external servers, particularly in the financial sector was identified as a potential cause for concern. This reliance increases exposure to risks such as data corruption, delayed transactions, and system failures owing to errors occurring in one entity which affect multiple interconnected platforms. Furthermore, as Dubai continues to implement artificial intelligence (AI) and automation into its EG platforms, there is an added risk of algorithmic bias,

data misinterpretation, and system malfunctions. This could compromise decision-making processes. These risks must be considered as government functions become more reliant on machine-driven processes. The integration challenges in adoption of EG in the UAE, as discussed in the quote, come from the reliance on imported technology, which is a common issue in developing nations. The rapid digital transformation of the UAE, particularly in cities like Dubai, means integration of many diverse technological systems, often sourced from different international providers. This creates complexities in ensuring seamless data flow, interoperability, and consistent maintenance. While the UAE has made significant achievements in EG, challenges remain in harmonization of these disparate systems for providing uninterrupted citizen services. Moreover, reliance on foreign technology can lead to long-term dependency. This raises concerns about data sovereignty and cybersecurity as identified by the research (see comments 4.4). While imported technologies and systems can be a source of risk, so too can the cultural and social structures and factors influencing those using them in different contexts. The next section will explore the cultural and social factors revealed as having an influence on perceived risk, and strategies to mitigate the impact of these perceived risks.

6.4. CULTURAL AND SOCIAL FACTORS INFLUENCING PERCEIVED RISKS OF E-GOVERNMENT ADOPTION

While technical risks are important in shaping adoption of EG, cultural and social perceptions also impact views of individuals about the risks associated with digital government services. Factors such as trust in government, digital literacy, societal norms, and media influence significantly affect public attitudes regarding EG (see section 4.5).

Public trust in digital government is an important determinant of adoption (Al Sayegh *et al.*, 2023). Any perceived risks with respect to misuse of data, surveillance, or system reliability can impact widespread acceptance and trust (Venkatesh *et al.*, 2003). While Dubai has expended significant efforts to build a seamless digital government, there is a need for management to safeguard personal data and relieve potential concerns on accessibility. One of the main issues in trust-building is the fear of constant monitoring and government surveillance. The integration of biometric data and centralized identification systems has produced many concerns about the potential for excessive tracking of individuals. Another cultural and social risk factor is the

different levels of digital literacy of different segments of the population. While younger generations and tech-savvy professionals may embrace and adapt to new systems of EG, older individuals, lower-income groups, and non-native speakers may struggle to adapt. A main challenge for the implementation of EG initiatives is the different level of digital literacy of government employees and citizens (Rogers, 1995 and Kwangsawad and Jattamart 2022). The UAE government has issued tenders to educate its employees on artificial intelligence (AI) and machine learning (ML) (see section 4.7). The need for such initiatives shows that there is an existing digital literacy gap. Not all citizens and government employees have the same level of access to or understanding of digital technologies. The benefits of education about technology can also serve to allay concerns about technology such as those raised about redundancies or loss of employment due to the introduction of AI and automation. Initiatives seeking to reduce knowledge gaps and address attitudes to technologies appear to be crucial to the effective adoption of EG services. While the diverse demography of Dubai creates an innovative environment in which many can thrive, the diversity of accompanying languages can present a further barrier to adoption, as revealed by the research. Digital government services are mainly available in Arabic and English which may exclude those who are not fluent in either of these languages (see section 4.3).

In societies where rumours and anecdotal evidence impact the opinion of the public, concerns about e-governance risks can escalate, and this discourages engagement with government platforms. The role of media, particularly the increasing influence of social media in shaping culture through the dissemination of information, was identified by the interviewees as a risk that is less discussed. Media coverage and public communication influence how EG risks are perceived, media portrayals of cybersecurity breaches, identity theft, or service failures can enhance fears of the public. Misinformation and scepticism about digital systems can also spread rapidly and makes individuals hesitant to engage with digital government services. This can lead to exaggerated fears with respect to data privacy and security.

A recurring theme in the discussion of the perceived risks associated with the adoption of EG can be said to revolve around trust and confidence. Building trust and confidence between and of the actors involved in the implementation and use of EG systems may prove effective in mitigating risks and addressing fears to contribute to the effective uptake of EG services. To build such trust and confidence an understanding of behavioural intentions is crucial (see section 2.4.1).

6.5. BEHAVIOURAL INTENTION AFFECTING ADOPTION OF E-GOVERNANCE

The behavioural intention to adopt EG services is formed by the complex relationships between perceived risk, trust, awareness, perception of usefulness and other factors as presented in Chapter 2. While Dubai has made remarkable progress in the digitization of government services, to ensure continued effectiveness of initiatives in relation to service delivery, cost and developmental goals it is essential to explore behavioural intentions that may spur the adoption of EG. As behavioural intention is closely linked to user trust and confidence, understanding the psychological and social factors that influence engagement with e-governance is important. NVivo was utilised to analyse the interviews and contributed insights related to specific themes or challenges to derive meaning from the research. That is to explore further how the perceived risks may impact behavioural intentions in the adoption of EG as illustrated in figure 6-1 The central themes, represented by circular nodes, highlight key issues: resistance to change, surveillance issues, system reliability and continuity, data handling challenges related to perceived risks impacting behavioural intentions as extracted from the interviews. Other recurring challenges include network limitations, media and public communication, job displacement, future technological uncertainty, and distrust of government services.

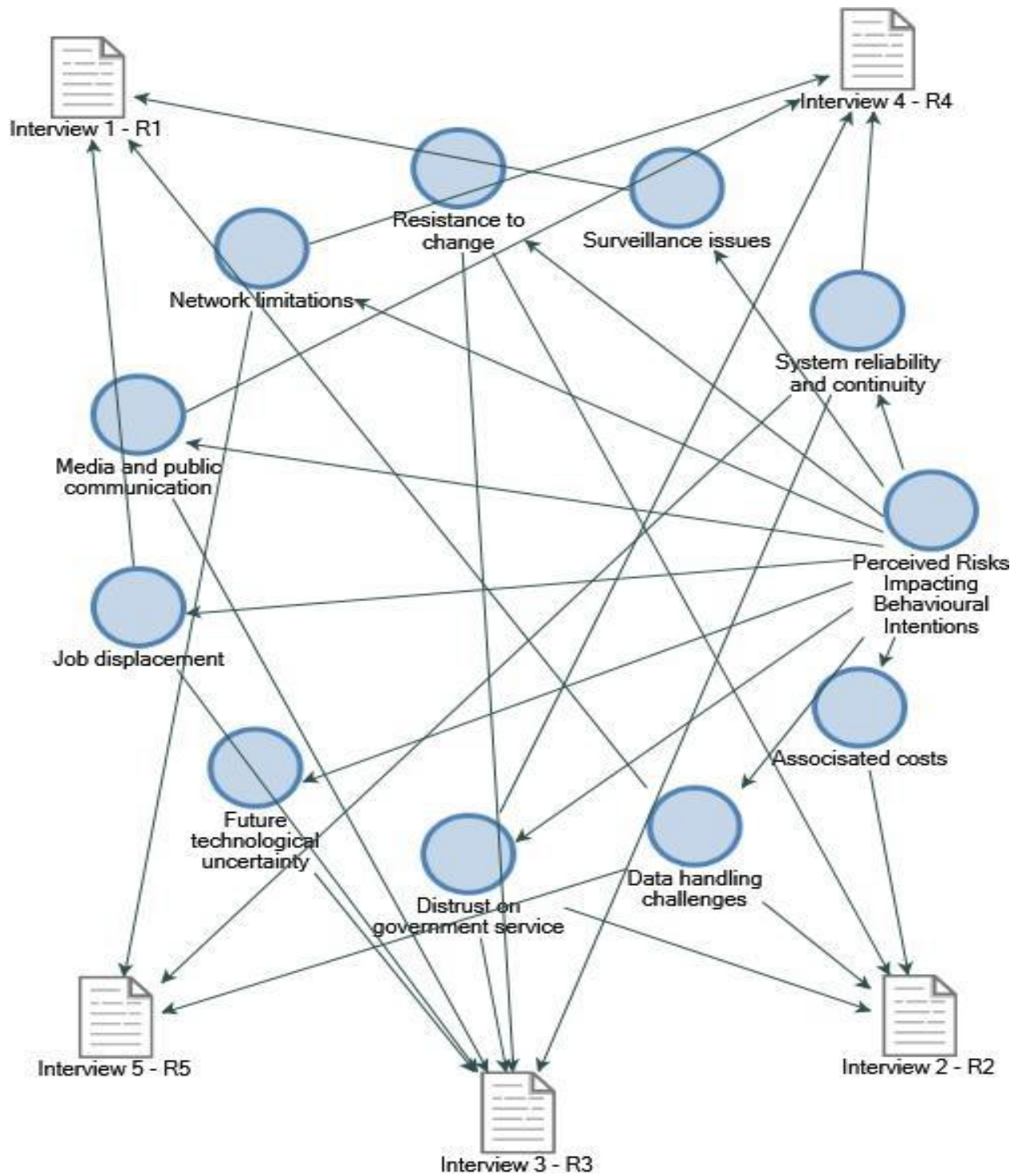


Figure 6-1: NVivo Project map highlighting the main challenges and interrelationships of perceived risks affecting behavioural intention in adopting e-governance extracted from various interview data.

The following sections discuss how the identified risks may influence behavioural intentions.

6.5.1. Perceived Risk of Data Security Influencing Behavioural Intention

One of the most relevant risks which form the basis of behavioural intention in EG adoption was found to be the perceived threat of system reliability and continuity (cybersecurity issues). The potential for cyberattacks including unauthorized access affect the behaviours of many individuals from the complete adoption of digital government platforms. The struggle between security measures and cyber threats is the main cause of uncertainty (Alzaharani, Al-Karaghoulis and Weerakkody, 2017). This directly affects behavioural intention. If individuals feel that government systems are not completely secure from breaches, they may not be able to convince themselves or others to use digital platforms (see section 2.3.3.1). This is particularly relevant for sensitive interactions such as financial transactions and personal data. Interviewees claimed that individuals are more likely to engage with EG if they believe that the government has the capability of immediately detecting and neutralizing threats. Although Dubai has implemented advanced authentication mechanisms, the public may feel that should hacking attempts occur their concerns about data security remain valid. Therefore, the presence of biometric verification may not eliminate the perceived risk due to the scepticism around the security systems and the threat it presents to them.

The opinions gathered in this research belong to those of government leaders who through working with and understanding their workforce. Analysis of responses indicates institutional safeguards alone may not be sufficient for ensuring adoption, thus perceived risk may operate independently from actual security measures. The perception that government employees responsible for data handling face challenges due to knowledge gaps that may impact security also directly affects confidence of the public in e-government initiatives. Users may still be reluctant to use digital services if they believe that security threats exist. This is regardless of how efficiently those threats are managed by the government as acknowledged by participant 3. This may reveal a gap in risk perception management, as public users who lack cybersecurity and process knowledge may assume that threats are more severe than they are. This could lead to reduced behavioural intention to adopt e-government. There may be the need to further understand behavioural intentions across user groups. When the public perceives that even those at the helm of data management struggle

with its implementation, trust and confidence is likely to decline. This may indicate a barrier to adoption. However, as posited by interviewees, challenges can be viewed as opportunities. In this case an opportunity to upskill and build confidence amongst employees which could filter through to foster trust in public users (see section 5.6).

6.5.2. Perceived Risk of Privacy Invasion and Behavioural Intention

The interviews revealed that privacy invasion is an important perceived risk which impacts the behavioural intention of adopting EG services. The presence of biometric authentication can mean that there is a potential loss of personal control with respect to sensitive information. Unlike traditional passwords or PIN codes, biometric data - once compromised - cannot be changed. This can impact trust, in that any breach, actual or potential, will affect the perceptions and behavioural intentions of users. Interviewees revealed that this creates apprehension which in turn affects behavioural intentions (see section 2.4.1). It is particularly so for users who are wary of government overreach or the potential for their biometric data to be used for something other than its intended purpose. Although Dubai appears to have strong data governance policies (see section 1.2.1 and 5.5), behavioural intention appears to be influenced by perception rather than actual enforcement of policies. For example, if users believe that their biometric data could be accessed for unintended purposes, they may hesitate to engage with e-governance platforms despite the security assurances provided. This indicates that transparency in data handling is crucial in securing user confidence as discussed by participants (see sections 5.5 and 5.6) - if individuals do not completely understand how and why their data is stored, shared, or protected, they may think the worst-case scenario. While there was the view that in general the public was aligned with the government's EG vision and initiatives this assumption does not account for individuals who may feel uninformed or sceptical about data privacy policies.

Trust is a critical factor in overcoming the barrier presented by perceived risk which can differ amongst and across different groups and individuals in line with cultural and social attitudes and experiences (Venkatesh et al., 2003). Citizens who have lived in Dubai for a long period may trust the handling of personal data by the government, newer expatriates may initially display low level of trust. If they have experienced misuse of data previously or government overreach in any other locality, they may be more hesitant to adopting e-governance services, perceiving that there might

be similar risks. Consideration for the establishment and maintenance of relationships with trust placed at the centre may support sustained gains in the adoption of EG service in Dubai.

6.5.3. Perceived Risk of Technical Failures and Behavioural Intention

The perceived risk of technical failures, such as system outages, errors, and network disruptions, has implications for the behavioural intentions of citizens, businesses, and government employees (see section 2.3.3.8). While Dubai has advanced infrastructure, there remain areas in which digital services are not as readily available due to network limitations. This is a cause of concern in relation to equal access to EG, if users in certain locations experience frequent disruptions, they may develop a negative perception of reliability. This can discourage engagement with digital services with preference for the use of physical service centres in these areas. While the same services are accessible in these centres there may be time violations involved in travelling and waiting and staff costs, for example, which detract from government efficiency objectives. Apart from geographic limitations, technical failures at critical junctures further contribute to a lack of confidence in digital platforms (Ebrahim and Irani, 2005). If users think that the system frequently crashes or slows down under pressure, they may hesitate to rely on it for time-sensitive processes. The behavioural outcome of this risk perception could be a preference for manual workarounds or hybrid adoption. In this way users may engage with EG services for less important tasks but resort to traditional methods for important transactions.

The reliance on third-party technology and systems was identified as a risk factor that is beyond direct control of the government (see participant comments), and users are aware of this vulnerability. If the ability of a user to conduct EG transactions is based on external networks, they may view the entire system as unreliable and fragmented. This leads to reduced trust and changes in behavioural intention for adoption of EG services. Moreover, such dependencies are a cause of concern about accountability in case of failures. If a financial transaction, such as a government fee payment, property registration, or business licensing process, is disrupted due to a banking system failure, users may find themselves caught between multiple institutions with no clear resolution path. Dependency on external systems, particularly in financial transactions, is the cause of concern about inefficiencies and delays. If users experience repeated service failures, they may revert to traditional methods of interacting with government agencies. There may be a need to

consider the development of technologies and improving links locally in the future to lead to sustainable gains in EG innovation and adoption. Participants claimed that technical failures related to data processing errors can cause long-term distrust in digital governance. If users face discrepancies in recorded data - such as incorrect financial transactions, missing identity records, or unprocessed applications – because of system bugs, they may think that the entire system is not trustworthy. This perception can impact behavioural intention and cause individuals to double-check information manually or avoid automated processing when possible. Thus, disengaging from digital governance. Technical malfunctions can also present security risks, if a system misidentifies an individual, fails to recognize a valid biometric credential, or temporarily malfunctions, users may find themselves locked out of essential services. This can be especially concerning in situations where urgent access to healthcare, legal, or financial services is required. The fear that one's identity verification might fail at a very critical moment could be the cause of an aversion for EG platforms. As users tend to evaluate system reliability based on past experiences if previous encounters resulted in delay, financial loss, or missed deadlines, they are likely to retain a negative bias towards the system, even if improvements have since been made. This cognitive bias, known as "negative anchoring," makes it difficult for governments to rebuild trust after significant failures. In such situations, users could prefer human mediated authentication, incorporating alternatives into systems of EG may contribute to an enabling environment for continued development and transformation.

6.6. USER TRUST AND PERCEIVED USEFULNESS IMPACTING ADOPTION OF E-GOVERNMENT

A striking contradiction in the findings is the coexistence of advanced technological infrastructure and a trust deficit. In light of the analysis in the preceding sections, the role of trust in the adoption of EG in Dubai should not be understated. The interviews show that EG services of Dubai employ cutting-edge technologies, such as AI, blockchain, and biometric authentication. However, despite these advancements, concerns regarding data security, privacy breaches, and government surveillance is still prominent. This paradox is consistent with existing research suggesting that technological sophistication does not automatically translate into trust (Carter and Bélanger, 2005; Alawadhi and Morris, 2009). Instead, trust in EG is shaped by transparency, regulatory assurance, and past experiences with digital governance.

