Evaluation of employees' views on technological changes in the Abu Dhabi Police, and a framework for effective change management.

A thesis submitted in partial fulfilment of the requirements of Nottingham Trent University for the degree of Doctor of Business Administration in the Faculty of Business Administration

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Copyright Statement

Contents

List of Figures

List of Tables

Abstract

Change impacts all organisations, and their current and future success hinges on the ability to quickly and effectively implement adaptations. Police agencies, essential in crime prevention, must welcome change and utilise technology to improve public safety. The Abu Dhabi Police, globally acknowledged for its technology adoption, plays a critical role in this mission. Creating strong feedback mechanisms and channels involving employees- these systems' primary users- is vital as technology evolves. Collecting insights from officers is key to promoting organisational learning and continuous development. Therefore, this study employed a case study design and qualitative analysis to explore the experiences and views of Abu Dhabi Police employees regarding technological changes in the organisation. It examined their reactions, pinpointed resistance sources, and suggested strategies for overcoming them. A fresh technological framework for efficient change management was then devised. The findings revealed various themes from the cases and the cross-case analysis of the four organisational departments.

Key themes emerged regarding employees' reactions to technological changes, factors contributing to resistance, and management strategies: a mix of excitement and anxiety, heightened workloads, and the importance of sharing information, encompassing training and communication. The study also emphasised critical themes like leadership, stakeholder engagement, and cultural values, which are crucial for tackling and managing organisational resistance to innovation. Cross-case analyses illuminated the intricate relationships among these emerging themes, vital for creating a model of effective technological change.

Furthermore, this study offers strategies for effectively managing technological change, highlighting the critical role of clear communication and thorough evaluations of technological capabilities, which should include tailored training programs. The research enhances both theoretical insights and practical applications related to technological change and effective management within the unique cultural framework of the Abu Dhabi Police. It introduces an innovative framework for navigating technological transitions in organisations, outlining a method for comprehending responses to changes, pinpointing resistance factors, and implementing strategies to mitigate that resistance for effective technological change management. The practical implications of these findings are significant for researchers, law enforcement professionals, and policymakers focused on organisational change and technology in policing.

Declaration

I, Rashed Al Shamsi, declare that while registered as a candidate for the University's research degree, I have not been a registered candidate or enrolled student for any other award of the University or other academic professional institution.

Acknowledgement

My deepest gratitude is directed toward God first, followed by my leaders and friends, for their patience, hard work, and understanding in assisting me in finishing my studies. Throughout my studies, I have been motivated by their excellent knowledge and breadth of experience. I also want to thank Dr Rupert and Ishan for their technical support during my research. I want to thank everyone at Abu Dhabi Police for their assistance. They were generous with their time and supportive, which helped me study. Finally, I want to thank my parents, for without their steadfast assistance throughout the past few years, it would not have been feasible for me to complete my studies.

Dedication

This work is dedicated to the Abu Dhabi Police, my leaders and my family.

Abbreviations

ADP-Abu Dhabi Police

COVID-19-Coronavirus

UAE-United Arab Emirates

ADSIC Abu Dhabi Police Systems and Information Centre

MOI-Ministry of Interior

Chapter 1: Introduction and Research Scope

1.0 Introduction

In today's rapidly advancing technological era, organisations face numerous challenges amid a complex and uncertain landscape (Koman, Boršoš & Kubina, 2024). To thrive in today's dynamic environment, organisations need to create effective strategies (van Tonder, 2004; Wang & Ahmed, 2007) that enable them to quickly and efficiently adapt to changes and make necessary adjustments for sustainability (Hamel, 2013). In this context, organisations must embrace change as an integral aspect of their operational strategy (Luecke, 2003). Despite recognising the critical importance of change management, many organisations struggle to implement successful change initiatives effectively. This difficulty comes from rigid organisational designs that resist flexibility and adaptation. Moreover, many organisations fail to establish integrated feedback systems that incorporate insights from employees and customers, which are essential for making informed decisions and fostering a culture of continuous improvement. When organisations neglect valuable feedback, they inadvertently weaken their capacity to enhance the change process, thereby increasing their vulnerability and hindering the adoption of innovative practices (Beer & Nohria, 2000).

Engaging individuals at all levels is vital for successfully implementing change. As Ernst, Veen, and Kop (2021) and Tsoukas and Chia (2002) emphasise, organisations must coordinate their adaptation efforts with strategic foresight, transitioning from reactive responses to a proactive approach in the face of challenges. Organisations must cultivate the capabilities to anticipate, manage, and adapt to changes to secure sustained growth and development. Strategic leaders committed to reshaping various organisational elements, including structure, technology, processes, and behaviours, are central to an effective change strategy. This commitment enhances the performance of individuals, teams, departments, and the organisation (Sisaye, 2001). Moran and Brightman (2001) and Todnem (2005) note that change initiatives should be regarded not as isolated events but as ongoing processes that continually renew the organisation's direction, vision, mission, and capabilities. Such renewal is fundamental for enabling the organisation to deliver high-quality services that adapt to the evolving needs of its customers.

An aspect of most organisational change initiatives involves effectively utilising technological advancements. Introducing new technologies can yield highly efficient systems that optimise processes, minimise waste, and enhance overall operational performance

(Millar et al., 2012; Bogers et al., 2022). Choo et al. (2007) highlight that emerging technologies—including Artificial Intelligence (AI), Big Data, the Internet of Things (IoT), and cloud computing—have facilitated the development of innovative operational methods that significantly boost productivity. Therefore, organisations must critically assess their readiness to adopt innovative solutions and fully leverage the associated benefits in a constantly evolving climate. Police organisations are at the forefront of embracing these innovative technologies because they are crucial in maintaining public safety and order. Technology integration is vital for effectively managing the complexities of modern policing challenges, especially in combating organised crime and sophisticated criminal activities.

The Abu Dhabi Police (ADP), as a leading law enforcement agency in the United Arab Emirates, exemplifies a proactive approach to technological adoption. The ADP is at the forefront of integrating advanced technology, significantly enhancing its operational systems. This transformation encompasses the implementation of advanced technological infrastructures and the widespread use of tools designed to improve policing and various law enforcement operations. Recent advancements have strengthened Abu Dhabi's security infrastructure and improved the safety of its residents. However, these developments have also given rise to more sophisticated criminal tactics. As a result, law enforcement agencies, including the Abu Dhabi Police (ADP), must take a proactive approach by continually exploring and expanding the frontiers of technological innovation. One effective strategy is to gather critical feedback from officers regarding technological changes and utilise that input to refine and enhance the system. This thesis focuses on assessing how employees perceive and respond to technological changes within the Abu Dhabi Police, highlighting the crucial importance of their insights in shaping effective implementation strategies.

1.1 Problem statement

The emergence of increasing security challenges within the Gulf regions has necessitated a comprehensive redefinition of the security architecture in the United Arab Emirates. This urgency is corroborated by the escalating prevalence of both serious and non-serious criminal activities, including but not limited to smuggling, cybercrimes, fraud, money laundering, narcotics trafficking, terrorism, human trafficking, sexual assault, burglary, pickpocketing, car theft, shoplifting, harassment, and property damage (Brumger, 2012; Chandra et al., 2019; IMF, 2008; Al-Baloushi, 2019; Alomosh, 2009; Laycock, 2014). A pivotal entity in this

security framework is the Abu Dhabi Police (ADP), tasked with implementing and promoting law and order, safety, and peace within the emirate (Al-Shehhi, 2014; Imranuddin, 2017). Over recent years, the government has launched several initiatives to professionalise the police system, enhancing its operational efficiency and effectiveness in addressing these security challenges. Central to these efforts has been the introduction of advanced technological infrastructures across the ADP, a transformative process that commenced in 1957 and continues to evolve (Ahmad, 2017).

The adoption of ADP technology has led to tangible advancements in achieving a safer society. However, a significant area of inquiry remains concerning the extent to which the benefits of such technological implementation have been fully maximised and whether the personnel within the ADP have been adequately involved in the implementation process at its various stages. This inquiry is one of the primary objectives of the research. The reception and adaptation of personnel to technological innovations are key factors that significantly influence the successful execution and realisation of expected outcomes (Rees & Althakhri, 2008). Organisational changes can be inherently complex and may impact employees' current work practices positively and negatively (Schoor, 2003). Within a Police context, the officers are the primary users of the system. While they must adhere to the established structures designed to facilitate effective system use, viewing the implementation from their perspective is essential. This approach can help identify any factors that might contribute to the success of the change, including employee resistance (Craine, 2007). In this scenario, the integration of technological advancements within the ADP has been supported by significant investments in training programs to equip officers with the necessary skills to utilise the new systems effectively, thereby ensuring a smooth operational transition. However, a critical evaluation of officers' perceptions regarding the implementation process remains crucial. The following section explores the legislative framework in ADP and delves into the organisation's history, organisational structure and implemented technologies.

1.2 Abu Dhabi's historical development

The Emirates' rich history features numerous narratives, the earliest dating back to approximately 1761. It was during this time that a confederation of tribes known as the Bani Yas stumbled upon a vital water source on what became known as Abu Dhabi Island, precisely located where a gazelle was spotted (Heard, 2011; Maitra and Al-Hajji, 2001). This discovery profoundly impacted the region's establishment, leading to the development of a

settlement that offered an essential water resource along the coastline. Interestingly, the name "Abu Dhabi" translates to “father of the gazelle,” capturing the essence of this pivotal discovery (Bani-Hashim, 2015).

The UAE, formally established in 1971, is a federation comprising seven emirates: Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al Quwain, Ras Al Khaimah, and Fujairah. This union is governed by four central institutions: the Supreme Council, the Council of Ministers, the Federal National Council, and the Federal Judiciary (Al-Shehhi, 2014; Delgado, 2016; Simadi, 2006; Suliman, 2006). The Abu Dhabi Police (ADP) is one of seven police forces in the United Arab Emirates (UAE), all of which are under the jurisdiction of the Ministry of Interior (MOI). Abu Dhabi, the capital and the largest emirate within the UAE, is the wealthiest emirate, controlling over 90% of the nation's oil and gas reserves (Carnegie Endowment, 2020; Delgado, 2016). Its iconic landscape spreads over approximately 67,000 square kilometres, about 87% of the UAE's landmass. Abu Dhabi is characterised by its vast desert expanse and several crucial islands in its coastal waters and the Persian Gulf (United Arab Emirates, 2010; Heard-Bey, 2004).

The Abu Dhabi Police maintains law and order, promotes community safety, and reduces crime rates across significant districts, including Abu Dhabi City, Al Ain, and Al Dhafrah (ADP, 2018; Al-Baloushi, 2019). A fundamental part of transforming the nation’s security framework involves leveraging technology to optimise police systems and operational processes, enhancing public safety (Al-Nuaim, 2009; Neuby, 2016). The Abu Dhabi Police are integral to the overall security architecture of the UAE. Their primary responsibilities include enforcing laws, maintaining public safety, and fostering community peace (Al-Shehhi, 2014; Imranuddin, 2017). Over the years, the government has launched numerous initiatives to professionalise the police force, strengthening their efficiency and effectiveness in addressing various security challenges. The relentless pursuit of technological advancement has driven the ADP to continually update and expand its technological infrastructure since its inception in 1957, ensuring it remains at the forefront of policing capabilities (Ahmad, 2017). This sustained commitment to innovation reflects a broader dedication to safety and security, enhancing their readiness to confront contemporary and emerging threats.

1.3 Legislation, ADP and Change Management

The Dubai Police Force was the first in the Emirates, established in 1956. This was followed by the Abu Dhabi Police Force in 1957. In 1965, the Ras Al Khaimah Police Force was formed, while the Sharjah, Ajman, and Umm Al Quwain Police Forces were all established in 1967. The Fujairah Police Force was the last emirate police force, formed in 1969 (Yates & Lord, 2019).

A need arose for a central operation under which all Emirati police would function, leading to the establishment of the Ministry of Interior in 1972. The Ministry of Interior integrates police and security systems across the UAE. Simultaneously, the Ministry of Interior directs the strategic vision for the country and aims to ensure that each police force can fulfil this agenda. Additionally, the Ministry oversees the police forces, ensuring they possess all the necessary tools to carry out their responsibilities (Yates & Lord, 2019). The Ministry undertakes various functions, including maintaining peace and security, organising and managing security and police forces, regulating traffic on local and internal roads, and safeguarding the security of premises and properties (The Gulf Leaders 2025). The Ministry is pioneering in establishing security and stability, aiming to maintain order and safety, eliminate crime, and promote justice and the rule of law.

Legislation about transformative change within the United Arab Emirates is primarily coordinated by the Ministry of Interior (MoI). The MoI's overarching goal is to create, organise, and oversee the police and security forces while effectively integrating these systems across the Emirates (The Gulf Leaders 2025). The Ministry of Interior is proactive in its approach to security challenges, guided by a comprehensive strategic plan. This plan emphasises adopting advanced technologies to address modern crime, facilitating a proactive approach to local and international security issues (UAE, 2020). The MoI is committed to harnessing cutting-edge technologies in law enforcement, safety, and civil protection. Furthermore, the plan prioritises proactiveness in managing crises and disasters, reflecting a forward-thinking stance on national security.

The MOI is responsible for integrating and coordinating police and security systems throughout the UAE, with a mission to create a cohesive security environment (Al-Baloushi, 2019). One of the pivotal strategic goals of the MOI is to incorporate advanced technologies into modern crime prevention and response tactics. This focus on innovation aims to enhance

local security measures and foster a proactive stance in international law enforcement collaboration. To facilitate this overarching mission, the seven emirates' police forces, including the Abu Dhabi Police, collaborate in implementing cutting-edge technology across various departments, significantly improving operational efficiency and responsiveness.

Through these collaborative efforts, the MoI aims to achieve critical objectives that enhance security, foster a heightened sense of safety among the populace, and ensure readiness for crises and disasters. This is accomplished by cultivating strategic capabilities that attract and empower officers, delivering efficient and effective institutional services, and developing robust digital infrastructure. Additionally, the Ministry promotes an innovative environment rooted in principles of flexibility, proactivity, and readiness throughout its operational systems (The Gulf Leaders 2025). An integral part of this initiative has been the strategic planning team’s ongoing efforts to update and refine the strategy under the federal government's directives (UAE, 2020). This alignment guarantees the sustainability of previous achievements and bolsters the institutional capabilities of the MoI and the various police teams operating under its mandate.

Despite the potential for technological infrastructure improvements for the Abu Dhabi Police by the MoI, the successful implementation of these advancements relies heavily on the reception and adaptability of police officers to these changes. Key elements such as customised training, readiness to adopt technology, and the general culture within the police force are vital for achieving the desired results (Gonclaves & Gonclaves, 2012; Rouse, 2011). For example, integrating information and communication technology in the UAE has seen considerable success (GITR, 2009); however, challenges persist during technology adoption. Cultural diversity, a workforce lacking experience, and opposition from personnel in various organisations can impede progress (Hesson, 2007). In conclusion, the complex nature of implementing change in the Abu Dhabi Police Department highlights the importance of recognising and addressing cultural dynamics (Al-Abdallah et al., 2023). By doing this, the ministry can reduce resistance and improve the overall effectiveness of its transformation initiatives, thereby fostering a safer and more responsive environment.

1.4 Research scope within ADP

Table 1 summarises the various technological initiatives adopted across different ADP departments, and the following discussion will elaborate on them.