Without trust in the system from within the government itself, it is challenging to build trust among the public. The benefits of EG should not be assumed as known, training and awareness programs particularly for the government employees could be a critical bridging factor in the management and security of EG systems. For the awareness of the benefits to translate to adoption consideration should be given to perceived usefulness (see section 2.3.3.2). A key focus for Dubai as stated in the interviews (see section 5.5) is the building of trust which cannot be done in isolation from the appreciation of the role of ICT. While issues, such as a data breach, can impact trust in EG services, ICT can assist Dubai in building trust through tools to enhance transparency, contribute to effective communication, and strengthen measures of data security. However, the interviews suggest that some users in Dubai do not find e-government services sufficiently useful or user-friendly. Reportedly some groups in Dubai, who may have lower digital literacy or minimal trust in it for example, may not perceive EG services as useful or accessible and may prefer to use customer centres (see section 5.4). Indicating EG services must be designed with the end-user in mind, considering their specific needs and preferences which may contribute to increased perceived usefulness. This user-centric approach is not easy to navigate with complex needs and requirements across users. Artificial Intelligence (AI) and block chain technology have the potential to enhance the perceived usefulness of EG services through lending to innovation and providing accurate and timely user insight as discussed by participant 3. It was acknowledged that the current adoption of AI in EG services is still in its early stages, and many users do not yet see its full potential. While the vision is promising, participant 4 suggested that current AI implementations, such as chatbots and automated services, are not always user-friendly or effective, particularly for non- technical users hinting at an element of uncertainty with ICT and EG implementation. There is an element of risk as with all systems and processes, assessing for this and exploring mitigation may reduce vulnerabilities and limit the consequences and exposure to perceived risk.

6.7. MITIGATION OF PERCEIVED RISKS TO ENHANCE BEHAVIOURAL INTENTION

The successful adoption of EG systems is related to how effectively perceived risks - whether these are related to data security, privacy invasion, technical failures, or system reliability - are eliminated or reduced. It follows that efforts to mitigate the potential impact of perceived risks on behaviour intentions and decisions ought to be focused on allaying hesitance. NVivo software

confirmed this view in producing the following illustration of strategies identified from the interviews.

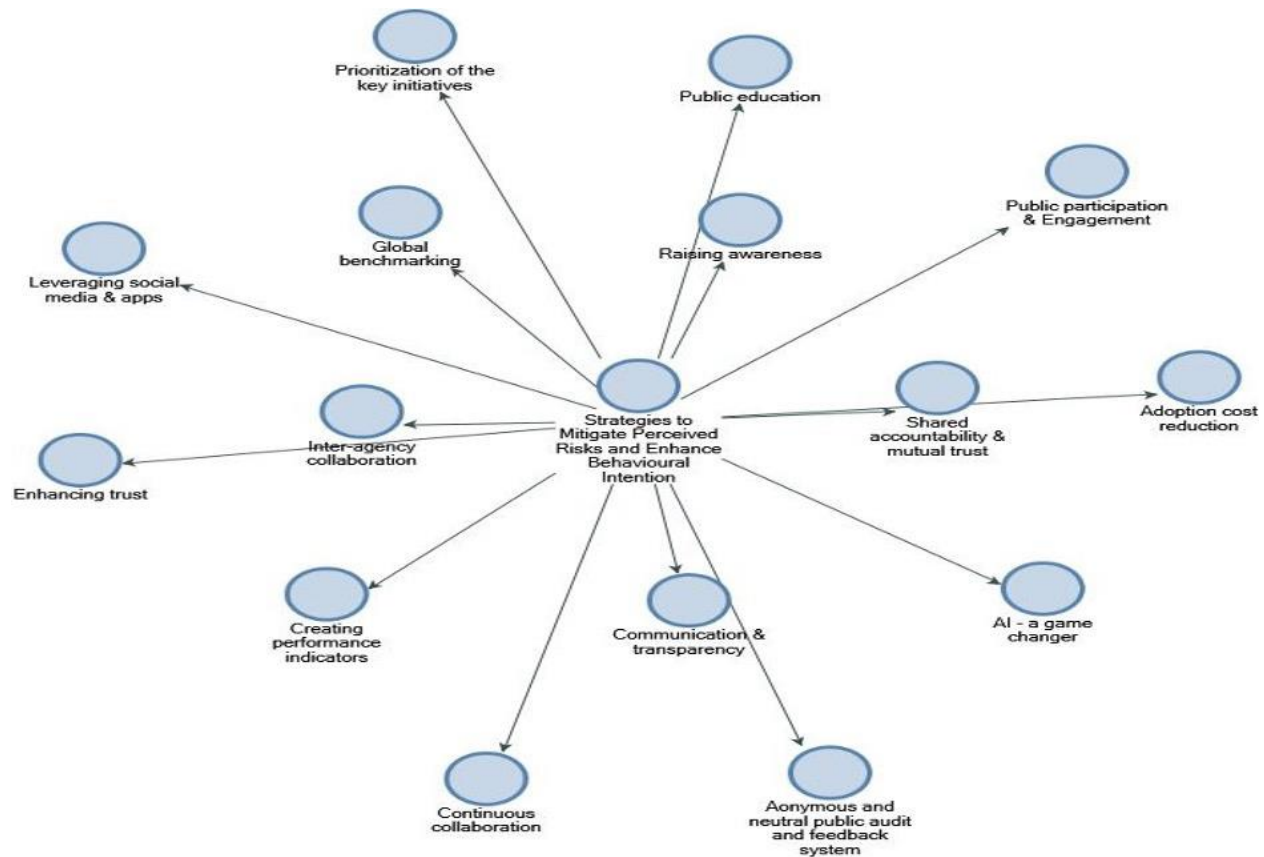


Figure 6-2: Codes extracted from the theme related to strategies to mitigate perceived risks and enhance behavioural intention.

As revealed through the interviews, the concerns surrounding the security of personal and financial data are paramount in EG adoption. Users fear unauthorized access, identity theft, and data breaches could deter them from adopting digital services. To address these concerns, the UAE government is adopting security measures such as end-to-end encryption, multi-layered authentication, and strict access control protocols. UAE’s government continues to adopt and adapt policy initiatives to ensure its EG programmes are on par with developed countries. In Dubai, policymakers are introducing several measures actively for facilitating digital transformation. They are ensuring that security as well as accessibility are prioritized. A main component of this effort is the structured approach to cybersecurity and data integrity. Government resilience planning is evident in its approach to disaster management and service continuity (see section 5.6). Advanced verification methods, including biometric authentication and AI-based identity

verification, may be instrumental in reassuring users that their data is protected. However, while biometric verification can increase security, it could also be the cause of potential misuse and ethical implications. Because of this, it is very important for the government to implement policies which are very clear on how such data is collected and stored and used.

The perception of system failures is not only related to technological robustness but also how effectively governments communicate details such as system specifications, issues, updates, and schedules of maintenance. Participants stressed the need for clear communication strategies that inform users about such variables, acknowledging that these are currently less than optimal. The provision of information could empower users to make informed choices, and shape initiatives in a collaborative space which can spur innovation, creativity and sustainability of programmes of development (see section 5.7). The necessity of transparency informing citizens should be all encompassing including comprehensive knowledge of risks and benefits. This not only facilitates cognitive compliance but also promotes active participation blending in aspects of culture and social structures, for adoption gains (Samsor, 2021). This can create a two-way accountability structure between the government and citizens (see section 5.6). The incorporation of a neutral and anonymous feedback mechanism could allow citizens to express concerns or make suggestions. Transparency must therefore be there to ensure a reciprocal trust mechanism, this two-way engagement process ensures that services evolve according to citizen needs potentially increasing adoption rates and satisfaction levels. Moreover, it builds trust by demonstrating that public input is valued and acted upon. This approach is also based on the best global practices, where nations with strong EG systems show clear and open communication frameworks (see section 1.1). Public education for the promotion of EG literacy and adoption can be delivered through media platforms, both traditional (e.g. newspapers, bulletins) and contemporary (e.g. social media), to optimize visibility, participation and engagement (Mensah, 2019).

Figure 6.3. shows the word cloud of theme on policy initiatives and government incentives which impact adoption of EG from all the qualitative data. The terms such as innovation, AI, blockchain, adoption, launching, transformation, shows the forward-looking strategies of government initiatives for enhancing the adoption of EG in UAE, in general, and in Dubai, in particular.

stability ought to be a core focus of government policies to ensure reliability and promote user trust. The outlook is promising as a defining characteristic of the UAE's digital transformation has been its commitment to technological advancement and investment in ICT infrastructure. Long-term investment has enabled Dubai to remain ahead in the regional digital landscape (see participant comments). An important mitigation strategy extracted from the interviews was the importance of global benchmarking. Benchmarking refers to the determination of main performance indicators at Dubai's government level and comparing them with successful models worldwide for the identification of gaps and areas for improvement. By analyzing and implementing best practice from leading digital governance nations, Dubai can enhance its own initiatives.

The integration of services in government departments was highlighted as an important factor for efficiency and effectiveness. Collaboration not only allows departments to share best practice but may also contribute to cost-reduction. This could not only contribute to government objectives of improving efficiency and effectiveness from an organisation perspective but also in indirectly reducing the burden of cost to the public user. With a knock on effect on inclusivity, the rapid development of ICT and AI can be employed to capitalise on this potential. Due to the novelty of this technology caution must be employed in such initiatives as discussed in the previous section.

This proactive approach to digitalization, reflected in strategic planning and initiatives, has set Dubai apart from its regional peers. participant 1 offered a comparison with other Gulf countries based on their experience of working in some. They and other participants noted that UAE as a pioneer in the adoption of technology stands apart, this was attributed to the clear vision of leadership. This view is supported by the literature (see section 2.2.3.1) which showed the behaviour of leaders, support and attitude of leaders is a crucial contributor to the performance of ICT projects. Unlike nations where digital adoption is impacted by bureaucratic inertia, Dubai's leadership has ensured that policy frameworks change dynamically with respect to emerging technologies. The integration of blockchain and cryptocurrency technologies shows this adaptability. One of the fundamental drivers of digital adoption in Dubai is its emphasis on user experience and citizen-centricity (see section 5.4). This ensures that technological advancements are tailored to the needs of the population which lends to continued improvements and the attainment of harmony in government and citizen relationships.

An exemplary case of citizen-centric innovation is the Dubai Now platform, a smart initiative which enables users to access an array of government services. Recognizing the transformative potential of AI and software development, the Dubai government has launched initiatives to promote local talent. AI adoption, in addition to technological advancement can also ensure cultural relevance. This drive for innovation is further reinforced through initiatives such as the 10X program which delivers research and development within each government entity (see section 5.6).

Figure 6.4 below shows a word cloud providing a visual representation of main terms and concepts obtained from the qualitative study on the theme related to strategies to mitigate perceived risks and enhance behavioural intention. The most prominent terms, such as "government", "public", "trust", "communication", and "awareness", reflect the central themes and repeat ideas which were identified in the research. Words like "initiatives," "services," "citizens," "transparency," "social media," and "accountability" suggest a focus on actionable measures, public engagement, and building trust to address perceived risks effectively. The relative size of each word indicates its frequency or significance within the study. It highlights that promoting trust and communication between governments and citizens is a base for mitigating risks. Additionally, terms such as "technology," "collaboration," "transparency," and "implementation" show the importance of using innovation and cooperative strategies for enhancing public behavioural intentions.

collection and use expose stakeholders to a number of risks perceived and actual. Perceived risks do not occur in isolation, they can occur alongside other risks and be intensified or reduced by other factors such as the socio-cultural landscape that can impact behavioural intention and resultant actions. Empowered with this information, policy makers rather than being discouraged, can seize the opportunity to further develop and expand understanding and reach of services to move towards the attainment of development and diversification goals. Expansion that centres around mutually beneficial relationships with feedback loops that foster continuous development. This relationship was captured in the conceptual framework that depicts the ecosystem of an environment that can lead to the continuous adoption of EG in Dubai. The final chapter presents the researcher's reflections and the conclusion of this work. It also makes recommendations for action, presents limitations of this study and suggests future research to extend understanding of the challenges associated with EG adoption.

Chapter 7 Conclusion and Recommendations

7.1 INTRODUCTION

This study aimed to explore the perceived risks influencing behavioural intention toward the adoption of e-government services in Dubai, a city that has positioned itself as a leader in digital governance within the Middle East. Despite notable progress in digital infrastructure and technological integration, public adoption remains inconsistent and shaped by nuanced psychological, social, and cultural variables. The central objective of this research was to identify and analyze the factors, particularly perceived risks that shape users' behavioural intentions. Through in-depth qualitative interviews with subject-matter experts, this study illuminated the complex interplay of risk perceptions and user behaviour, offering valuable insights into how trust, security, and institutional transparency must converge to enable inclusive and effective digital transformation. Following a summary of the key findings the answers to the research questions posed in chapter 1 are presented to explore perceived risk and behavioural intention and their location in the conversation about the adoption of EG in Dubai. The contributions of this study to practice are revealed and policy recommendations are offered.

7.2. SUMMARY OF KEY FINDINGS

The findings confirm that perceived risk, especially regarding cybersecurity, privacy invasion, and technical failure, should be considered in e-government adoption in Dubai. Users remain concerned about unauthorized access to sensitive information, the potential misuse of biometric data, and system unreliability during critical interactions. Notably, risk perception often operates independently of actual system security. Even with sophisticated safeguards in place, such as biometric verification and blockchain integration, behavioural intention remains low if the user lacks trust in how these technologies are governed. Additionally, digital literacy disparities, lack of language accessibility, and cultural sensitivities around data sovereignty amplify public hesitation, especially among older residents and expatriate communities. Trust emerged as both a mediating and moderating factor throughout the study. Institutional trust driven by transparency,

ethical data practices, and visible risk mitigation was shown to be a prerequisite for the adoption of digital services. Perceived usefulness also plays a central role in shaping behavioural outcomes.

Research Question 1: How does perceived risk influence the adoption of EG in Dubai?

The results indicate that perceived risks associated with data handling, unauthorized access, and future technological uncertainties act as barriers for widespread adoption. Although Dubai complies with international frameworks like the GDPR, participants noted that the diverse expatriate population has varying expectations regarding data privacy. European expatriates, for example, demand stricter controls, whereas other demographics may prioritise convenience over security. Matters surrounding privacy are not isolated to potential hesitance in users but also challenge the government to be flexible in meeting needs. Indicating the importance of building trusting relationships between the parties based on an understanding of drivers and motivators. Although previous research acknowledges security risks in EG adoption (Bhuasiri *et al.*, 2016; Xie *et al.*, 2017), this study identifies additional technical issues. The study finds that the integration of multiple platforms, particularly those linked to financial institutions, creates single points of failure, and can disrupt critical government services. Further, biometrics enhance security, participants fear that biometric failures (e.g., non-recognition errors) could cause service inaccessibility, particularly in high-stakes transactions along with unauthorized access of highly personal data. Unlike previous studies that emphasize broad cultural influences on technology adoption (Safeena and Kammani, 2013), this study provides deeper information of socio-cultural barriers specific to Dubai. The study shows that the pervasive use of surveillance technology in Dubai, including biometric tracking, promotes hesitancy among some users, particularly expatriates accustomed to different privacy norms.

Research Question 2: How does behavioural intention affect EG in Dubai?

Despite extensive research on the factors influencing EG usage, society remains hesitant about these services due to trust, risk, safety, and confidentiality concerns (Gupta *et al.*, 2024; Abdalla *et al.*, 2024). Moreover, behavioural intentions regarding EG adoption were also found to be influenced by factors such as perceived ease of use, perceived value of online resources, and confidence in the government which are consistent with the previous research (Nookhao and Kiattisin, 2023; Iong and Phillips, 2023). The results show that there is significant influence of the

socio-cultural mix and the diversity it denotes on EG adoption. This interacts with perceived risks to inform decision making in engagement with digital processes. For example, participants expressed the perceived risk of job losses on the introduction of technologies for government employees. These concerns are relevant with the literature on socio-economic effects of digital transformation, where automation often is the cause of apprehension in employees (Samsor, 2021). Apprehension amongst employees in Dubai was attributed to factors including a sense of insecurity due to a lack of knowledge (digital literacy) and deficiencies in transparency. The changing landscape of culture as relates to dissemination of information through various media was identified as a potential platform through which to inform and gain insight. Behavioural intention was identified as a clear influencer of actions, the understanding of the complexities of which could encourage adoption.

Research Question 3: Why adopt EG structures in Dubai?