	Departments	Implemented technology
Case one	Guards and establishment	Information technology, Geographic Information Systems, e-government services, biometric facial recognition systems and robot police technology
Case two	Policing operations	Robot police technology, biometric facial recognition systems and information technology
Case three	Central operations	Biometric facial recognition systems, information technology, e-government services and Geographic Information Systems
Case four	Security and port operations	Geographic Information Systems, information technology, e-government services, biometric facial recognition systems and satellite systems

Table 1 Departmental technological initiatives

Numerous technology suites have been implemented in Abu Dhabi and different departments; however, we will focus on these for this research.

1.5 ADP and technology application

1.5.1 Information technology (Social media platform)

In recent years, there has been a notable progression in the use of information technology across public sector organisations in the United Arab Emirates (UAE), particularly in Abu Dhabi. This shift has primarily been facilitated by the government's introduction of cutting-edge information systems, which have significantly enhanced the capabilities of these entities (Lundvall & Nielsen, 2007). These advanced systems provide substantial benefits to government agencies and the general public. They streamline processes, making governmental operations more efficient and delivering services more quickly and effectively (Al-Ameri, 2013). The Abu Dhabi Systems and Information Centre (ADSIC) plays a crucial

role in this transformation by ensuring that state entities, including the ADP, are heavily influenced by technological progress. The ADSIC's efforts focus on fostering innovative digital services and communication channels, which collectively lay the groundwork for a sophisticated community proficient in information and communications technology (ICT) (Sutton, 2015).

The Abu Dhabi Police (ADP) also aligns with its strategic information technology plan by leveraging social media channels in its operations, branding, and public relations to engage citizens (Al-Karaeen, 2016). Social media has provided various units within the ADP with the opportunity to announce and disseminate important news, share tweets, and respond to inquiries; publish content to garner public sympathy and support for their initiatives; enhance awareness of safety and security measures; and inspire a sense of loyalty and national identity among the populace (Al-Baloushi, 2019). Multiple social media platforms have proven effective in reaching and communicating with diverse communities in Abu Dhabi. For instance, 'Insta Meylas' was introduced in 2015 to improve police communication with the public (Al-Karaeen, 2016). Additionally, the ADP has capitalised on Facebook's popularity by using it as an official channel for police-community communication, thereby increasing interactivity and engagement with residents (Mangold & Faulds, 2009).

1.5.2 Biometric Facial Recognition System

The biometric facial recognition system, a remarkable technological initiative introduced by the Abu Dhabi Police (ADP), operates remarkably efficiently. In the UAE, the integration of artificial intelligence technology has become increasingly prevalent as government authorities endorse using facial recognition in specific sectors to verify individuals' identities and streamline paperwork (Gulf News, 2021). This facial recognition technology can map facial features and store corresponding images in a database. In 2020, the ADP enhanced its patrol cars (Fig 1) with a biometric facial recognition system mounted prominently on top of them. This system serves multiple purposes, including identifying individuals on police watch lists or those with warrants, recognising license plates of interest, detecting speeding vehicles, and facilitating border checks (Kumar, 2020).

FIGURE 1 ABU DHABI POLICE (2022)

The smart gate (Fig 2) along the Abu Dhabi-Al Ain Road plays a crucial role in the biometric system, which monitors weather conditions and identifies drivers who breach traffic regulations. Drones are employed to oversee traffic and assist in directing patrols. This innovative drone traffic signal system eliminates the necessity for police officers to manually manage traffic during signal malfunctions (Abu Dhabi, 2021; Al Amin, 2024; The National News, 2022). Officers utilise 'smart glasses' with a micro-camera that leverages AI and augmented reality to scan hundreds of faces automatically. The project aims to create an advanced security system that enhances all police activities related to information and knowledge (Abu Dhabi, 2021). Additionally, this system will support various policing functions, including operations rooms, patrol deployment, investigation locations, criminal evidence management, and the oversight of strategically sensitive sites, thereby aiding decision-makers in effectively managing change.

FIGURE 2 ABU DHABI POLICE (2022).

1.5.3 E-Gov services

Further advancements in technological infrastructure implemented by the Abu Dhabi Police (ADP) include the e-government service system. According to Mansar (2006), policymakers and government authorities have acknowledged the importance of adopting new electronic, information, and communication technologies, thus fostering support for integrating e-government systems within public sector organisations. The Abu Dhabi Police is one of several institutions collaborating closely with the Abu Dhabi Systems and Information Committee (ADSIC), which is tasked with implementing and advancing e-government services. The organisation has transitioned from traditional bureaucratic processes to innovative e-public services, enhancing traffic safety, personnel training, and community awareness and engagement (Al-Ketbi, 2018).

Introducing these new technologies has yielded significant benefits for the Abu Dhabi Police. For instance, the Abu Dhabi Police General Headquarters has launched four new traffic e-services through the Abu Dhabi eGovernment Gateway (www.abudhabi.ae). These services encompass vehicle registration renewal, replacement of lost vehicle licenses, replacement of damaged vehicle licenses, and opening driver's test files. A study conducted by Al-Zaabi (2013) on adopting e-government systems revealed that the entity experienced numerous advantages and best practices, notably in enhancing the efficiency and effectiveness of

information analysis, managing substantial volumes of diverse data, and improving comprehension of users' security requirements.

1.5.4 Geographic Information System (GIS)

The Geographic Information System (GIS) is a valuable technology adopted by the Abu Dhabi Police to enhance various facets of police service, including emergency field management, command and control, GIS task force management, and automatic vehicle location (Al-Ameri, 2013; Rabdan, 2019). The push for the GIS program in Abu Dhabi and throughout the UAE stemmed from the recognition by the Abu Dhabi Police (ADP) that geolocation and spatial capabilities are essential to their police responsibilities and strategic initiatives (Al-Ameri, 2013; ENA, 2017). The GIS Centre for Security (GISCS) was established to oversee GIS data and applications for the ADP and emergency services. It identified efficient methods for collecting and analysing data and information to empower clients to make informed and effective decisions. The Abu Dhabi eGovernment Gateway provides nearly 870 services from government and private entities within the emirate. The ADP launched the "MyLand application," a geospatial platform to streamline GIS services. This upgrade provides a user-friendly web portal and mobile app accessible to the public across all three municipalities: Abu Dhabi, Al Ain, and Al Dhafra, enhancing the police's ability to respond to emergencies and manage operations effectively.

1.5.5 Robot Technology and Satellite Systems

Abu Dhabi Police has recently introduced an innovative initiative featuring intelligent robots designed to enhance public awareness of traffic safety. These state-of-the-art robots are not just tools but educators, aiming to educate visitors about crucial road safety practices through advanced technology. Central to their function, the robots display a series of informative traffic safety videos that address a wide range of topics, including road rules, the significance of complying with traffic laws, and guidance on avoiding risky behaviours while driving or walking.

The primary purpose of these robots (Fig. 3) is to assist the police during educational events, where they play a vital role in reinforcing the importance of traffic safety within the community. With the capability to provide immediate, accurate answers to questions

regarding road regulations, the robots serve as a reliable source of information for the public. They are equipped with sophisticated technology to present engaging digital traffic awareness videos and interact with service centre customers, enriching the educational experience (Abu Dhabi, 2022).

These intelligent robots are also programmed to offer practical traffic tips that are particularly valuable for various community members, including pedestrians, students, and school bus users. They can actively participate in educational lectures, deliver safety guidelines, and raise awareness among diverse age groups (AZ Post, 2024). Moreover, the robots engage in interactive activities, such as traffic safety contests in shopping centres and other community events, making the learning experience enjoyable and informative. This initiative has significantly streamlined the operations of the Abu Dhabi Police and saved valuable time while creating a more informed public regarding traffic safety and the importance of adhering to regulations.

FIGURE 3 ABU DHABI POLICE (2022).

1.5.6 Training and Technology

The Abu Dhabi Police (ADP) has proactively integrated a range of technological advancements within its operational framework. This includes not only the implementation of new technologies but also a comprehensive training and development program (Rabdan, 2019). Established in 2010, the Institute of Community Policing and Police Science was created as a distinct entity by the Ministry of Interior to oversee a standardised training program in community policing and problem-solving throughout Abu Dhabi and later across the UAE (Laycock, 2014). This program is designed to equip employees with the necessary skills to effectively manage and adapt to these changes and the associated challenges. It covers various topics, from technical skills for using the new systems to soft skills for managing change and working in a more technology-driven environment. Different training programs often collaborate with local and international institutions to ensure the sustainable and effective implementation of technological transformation. The ADP is committed to ensuring that all its employees are fully prepared for the future of policing (ADP, 2018).

1.6 Benefits of Technology Implementation

Accompanying these technological reforms, a comparison of the crime index illustrates Abu Dhabi's standing relative to major cities internationally, showcasing the influence and effectiveness of these technological advancements.

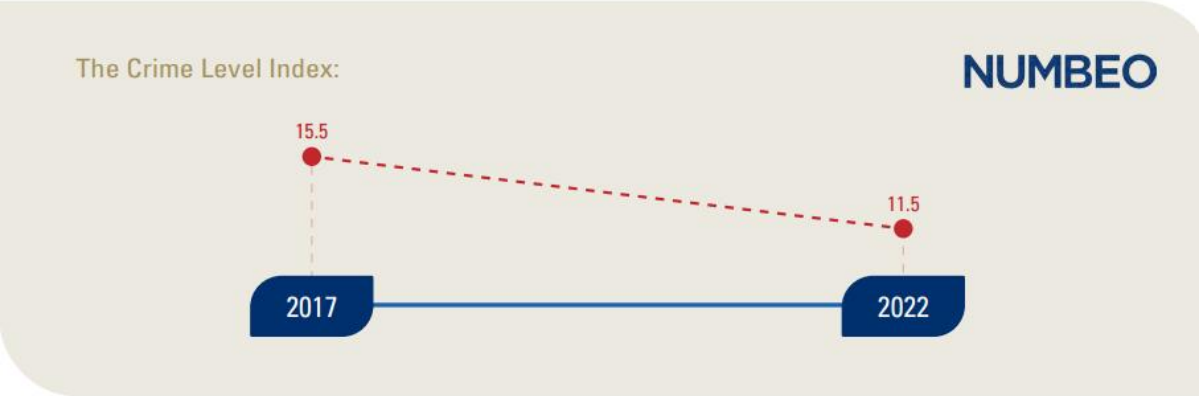


FIGURE 4 CRIME LEVEL TIME SERIES DATA ABU DHABI POLICE (2022)

CATEGORY	ABU DHABI CITY	AVERAGE PERFORMANCE OF CITIES AROUND THE WORLD
The use of data derived from crime	100 %	66.6 %
Threat of civil unrest	100 %	62 %
Police force assigned to each percentage	100 %	%52.6
Combating the spread of crime	100 %	%65
Tackling the spread of petty crime	100 %	%57.5
Combating the spread of serious crimes	100 %	%73

FIGURE 5 COMPARISON OF CITY PERFORMANCE METRICS ABU DHABI POLICE (2022)

Nonetheless, it is crucial to recognise that although there are measurable outcomes in crime reduction and improved service delivery, the chart does not reflect the numerous challenges and obstacles that officers encounter in their continuous efforts to achieve and sustain these positive results.

1.7 Research Aims

The adoption of new technologies across various departments has led to improved outcomes. However, the ADP has yet to evaluate its technology adoption systems from the perspectives of its officers. This thesis examines officers' perceptions and responses regarding the implementation process and identifies ways to enhance future initiatives. This study also examines officers' perceptions of the change, including factors contributing to the outcomes of the implementation process. Likewise, from the employees' perspective, the researcher aims to determine whether challenges were faced during the implementation process and what lessons could be learned. Finally, this thesis will examine the roles of essential elements in effective technological change management, such as leadership, training, reward system, involvement and communication, within the Abu Dhabi Police. The goal is to assist ADP in

achieving a level of technology infusion where it becomes more intricately integrated into the organisation's work systems, driven by employee input. According to Cohen (2005) and Jasperson, Carter, and Zmud (2005), organisations can derive valuable insights from employees to develop and implement effective strategies that maximise IT adoption and usage, significantly supporting managerial decision-making for successful IT implementation.

By examining the concepts of organisational change and change management in the ADP from an officer's perspective, this study offers valuable insights into utilising effective feedback mechanisms to enhance technological implementation. The study is designed to reflect on the key processes/stages in implementing the technology and propose ways to ensure a seamless implementation of future technology adoption. Kickert (2000) argues that evaluations like this are instrumental in guiding public sector organisations towards becoming more business-oriented rather than adhering to bureaucratic structures. This ultimately leads to enhanced performance, service to the community, and greater cost-effectiveness and efficiency. To support this position, Laycock (2014) argues that a comprehensive understanding of employees involved in change implementation enables organisations to learn and improve continuously. This research aims to contribute to continuous learning and improvement in change implementation. Subsequent sections of this chapter present the research questions, the significance and justification for the research, the organisational context of the ADP, the technology implemented, the research methodology, and the scope.

1.8 Research questions

This study seeks to address four key research questions:

1. How do employees of the Abu Dhabi Police respond to technological changes within the organisation?

Successful change initiatives depend on the willingness of system users to embrace and actively support the leaders' vision. It is essential to understand employees' perceptions of these changes and the effects they experience during the implementation process (Gabriel & Carr, 2002; Kaila, 2005; Watson, 2001). By gaining insights into employees' views regarding the implementation, we can identify potential obstacles—such as fear, anger, and increased workload—that may lead to resistance (Al-Ameri, 2013; Hassan & Davies, 2003; Mason,

2002; Oreg, 2003). Ultimately, the success of change implementation relies on the commitment of system users to embrace and realise the vision articulated by leadership fully. Understanding how employees perceive the change and its impact on them during the implementation phase is crucial (Gabriel & Carr, 2002; Kaila, 2005; Watson, 2001).

2. What factors contribute to resistance to technological change?

Examining the various factors influencing employees' perceptions of organisational change is essential for understanding how these changes are received within the workplace. Both internal factors, such as organisational culture, leadership style, and communication practices, and external factors, including market dynamics and societal trends, play a significant role in shaping these perceptions. Understanding these influences can help organisations facilitate smoother transitions and foster a more supportive environment for employees during periods of change (Al-Ameri, 2013; Hassan & Davies, 2003; Mason, 2002; Oreg, 2003).

3. What strategies are necessary to mitigate resistance to technological changes and ensure effective organisational change management?

Once these resistance factors are identified, the research will investigate the roles of organisational culture and communication in managing resistance to change effectively (Jaeger, 1990; Rees & Althakhri, 2008) and what measures are required to address challenges to implementing new technological changes and achieve effective technological change management in the organisation. This leads to how ADP can enhance officers' acceptance of new technology implementations.

4. What critical lessons can be drawn from the implementation process?

The last question focuses on how ADP could improve officers' acceptance of new technology implementation and what actions ADP could take in future implementations to facilitate a smoother transition for officers when adopting new technology. The study will present its findings to senior leaders, emphasising critical lessons that enhance theoretical understanding and practical application. These insights will serve as a valuable roadmap for future change initiatives and suggest actions that ADP could take in future implementations to facilitate a smoother transition for officers adopting new technology.