This study provides some novel aspects related to the adoption of e-government by identifying and contextualizing previously less known factors and interactions. Prior studies have addressed perceived risk in general terms, discussing security and privacy concerns (Abdalla *et al.*, 2024; Sabani *et al.*, 2019). However, this study extends the understanding of perceived risk by identifying its multidimensional nature in the EG landscape of Dubai. The study finds that Dubai's expatriate-heavy population is the main reason for challenges in aligning data protection standards. This regulatory heterogeneity existent in Dubai can complicate the design of standardized security frameworks. To bridge this trust gap, policymakers of Dubai must go beyond regulatory compliance and should engage in public transparency initiatives. Furthermore, unlike previous research that focuses on AI as an enabler (Nookhao and Kiattisin, 2023) of EG adoption, this study reveals concerns related to AI's unpredictable impact, including ethical considerations, bias, and dependency on foreign-developed tools, which raises issues of data sovereignty. While automation's impact on employment has been studied in various contexts, this research uniquely highlights EG's specific influence on public sector employment in Dubai, where employees express concerns about job reductions within government departments.

Incorporating enhanced communication into initiatives about data protection mechanisms, independent audits, and anonymous public feedback mechanisms could mitigate the perceived risks and enhance trust in EG services. Digital tools would provide the most efficient method through which to communicate and monitor performance, perhaps an inevitable juxtaposition. However, in the current increasingly digital climate perhaps the only way forward. Judicious planning and allocation of resources could ease advancement. The utilisation of the proposed conceptual framework may aid this process.

The conclusions of this study directly address the stated research objectives. Objective 1, which sought to explore perceived risks in e-government adoption, is fulfilled through evidence of privacy, security, and cybersecurity concerns, confirming the importance of risk perceptions in shaping user behaviour. Objective 2, which examined behavioural intention factors, is addressed by showing how performance expectancy, trust, and social influence interact with risk perceptions in the Dubai context. Objective 3, which focused on developing a conceptual framework, is achieved through the proposed risk–intention adoption model that integrates global theories with Dubai-specific findings. These linkages ensure that the research outcomes are firmly aligned with the study’s aims.

7.3. Contributions to Knowledge, Practice, and Policy in Dubai’s EG Adoption

7.3.1 Contribution to Knowledge

This study makes a significant theoretical contribution by advancing how we understand technology adoption in high-growth digital contexts such as Dubai. Existing frameworks like TAM and UTAUT (Venkatesh et al., 2003) have long emphasised usefulness and ease of use, but they have not sufficiently captured how risk perception alters adoption decisions. By embedding Risk Perception Theory (Featherman and Pavlou, 2003; Dwivedi et al., 2017) into these models, this research provides a more holistic lens, showing that security, privacy, and technical risks are not peripheral concerns but determinant forces shaping behavioural intention. Importantly, the Gulf context reveals dynamics overlooked in Western and Asian studies (Safeena and Kammani, 2013; Ismagilova et al., 2022), where cultural diversity and rapid policy-driven digitalisation interact in unique ways. The contribution to knowledge lies in refining technology acceptance theories so

they reflect both structural safeguards and perceived vulnerabilities, offering a replicable model for scholars studying digital governance in other rapidly modernising states.

7.3.2 Contribution to Practice

In practice, this research demonstrates that citizen trust cannot be engineered through technology alone. Although Dubai has invested in advanced biometric authentication, blockchain, and AI-driven services, adoption falters when users perceive risks that remain unaddressed in daily practice. This builds on, but also challenges, earlier work that equated service quality and efficiency with adoption success (Sachan et al., 2018; Rotchanakitumnuai, 2008). The findings show that human-centred practices such as multilingual service delivery, transparent communication of how personal data is handled, and continuous upskilling of government employees are just as critical as system design. These practices create a “trust cascade,” where confidence within institutions translates into confidence among users. The practical contribution is therefore a roadmap for practitioners in Dubai and beyond, illustrating how perceived risks can be reframed as opportunities to enhance engagement, rather than barriers to be minimised. This makes the case for embedding trust-building mechanisms into every stage of service design and delivery.

7.3.3 Contribution to Policy

At the policy level, this study provides actionable recommendations that strengthen Dubai’s ambition to remain a global leader in digital governance. While international frameworks such as the UN E-Government Survey (2022, 2024) and OECD (2007) stress inclusivity and transparency, this research shows that policy must explicitly integrate risk governance into the digital agenda. In particular, three policy innovations emerge:

1. Legal frameworks that go beyond compliance by ensuring citizens retain control over their data.
2. Institutionalised awareness programmes that demystify digital risks and empower users to make informed choices.
3. Cross-agency governance structures that reduce fragmentation and ensure accountability across the digital ecosystem (Al-Khoury, 2012; Saleh and Alyaseen, 2022).

These contributions matter because Dubai's population is uniquely diverse, with residents carrying different experiences of government trust from their home countries. Policies that anticipate and address these perceptions are not only more effective but also more legitimate. By grounding global best practice in local realities, this study positions Dubai as a testbed for risk-sensitive digital policy innovation that other rapidly modernising states can learn from.

7.4. LIMITATIONS OF THE STUDY

The research was well received by participants and the researcher gained useful insights to inform the development of a conceptual framework. However, it is acknowledged that there are limits to this study. The first limitation is the focus on leadership, while this group provided in-depth knowledge it became apparent that the understanding of the perspective of other stakeholders, particularly employees and public users is needed to paint a more rounded picture of the dynamics at play. The second limitation is that although the literature review supports the findings of the interviews, there is a need to further explore the variables from the perspective of other stakeholders and collect quantitative data to triangulate with qualitative findings. Strengthening the evidence base could lead to the development of policies that better reflect needs. Thirdly, while economic diversification is a clear objective, the extent to which digital transformation alone can make structural economic shifts is a subject which needs further empirical studies. These limitations could all point to the need for further research as suggested in the next section.

7.5. FUTURE RESEARCH

The findings from the qualitative analysis reveal that while EG initiatives are viewed as transformative, they also present many concerns which are related to privacy, security, infrastructure, and socio-cultural acceptance. However, it also revealed more data is needed to mitigate against the perceived risks associated with the adoption of EG. Future research could explore quantitative studies to make the data more generalisable and provide objective data. Other publications may also explore impact of emergence of new technologies on citizens perception and adoption including role of social media.

7.6. SUMMARY

This research revealed EG as an invaluable tool in public administration and the delivery of government services. EG application and use across geographical boundaries is contextual; to maximise gains and opportunities for growth it was therefore necessary to explore factors that may facilitate uptake and innovation. While UAE is an ambitious and blossoming economic entity that has capitalised on implementing various EG initiatives to the benefit of its citizens, it is imperative forge a pathway towards a deeper understanding of the interplay of perceived risk and behavioural intention in EG uptake. The researcher thought it prudent to conduct a case study of the situation in Dubai in consideration of the government structure which affords each emirate a level of autonomy in delivering government services in addition to resources and practicability. An exploration of theories of technology acceptance and models illuminated factors that may influence the adoption of EG, although there were contradictory findings on how risk factors into decision making. The literature, theories and models reviewed facilitated the development of a research framework and the design of topics to explore with participants through qualitative semi-structured interviews. While the findings may not be generalisable the approach and proposed framework, including the research outcomes are applicable across government sectors aiming to adopt EG and build trust among its citizenries.

The main risks that were identified as impacting the adoption of EG in Dubai revolved around privacy and security concerns and interestingly highlighted perceived risks specific to employees as users of technology in conducting their roles. Data, at the centre of operations, must be collected and protected for advancement towards goals of optimised uptake and economic diversification. With fast changing dynamics that present opportunities and threats a responsive and innovative approach that is sensitive to the needs of all users and government resources is crucial. A proposed conceptual framework was constructed following careful analysis of the findings which unveiled social and cultural factors that can influence behavioural intentions and be an engine for change. As potential ambassadors of EG usage it is imperative to gain a broader understanding of these concerns to create innovative initiatives to secure continuous improvements, as reflected in the recommendations. In seeking change to reflect goals the role of tailored and targeted communication in building relationships that not only solidify trust but also enhance participation should not be overlooked. Through collaboration and meaningful partnership with stakeholders

the Dubai government can construct an inclusive and sustainable that reflect citizens perceived risk and consider behavioural intentions towards EG adoption.

CHAPTER 8. PERSONAL REFLECTION ON THE RESEARCH JOURNEY

8.1 INTRODUCTION

The completion of this Doctor of Business Administration (DBA) has been both an academic and personal journey of growth. Beyond addressing the research objectives and contributing to the literature on e-government adoption, the process has enabled me to critically evaluate my own learning, overcome significant challenges, and reflect on the professional value of undertaking such a demanding project. This chapter provides a reflective account of the journey, highlighting methodological insights, challenges encountered, and lessons learned. It concludes by considering what I would do differently if I were to repeat this study and how the DBA has shaped my professional practice.

8.2 PERSONAL LEARNING AND GROWTH

One of the most rewarding aspects of this journey has been the development of my academic skills. At the outset, I approached the study with a practitioner's lens, grounded in my professional experience within government institutions. However, the rigour of doctoral research required me to engage deeply with theory, critique existing frameworks, and situate my work within the global academic discourse on e-government. This transition from practitioner to scholar-practitioner was not immediate; it was the result of constant engagement with literature, constructive criticism from supervisors and examiners, and iterative refinement of my writing.

I have developed a greater appreciation for the importance of conceptual clarity. In particular, the need to distinguish between related but distinct constructs—such as trust, privacy, and security—challenged me to think more critically and avoid oversimplification. Similarly, my ability to synthesise vast amounts of literature and identify research gaps has significantly improved. These skills will remain valuable in both academic and professional contexts.

8.3 METHODOLOGICAL INSIGHTS

Conducting qualitative research provided profound lessons in the practice of inquiry. I learned that qualitative interviewing is not merely a process of asking questions but of building trust, listening attentively, and allowing participants to share experiences authentically. The decision to use purposive sampling and to focus on senior officials was both a strength and a limitation. It provided access to rich, informed perspectives, but it also constrained the diversity of voices in the dataset.

Another key methodological insight relates to the issue of saturation. Initially, I was uncertain whether a sample of five participants would be sufficient. Through the process, and reinforced by the literature, I came to understand that depth and richness often outweigh breadth in qualitative studies. Furthermore, the coding and thematic analysis process deepened my appreciation for the interpretive nature of qualitative research. The process of iteratively refining codes, comparing them with existing frameworks, and mapping them to my conceptual model was intellectually demanding but immensely rewarding.

The use of an interpreter in some interviews was another methodological dimension that shaped the study. While it raised potential concerns about bias, it also offered important lessons on cross-cultural communication. Reflecting on this experience has reinforced the importance of transparency and reflexivity when addressing such methodological choices.

8.4 CHALLENGES FACED

The DBA journey was not without its challenges. One of the most significant was balancing the demands of a senior professional role with the requirements of doctoral study. There were moments when competing priorities created stress and forced difficult decisions about time allocation. However, this challenge also enhanced my resilience, discipline, and ability to manage complex tasks simultaneously.

Access to participants presented another challenge. Senior officials have busy schedules, and gaining their agreement to participate required persistence, professional credibility, and flexibility. The process taught me that access is as much about trust and relationships as it is about formal permissions.

Writing in an academic style posed another hurdle. As someone accustomed to professional and policy writing, adapting to the conventions of scholarly expression required sustained effort. The process of multiple revisions, guided by feedback, was instrumental in overcoming this barrier.

8.5 PROFESSIONAL VALUE

Beyond academic learning, the DBA has yielded significant professional value. The study has enhanced my understanding of the complexities of digital transformation within government. It has provided empirical evidence about how risk perceptions shape behavioural intention, insights that are directly relevant to ongoing e-government initiatives in Dubai and the wider UAE.

Professionally, the DBA has strengthened my ability to contribute to strategic discussions at policy level. The integration of theoretical insights with real-world challenges equips me to offer evidence-based recommendations that resonate with both scholars and practitioners. Furthermore, the process has reinforced the importance of critical reflection in leadership. The ability to interrogate assumptions, weigh risks, and engage with multiple perspectives is essential in today's complex governance landscape.

8.6 WHAT I WOULD DO DIFFERENTLY

While I am satisfied with the outcomes of this research, reflection highlights several areas where I would make different choices. First, I would consider incorporating a mixed-methods approach. While qualitative insights provided rich depth, integrating a quantitative survey could have offered greater breadth and enhanced the generalisability of the findings.

Second, I would seek to include a wider range of participants, including frontline employees and service users. This would provide a more holistic understanding of e-government adoption, capturing perspectives beyond senior officials.

Third, I would allow more time for the data collection phase. The compressed timeline placed pressure on both myself and participants. A more extended schedule might have allowed for greater flexibility and possibly richer data.

Finally, I would devote more attention to dissemination. Sharing findings through practitioner workshops or policy briefs, in parallel with academic outputs, could have amplified the impact of the research.

8.7 CONCLUSION

This reflective journey underscores that a DBA is more than a research project; it is a transformative process that reshapes one's intellectual and professional identity. The challenges encountered were as valuable as the successes, each contributing to personal growth. The study not only advanced knowledge in the field of e-government adoption but also deepened my capacity as a leader, scholar, and practitioner.

Looking back, I recognise that the process has equipped me with the tools to bridge the gap between research and practice. It has reinforced my belief that rigorous scholarship can directly inform policy and enhance governance. This personal reflection, therefore, stands as both an account of the journey completed and a foundation for future scholarly and professional contributions.

Appendix

Research Questions

A. Introduction

1. Can you share your role and involvement with e-government initiatives in Dubai?
2. What key developments have you observed in e-government services during your tenure?

B. Strategic Perspectives on Perceived Risks

1. What are the key risks associated with implementing and promoting e-government services?
2. Can you provide specific examples of these risks in the context of recent e-government projects or initiatives?

C. Security and Privacy:

1. How do you assess the current security and privacy measures in place for e-government services?
2. In what ways do you think these measures could be enhanced to build greater public trust?
3. What strategies are being implemented to mitigate security and privacy risks?
4. Can you share any success stories or challenges encountered in this process?

D. Financial Risk:

1. Are there concerns about potential financial implications for both the government and users when expanding e-government services?
2. How are these financial risks communicated to the public, and what has been the response?

E. Performance Risk:

1. Have you encountered any challenges in ensuring the consistent performance of e-government platforms?
2. What measures are in place to handle system failures or user dissatisfaction?

F. Impact on Adoption:

1. How do these perceived risks influence the overall adoption of e-government services among citizens and within government departments?
2. Do you see a difference in risk perception between various demographic groups?

G. Policy and Leadership Role

1. In your experience, how does leadership at the ministerial level influence public and departmental behavioural intentions toward adopting e-government services?
2. Could you elaborate on any specific leadership initiatives that have positively impacted e-government adoption?

H. Trust and Public Confidence:

1. What measures have been taken to build trust in e-government services among the public and government employees?
2. Have these measures been effective, and how is their impact evaluated?
3. How do you think public trust can be further strengthened to enhance e-government adoption?
4. What role does transparency in e-government operations play in building this trust?

I. External Influences and Communication:

1. How do you perceive the role of public communication and media in shaping behavioural intentions towards e-government?
2. Can you share examples of effective communication strategies that have been used?

3. What impact do you believe international benchmarks and best practices have on influencing local adoption?
4. How do Dubai's e-government strategies compare to global standards?

J. Necessity and Strategic Importance of EG Adoption

1. What strategic benefits do you see in the widespread adoption of e-government services for Dubai's development goals?
2. How does this align with Dubai's vision for smart city initiatives?
3. How does e-government contribute to economic growth and citizen engagement?
4. Could you share specific examples or data that demonstrate this impact?

K. Challenges and Barriers

1. What do you consider the primary challenges or barriers to the further adoption of e-government in Dubai at both the policy and implementation levels?
2. How do these challenges vary between different government sectors or departments?
3. How can these challenges be strategically addressed?
4. What roles do partnerships with the private sector or international organizations play in overcoming these barriers?

L. Policy and Implementation Improvements

1. What policy initiatives are being considered or implemented to enhance the adoption of e-government services?
2. Can you highlight any recent policies that have made a significant impact?
3. What roles do you see for cross-sector collaboration in promoting e-government usage?
4. How is feedback from citizens and businesses incorporated into policy-making?

M. Final Strategic Insights

1. What future developments do you foresee in the realm of e-government in Dubai?
2. Are there specific areas of innovation you believe will drive the next wave of e-government adoption?
3. Are there any strategic partnerships or initiatives on the horizon that you believe will significantly impact e-government adoption?
4. How do you envision these partnerships enhancing the current e-government framework?

N. Recommendations:

1. What recommendations would you offer to further enhance the adoption and effectiveness of e-government services in Dubai?
2. What key areas should be prioritized to align with Dubai's digital transformation goals?