1.9 Research assumptions

Organisations' strategic integration of technological infrastructure to enhance service and security presents vast opportunities for fostering a safer and more secure society. However, it is crucial to recognise the challenges that technological change can introduce, particularly regarding employee perception (Bogers et al., 2022; Gonclaves & Gonclaves, 2012; Soltani et al., 2006). This research is based on some assumptions from the current change management literature and participants' involvement in the organisation. Firstly, it suggests that implementing the new system was undertaken as a top-down approach without comprehensive collaboration with the officers tasked with its key operations. This raises concerns since the success of any implementation significantly depends on gaining the support of rank-and-file workers in the early stages. Dawson (2003) underlined the necessity of a thorough understanding of employee reactions, as this enables leaders to effectively tackle their concerns and fears while managing any potential resistance to change.

Secondly, while ADP has invested in an excellent training system, the absence of a cohesive plan has led to silos that hinder employees' access to timely and customised training. Lastly, there is a perceived gap between the higher-level strategies of leadership and the employees' perceptions of the changes. Within a highly hierarchical organisation like the police force, officers are expected to follow directives closely. Nevertheless, leadership should ensure clarity and actively solicit officers' feedback to facilitate smooth implementation. Figure 6 visually represents this assumption, illustrating the research approach to the study topic. The research will examine these challenges from the officers' perspectives during the implementation phase and present key findings to senior leadership in a follow-up interview.

Many studies emphasise the significance of grasping employees' perceptions of change, especially during organisational restructuring or reforms (Al-Ameri, 2013; Alhumairi, 2017; Fugate et al., 2008; Stensaker et al., 2012). These studies emphasise that any organisational structure will be ineffective if employees remain passive or resistant. Employees frequently need to adopt new skills, ideas, or behaviours that might clash with their level of competence (Baddah, 2016). This situation is further complicated by the differences in resistance levels among employees, with some embracing and others resisting various elements of the change initiative (Coghlan et al., 2015). Such conflicting attitudes can significantly impact organisational performance (Hoover & Harder, 2015), highlighting the necessity of proactively addressing these concerns.

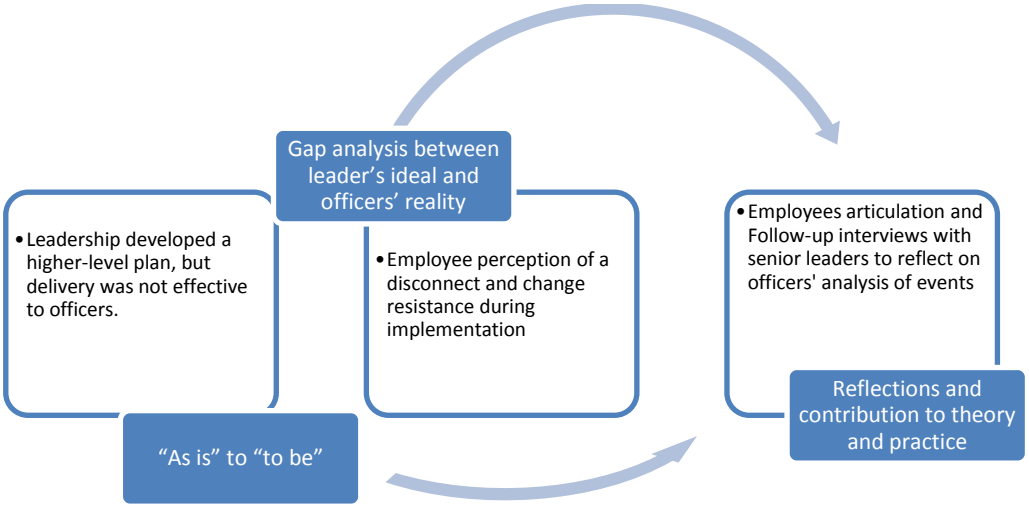


FIGURE 6 RESEARCH ASSUMPTIONS

1.10 Significance, justification and potential research contributions

Three key considerations drive this study. It emphasises employees' pivotal role in the success or failure of change initiatives, especially when these changes involve new technologies. The findings from this research are particularly pertinent for organisations characterised by security-oriented structures in the UAE and similar nations, underlining the necessity of this study. First, there exists a significant gap in research concerning responses to organisational change, particularly within the public sector in the UAE. Previous studies have highlighted this deficiency (Al-Ketbi, 2018; Al-Zaabi et al., 2012; Stensaker et al., 2012), revealing that while technology adoption in the UAE's public sector is extensive, comprehensive research is lacking. This deficit limits our understanding and expands the body of knowledge regarding organisational change dynamics specific to this region (Al-Humairi, 2017). Therefore, this study aims to fill this gap, shedding light on employee experiences and attitudes towards change processes in this unique context.

Secondly, limited studies have focused on the impact of technological changes within UAE public sector organisations, particularly on how employees respond to such changes. Gaining insights into the nature and causes of employee resistance to technological advancements is crucial for effectively managing their concerns and fostering a smoother transition (Gonclaves & Gonclaves, 2012). Much of the current literature on change management in the

UAE has examined certain aspects of the change process, such as developing theoretical frameworks (Bin-Taher et al., 2015; Al-Shebli, 2016), conducting reviews of existing change management practices (Baddah, 2016), or analysing the roles that education and leadership play in the change process (Randeree, 2009; Al-Karaeen, 2016; Al-Harahsheh, 2014). However, only a handful of studies (Al-Humairi, 2017; Suwaidi, 2012; Tavakoli et al., 2008) have zeroed in on resistance to organisational change, excluding a specific focus on technological shifts. Even fewer investigations (Al-Ameri, 2013; Laumer, 2011) have scrutinised resistance to technological change within public sector organisations, particularly those with a security focus. Consequently, this research aspires to enrich the existing literature by delving into employee responses to technological changes within the public sector while validating the limited studies that currently populate this area of inquiry.

The 2016 study by Al-Karaeen highlighted the importance of effective leadership in guiding strategic changes within the Abu Dhabi Police (ADP). It emphasised that strong leadership practices can ease transitions and promote a resilient organizational culture during significant changes. In contrast, the current thesis shifts its focus to employees' reactions and adaptations to technological changes introduced in the organization. By exploring employee perspectives, this research aims to uncover the emotional, cognitive, and behavioral responses to these technological advancements and how they affect organizational effectiveness and employee satisfaction.

Third, the organisational culture of a policing institution, such as the Abu Dhabi Police (ADP), presents distinctive characteristics that differentiate it from standard public sector organisations. This cultural environment is typified by high levels of rigidity and stringent control systems, which can pose significant challenges to the effective implementation of change initiatives (Robbins, 2003). Furthermore, the intricacies of policing in a society deeply rooted in religious traditions add another layer of complexity to the change management process. Thus, this study is anticipated to yield unique findings that could provide valuable insights for security-oriented organisations like the ADP, operating in the UAE and other nations with similar cultural and religious frameworks. Understanding the specific operational circumstances of the Abu Dhabi Police is essential before making direct comparisons between its strategies for change management and those employed by police organisations globally. While various systems, practices, and processes may exhibit

similarities with those in other nations, significant divergences rooted in cultural nuances and individual psychological factors must be acknowledged and considered.

Additionally, there remains a relative lack of research on change management within public institutions. The private sector dominates the research landscape and often enjoys greater scholarly attention (Al-Ketbi, 2018; Stensaker et al., 2012). This imbalance can lead to misleading conclusions if findings from the private sector are indiscriminately applied to the public sector (Ybema et al., 2016). In contrast, research grounded in data collected from public sector organisations is more likely to yield nuanced and accurate analyses of the factors influencing employee resistance to organisational change. Understanding the root causes of this resistance is essential for effectively managing change initiatives (Gonclaves & Gonclaves, 2012). Furthermore, this research contributes significantly to our understanding of organisational change within an Arab context. It aims to ascertain similarities and differences in employee perceptions across various sectors and provide insights on how organisations can successfully navigate change processes.

1.11 Research Methodology

This study is exploratory and involves the application of a qualitative analysis method and a case study design. Exploratory research was applied considering the need to study the subject matter in depth concerning the relative paucity of research on change management in public institutions (the private sector essentially enjoys more research attention), limited studies conducted on technological changes in public sector organisations in the UAE, and the uniqueness of the organisational culture of a police entity (such as the ADP), which is different from other public sector organisations. Therefore, it is essential to provide a better understanding of change management in organisations, particularly with security-oriented structures. The collection of data was accomplished through a review of the literature and qualitative interviews. The former involved an extensive review of relevant documents (academic publications, theses, policy documents and government reports), and the latter were gathered from employees of the Abu Dhabi Police and used as primary data. The data were subsequently analysed to clarify the results.

1.12 Conclusion

The ultimate goal of this study is to inform leaders about the importance of preparing for change initiatives and promoting meaningful engagement with employees across all organisational levels. By explicitly highlighting employee concerns, this research will offer valuable data that organisations can utilise to enhance the likelihood of effective change implementation. Moreover, this project endeavours to critically evaluate some change models regarding their universal applicability while extracting insights from the specific context of the UAE. Ultimately, this study aims to bridge existing knowledge gaps by examining officers' perceptions within a Gulf setting, thus contributing to the theoretical knowledge in organisational change management. This project is vital for practitioners and organisations as the outcomes are based on anonymous feedback, which can offer valuable insights into employees' perspectives.

1.13 Research scope and structure

This research study was conducted with the perspective that every context is unique. It posits that any organisational change must be examined regarding its specific characteristics. Understanding an organisation fully requires considering its historical, social, economic, and political background (Rees & Althakhri, 2008; Rowley & Benson, 2002). As noted earlier, amidst economic growth and security challenges, organisations like the Abu Dhabi Police (ADP) must embrace new roles and responsibilities, mainly as technology increasingly influences their work environments.

The scope of this study is limited to the Abu Dhabi Police, a public sector organisation. The research examined organisational change, technological infrastructure, responses to change and change management. The study is limited to four departments in the Abu Dhabi Police and the technologies implemented in these. The structure is as follows:

Chapter 1 discusses the introduction, problem statement, research aim, and objectives. It highlights the methodology and significance of the study and provides a short overview of the successive chapters.

Chapter 2 reviews the relevant existing literature. It discusses various aspects of organisational change and change management and provides a conceptual framework for the study.

Chapter 3 explains the research methodology for the study, including the systematic processes and procedures for realising the research's aims and objectives and collecting and analysing data.

Chapter 4 analyses the data collected from individual interviews. The analyses were conducted on a “within case” basis—the case studies of each department in the organisation were separately analysed within the more extensive case study of the ADP.

Chapter 5 presents a cross-case analysis of the departmental case studies, explaining how the findings answer the research questions and contribute to the literature.

Chapter 6 concludes and discusses the research's impact. It also highlights new contributions, recommendations, and suggestions for future research.

Chapter 2: Literature Review

2.1 Introduction

This research focuses on change management within the Abu Dhabi Police. It considers that many factors could impact managing change effectively within law enforcement entities, such as organisational culture (Paoline et al., 2000; Robbins, 2003) and religion (Wagie, 2006). Interestingly, despite publishing more than 2,700,000 articles on change management, there are still varying arguments regarding the ideal ways organisational change should be managed (Rosenbaum et al., 2017).

This chapter is structured into four sections. The first discusses the concept of change in organisations and explores the causal factors for change and types of organisational change. The second section deliberates on change management, focusing on the impact of change, resistance to organisational change, and components of change management models. The third section discusses technological change. Finally, the chapter concludes by explaining the conceptual framework used for this study.

2.2 The concept of change in organisations

Change impacts every organisation, regardless of sector, size, or age (Bouckenooghe et al., 2009). It is a regular part of life and must be accepted (Mccarthy & Eastman, 2010). Both private and public sector organisations work diligently to adapt their processes to the changing environment (Ackoff, 2006; Hailey & Balogun, 2004). Organisational change measures are frequently initiated to update key corporate structural elements or processes to meet evolving industry demands (Hubbart, 2022). Lycke (2003) views organisational change as a process involving new possibilities, behaviours, patterns, policies, methodologies, or products. Alternatively, as Kanji and Moura (2003) elucidated, it can be defined as reshaping older or existing patterns to achieve greater productivity. These changes arise from organisational reconceptualisation; this phenomenon involves altering strategies, processes, operations, and techniques to capitalise on future opportunities and address challenges (Nkomo & Kriek, 2011). According to Burnes (2004) and Nelson (2003), organisational change is a constant aspect of organisational life at any level (strategic, tactical, or operational), and organisations must build the capacity to review their processes to adapt

continuously. However, while organisational changes are essential, implementing available changes to adjust to shifting contexts requires significant investments (Errida & Lotfi, 2021).

According to Evans et al. (2004), organisational change has a broader scope than individual change. It involves implementing adaptive measures across various domains of organisational life, including culture, processes, and job activities. Karasvirta and Teerikangas (2022) suggested that while change can be ambiguous, unprecedented, and difficult to comprehend, it can also be anticipated, planned for, and managed. Similarly, Lycke (2003) noted that adapting to change may require altering an organisation's operations and strategy, returning to fundamentals, or seeking new methods and tools to assist the organisation in navigating the changes ahead.

As Roth (2011) argued, various features of organisations, such as structure, regulations, and technology, may require changes to achieve goals and foster growth. While change can be defined and analysed differently, scholars have reached a consensus on two critical statements: the pace of change in the business environment has never been more remarkable than it is now, and changes are driven by internal and external factors (Todnem, 2005). Patrick (2002) highlighted the importance of change and its challenges, mentioning several key issues, including the definition of change, its objectives, and how to manage it, encompassing the notion that businesses must establish a robust change management strategy. The primary aim of organisational change is to enhance performance or adapt to environmental shifts (Manuela & Clara, 2003) as a natural response to changes in strategic relevance, leaders and their organisations are also evolving, transitioning from effectively managing markets and significant assets to focusing on technology, human resources, and knowledge management (Dess & Picken, 2000).

Anderson and Anderson (2001) assert that an effective change strategy should emphasise three key areas: content (the goals), people (those involved in the strategy), and process (the execution method). Content includes the strategy itself, systems, technologies, and operational procedures. People refer to the individuals responsible for implementing the change and their behaviours. The process focuses on the activities and techniques used to facilitate change. The successful alignment of these elements- people, content, and process- is essential for achieving effective change.

2.2.1 Reasons for organisational change

Moran and Brightman (2001) suggested that organisations adapt to their environment. Organisational changes can result from implementing a strategy to meet specific goals, adopting new methods, responding to external influences, or bringing in a new manager (Evans et al., 2004). Rees & Althakhr (2008) noted that the primary objectives of change include reducing costs, enhancing organisational culture, and becoming more proactive toward opportunities and threats. While some organisations face pressure to change due to fast-evolving environments, most undergo natural changes rather than just when a significant change initiative is launched (Kitchen & Daly, 2002).

Goodstein and Burke (1997) classified the factors influencing organisational change into four categories: economic, political, technological and socio-cultural. These factors impact an organisation's structure, strategies and modes of operation. Harris's (1997) study also showed that technological and social variables contribute to organisational change. In another similar study, Plekhanov, Franke, & Netland (2023) observed that the main drivers of organisational change can be summarised into four broad categories: environmental (legal, political and social), technology, diversification (the quest for consumer satisfaction) and people (new capabilities and skills). It becomes essential for businesses to understand the driving forces behind the desire for change and choose the proper techniques to implement the change successfully.