References

- Abdalla, R. A., Kassim, N. M. and Yeap, J. A. L. (2024) 'Multidimensional perceived risk and safety needs in Palestinian e-government services context', *Electronic Government, an International Journal*, 20(4), pp. 395–421. doi: 10.1504/EG.2024.139494.
- AlHogail, A. (2018). Improving IoT technology adoption through improving consumer trust. *Technological Forecasting and Social Change*, 134, pp.224–233. doi:10.1016/j.techfore.2018.06.014.
- Alraja, M.N. (2021). The effect of security and privacy risks on e-government adoption in developing countries. *International Journal of Electronic Government Research*, 17(2), pp.1–21. doi:10.4018/IJEGR.2021040101.
- Abri, D. Al, McGill, T. and Dixon, M. (2009) 'Examining the Impact of E-privacy Risk Concerns on Citizens' Intentions to Use E-government Services: An Oman Perspective', *Journal of Information Privacy and Security*, 5(2), pp. 3–26. doi: 10.1080/15536548.2009.10855861.
- Abusamhadana, G. A. O., Bakon, K. A. and Elias, N. F. (2021) 'E-GOVERNMENT IN GHANA: THE BENEFITS AND CHALLENGES', *Asia-Pacific Journal of Information Technology and Multimedia*, 10(01), pp. 124–140. doi: 10.17576/apjitm-2021-1001-11.
- Abuzanjali, A. and Bashir, H. (2024) 'Service innovation challenges in UAE government entities: Identification and examination of the impact of organizational size and excellence model implementation', *Journal of Open Innovation: Technology, Market, and Complexity*, 10(3), p. 100364. doi: 10.1016/j.joitmc.2024.100364.
- Adeola, O. and Evans, O. (2023) 'Digital Technology and Emergency Risk Communications of African Governments: Experiences and Lessons from Covid-19 Pandemic', in, pp. 105–129. doi: 10.1007/978-3-031-17863-4_5.

Afari, E., Eksail, F.A.A., Khine, M.S. and Alaam, S.A., 2023. Computer self-efficacy and ICT integration in education: Structural relationship and mediating effects. *Education and Information Technologies*, 28(9), pp.12021-12037

Agag, G. M. and El-Masry, A. A. (2017) 'Why Do Consumers Trust Online Travel Websites? Drivers and Outcomes of Consumer Trust toward Online Travel Websites', *Journal of Travel Research*, 56(3), pp. 347–369. doi: 10.1177/0047287516643185.

Aggelidis, V. P. and Chatzoglou, P. D. (2012) 'Hospital information systems: Measuring end user computing satisfaction (EUCS)', *Journal of Biomedical Informatics*, 45(3), pp. 566–579. doi: 10.1016/j.jbi.2012.02.009.

Ahmed, G., Al Amiri, N. and Abudaqa, A. (2024) 'Strategic Leadership and Economic Transformation: The United Arab Emirates (UAE) Model', *Journal of Global Business Research and Practice*, 1(1).

Ajzen, I. (1991) 'The theory of planned behavior', *Organizational Behavior and Human Decision Processes*, 50(2), pp. 179–211. doi: 10.1016/0749-5978(91)90020-T.

Ajzen, I. (2011) 'The theory of planned behaviour: Reactions and reflections', *Psychology & Health*, 26(9), pp. 1113–1127. doi: 10.1080/08870446.2011.613995.

Akman, I., Yazici, A., Mishra, A. and Arifoglu, A., 2005. E-Government: A global view and an empirical evaluation of some attributes of citizens. *Government Information Quarterly*, 22(2), pp.239-257

Al-Adwan, A. S. and Al-Debei, M. M. (2024) 'The determinants of Gen Z's metaverse adoption decisions in higher education: Integrating UTAUT2 with personal innovativeness in IT', *Education and Information Technologies*, 29(6), pp. 7413–7445. doi: 10.1007/s10639-023-12080-1.

Al-Azri, A., Al-Salti, Z. and Al-Karaghoul, W. (2010) 'The successful implementation of e-government transformation: A case study in Oman', in *Proceedings of the European, Mediterranean and Middle Eastern Conference on Information Systems*.

Al-Khour, A. M. (2012) 'eGovernment Strategies the Case of the United Arab Emirates (UAE)', *European Journal of ePractice*, 17, pp. 126–150.

Al-Omairi, L., Al-Samarraie, H., Alzahrani, A.I. and Alalwan, N., 2021. Students' intention to adopt e-government learning services: a developing country perspective. *Library Hi Tech*, 39(1), pp.308-334

Al Rand, H.A.R., Madi, H., Alhemeiri, S. and Al Obeidli, A., 2024. Healthcare innovation and leadership: case study of the United Arab Emirates. In *Resilient Health* (pp. 415-431). Academic Press

Al-Refai, M. (2020) 'The impact of e-government on economic growth in GCC countries', *International Review*, (1–2), pp. 18–26. doi: 10.5937/intrev2001018A.

Al-Shboul, M., Rababah, O., Al-Shboul, M.D., Ghnemat, R. and Al-Saqqa, S., 2014. Challenges and factors affecting the implementation of e-government in Jordan. *Journal of Software Engineering and Applications*, 7(13), pp.1111-1127.!

Al-Sulami, Z. A. and Hashim, H. S. (2018) 'Measuring the Success of E-Government Systems: Applying the Success Model of the Delone and Mclean Information System.', *Journal of Theoretical and Applied Information Technology*, 96(22).

AL-Zahrani, M. (2020) 'Integrating IS success model with cybersecurity factors for e-government implementation in the Kingdom of Saudi Arabia', *International Journal of Electrical and Computer Engineering (IJECE)*, 10(5), p. 4937. doi: 10.11591/ijece.v10i5.pp4937-4955.

Alarabiat, A., Soares, D. and Estevez, E. (2021) 'Determinants of citizens' intention to engage in government-led electronic participation initiatives through Facebook', *Government Information Quarterly*, 38(1), p. 101537. doi: 10.1016/j.giq.2020.101537.

AlAwadhi, S., Alansari, H. and Alsaber, A. R. (2023) 'Explicating Trust-building Factors Impacting the Use of e-government Services', *Social Science Computer Review*, 42(5), pp. 1244–1265. doi: 10.1177/08944393231220757.

Albous, M. R. and Alboloushi, B. (2025) 'AI-Driven Innovations in E-Government', in, pp. 93–118. doi: 10.4018/979-8-3693-7678-2.ch004.

Aldhaferi, M. A. A. S. and Hudin, N. S. (2022) 'E-government implementation and citizen satisfaction in UAE.', *International Journal of Business and Technology Management*, 4(3), pp. 217–229.

Aleisa, N. (2024) 'Key factors influencing the e-government adoption: a systematic literature review', *Journal of Innovative Digital Transformation*, 1(1), pp. 14–31. doi: 10.1108/JIDT-09-2023-0016.

AlHadid, I., Abu-Taieh, E., Alkhaldeh, R.S., Khowaldeh, S., Masa'deh, R.E., Kaabneh, K. and Alrowwad, A.A., 2022. Predictors for E-government adoption of SANAD App services integrating UTAUT, TPB, TAM, Trust, and perceived risk. *International Journal of Environmental Research and Public Health*, 19(14), p.8281

Alharbi, N., Papadaki, M. and Dowland, P. (2017) 'The impact of security and its antecedents in behaviour intention of using e-government services', *Behaviour & Information Technology*, 36(6), pp. 620–636. doi: 10.1080/0144929X.2016.1269198.

Alharmoodi, B. Y. R. and Lakulu, M. M. B. (2020) 'Transition from e-Government to m-Government: Challenges and Opportunities - Case Study of UAE', *European Journal of Multidisciplinary Studies*, 5(1), p. 61. doi: 10.26417/453fgx96c.

Alkrajji, A. I. (2020) 'Citizen Satisfaction With Mandatory E-Government Services: A Conceptual Framework and an Empirical Validation', *IEEE Access*, 8, pp. 117253–117265. doi: 10.1109/ACCESS.2020.3004541.

Almahasees, Z., & Husienat, I. (2024). A comparative analysis of terminological inconsistency in scientific translation from English into Arabic across different medical fields. *Training, Language and Culture*, 8(3), 25-40.

Almaiah, M. A. and Nasereddin, Y. (2020) 'Factors influencing the adoption of e-government services among Jordanian citizens', *Electronic Government, an International Journal*, 16(3), p. 236. doi: 10.1504/EG.2020.108453.

Almazrouei, F., Sarker, A.E., Zervopoulos, P. and Yousaf, S., 2024. Organizational structure, agility, and public value-driven innovation performance in the UAE public services. *Heliyon*, 10(13).

Almukhlifi, A., Deng, H. and Kam, B. (2019) 'E-Government Adoption in Saudi Arabia: The Moderation Influence of Transparency', *Journal of Advances in Information Technology*, 10(1), pp. 1–8. doi: 10.12720/jait.10.1.1-8.

AlNuaimi, M., Shaalan, K., Alnuaimi, M. and Alnuaimi, K., 2011, December. Barriers to electronic government citizens' adoption: A case of municipal sector in the emirate of abu dhabi. In *2011 Developments in E-systems Engineering* (pp. 398-403). IEEE.

Alqaralleh, B. A. Y., Al-Omari, A. H. and Alksasbeh, M. Z. (2020) 'An Integrated Conceptual Model for m-Government Acceptance in Developing Countries: The Case Study of Jordan', *International Journal of Interactive Mobile Technologies (iJIM)*, 14(06), p. 115. doi: 10.3991/ijim.v14i06.11449.

Alrawad, M., Lutfi, A., Alyatama, S., Al Khattab, A., Alsoboa, S.S., Almaiah, M.A., Ramadan, M.H., Arafa, H.M., Ahmed, N.A., Alsyouf, A. and Al-Khasawneh, A.L., 2023. Assessing customers perception of online shopping risks: A structural equation modeling-based multigroup analysis. *Journal of Retailing and Consumer Services*, 71, p.103188

Alryalat, M. A. A. (2024) 'Understanding Factors Influencing Citizens' Intentions to Use Electronic Government (e-Gov) Services', *International Journal of Electronic Government Research*, 20(1), pp. 1–20. doi: 10.4018/IJEGR.344421.

Al Sayegh, A.J., Ahmad, S.Z., AlFaqeeh, K.M. and Singh, S.K., 2023. Factors affecting e-government adoption in the UAE public sector organisations: the knowledge management perspective. *Journal of Knowledge Management*, 27(3), pp.717-737

AlShamsi, S. S., Bin Ahmad, K. Z. and Jasimuddin, S. M. (2025) 'Curiosity, proactive personality, organizational culture and work engagement in the aviation industry in the UAE during Covid-19: A non-probabilistic moderated-mediation model', *Journal of General Management*, 50(2), pp. 150–163. doi: 10.1177/03063070221141201.

Al Zaabi, M. (2019) 'Driving an ambitious vision with excellence the UAE Government excellence model', *International Journal of Excellence in Government*, 1(1), pp. 8–14. doi: 10.1108/IJEG-02-2019-0004.

Alzahrani, L., Al-Karaghoul, W. and Weerakkody, V. (2017) 'Analysing the critical factors influencing trust in e-government adoption from citizens' perspective: A systematic review and a conceptual framework', *International Business Review*, 26(1), pp. 164–175. doi: 10.1016/j.ibusrev.2016.06.004.

Al Zawati, O. K., Bashir, H. and Alsyouf, I. (2020) 'Modelling and analyzing of critical success factors for implementing UAE's Government Excellence Model in the public sector: an ISM and Fuzzy-MICMAC approach', *International Journal of System Assurance Engineering and Management*, 11(6), pp. 1107–1132. doi: 10.1007/s13198-020-00963-2.

Andersen, K.N., Henriksen, H.Z., Medaglia, R., Danziger, J.N., Sannarnes, M.K. and Enemærke, M., 2010. Fads and facts of e-government: A review of impacts of e-government (2003–2009). *International Journal of Public Administration*, 33(11), pp.564-579.

Anthopoulos, L., Reddick, C.G., Giannakidou, I. and Mavridis, N., 2016. Why e-government projects fail? An analysis of the Healthcare. gov website. *Government information quarterly*, 33(1), pp.161-173

Ary, D., Jacobs, L.C. and Razavieh, A., 1972. Introduction to research in education

Avotra, A.A.R.N., Chengang, Y., Sandra Marcelline, T.R., Asad, A. and Yingfei, Y., 2021. Examining the impact of e-government on corporate social responsibility performance: the mediating effect of mandatory corporate social responsibility policy, corruption, and information and communication technologies development during the COVID era. *Frontiers in Psychology*, 12, p.737100

Ayish, M. I. (2005) 'Virtual public relations in the United Arab Emirates: A case study of 20 UAE organizations' use of the Internet', *Public Relations Review*, 31(3), pp. 381–388. doi: 10.1016/j.pubrev.2005.05.013.

Badran, A. (2024) 'Delivering Public Service in the Age of Digital Era Governance', in, pp. 407–440. doi: 10.4018/979-8-3693-7678-2.ch013.

Bajunaied, K., Hussin, N. and Kamarudin, S. (2023) 'Behavioral intention to adopt FinTech services: An extension of unified theory of acceptance and use of technology', *Journal of Open Innovation: Technology, Market, and Complexity*, 9(1), p. 100010. doi: 10.1016/j.joitmc.2023.100010.

Bandura, A. (1977) 'Self-efficacy: Toward a unifying theory of behavioral change.', *Psychological Review*, 84(2), pp. 191–215. doi: 10.1037/0033-295X.84.2.191.

Bannister and Connolly (2012) 'Defining e-Governance', *e-Service Journal*, 8(2), p. 3. doi: 10.2979/eservicej.8.2.3.

Basu, S. (2004) 'E-government and developing countries: an overview', *International Review of Law, Computers & Technology*, 18(1), pp. 109–132. doi: 10.1080/13600860410001674779.

Batool, S., Gill, S.A., Javaid, S. and Khan, A.J., 2021. Good governance via E-Governance: moving towards digitalization for a digital economy. *Review of applied management and social sciences*, 4(4), pp.823-836.

Belanche, D., Casaló, L. V. and Flavián, C. (2012) 'Integrating trust and personal values into the Technology Acceptance Model: The case of e-government services adoption', *Cuadernos de Economía y Dirección de la Empresa*, 15(4), pp. 192–204. doi: 10.1016/j.cede.2012.04.004.

Belanche, D., Casaló, L. V. and Guinalíu, M. (2012) 'Website usability, consumer satisfaction and the intention to use a website: The moderating effect of perceived risk', *Journal of Retailing and Consumer Services*, 19(1), pp. 124–132. doi: 10.1016/j.jretconser.2011.11.001.

Bélanger, F. and Carter, L. (2008) 'Trust and risk in e-government adoption', *The Journal of Strategic Information Systems*, 17(2), pp. 165–176. doi: 10.1016/j.jsis.2007.12.002.

Bell, E., Bryman, A. and Harley, B. (2022) *Business Research Methods*. Edited by Sixth. Oxford University Press.

Bertot, J. C., Jaeger, P. T. and Grimes, J. M. (2010) 'Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies', *Government Information Quarterly*, 27(3), pp. 264–271. doi: 10.1016/j.giq.2010.03.001.

Bhaskar, R. (2020) 'Critical realism and the ontology of persons', *Journal of Critical Realism*, 19(2), pp. 113–120. doi: 10.1080/14767430.2020.1734736.

Batool, S., Gill, S.A., Javaid, S. and Khan, A.J., 2021. Good governance via E-Governance: moving towards digitalization for a digital economy. *Review of applied management and social sciences*, 4(4), pp.823-836.

Bhukya, R. and Singh, S. (2015) 'The effect of perceived risk dimensions on purchase intention', *American Journal of Business*, 30(4), pp. 218–230. doi: 10.1108/AJB-10-2014-0055.

Boksberger, P. E., Bieger, T. and Laesser, C. (2007) 'Multidimensional analysis of perceived risk in commercial air travel', *Journal of Air Transport Management*, 13(2), pp. 90–96. doi: 10.1016/j.jairtraman.2006.10.003.

Bin Braik, K. and Alawadhi, Shayma Yousef, H. E. (2025) *Emiratisation Survey - Building on the Emiratisation success story, PWC*.

Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3(2), pp. 77–101. doi: 10.1191/1478088706qp063oa.

Brekhna, B. (2014) 'Challenges Faced by E-Government Projects in Developing Countries', in *1st International Conference On Emerging Trends In Engineering, Management And Sciences, ICETEMS*.

Bryman, A. and Bell, E. (2003) *Business research methods*. Oxford: Oxford University Press.

Bell, E., Bryman, A. and Harley, B. (2022) *Business Research Methods*. Edited by Sixth. Oxford University Press.

Bulus, H. and Nimfa, D. T. (2016) 'Effects of Insurance Business Operation on Economic Growth: A Study of Plateau State: An Analytical Approach.', *The International Journal of Business & Management*, 4(5).

Camilleri, M. A. (2019) 'Exploring the behavioural intention to use EG services: validating the unified theory of acceptance and use of technology', in *International Conference on Internet Technologies & Society*. ingnan University, Hong Kong.

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D. and Walker, K., 2020. Purposive sampling: complex or simple? Research case examples. *Journal of research in Nursing*, 25(8), pp.652-661.

Carter, L., Weerakkody, V., Phillips, B. and Dwivedi, Y.K., 2016. Citizen adoption of e-government services: Exploring citizen perceptions of online services in the United States and United Kingdom. *Information Systems Management*, 33(2), pp.124-140.

Carter, L. and Bélanger, F. (2005) 'The utilization of e-government services: citizen trust, innovation and acceptance factors*', *Information Systems Journal*, 15(1), pp. 5–25. doi: 10.1111/j.1365-2575.2005.00183.x.

Carter, L. and McBride, A. (2010) 'Information privacy concerns and e-government: a research agenda', *Transforming Government: People, Process and Policy*. Edited by Z. Irani, 4(1), pp. 10–13. doi: 10.1108/17506161011028777.

Chan, F.K., Thong, J.Y., Brown, S.A. and Venkatesh, V., 2021. Service design and citizen satisfaction with e-government services: a multidimensional perspective. *Public Administration Review*, 81(5), pp.874-894.

Chen, Y.-C. and Kim, S. (2024) 'Introduction to the special issue: digital transformation of government and the Asia Pacific region', *Asia Pacific Journal of Public Administration*, 46(4), pp. 315–320. doi: 10.1080/23276665.2024.2417049.

Chitakornkijasil, P. (2009) 'Managing risk: How to manage what we do not know.', *International Journal of Organisational Innovation.*, 1(1), pp. 58–73.

Choi, T. and Chandler, S. M. (2020) 'Knowledge vacuum: An organizational learning dynamic of how e-government innovations fail', *Government Information Quarterly*, 37(1), p. 101416. doi: 10.1016/j.giq.2019.101416.

Chung, N. and Kwon, S. J. (2009) 'Effect of trust level on mobile banking satisfaction: a multi-group analysis of information system success instruments', *Behaviour & Information Technology*, 28(6), pp. 549–562. doi: 10.1080/01449290802506562.

Conchar, M. P. (2004) 'An Integrated Framework for the Conceptualization of Consumers' Perceived-Risk Processing', *Journal of the Academy of Marketing Science*, 32(4), pp. 418–436. doi: 10.1177/0092070304267551.

Conner, M. and Norman, P. (2022) 'Understanding the intention-behavior gap: The role of intention strength', *Frontiers in Psychology*, 13. doi: 10.3389/fpsyg.2022.923464.

CONSIDINE, M. and LEWIS, J. M. (2007) 'Innovation and Innovators Inside Government: From Institutions to Networks', *Governance*, 20(4), pp. 581–607. doi: 10.1111/j.1468-0491.2007.00373.x.

Csótó, M. (2021) 'E-GOVERNMENT SERVICE ADOPTION THROUGH THE LENS OF THE KNOWLEDGE GAP', *Pro Publico Bono - Magyar Közigazgatás*, 9(1), pp. 176–197. doi: 10.32575/ppb.2021.1.11.

Cox, D. F. and Rich, S. U. (1964) 'Perceived Risk and Consumer Decision-Making: The Case of Telephone Shopping', *Journal of Marketing Research*, 1(4), p. 32. doi: 10.2307/3150375.

Creswell, J.W. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 5th ed. Thousand Oaks, CA: Sage Publications.

Creswell, J. W. (2013) *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Third. Sage Publications, Inc.

Cunningham, S. M. (1967) 'The major dimensions of perceived risk.', *Risk Taking and Information Handling in Consumer Behaviour*, pp. 82–111.

Curtin, G. G., Sommer, M. H. and Vis-Sommer, V. (2003) 'The World of E-Government', *Journal of Political Marketing*, 2(3–4), pp. 1–16. doi: 10.1300/J199v02n03_01. Czaja, S.J., Charness, N., Fisk, A.D., Hertzog, C., Nair, S.N., Rogers, W.A. and Sharit, J., 2006. Factors predicting the use of technology: findings from the Center for Research and Education on Aging and Technology Enhancement (CREATE). *Psychology and aging*, 21(2), p.333.

Dada, D. (2006) 'The Failure of E-Government in Developing Countries: A Literature Review', *THE ELECTRONIC JOURNAL OF INFORMATION SYSTEMS IN DEVELOPING COUNTRIES*, 26(1), pp. 1–10. doi: 10.1002/j.1681-4835.2006.tb00176.x.

Dahi, M. and Ezziane, Z. (2015) 'Measuring e-government adoption in Abu Dhabi with technology acceptance model (TAM)', *International Journal of Electronic Governance*, 7(3), p. 206. doi: 10.1504/IJEG.2015.071564.

Darlaston-Jones, D. (2007) 'Making connections: The relationship between epistemology and research methods.', *The Australian Community Psychologist*, 19(1).

Dash, B., Sharma, P. and Swayamsiddha, S. (2023) 'Organizational Digital Transformations and the Importance of Assessing Theoretical Frameworks such as TAM, TTF, and UTAUT: A

Review’, *International Journal of Advanced Computer Science and Applications*, 14(2). doi: 10.14569/IJACSA.2023.0140201.

Davis, F. D. (1989) ‘Perceived usefulness, perceived ease of use, and user acceptance of information technology.’, *MIS Quarterly*, 13(3), pp. 319–340.

Davis, F. D., Bagozzi, R. P. and Warshaw, P. R. (1989) ‘User Acceptance of Computer Technology: A Comparison of Two Theoretical Models’, *Management Science*, 35(8), pp. 982–1003. doi: 10.1287/mnsc.35.8.982.

DeLone, W. H. and McLean, E. R. (1992) ‘Information Systems Success: The Quest for the Dependent Variable’, *Information Systems Research*, 3(1), pp. 60–95. doi: 10.1287/isre.3.1.60.

Dong, Y. and Gao, L. (2024) ‘Consumer attitude and behavioural intention towards organic wine: the roles of consumer values and involvement’, *British Food Journal*, 126(4), pp. 1743–1764. doi: 10.1108/BFJ-02-2023-0085. Dwivedi, Y.K., Rana, N.P., Janssen, M., Lal, B., Williams, M.D. and Clement, M., 2017. An empirical validation of a unified model of electronic government adoption (UMEGA). *Government Information Quarterly*, 34(2), pp.211-230.

Dwivedi, Y. K. and Lal, B. (2007) ‘Socio-economic determinants of broadband adoption’, *Industrial Management & Data Systems*, 107(5), pp. 654–671. doi: 10.1108/02635570710750417.

Dwivedi, Y. K. and Williams, M. D. (2008) ‘Demographic influence on UK citizens’ e-government adoption’, *Electronic Government, an International Journal*, 5(3), p. 261. doi: 10.1504/EG.2008.018874.

Ebrahim, Z. and Irani, Z. (2005) ‘E-government adoption: architecture and barriers’, *Business Process Management Journal*, 11(5), pp. 589–611. doi: 10.1108/14637150510619902.

Edmiston, K. D. (2003) ‘State And Local E-Government’, *The American Review of Public Administration*, 33(1), pp. 20–45. doi: 10.1177/0275074002250255.

Efthymiou, I. P. (2025) 'The Role of E-Government and E-Governance in Modern Societies.', *Public Governance Practices in the Age of AI*, pp. 45–68.

Eid, R., Selim, H. and El-Kassrawy, Y. (2021) 'Understanding citizen intention to use m-government services: an empirical study in the UAE', *Transforming Government: People, Process and Policy*, 15(4), pp. 463–482. doi: 10.1108/TG-10-2019-0100.

Eisenhardt, K. M. and Graebner, M. E. (2007) 'Theory Building from Cases: Opportunities and Challenges', *The Academy of Management Journal*, 50(1), pp. 25–32.

Ekanem, U. and Kim, Y.-S. (2023) 'Empirical Study of Factors Influencing Adoption of Blockchain Technology Converged with E-Government in Nigerian Public Sector', *International JOURNAL OF CONTENTS*, 19(1), pp. 67–81. doi: 10.5392/IJoC.2023.19.1.067.

El-Ebiary, Y. A. B. (2018) 'The Effect of the Organization Factors, Technology and Social Influences on E-Government Adoption in Jordan', in *2018 International Conference on Smart Computing and Electronic Enterprise (ICSCEE)*. IEEE, pp. 1–4. doi: 10.1109/ICSCEE.2018.8538394.

Elayah, M. (2025) 'Transformative Pathways in Qatar's E-Government: Integrating Societal Engagement and NGO Partnerships for Sustainable Digital Governance', *Public Administration and Development*. doi: 10.1002/pad.2102.

Erkmen, E. and Hancer, M. (2015) 'Linking brand commitment and brand citizenship behaviors of airline employees: "The role of trust"', *Journal of Air Transport Management*, 42, pp. 47–54. doi: 10.1016/j.jairtraman.2014.08.001.

Errida, A. and Lotfi, B. (2021) 'The determinants of organizational change management success: Literature review and case study', *International Journal of Engineering Business Management*, 13. doi: 10.1177/18479790211016273.

- Erumban, A. A. and de Jong, S. B. (2006) 'Cross-country differences in ICT adoption: A consequence of Culture?', *Journal of World Business*, 41(4), pp. 302–314. doi: 10.1016/j.jwb.2006.08.005.
- Fan, L. (2022) 'Mobile investment technology adoption among investors', *International Journal of Bank Marketing*, 40(1), pp. 50–67. doi: 10.1108/IJBM-11-2020-0551.
- Fang, Z. (2002) 'E-Government in Digital Era: Concept, Practice, and Development.', *International Journal of The Computer, The Internet and Management*, 10(2), pp. 1–22.
- Faqih, K. M. S. (2011) 'Integrating perceived risk and trust with technology acceptance model: An empirical assessment of customers' acceptance of online shopping in Jordan', in *2011 International Conference on Research and Innovation in Information Systems*. IEEE, pp. 1–5. doi: 10.1109/ICRIIS.2011.6125686.
- Featherman, M. S., Miyazaki, A. D. and Sprott, D. E. (2010) 'Reducing online privacy risk to facilitate e-service adoption: the influence of perceived ease of use and corporate credibility', *Journal of Services Marketing*, 24(3), pp. 219–229. doi: 10.1108/08876041011040622.
- Featherman, M. S. and Pavlou, P. A. (2003) 'Predicting e-services adoption: a perceived risk facets perspective', *International Journal of Human-Computer Studies*, 59(4), pp. 451–474. doi: 10.1016/S1071-5819(03)00111-3.
- Fishbein, M. and Ajzen, I. (1975) *Belief, attitude, intention and behaviour: An Introduction to Theory and Research*. Cambridge University Press. doi: 10.1017/CBO9781107415324.004.
- Forsythe, S., Liu, C., Shannon, D. and Gardner, L.C., 2006. Development of a scale to measure the perceived benefits and risks of online shopping. *Journal of interactive marketing*, 20(2), pp.55-75.
- Gaventa, J. and McGee, R. (2013) 'The Impact of Transparency and Accountability Initiatives', *Development Policy Review*, 31(s1). doi: 10.1111/dpr.12017.
- Gefen, D., Warkentin, M., Pavlou, P. and Rose, G., 2002. E-government adoption. *AMCIS 2002 proceedings*, p.83.

Gidron, Y. (2013) 'Perceived Risk', in *Encyclopedia of Behavioral Medicine*. New York, NY: Springer New York, pp. 1453–1453. doi: 10.1007/978-1-4419-1005-9_1554.

Gillani, F., Chatha, K.A., Jajja, S.S., Cao, D. and Ma, X., 2024. Unpacking Digital Transformation: Identifying key enablers, transition stages and digital archetypes. *Technological Forecasting and Social Change*, 203, p.123335.

Glyptis, L., Christofi, M., Vrontis, D., Del Giudice, M., Dimitriou, S. and Michael, P., 2020. E-Government implementation challenges in small countries: The project manager's perspective. *Technological Forecasting and social change*, 152, p.119880.

Goloshchapova, T., Yamashev, V., Skornichenko, N. and Strielkowski, W., 2023. E-Government as a key to the economic prosperity and sustainable development in the Post-Covid Era. *Economies*, 11(4), p.112.

Grönlund, Å. and Horan, T. A. (2005) 'Introducing e-Gov: History, Definitions, and Issues', *Communications of the Association for Information Systems*, 15. doi: 10.17705/1CAIS.01539.

Guest, G., Bunce, A. and Johnson, L. (2006). How many interviews are enough? *Field Methods*, 18(1), pp.59–82. doi:10.1177/1525822X05279903

Gümüş, N. and Çark, Ö. (2021) 'The Effect of Customers' Attitudes Towards Chatbots on their Experience and Behavioural Intention in Turkey', *Interdisciplinary Description of Complex Systems*, 19(3), pp. 420–436. doi: 10.7906/indecs.19.3.6.

Gupta, K. P., Manrai, R. and Goel, U. (2019) 'Factors influencing adoption of payments banks by Indian customers: extending UTAUT with perceived credibility', *Journal of Asia Business Studies*, 13(2), pp. 173–195. doi: 10.1108/JABS-07-2017-0111.

Gupta, P., Hooda, A., Jeyaraj, A., Seddon, J.J. and Dwivedi, Y.K., 2025. Trust, risk, privacy and security in e-Government use: Insights from a MASEM analysis. *Information Systems Frontiers*, 27(3), pp.1089-1105.

Gupta, S. and Mathur, N. (2024) 'User-centred exploration of m-governance adoption: identifying and analysing determinants', *Transforming Government: People, Process and Policy*, 18(3), pp. 473–491. doi: 10.1108/TG-01-2024-0027.

Habib, S. and Hamadneh, N. N. (2021) 'Impact of Perceived Risk on Consumers Technology Acceptance in Online Grocery Adoption amid COVID-19 Pandemic', *Sustainability*, 13(18), p. 10221. doi: 10.3390/su131810221.

Hameed, I., Khan, A.K., Sabharwal, M., Arain, G.A. and Hameed, I., 2019. Managing successful change efforts in the public sector: An employee's readiness for change perspective. *Review of Public Personnel Administration*, 39(3), pp.398-421

Hapsara, M., Imran, A. and Turner, T. (2017) 'Beyond Organizational Motives of e-Government Adoption: The Case of e-Voting Initiative in Indonesian Villages', *Procedia Computer Science*, 124, pp. 362–369. doi: 10.1016/j.procs.2017.12.166.

Hidayatullah, S., Ardianto, Y.T., Octvie H, A., Rachmawati, I.K. and Alvianna, S., 2020 'Performance expectancy, effort expectancy, social influence on behavioral to use through behavioral intention in using mobile banking in Malang.', *International Journal of Marketing Studies*, 11(4), pp. 1–19.

Hirunyawipada, T. and Paswan, A. K. (2006) 'Consumer innovativeness and perceived risk: implications for high technology product adoption', *Journal of Consumer Marketing*, 23(4), pp. 182–198. doi: 10.1108/07363760610674310.

Hoang, H. and Le Tan, T. (2023) 'Unveiling digital transformation: Investigating technology adoption in Vietnam's food delivery industry for enhanced customer experience', *Heliyon*, 9(9), p. e19719. doi: 10.1016/j.heliyon.2023.e19719.

Hofmann, S., Räckers, M. and Becker, J. (2012) 'identifying factors of EG acceptance—A literature review', in *Thirty Third International Conference on Information Systems*.

Hong, W. (2024) 'Multiple Effects and Intrinsic Logic in Reshaping the Paradigm of Government Governance Through Digital Technology.', *Social Sciences in China*, 45(2), pp. 92–112.

Horsfall, M., Eikelenboom, M., Draisma, S. and Smit, J.H., 2021. The effect of rapport on data quality in face-to-face interviews: Beneficial or detrimental?. *International Journal of Environmental Research and Public Health*, 18(20), p.10858

Horton, R. L. (1976) 'The structure of perceived risk: Some further progress', *Journal of the Academy of Marketing Science*, 4(4), pp. 694–706. doi: 10.1007/BF02729830.

Hu, Z., Ding, S., Li, S., Chen, L. and Yang, S., 2019. Adoption intention of fintech services for bank users: An empirical examination with an extended technology acceptance model. *Symmetry*, 11(3), p.340.

Hung, S.-Y., Chang, C.-M. and Yu, T.-J. (2006) 'Determinants of user acceptance of the e-Government services: The case of online tax filing and payment system', *Government Information Quarterly*, 23(1), pp. 97–122. doi: 10.1016/j.giq.2005.11.005.

Hutter, B. M. and Jones, C. J. (2007) 'From government to governance: External influences on business risk management', *Regulation & Governance*, 1(1), pp. 27–45. doi: 10.1111/j.1748-5991.2007.00004.x.