While organisational change has been attributed to several factors, generally, the cause for any organisational change can be categorised as internal or external (Benn et al., 2014; Lanning, 2001; Moran & Brightman, 2001; Todnem, 2005). Internal causes might include poor or new leadership or management, high production costs, low productivity and unproductive employees, but internal changes are primarily driven by efficiency (Benn et al., 2014). According to Lanning (2001), internal causes might range from a recently discovered system to a general desire to adapt to circumstances. External factors outside the organisation include demand, technology, competition and regulations (Benn et al., 2014; Lanning, 2001). According to Susman et al. (2006), most changes are caused by the external environment. Political and economic settings are significant sources of external forces for change. For instance, governments may ban or regulate plastic bag production and consumption or legislate a minimum wage (Booysen, 2007). Organisations should be able to regularly adapt to and deal with these external features (Paton & McCalman, 2008). Classifications of these

external factors can include economic (competition, demand, supply and remuneration), political (policy, legislation and change of government), socio-cultural (demography, religion, tradition and culture) and technological (information technology, artificial intelligence and robotic; Booysen, 2007; Nkomo & Kriek, 2011). Bendix (2010) and Senior (2002) further stressed that the organisation's internal and external settings impact its formal and informal sectors and any connected elements, such as the products and services it provides to the market.

The literature indicates that these factors are categorised based on consumer needs, innovation, and performance (Al-Ameri, 2013; Manuela & Clara, 2003). Figure 7 illustrates a classification of the overarching factors driving organisational change. Across the globe, various organisations are evolving for numerous reasons, primarily to remain competitive and ensure their survival in the market (Peters & Watermann, 2004). To accomplish this, organisations consistently enhance their technology, which serves as a crucial tool for satisfying a growing consumer base, improving operations, cutting costs, saving time, enhancing product quality, boosting productivity, and providing other advantages (Chapman, 2002).

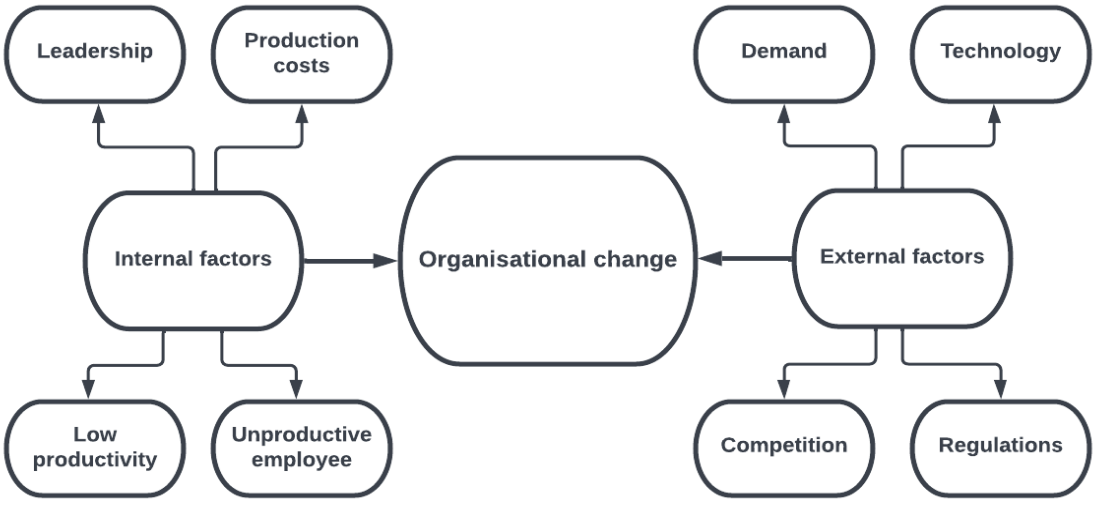


FIGURE 7 FACTORS THAT CAUSE ORGANISATIONAL **CHANGE** (COMPILED BY THE AUTHOR)

Dawson (1994) states that these external and internal factors are interrelated. Overall, the management or leadership of organisations should possess knowledge of these factors (Senior & Fleming, 2006) as they impact structures, strategies and operations.

2.2.2 Types of organisational change

Several types of change require different approaches, including plans, strategies, processes and procedures. Change can be classified under different scopes and regarded as either minor or significant, depending on the degree and significance of disruption (Fullan, 2014). This section reviews the similarities and differences of the major categories of organisational change, including organisation-wide, subsystem, planned, unplanned, radical, transformational, incremental, remedial, developmental, emergent, episodic and continuous change. Organisation-wide change involves significant restructuring, downsizing, or team effort (Al-Shebli, 2016). When leaders want to advance their organisation to a new stage in its life cycle, from being highly reactive and entrepreneurial to steadier and more organised, it is typically necessary to implement organisation-wide change (Benn, 2014). On the other hand, subsystem changes might involve adding or removing a product or service, restructuring a particular department or adopting a new method for providing goods or services (Al-Shebli, 2016).

Buhanist (2000) noted that radical and incremental changes represent the two observable organisational transformations. Radical change involves adopting a new path or direction, whereas incremental change occurs slowly and subtly over an extended period. While incremental change can occur ad-hoc or be strategically planned, organisations must actively pursue radical or large-scale change to achieve substantial development (Bessant & Caffryn, 1997). Incremental changes focus on introducing continuous progressive improvements to an organisation rather than relying on a one-off approach (Benn et al., 2014). Core processes evolve, which may result in seemingly insignificant changes. Nonetheless, these adjustments enhance efficiency (Alvesson & Willmott, 2001).

This type of change targets limited sections rather than transforming the entire organisation (Benn et al., 2014); existing processes, structures and equilibrium (a state of balance or stability) are generally maintained in the organisation (Lau et al., 2010). Minor modifications may be made, but these neither alter their fundamental function nor definition (Tidd et al., 1998). Incremental change can be described as a developed form of planned change (Brown, 2005). The distinction is that changes are implemented gradually, and planning is carried out methodically. This often includes adjustments to the surrounding environment, and managers typically use this strategy to match organisational performance and services to environmental demands (Bock et al., 2012). An example of this change is installing a new computer to

increase performance and productivity (Lau et al., 2010). The advantages of this change type are the constant progression that affects sections of an organisation rather than completely changing it, upholding equilibrium rather than achieving a new equilibrium, impacting the standard structure rather than creating a new one, and involving improved technology rather than technological breakthroughs (Lau et al., 2010). However, the failure of this model to adapt to significant organisational changes is a major criticism (Bock et al., 2012; Brown, 2005).

Radical change has been described with several adjectives, such as fundamental rethinking, dramatic, revolutionary, discontinuous, complex and non-linear change across different features or parameters of an organisation (Alvesson & Willmott, 2001; Murray et al., 2000; Plekhanov et al., 2023; Roffe, 1999). It is quite different in many aspects, as it requires a different type of management; for instance, radical change requires much more backing from upper management (Buhanist, 2000). Radical change involves organisations making fundamental changes ordinarily beyond their existing paradigm to compete (Johnson & Scholes, 2009). It targets the organisation's core (Ashburner et al., 1996) and might involve changing the existing structure and culture. Kitchen and Daly (2002) noted that radical change demands more innovative responsiveness than incremental change. Radical change tends to be dramatic and calls for more and different responsiveness (Kitchen & Daly, 2002). It has two features focusing on processes and stakeholder value (shareholders, management, employees and others; Al-Mashari & Zairi, 1999). According to Buhanist (2000), radical change is something that organisations desperately need, suggesting that for far too long, there existed a negative response to radical change. A potential explanation is that this change often necessitates using force, which is usually not advised in organisational management. This caution is necessary to avoid potential drawbacks of radical change.

When executed following a sequence of change processes designed by the organisation, planned change can bring about significant improvements (Benn, 2014; Goodstein & Burke, 1997). First, the need for a change is acknowledged by the management or leadership of an organisation, and then plans are put in place to actualise that change (Goodstein & Burke, 1997). A significant criticism of planned change is that, given how dynamic the organisational environment is today, it is dangerous to presume stability (Teece, 2012). Unplanned change involves scenarios in which significant and unexpected incidences with considerable impact affect an organisation, and the leadership responds by introducing a

change, often in a swift, highly reactive, unplanned and disorganised way (Benn, 2014; Murray et al., 2000). Unplanned change may happen when poor product performance leads to a rapid loss of customers, a manager or senior officer abruptly leaves, or other disruptive circumstances occur (Murray et al., 2000; Benn, 2014).