Hwang, M.-S. *et al.* (2004) 'Challenges in E-Government and Security of Information', *Information & Security: An International Journal*, 15, pp. 9–20. doi: 10.11610/isij.1501.

Im, T., Cho, W., Porumbescu, G. and Park, J., 2014. Internet, trust in government, and citizen compliance. *Journal of Public Administration Research and Theory*, 24(3), pp.741-763.

Iong, K. Y. and Phillips, J. O. L. (2023) 'The transformation of government employees' behavioural intention towards the adoption of E-government services: An empirical study', *Social Sciences & Humanities Open*, 7(1), p. 100485. doi: 10.1016/j.ssaho.2023.100485.

Irani, Z., Weerakkody, V., Kamal, M., Mohammed Hindi, N., Osman, I.H., Latef Anouze, A., El-Haddadeh, R., Lee, H., Osmani, M. and Al-Ayoubi, B., 2012. An analysis of methodologies utilised in e-government research: A user satisfaction perspective. *Journal of Enterprise Information Management*, 25(3), pp.298-313.

Irani, Z., Love, P. E. D. and Jones, S. (2008) 'Learning lessons from evaluating eGovernment: Reflective case experiences that support transformational government', *The Journal of Strategic Information Systems*, 17(2), pp. 155–164. doi: 10.1016/j.jsis.2007.12.005.

Ishrat, M., Khan, W., Faisal, S.M. and Ansari, M.S.H., 2025. Smart Governance and Citizen Engagement Platforms: The Role of Technology in Smart Governance. In *Revolutionizing Urban Development and Governance With Emerging Technologies* (pp. 189-232). IGI Global Scientific Publishing.

Ismagilova, E., Hughes, L., Rana, N.P. and Dwivedi, Y.K., 2022. Security, privacy and risks within smart cities: Literature review and development of a smart city interaction framework. *Information Systems Frontiers*, 24(2), pp.393-414.

ITC (2008) *Electronic Government for Developing Countries*.

Izquierdo-Yusta, A., Olarte-Pascual, C. and Reinares-Lara, E. (2015) 'Attitudes toward mobile advertising among users versus non-users of the mobile Internet', *Telematics and Informatics*, 32(2), pp. 355–366. doi: 10.1016/j.tele.2014.10.001.

Jacoby, J. and Kaplan, L. B. (1972) 'The Components of Perceived Risk.', *Advances in Consumer Research. Association for Consumer Research*, pp. 382–393.

Janowski, T. (2015) 'Digital government evolution: From transformation to contextualization', *Government Information Quarterly*, 32(3), pp. 221–236. doi: 10.1016/j.giq.2015.07.001.

Jasimuddin, S. M., Mishra, N. and A. Saif Almuraqab, N. (2017) 'Modelling the factors that influence the acceptance of digital technologies in e-government services in the UAE: a PLS-SEM Approach', *Production Planning & Control*, 28(16), pp. 1307–1317. doi: 10.1080/09537287.2017.1375144.

Jeng, S.-P. (2016) 'The influences of airline brand credibility on consumer purchase intentions', *Journal of Air Transport Management*, 55, pp. 1–8. doi: 10.1016/j.jairtraman.2016.04.005.

Jiang, G., Liu, F., Liu, W., Liu, S., Chen, Y. and Xu, D., 2021. Effects of information quality on information adoption on social media review platforms: Moderating role of perceived risk. *Data Science and Management*, 1(1), pp.13-22.

Jiang, Y., Yang, X. and Zheng, T. (2023) 'Make chatbots more adaptive: Dual pathways linking human-like cues and tailored response to trust in interactions with chatbots', *Computers in Human Behavior*, 138, p. 107485. doi: 10.1016/j.chb.2022.107485.

Johnson, J. L., Adkins, D. and Chauvin, S. (2020) 'A Review of the Quality Indicators of Rigor in Qualitative Research', *American Journal of Pharmaceutical Education*, 84(1), p. 7120. doi: 10.5688/ajpe7120.

Jokisch, M.R., Schmidt, L.I., Doh, M., Marquard, M. and Wahl, H.W., 2020. The role of internet self-efficacy, innovativeness and technology avoidance in breadth of internet use: Comparing older technology experts and non-experts. *Computers in Human Behavior*, 111, p.106408.

Kalankesh, L.R., Nasiry, Z., Fein, R.A. and Damanabi, S., 2020. Factors influencing user satisfaction with information systems: a systematic review. *Galen Medical Journal*, 9, p.e1686.

Kallio, H., Pietilä, A.M., Johnson, M. and Kangasniemi, M., 2016. Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *Journal of advanced nursing*, 72(12), pp.2954-2965.

Kamal, M. M., Weerakkody, V. and Jones, S. (2009) 'The case of EAI in facilitating e-Government services in a Welsh authority', *International Journal of Information Management*, 29(2), pp. 161–165. doi: 10.1016/j.ijinfomgt.2008.12.002.

Kamarudin, S., Omar, S.Z., Zaremohzzabieh, Z., Bolong, J. and Osman, M.N., 2021. Factors predicting the adoption of e-government services in telecenters in rural areas: The mediating role of trust. *Asia-Pacific Social Science Review*, 21(1), p.3.

Kanaan, A., AL-Hawamleh, A., Abulfaraj, A., Al-Kaseasbeh, H.M. and Alorfi, A., 2023. The effect of quality, security and privacy factors on trust and intention to use e-government services. *International Journal of Data & Network Science*, 7(1).

Kardaras, D. K. and Papathanassiou, E. A. (2008) 'An Exploratory Study of the E-Government Services in Greece', in *Handbook of Research on Public Information Technology*. IGI Global, pp. 162–174. doi: 10.4018/978-1-59904-857-4.ch016.

Kaufmann, D., Kraay, A. and Mastruzzi, M. (2011) 'The Worldwide Governance Indicators: Methodology and Analytical Issues', *Hague Journal on the Rule of Law*, 3(02), pp. 220–246. doi: 10.1017/S1876404511200046.

Khamis, R. (2023) *Measuring Citizens' Acceptance and Usage of E-Government Services: Applying the Technology Acceptance Model (TAM) in Egypt*. The American University in Cairo (Egypt).

Khan, A.Z., Mahmood, F., Bokhari, R.H., Mushtaq, R. and Abbas, R., 2021. Challenges of e-government implementation in health sector: A step toward validating a conceptual framework. *Digital Policy, Regulation and Governance*, 23(6), pp.574-597.

Khan, S., Umer, R., Umer, S. and Naqvi, S., 2021. Antecedents of trust in using social media for E-government services: An empirical study in Pakistan. *Technology in Society*, 64, p.101400

Kiger, M. E. and Varpio, L. (2020) 'Thematic analysis of qualitative data: AMEE Guide No. 131', *Medical Teacher*, 42(8), pp. 846–854. doi: 10.1080/0142159X.2020.1755030.

Kim, H.-W., Chan, H. C. and Gupta, S. (2007) 'Value-based Adoption of Mobile Internet: An empirical investigation', *Decision Support Systems*, 43(1), pp. 111–126. doi: 10.1016/j.dss.2005.05.009.

KIM, M.-S. and HUNTER, J. E. (1993) 'Relationships Among Attitudes, Behavioral Intentions, and Behavior', *Communication Research*, 20(3), pp. 331–364. doi: 10.1177/009365093020003001.

Kosack, S. and Fung, A. (2014) 'Does Transparency Improve Governance?', *Annual Review of Political Science*, 17(1), pp. 65–87. doi: 10.1146/annurev-polisci-032210-144356.

Kraemer, K. L. (1977) 'Local Government, Information Systems, and Technology Transfer: Evaluating Some Common Assertions about Computer Application Transfer', *Public Administration Review*, 37(4), p. 368. doi: 10.2307/974867.

Kromidha, E. and Cordoba-Pachon, J.-R. (2014) 'Bridging the gaps between e-government practice and research', *International Journal of Public Sector Management*, 27(1), pp. 66–84. doi: 10.1108/IJPSM-05-2012-0064.

Kuechler, W. and Vaishnavi, V. (2012) 'A Framework for Theory Development in Design Science Research: Multiple Perspectives', *Journal of the Association for Information Systems*, 13(6), pp. 395–423. doi: 10.17705/1jais.00300.

Kumar, A., Gupta, P. K. and Srivastava, A. (2020) 'A review of modern technologies for tackling COVID-19 pandemic', *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, 14(4), pp. 569–573. doi: 10.1016/j.dsx.2020.05.008.

Kumar, R., Sachan, A. and Mukherjee, A. (2017) 'Qualitative approach to determine user experience of e-government services', *Computers in Human Behavior*, 71, pp. 299–306. doi: 10.1016/j.chb.2017.02.023.

Kumar, R., Hamid, A., Bakar, A., Inayah Binti Ya'akub, N., Sharma Gaur, M. and Kumar, S. eds., 2024. *Futuristic E-governance Security with Deep Learning Applications*. IGI Global.

Kumar Suri, P. (2014) 'Flexibility of processes and e-governance performance', *Transforming Government: People, Process and Policy*, 8(2), pp. 230–250. doi: 10.1108/TG-01-2013-0001.

Kurfah, M., Arifoğlu, A., Tokdemir, G. and Paçin, Y., 2017. Adoption of e-government services in Turkey. *Computers in human Behavior*, 66, pp.168-178.

Kuriansky, J. (2024) 'Leadership skills of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Ruler of Dubai', in *Resilient Health*. Elsevier, pp. 481–498. doi: 10.1016/B978-0-443-18529-8.00039-1.

Kwangsawad, A. and Jattamart, A. (2022) 'Overcoming customer innovation resistance to the sustainable adoption of chatbot services: A community-enterprise perspective in Thailand', *Journal of Innovation & Knowledge*, 7(3), p. 100211. doi: 10.1016/j.jik.2022.100211.

Larson, R. B. (2019) 'Controlling social desirability bias', *International Journal of Market Research*, 61(5), pp. 534–547. doi: 10.1177/1470785318805305.

Lederer, A.L., Maupin, D.J., Sena, M.P. and Zhuang, Y., 2000. The technology acceptance model and the World Wide Web. *Decision support systems*, 29(3), pp.269-282.

Lee, A. T., Ramasamy, R. K. and Subbarao, A. (2025) 'Understanding Psychosocial Barriers to Healthcare Technology Adoption: A Review of TAM Technology Acceptance Model and Unified Theory of Acceptance and Use of Technology and UTAUT Frameworks', *Healthcare*, 13(3), p. 250. doi: 10.3390/healthcare13030250.

Lee, M.-C. (2009) 'Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit', *Electronic Commerce Research and Applications*, 8(3), pp. 130–141. doi: 10.1016/j.elerap.2008.11.006.

Leggett, K., 2018. 2018 customer service trends: How operations become faster, cheaper—and yet, more human. *Forrester*, p.4.

Leonard, L. N. K., Riemenschneider, C. K. and Manly, T. S. (2017) 'Ethical Behavioral Intention in an Academic Setting: Models and Predictors', *Journal of Academic Ethics*, 15(2), pp. 141–166. doi: 10.1007/s10805-017-9273-2.

Li, W. (2021) 'The Role of Trust and Risk in Citizens' E-Government Services Adoption: A Perspective of the Extended UTAUT Model', *Sustainability*, 13(14), p. 7671. doi: 10.3390/su13147671.

Li, Y. and Shang, H. (2020) 'Service quality, perceived value, and citizens' continuous-use intention regarding e-government: Empirical evidence from China', *Information & Management*, 57(3), p. 103197. doi: 10.1016/j.im.2019.103197.

Liu, J., Li, W., Zou, Q., Liu, S., Wang, M. and Zheng, J., 2023. Research on the influencing factors of the citizen adoption process of China's national integrated online government service platform. *Aslib Journal of Information Management*, 75(6), pp.1152-1177.

Looks, H., Fangmann, J., Thomaschewski, J., Escalona, M.J. and Schön, E.M., 2024. Towards improving agility in public administration. *Software Quality Journal*, 32(1), pp.283-311.

Lutz, R.J. and Reilly, P.J., 1974. An Exploration of the Effects of Perceived Social and Performance Risk on Consumer Information Acquisition. *Advances in consumer research*, 1(1).

Lynn, T., Rosati, P., Conway, E., Curran, D., Fox, G. and O'Gorman, C., 2022. *Digital towns: accelerating and measuring the digital transformation of rural societies and economies* (p. 213). Springer Nature.

Malik, A., Kumra, R. and Srivastava, V. (2013) 'Determinants of Consumer Acceptance of M-Commerce.', *South Asian Journal of Management*, 20(2), pp. 102–126.

Malodia, S., Dhir, A., Mishra, M. and Bhatti, Z.A., 2021. Future of e-Government: An integrated conceptual framework. *Technological Forecasting and Social Change*, 173, p.121102

Mao, Z., Zou, Q., Bu, T., Dong, Y. and Yan, R., 2023. Understanding the role of service quality of government APPs in continuance intention: An expectation–confirmation perspective. *Sage Open*, 13(4), p.21582440231201218.

Marriott, H. R. and Williams, M. D. (2018) 'Exploring consumers perceived risk and trust for mobile shopping: A theoretical framework and empirical study', *Journal of Retailing and Consumer Services*, 42, pp. 133–146. doi: 10.1016/j.jretconser.2018.01.017.

Martins, C., Oliveira, T. and Popovič, A. (2014) 'Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application', *International Journal of Information Management*, 34(1), pp. 1–13. doi: 10.1016/j.ijinfomgt.2013.06.002.

Mayer, R. C., Davis, J. H. and Schoorman, F. D. (1995) 'An Integrative Model Of Organizational Trust', *Academy of Management Review*, 20(3), pp. 709–734. doi: 10.5465/amr.1995.9508080335.

Mensah, I. K. (2019) 'Factors Influencing the Intention of University Students to Adopt and Use E-Government Services: An Empirical Evidence in China', *Sage Open*, 9(2). doi: 10.1177/2158244019855823.

Mensah, I. K. (2020) 'Impact of Government Capacity and E-Government Performance on the Adoption of E-Government Services', *International Journal of Public Administration*, 43(4), pp. 303–311. doi: 10.1080/01900692.2019.1628059.

Mensah, I. K., Zeng, G. and Luo, C. (2020) 'E-Government Services Adoption: An Extension of the Unified Model of Electronic Government Adoption', *Sage Open*, 10(2). doi: 10.1177/2158244020933593.

Mesa, D. (2023) 'Digital divide, e-government and trust in public service: The key role of education', *Frontiers in Sociology*, 8. doi: 10.3389/fsoc.2023.1140416.

Meyliana, M., Fernando, E. and Surjandy, S. (2019) 'The Influence of Perceived Risk and Trust in Adoption of FinTech Services in Indonesia', *CommIT (Communication and Information Technology) Journal*, 13(1), p. 31. doi: 10.21512/commit.v13i1.5708.

Mierzwiak, R. (2024) *Methodological Aspects of Grey Systems Theory in Management Research*. Singapore: Springer Nature Singapore (Series on Grey System). doi: 10.1007/978-981-97-2413-0.

- Mimiaga, M.J., Reisner, S.L., Reilly, L., Soroudi, N. and Safren, S.A., 2009. Individual interventions. In *HIV prevention* (pp. 203-239). Academic Press.
- Mirchandani, D.A., Hayes, J.P., Kathawala, Y.A. and Chawla, S., 2018. Preferences of Kuwait's Residents for E-Government Services and Portal Factors. *The journal of developing areas*, 52(1), pp.269-279.
- Miyazaki, A. D. and Fernandez, A. (2000) 'Internet Privacy and Security: An Examination of Online Retailer Disclosures', *Journal of Public Policy & Marketing*, 19(1), pp. 54–61. doi: 10.1509/jppm.19.1.54.16942.
- Miyazaki, A. D. and Fernandez, A. (2001) 'Consumer Perceptions of Privacy and Security Risks for Online Shopping', *Journal of Consumer Affairs*, 35(1), pp. 27–44. doi: 10.1111/j.1745-6606.2001.tb00101.x.
- Molnar, A., Janssen, M. and Weerakkody, V. (2015) 'e-government theories and challenges', in *Proceedings of the 16th Annual International Conference on Digital Government Research*. New York, NY, USA: ACM, pp. 160–166. doi: 10.1145/2757401.2757419.
- Moon, M. J. (2002) 'The Evolution of E-Government among Municipalities: Rhetoric or Reality?', *Public Administration Review*, 62(4), pp. 424–433. doi: 10.1111/0033-3352.00196.
- Mu, R. and Wang, Y. (2025) 'Behind the curtain: exploring the inter-governmental collaboration mechanisms for e-governance platforms', *Journal of Organizational Change Management*, 38(1), pp. 1–24. doi: 10.1108/JOCM-01-2024-0026.
- Mudawi, N. Al, Beloff, N. and White, M. (2020) 'Issues and Challenges: Cloud Computing e-Government in Developing Countries', *International Journal of Advanced Computer Science and Applications*, 11(4). doi: 10.14569/IJACSA.2020.0110402.
- Mukherjee, S. P. (2020) *A guide to research methodology : an overview of research problems, tasks and methods*. CRC Press.

Mustafa, G., Rafiq, W., Jhamat, N., Arshad, Z. and Rana, F.A., 2025. Blockchain-based governance models in e-government: a comprehensive framework for legal, technical, ethical and security considerations. *International Journal of Law and Management*, 67(1), pp.37-55.

Naeem, M., Ozuem, W., Howell, K. and Ranfagni, S., 2023. A step-by-step process of thematic analysis to develop a conceptual model in qualitative research. *International journal of qualitative methods*, 22, p.16094069231205789.

Nahedh Alsehani, F., Abdul Wahab, A. W. Bin and Shuib, L. (2024) 'Factors Influencing Social Media Adoption in Government Organizations: A TOE Framework and PLS-SEM Model Analysis', *IEEE Access*, 12, pp. 158150–158173. doi: 10.1109/ACCESS.2024.3478337.

Namahoot, K. S. and Laohavichien, T. (2018) 'Assessing the intentions to use internet banking', *International Journal of Bank Marketing*, 36(2), pp. 256–276. doi: 10.1108/IJBM-11-2016-0159.

Nawafleh, S. (2018) 'The Role of Mobile Applications in Jordanian Public-Sector e-Government Services: Empirical Study in Jordanian Income and Sales Tax Department', *Journal of Information & Knowledge Management*, 17(01), p. 1850003. doi: 10.1142/S021964921850003X.

Ndou, V. (Dardha) (2004) 'E – Government for Developing Countries: Opportunities and Challenges', *THE ELECTRONIC JOURNAL OF INFORMATION SYSTEMS IN DEVELOPING COUNTRIES*, 18(1), pp. 1–24. doi: 10.1002/j.1681-4835.2004.tb00117.x.

Neuman, W. L. (2005) *Social research methods : quantitative and qualitative approaches* . 6th ed. Boston, Mass. ; Allyn and Bacon.

Nguyen, T. T. T. (2023) 'Citizens' intentions to use e-government during the COVID-19 pandemic: integrating the technology acceptance model and perceived risk theory', *Kybernetes*, 52(7), pp. 2329–2346. doi: 10.1108/K-07-2022-1023.

Nimfa, D. T. and Buruche, E. G. (2019) 'Impact of strategic planning and organizational productivity in Nigeria, A century of public sector and corporate government in Nigeria (1914-2014).', in *Proceedings of the 4th International Conference.*, pp. 230–247.

Nimfa, D. T., Latiff, A. S. A. and Wahab, S. A. (2021) 'Theories underlying sustainable growth of small and medium enterprise.', *African Journal of Emerging Issues*, 3(1), pp. 43–66.

Noble, H. and Smith, J. (2015) 'Issues of validity and reliability in qualitative research', *Evidence Based Nursing*, 18(2), pp. 34–35. doi: 10.1136/eb-2015-102054.

Nookhao, S. and Kiattisin, S. (2023) 'Achieving a successful e-government: Determinants of behavioral intention from Thai citizens' perspective', *Heliyon*, 9(8), p. e18944. doi: 10.1016/j.heliyon.2023.e18944.

Nooren, P., Van Gorp, N., van Eijk, N. and Fathaigh, R.Ó., 2018. Should we regulate digital platforms? A new framework for evaluating policy options. *Policy & Internet*, 10(3), pp.264-301.

Nowell, L.S., Norris, J.M., White, D.E. and Moules, N.J., 2017. Thematic analysis: Striving to meet the trustworthiness criteria. *International journal of qualitative methods*, 16(1), p.1609406917733847

Nzaramyimana, L. and Susanto, T. D. (2019) 'Analysis of factors affecting behavioural Intention to use e-government services in Rwanda.', *Procedia Computer Science*, 161, pp. 350–358.

O'Bannon, P.B., Feather, B.L., Vann, J.W. and Dillard, B.G., 1988. Perceived risk and information sources used by wheelchair-bound consumers in clothing purchase decisions. *Clothing and Textiles Research Journal*, 7(1), pp.15-22

O'Neill, R. (2009a) *E-government: transformation of public governance in New Zealand?* Victoria University of Wellington.

O'Neill, R. (2009b) 'The Transformative Impact of E-Government on Public Governance in New Zealand', *Public Management Review*, 11(6), pp. 751–770. doi: 10.1080/14719030903318939.

OECD (2007) *Implementing eGovernment in OECD Countries: Experiences and Challenges*.

OECD. (2007). *OECD e-Government studies: Estonia*. OECD Publishing. <https://doi.org/10.1787/9789264034012-en>

Olimat, M. and Antwi-Boateng, O. (2024) 'The Constitutional and Policy-Oriented Framework of Rights, Services, and Integration of People of Determination in the United Arab Emirates.', *Journal of International Women's Studies*, 26(6).

Olmos-Vega, F.M., Stalmeijer, R.E., Varpio, L. and Kahlke, R., 2023. A practical guide to reflexivity in qualitative research: AMEE Guide No. 149. *Medical teacher*, 45(3), pp.241-251.

Ortiz, J., Chih, W.-H. and Tsai, F.-S. (2018) 'Information privacy, consumer alienation, and lurking behavior in social networking sites', *Computers in Human Behavior*, 80, pp. 143–157. doi: 10.1016/j.chb.2017.11.005.

Paccoud, I., Baumann, M., Le Bihan, E., Pétré, B., Breinbauer, M., Böhme, P., Chauvel, L. and Leist, A.K., 2021. Socioeconomic and behavioural factors associated with access to and use of personal health records. *BMC medical informatics and decision making*, 21(1), p.18.

Palma, J.P.B., Avila, L.S., Mag-iba, M.A.J., Buman-eg, L.D., Nacpil Jr, E.E., Dayrit, D.J.A. and Rodelas, N.C., 2023. E-governance: A critical review of e-government systems features and frameworks for success. *International Journal of Computing Sciences Research*, 7, pp.2004-2017.

Pan, Y. and Zinkhan, G. M. (2006) 'Exploring the impact of online privacy disclosures on consumer trust', *Journal of Retailing*, 82(4), pp. 331–338. doi: 10.1016/j.jretai.2006.08.006.

Pandey, J. K. (2024) 'Evaluating public service value within collaborative e-governance: a study in the Indian context.', *Digital Transformation and Society*, 3(2), pp. 197–213.

Pannucci, C. J. and Wilkins, E. G. (2010) 'Identifying and Avoiding Bias in Research', *Plastic and Reconstructive Surgery*, 126(2), pp. 619–625. doi: 10.1097/PRS.0b013e3181de24bc.

Panori, A., Kakderi, C., Komninos, N., Fellnhofner, K., Reid, A. and Mora, L., 2021. Smart systems of innovation for smart places: Challenges in deploying digital platforms for co-creation and

Parent, M., Vandebeek, C. A. and Gemino, A. C. (2005) 'Building Citizen Trust Through E-government', *Government Information Quarterly*, 22(4), pp. 720–736. doi: 10.1016/j.giq.2005.10.001.

Park, S. (2023) 'Constructivism', in *International Organization and Global Governance*.

Park, S. and Tussyadiah, I. P. (2017) 'Multidimensional Facets of Perceived Risk in Mobile Travel Booking', *Journal of Travel Research*, 56(7), pp. 854–867. doi: 10.1177/0047287516675062.

Parry, M. E., Sarma, S. and Yang, X. (2021) 'The Relationships among Dimensions of Perceived Risk and the Switching Intentions of Pioneer Adopters in Japan', *Journal of International Consumer Marketing*, 33(1), pp. 38–57. doi: 10.1080/08961530.2020.1765445.

Patergiannaki, Z. and Pollalis, Y. A. (2024) 'E-government quality from the citizen's perspective: the role of perceived factors, demographic variables and the digital divide', *International Journal of Public Sector Management*, 37(2), pp. 232–254. doi: 10.1108/IJPSM-07-2023-0229.

Patrick, L. C. and Marques, J. A. L. (2024) 'Mini-programs in mobile payment to access eGovernment in China's Greater Bay Area - exploring the determinants and mechanism from self-determination and motivation theory', *Cogent Social Sciences*, 10(1). doi: 10.1080/23311886.2023.2300515.

Peter, J. P. and Ryan, M. J. (1976) 'An Investigation of Perceived Risk at the Brand Level', *Journal of Marketing Research*, 13(2), p. 184. doi: 10.2307/3150856.

Petter, S., DeLone, W. and McLean, E. (2008) 'Measuring information systems success: models, dimensions, measures, and interrelationships', *European Journal of Information Systems*, 17(3), pp. 236–263. doi: 10.1057/ejis.2008.15.

Piccoli, G., Grover, V. and Rodriguez, J. (2024) 'Digital transformation requires digital resource primacy: Clarification and future research directions', *The Journal of Strategic Information Systems*, 33(2), p. 101835. doi: 10.1016/j.jsis.2024.101835.

Pop, R.-A., Hlédik, E. and Dabija, D.-C. (2023) 'Predicting consumers' purchase intention through fast fashion mobile apps: The mediating role of attitude and the moderating role of COVID-19', *Technological Forecasting and Social Change*, 186, p. 122111. doi: 10.1016/j.techfore.2022.122111.

Prakash, G., Choudhary, S., Kumar, A., Garza-Reyes, J.A., Khan, S.A.R. and Panda, T.K., 2019. Do altruistic and egoistic values influence consumers' attitudes and purchase intentions towards eco-friendly packaged products? An empirical investigation. *Journal of Retailing and Consumer Services*, 50, pp.163-169.

Priya, A. (2020) 'Case Study Methodology of Qualitative Research: Key Attributes and Navigating the Conundrums in Its Application', *Sociological Bulletin*, 70(1), pp. 94–110. doi: 10.1177/0038022920970318.

Rahimi, R. A. and Oh, G. S. (2024) 'Beyond theory: a systematic review of strengths and limitations in technology acceptance models through an entrepreneurial lens', *Journal of Marketing Analytics*. doi: 10.1057/s41270-024-00318-x.

Rahman, M. H., Albaloshi, S. A. and Sarker, A. E. (2023) 'From E-Governance to Smart Governance: Policy Lessons for the UAE', in *Global Encyclopedia of Public Administration, Public Policy, and Governance*. Cham: Springer International Publishing, pp. 5075–5087. doi: 10.1007/978-3-030-66252-3_2482.

Rajasekar, S., Pitchai, P. and Veerapadran, C. (2006) 'Research Methodology'.

Ramirez-Madrid, J.P., Escobar-Sierra, M., Lans-Vargas, I. and Montes Hincapie, J.M., 2024. Factors influencing citizens' adoption of e-government: an empirical validation in a Developing Latin American Country. *Public Management Review*, 26(1), pp.185-218

Ramos-Maqueda, M. and Chen, D. L. (2025) 'The data revolution in justice', *World Development*, 186, p. 106834. doi: 10.1016/j.worlddev.2024.106834.

Rana, N.P., Dwivedi, Y.K., Lal, B., Williams, M.D. and Clement, M., 2017. Citizens' adoption of an electronic government system: towards a unified view. *Information systems frontiers*, 19(3), pp.549-568.

Rauscher, K. (2024). *Successful Strategies Government Executive Stakeholders Use to Mitigate Higher Project Costs and User Adoption Failure Rates*. Walden University.

Redda, E. H. (2019) 'Attitudes towards Online Shopping: Application of the Theory of Planned Behaviour.', *Acta Universitatis Danubius. Œconomica*, 15(2), pp. 148–159.

Reepu, R. and Arora, R. (2022) 'The Effect of Perceived Risk on Intention to Use Online Banking', *Universal Journal of Accounting and Finance*, 10(1), pp. 62–71. doi: 10.13189/ujaf.2022.100107.

Rendle, K.A., Abramson, C.M., Garrett, S.B., Halley, M.C. and Dohan, D., 2019. Beyond exploratory: a tailored framework for designing and assessing qualitative health research. *BMJ open*, 9(8), p.e030123

Rimjhim and Kumar, V. (2018) 'Social Implications of E-Government', in, pp. 35–50. doi: 10.4018/978-1-5225-5097-6.ch003.

Rizkalla, N., Tannady, H. and Bernando, R. (2024) 'Analysis of the influence of performance expectancy, effort expectancy, social influence, and attitude toward behavior on intention to adopt live.on', *Multidisciplinary Reviews*, 6, p. 2023spe017. doi: 10.31893/multirev.2023spe017.

Rodrigues, G., Sarabdeen, J. and Balasubramanian, S. (2016) 'Factors that Influence Consumer Adoption of E-government Services in the UAE: A UTAUT Model Perspective', *Journal of Internet Commerce*, 15(1), pp. 18–39. doi: 10.1080/15332861.2015.1121460.

Rogers, E. M. (1962) *Diffusion of innovations*. First. Free Press of Glencoe.

Rogers, E. M. (1995) *Diffusion of Innovations*. 4th edn. New York: Free press.

Roller, M. R. and Lavrakas, P. J. (2015) 'Limitations of the Focus Group Method', in *Applied Qualitative Research Design: A Total Quality Framework Approach*, pp. 112–113.

Rose, J. and Johnson, C. W. (2020) 'Contextualizing reliability and validity in qualitative research: toward more rigorous and trustworthy qualitative social science in leisure research', *Journal of Leisure Research*, 51(4), pp. 432–451. doi: 10.1080/00222216.2020.1722042.

Rotchanakitumnuai, S. (2008) 'Measuring e-government service value with the E-GOVSQUAL-RISK model', *Business Process Management Journal*, 14(5), pp. 724–737. doi: 10.1108/14637150810903075.

Ryu, H. S. (2018) 'Understanding benefit and risk framework of fintech adoption: Comparison of early adopters and late adopters.', in *Proceedings of the 51st Hawaii International Conference on System Sciences*, pp. 3864–3873.

Sabah, S. (2016) 'Entrepreneurial Intention: Theory of Planned Behaviour and the Moderation Effect of Start-Up Experience', in *Entrepreneurship - Practice-Oriented Perspectives*. InTech. doi: 10.5772/65640.

Sabani, A. (2021) 'Investigating the influence of transparency on the adoption of e-Government in Indonesia', *Journal of Science and Technology Policy Management*, 12(2), pp. 236–255. doi: 10.1108/JSTPM-03-2020-0046.

Sabani, A., Deng, H. and Thai, V. (2019) 'Evaluating the Performance of E-Government in Indonesia', in *Proceedings of the 12th International Conference on Theory and Practice of Electronic Governance*. New York, NY, USA: ACM, pp. 435–440. doi: 10.1145/3326365.3326422.

Sachan, A., Kumar, Rajiv and Kumar, Ritu (2018) 'Examining the impact of e-government service process on user satisfaction', *Journal of Global Operations and Strategic Sourcing*, 11(3), pp. 321–336. doi: 10.1108/JGOSS-11-2017-0048.

Safari, K., Bisimwa, A. and Buzera Armel, M. (2022) 'Attitudes and intentions toward internet banking in an under developed financial sector', *PSU Research Review*, 6(1), pp. 39–58. doi: 10.1108/PRR-03-2020-0009.

Safeena, R. and Kammani, A. (2013) 'E-Government Adoption: A Conceptual Demarcation', in, pp. 67–76. doi: 10.1007/978-3-642-31552-7_8.

Salama, M. and Farag, R. (2024) 'Investigating the Factors That Influence the Citizen Adoption of Digital Government Services: A Case Study from the UAE', in *2024 ASU International Conference in Emerging Technologies for Sustainability and Intelligent Systems (ICETISIS)*. IEEE, pp. 456–465. doi: 10.1109/ICETISIS61505.2024.10459505.

Saleh, A. A. and Alyaseen, I. F. T. (2022) 'E-governance system key successful implementation factors.', *International Journal on Perceptive and Cognitive Computing*, 8(1), pp. 40–46.

Salih, A. M. (2024) *Digital Leadership: Evidence from Theory and Practice*. New York: Routledge. doi: 10.4324/9781003373186.

Samsor, A. M. (2021) 'Challenges and Prospects of e-Government implementation in Afghanistan', *International Trade, Politics and Development*, 5(1), pp. 51–70. doi: 10.1108/ITPD-01-2020-0001.

Santarsiero, F., Schiuma, G., Carlucci, D. and Helander, N., 2023. Digital transformation in healthcare organisations: The role of innovation labs. *Technovation*, 122, p.102640.

Santoso, A. S. and Maureen Nelloh, L. A. (2017) 'User Satisfaction and Intention to Use Peer-to-Peer Online Transportation: A Replication Study', *Procedia Computer Science*, 124, pp. 379–387. doi: 10.1016/j.procs.2017.12.168.

Sarfo, J.O., Debrah, T., Gbordzoe, N.I., Afful, W.T. and Obeng, P., 2021. Qualitative research designs, sample size and saturation: is enough always enough. *Journal of Advocacy, Research and Education*, 8(3), pp.60-65.

Sarker, A. E. and Al Athmay, A. A. A. R. A. (2018) 'The Changing Facets of Public Administration in the United Arab Emirates', *International Journal of Public Administration*, 41(10), pp. 832–844. doi: 10.1080/01900692.2017.1387149.

Sarrayrih, M. A. and Sriram, B. (2015) 'Major challenges in developing a successful e-government: A review on the Sultanate of Oman', *Journal of King Saud University - Computer and Information Sciences*, 27(2), pp. 230–235. doi: 10.1016/j.jksuci.2014.04.004.

Saunders, M. N. K., Lewis, P. and Thornhill, A. (2009) *Research methods for business students*. 5th editio. Harlow: Pearson Education.

Saunders, M. N. K., Lewis, P. and Thornhill, A. (2023) *Research Methods for Business Students*. Pearson.

Savoldelli, A., Codagnone, C. and Misuraca, G. (2014) 'Understanding the e-government paradox: Learning from literature and practice on barriers to adoption', *Government Information Quarterly*, 31, pp. S63–S71. doi: 10.1016/j.giq.2014.01.008.

Schade, M., Hegner, S., Horstmann, F. and Brinkmann, N., 2016. The impact of attitude functions on luxury brand consumption: An age-based group comparison. *Journal of business research*, 69(1), pp.314-322.

Schäffer, U. and Storek, F. (2022) 'Transforming risk management', *Controlling & Management Review*, 66(1), pp. 30–35. doi: 10.1007/s12176-021-0435-0.

Schaupp, L. C., Carter, L. and McBride, M. E. (2010) 'E-file adoption: A study of U.S. taxpayers' intentions', *Computers in Human Behavior*, 26(4), pp. 636–644. doi: 10.1016/j.chb.2009.12.017.

Selvakumar, P., Sudharma, P., Mishra, B.R. and Satyanarayana, P., 2025. Digital Government and Digital Governance. In *Public Governance Practices in the Age of AI* (pp. 1-22). IGI Global Scientific Publishing.

Seo, K. H. and Lee, J. H. (2021) 'The Emergence of Service Robots at Restaurants: Integrating Trust, Perceived Risk, and Satisfaction', *Sustainability*, 13(8), p. 4431. doi: 10.3390/su13084431.

Sepasgozar, S.M., Hawken, S., Sargolzaei, S. and Foroozanfa, M., 2019. Implementing citizen centric technology in developing smart cities: A model for predicting the acceptance of urban technologies. *Technological Forecasting and Social Change*, 142, pp.105-116.

Setiya, R., Pandey, S., Singh, A.K. and Sharma, D.K., 2021. Citizen e-governance using blockchain. In *Blockchain for smart cities* (pp. 119-152). Elsevier.

Shahzad, F., Xiu, G., Khan, I. and Wang, J., 2019. m-Government security response system: predicting citizens' adoption behavior. *International Journal of Human-Computer Interaction*, 35(10), pp.899-915.

Sharma, S.K., Metri, B., Dwivedi, Y.K. and Rana, N.P., 2021. Challenges common service centers (CSCs) face in delivering e-government services in rural India. *Government Information Quarterly*, 38(2), p.101573.

Shim, D. C. and Eom, T. H. (2008) 'E-Government and Anti-Corruption: Empirical Analysis of International Data', *International Journal of Public Administration*, 31(3), pp. 298–316. doi: 10.1080/01900690701590553.

Shrestha, A. K. and Vassileva, J. (2019) 'User Acceptance of Usable Blockchain-Based Research Data Sharing System: An Extended TAM Based Study'. doi: arXiv.2001.00079.

Shrivastava, S., Pazzaglia, F., Sonpar, K. and McLoughlin, D., 2022. Effective communication during organizational change: a cross-cultural perspective. *Cross Cultural & Strategic Management*, 29(3), pp.675-697.

Shuib, L., Yadegaridehkordi, E. and Ainin, S. (2019) 'Malaysian urban poor adoption of e-government applications and their satisfaction', *Cogent Social Sciences*. Edited by G. C. Feng, 5(1). doi: 10.1080/23311886.2019.1565293.

Signore, O. (2005) 'A Comprehensive Model for Web Sites Quality', in *Seventh IEEE International Symposium on Web Site Evolution*. IEEE, pp. 30–38. doi: 10.1109/WSE.2005.1.

Silverman, D. (2000) *Doing Qualitative Research: A Practical Handbook*. SAGE Publications.

Singh, A., Paliwal, M. and Mal, H. (2024) 'Acceptance and usability of e-governance services rendered by Indian Government: the Indian citizen perspective', *Electronic Government, an International Journal*, 20(3), pp. 241–259. doi: 10.1504/EG.2024.138156.

Solinthone, P. and Rummyantseva, T. (2016) 'E-Government Implementation', *MATEC Web of Conferences*. Edited by A. V. Yurchenko and V. I. Syryamkin, 79, p. 01066. doi: 10.1051/mateconf/20167901066.

Song, W., Zhang, J. and Meng, T. (2025) 'Digital Corporatism: State-Business Dynamics of Digital State Capacity Building in China', *Journal of Chinese Political Science*. doi: 10.1007/s11366-025-09908-7.

Stahl, A. N. and King, J. R. (2020) 'Expanding Approaches for Research: Understanding and Using Trustworthiness in Qualitative Research.', *Journal of Developmental Education*, 44(1), pp. 26–28.

Stamper, R. K. (1979) *Local government and information technology: OECD Informatics Studies*.

Talukder, M.S., Shen, L., Talukder, M.F.H. and Bao, Y., 2019. Determinants of user acceptance and use of open government data (OGD): An empirical investigation in Bangladesh. *Technology in Society*, 56, pp.147-156.

Tang, R. (2023) 'Harnessing Insights with NVivo', in, pp. 209–215. doi: 10.1007/978-3-031-04394-9_34.

Tariq, M. U. (2025) 'Navigating Public Administration 5.0', in, pp. 167–186. doi: 10.4018/979-8-3693-9286-7.ch008.

Tempelaar, D., Rienties, B. and Nguyen, Q. (2020) 'Subjective data, objective data and the role of bias in predictive modelling: Lessons from a dispositional learning analytics application', *PLOS ONE*. Edited by V. Kovanovic, 15(6), p. e0233977. doi: 10.1371/journal.pone.0233977.

Tiwari, R., Chand, K., Bhatt, A., Anjum, B. and Thirunavukkarasu, K., 2021. Agriculture 5.0 in India: opportunities and challenges of technology adoption. *A Step Towards Society 5.0*, pp.179-198.

Tokovska, M., Ferreira, V.N., Vallušova, A. and Seberíni, A., 2023. E-Government—The inclusive way for the future of digital citizenship. *Societies*, 13(6), p.141.

Troitiño, D. R., Mazur, V. and Kerikmäe, T. (2024) 'E-governance and the European Union: Agenda for implementation', *Internet of Things*, 27, p. 101321. doi: 10.1016/j.iot.2024.101352.

TSUI, H.-D. (2019) 'Trust, Perceived Useful, Attitude and Continuance Intention to Use E-Government Service: An Empirical Study in Taiwan', *IEICE Transactions on Information and Systems*, E102.D(12), pp. 2524–2534. doi: 10.1587/transinf.2019EDP7055.

Tung, L. L. and Rieck, O. (2005) 'Adoption of electronic government services among business organizations in Singapore', *The Journal of Strategic Information Systems*, 14(4), pp. 417–440. doi: 10.1016/j.jsis.2005.06.001.

Twizeyimana, J. D. and Andersson, A. (2019) 'The public value of E-Government – A literature review', *Government Information Quarterly*, 36(2), pp. 167–178. doi: 10.1016/j.giq.2019.01.001.

Twizeyimana, J. D., Larsson, H. and Grönlund, Å. (2018) 'No Title', *The Electronic Journal of e-Government*, 16(1).

UAE, G. of (2024a) *Dimensions of the UAE Digital Government Strategy 2025*.

UAE, G. of (2024b) *The Government Excellence Model*.

Udoh, H. (2024) *E-Governance performance in the context of developing countries*. University of Leicester.

Umbach, G. and Tkalec, I. (2022) 'Evaluating e-governance through e-government: Practices and challenges of assessing the digitalisation of public governmental services', *Evaluation and Program Planning*, 93, p. 102118. doi: 10.1016/j.evalprogplan.2022.102118.

UN (2014) *UN E-Government Survey 2014*.

UN. (2022). *United Nations e-Government survey 2022: The future of digital government*. United Nations Department of Economic and Social Affairs. <https://doi.org/10.18356/9789210014999>

UN. (2024). *United Nations e-Government survey 2024*. United Nations Department of Economic and Social Affairs. [In press – cite as advance online version if available].

UNESCO (2005) *E-Government Toolkit for Developing countries*.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.2307/30036540>

Venkatesh, V. and Davis, F. D. (1996) 'A Model of the Antecedents of Perceived Ease of Use: Development and Test', *Decision Sciences*, 27(3), pp. 451–481. doi: 10.1111/j.1540-5915.1996.tb01822.x.

Venkatesh, V. and Davis, F. D. (2000) 'A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies', *Management Science*, 46(2), pp. 186–204. doi: 10.1287/mnsc.46.2.186.11926.

Verkijika, S. F. and De Wet, L. (2018) 'E-government adoption in sub-Saharan Africa', *Electronic Commerce Research and Applications*, 30, pp. 83–93. doi: 10.1016/j.elerap.2018.05.012.

Vieira, I., Alen, E., Fernandes, D. and Rodrigues, A.P., 2024. Navigating uncertainty: The role of perceived risks in supporting sustainable tourism development in low-density territories. *Journal of Destination Marketing & Management*, 32, p.100895.

Walsh, R. (2003) 'The methods of reflexivity.', *The Humanistic Psychologist*, 31(4), pp. 51–66. doi: 10.1080/08873267.2003.9986934.

Wang, C. and Teo, T. S. H. (2020) 'Online service quality and perceived value in mobile government success: An empirical study of mobile police in China', *International Journal of Information Management*, 52, p. 102076. doi: 10.1016/j.ijinfomgt.2020.102076.

Wang, X., Wang, Y., Khurshid, A. and Saleem, S.F., 2025. E-governance and policy efforts advancing carbon neutrality and sustainability in European countries. *Public Money & Management*, pp.1-11.

Warkentin, M., Gefen, D., Pavlou, P.A. and Rose, G.M., 2002. Encouraging citizen adoption of e-government by building trust. *Electronic markets*, 12(3), pp.157-162

Weerakkody, V., Irani, Z., Lee, H., Hindi, N. and Osman, I., 2016. Are UK citizens satisfied with e-government services? Identifying and testing antecedents of satisfaction. *Information Systems Management*, 33(4), pp.331-343.

Welch, E. W. (2004) 'Linking Citizen Satisfaction with E-Government and Trust in Government', *Journal of Public Administration Research and Theory*, 15(3), pp. 371–391. doi: 10.1093/jopart/mui021.

West, D. M. (2004) 'E-Government and the Transformation of Service Delivery and Citizen Attitudes', *Public Administration Review*, 64(1), pp. 15–27. doi: 10.1111/j.1540-6210.2004.00343.x.

Westin, A. F. (1968) 'Privacy And Freedom.', *Washington and Lee Law Review*, 166(1).

Why Five (2025) *Business Impact Based on Fundamental Human Insights*.

Wolfinbarger, M. and Gilly, M. C. (2003) 'eTailQ: dimensionalizing, measuring and predicting etail quality', *Journal of Retailing*, 79(3), pp. 183–198. doi: 10.1016/S0022-4359(03)00034-4.

World Bank (2025) *World Bank Open Data*. Available at: <https://data.worldbank.org/>.

Xie, Q., Song, W., Peng, X. and Shabbir, M., 2017. Predictors for e-government adoption: Integrating TAM, TPB, trust and perceived risk. *The Electronic Library*, 35(1), pp.2-20.

Yang, Q., Pang, C., Liu, L., Yen, D.C. and Tarn, J.M., 2015. Exploring consumer perceived risk and trust for online payments: An empirical study in China's younger generation. *Computers in human behavior*, 50, pp.9-24.

Yap, C.S., Ahmad, R., Newaz, F.T. and Mason, C., 2021. Continuous use and extended use of e-government portals in Malaysia. *International Journal of Public Administration*, 44(15), pp.1329-1340.

Yasmin, T., Refae, G. A. El and Eletter, S. (2024) 'Highlighting The Role of UAE's Government Policies in Transition Towards "Circular Economy"', in, pp. 723–735. doi: 10.1007/978-3-031-35828-9_60.

Yildiz, M. (2007) 'E-government research: Reviewing the literature, limitations, and ways forward', *Government Information Quarterly*, 24(3), pp. 646–665. doi: 10.1016/j.giq.2007.01.002.

Yin, R. K. (2003) *Case Study Research Design and Methods: Applied Social Research and Methods Series*. Thousand Oaks, CA: SAGE.

Yip, S. Y. (2024) 'Positionality and reflexivity: negotiating insider-outsider positions within and across cultures', *International Journal of Research & Method in Education*, 47(3), pp. 222–232. doi: 10.1080/1743727X.2023.2266375.

Yiu, C. S., Grant, K. and Edgar, D. (2007) 'Factors affecting the adoption of Internet Banking in Hong Kong—implications for the banking sector', *International Journal of Information Management*, 27(5), pp. 336–351. doi: 10.1016/j.ijinfomgt.2007.03.002.

Yoon, H. S. and Barker Steege, L. M. (2013) 'Development of a quantitative model of the impact of customers' personality and perceptions on Internet banking use', *Computers in Human Behavior*, 29(3), pp. 1133–1141. doi: 10.1016/j.chb.2012.10.005.

Zahid, H. and Haji Din, B. (2019) 'Determinants of Intention to Adopt E-Government Services in Pakistan: An Imperative for Sustainable Development', *Resources*, 8(3), p. 128. doi: 10.3390/resources8030128.

Zairi, M. (2019) 'Shaping the future of government through excellence', *International Journal of Excellence in Government*, 1(1), pp. 2–7. doi: 10.1108/IJEG-02-2019-0005.

Zakrzewska, M. and Miciuła, I. (2021) 'Using e-government services and ensuring the protection of sensitive data in EU member countries', *Procedia Computer Science*, 192, pp. 3457–3466. doi: 10.1016/j.procs.2021.09.119.

Zawaideh, F. (2016) 'Acceptance of e-government services among Jordanian citizen.', *Int. J. Recent Adv. Multidiscip*, pp. 2348–2351.

Zhang, H., Xu, X. and Xiao, J. (2014) 'Diffusion of e-government: A literature review and directions for future directions', *Government Information Quarterly*, 31(4), pp. 631–636. doi: 10.1016/j.giq.2013.10.013.

Zhang, L., Tan, W., Xu, Y. and Tan, G., 2011, November. Dimensions of perceived risk and their influence on consumers' purchasing behavior in the overall process of B2C. In *Engineering Education and Management: Vol 1, Results of the 2011 International Conference on Engineering Education and Management (ICEEM2011)* (pp. 1-10). Berlin, Heidelberg: Springer Berlin Heidelberg.

Zhao, F. (2011) 'Impact of national culture on e-government development: a global study', *Internet Research*, 21(3), pp. 362–380. doi: 10.1108/10662241111139354.

Zhao, F., José Scavarda, A. and Waxin, M. (2012) 'Key issues and challenges in e-government development', *Information Technology & People*, 25(4), pp. 395–422. doi: 10.1108/09593841211278794.

Zhao, H. and Khaliq, N. (2024) 'In quest of perceived risk determinants affecting intention to use fintech: Moderating effects of situational factors', *Technological Forecasting and Social Change*, 207, p. 123599. doi: 10.1016/j.techfore.2024.123599.

Zheng, D. *et al.* (2013) 'E-government adoption in public administration organizations: integrating institutional theory perspective and resource-based view', *European Journal of Information Systems*, 22(2), pp. 221–234. doi: 10.1057/ejis.2012.28.

Zikmund, W.G., Babin, B.J., Carr, J.C. and Griffin, M., 2013. *Business Research Methods*. 9th ed. Boston, MA: Cengage Learning Custom Publishing

Zou, Q. *et al.* (2023) 'Vision and reality of e-government for governance improvement: Evidence from global cross-country panel data', *Technological Forecasting and Social Change*, 194, p. 122667. doi: 10.1016/j.techfore.2023.122667.