Brown (2005) argues for the emergent theory of change rather than the planned theory because the former offers a more realistic approach to change. This theory views change as an ongoing, unexpected and persistent process that any organisation may encounter. Emergent change is initiated through a bottom-up model and with the assistance of managers (Brown, 2005). However, it is important to note that each employee's role is crucial in this process. Effective communication, collaboration, and cooperation with management are not just required but necessary for successful emergent change (Whelan-Berry & Somerville, 2010). Remedial change, on the other hand, is introduced to cure or correct a particular problem or situation (Patrick, 2002).

Challenges, such as having too many or too few employees, budgeting problems, internal disputes, or delivering subpar products and services, can occur. Developmental change aims to improve the effectiveness or success of an already functional situation (Paoline et al., 2000). This may involve replicating effective processes, products, or services or expanding the customer base for a specific offering. Compared to remedial change, developmental change is broader and less precisely defined, as its effectiveness is tied to the organisation's specific goals and their significance to employees (Al-Shebli, 2016). Episodic change refers to deliberate, occasional, and well-defined adjustments that require a set timeframe for implementation, including technological advancements or changes in personnel within an organisation (Manuela & Clara, 2003). Lastly, continuous change represents a perpetual, evolving, and cumulative process, with employees needing to adapt consistently to new ideas or concepts related to regular updates to work procedures.

Johnson and Scholes (2009) described transformational change as involving dramatic change and requiring an organisation to act in a way that deviates from its current paradigm. It necessitates a thorough understanding of transformational change before deciding to implement it. According to Ashburner et al. (1996), transformational change transcends strategic change by seeking to alter the organisation from the inside out. Accordingly, they emphasise the importance of analysing four concerns: perceptions of the worth of employees, knowledge generation attitudes, application process attitudes and motivation perceptions,

since these are essential for realising transformational change. This type of change might involve, for example, repositioning or restructuring the culture and structure of an organisation from the usual top-down hierarchical structure to self-motivated teams or reorganising significant aspects of an organisational process. Brau (2006) proposed five critical indicators to determine the viability of transformational change. They include the creation of new managerial practices on a collective level, the development of roles on an individual level, the restructuring of power relationships (particularly the emergence of new groups of leadership) and the development of new organisational values and a novel ideology and culture. One of the major criticisms of this change type is that success requires a significant cultural shift (Johnson & Scholes, 2009).

2.3 Change management

The implementation team frequently overlooks individuals' vital role in facilitating effective change within an organisation. This oversight occurs because focus and resources are primarily directed towards change implementation's technical and operational aspects (Beer & Nohria, 2000). For change initiatives to succeed, employees and end-users must be engaged and involved from the outset and throughout the process, enhancing their commitment (Gotsill & Meryl, 2007; Whelan-Berry & Somerville, 2010). Organisations should embrace an integrated methodology for initiating systemic and constructive change to reduce barriers and effectively handle consequences. Although various definitions and methods for managing change have been suggested, organisations face high failure rates in their change initiatives. Literature presents many instances of organisational change; however, fewer than 30% of these projects achieve success (Beer & Nohria, 2000; Grover, 1999; Hailey & Balogun, 2004). Recent research indicates that this success rate has not improved (Michel et al., 2013; Rouse, 2011). These high failure rates highlight the need for a robust framework for organisational transformation and emphasise the necessity for continued research in this area (By, 2005; Palmer & Dunford, 2008; Ybema et al., 2016).

Change management manages changes that impact and transform an organisation's culture, structure and performance (Grover, 1999). Similarly, producing the intended results involves using processes, tools and techniques to manage the area of change related to human behaviours (Ventris, 2004). This indicates that for change management to be effective, organisational tools should be used to ensure that the organisation's human capital effectively

transitions towards the desired changes (Ventris, 2004). According to Moran and Brightman (2001), change management is reviewing an organisation's direction, structure and proficiencies to meet the fluctuating needs of both internal and external consumers. It is an organised strategy for bringing about change in people or organisations. Change management makes it possible to move from an undesirable present condition to a desired future state (Moran & Brightman, 2001).

Creating an appropriate environment where change can be initiated should be the focus of change management (Kemp & Low, 2008). To institute an effective change, it should be included in the entire life cycle of change implementation (Kash & Rycroft, 2002), as its absence causes system failure (Williams & Williams, 2007). Change management requires the involvement of all relevant stakeholders, their cooperation and acceptance of the change and the ability to manage the corresponding resistance (Coetsee, 1999). Blank (2013) equally emphasised that the path organisations must follow to implement change is never static; therefore, management must consider various stakeholders and circumstances as they proceed with their change plans and strategies to meet their desired goals. According to Grover (1999), change management is a crucial component of leadership, as it influences the culture and structure of an organisation and individual leadership styles. McCarthy and Eastman (2010) stated that change management involves asking, determining, achieving, planning, executing, and assessing changes to handle difficult situations effectively. However, this can be challenging, as change is continuous, complex and difficult to implement (Whelan-Berry & Somerville, 2010).

Jackson (1999) argued that effective management is vital in change management. It identifies trends in macro and micro environments to define essential changes and prepare for upcoming initiatives. By grasping the internal and external environments that will facilitate the launch of future projects, management acts as the leader throughout the entire change process (Jackson, 1999). An organisation's ability to adapt to various competitive pressures and external challenges directly correlates with its capacity to keep up with the pace of change (Berkhout, 2012). Numerous studies agree that effective change management is essential to align an organisation with its external environment by developing skills and competencies that resonate with external challenges (Mohrman & Lawler, 2012; Parker, 2012).

Fisher (2005) suggested that because organisations are composed of a complex variety of segments, several interrelated challenges exist, which differ by employees. Higgs and Rowland (2005) argued that the four principal segments of an organisation are people, work, informal contracts agreed upon within the organisation and formal contracts decided upon within the organisation. Expanding on people, these are the human capital of the organisation, and in terms of how their characteristics impact change management, it is noted that the behaviour of employees, their skills, needs, expectations and backgrounds and the experiences which they bring into organisations should be taken into consideration to ensure effective change management (Higgs & Rowland, 2005).

Managing change can be seen as a generative process aligned with the organisation's needs, facilitating the maintenance of the overarching vision (Schafer, 2009). To enhance the effectiveness of change management procedures, the learning and change processes must foster a positive interaction between them (Manuela & Clara, 2003). Furthermore, the organisation's human capital needs to recognise that change necessitates learning; once learning is achieved, change can be successful (Manuela & Clara, 2003). As Stark (1999) noted, effective change relies on a fundamental shift in individual thinking, attitudes, and values. In this context, Marshall and Conner (1996) emphasised that change initiatives must be translated into potential outcomes for those affected by change to understand its implications. Kash and Rycroft (2002) noted that change management is vital throughout the project life cycle. Additionally, the change process includes stable and unstable states in pursuit of the ideal state, which Lewin (1947) described as unfreezing, change, and refreezing.

The rate of change within organisations tends to increase annually, rendering change management both complex and challenging (Duck, 1993; Whelan-Berry & Somerville, 2010). Change management processes require time for each phase. Therefore, leaders and managers must adequately prepare, as effective planning and accountability are critical (Erwin, 2009). Hughes (2007) points out that no single set of measures will suit all scenarios; factors such as organisational environment affect the tools and strategies used. This environment can include elements like national and organisational culture, size, geographic location, and gender relations.

Furthermore, it is essential to evaluate how a change process may impact employee behaviour, technology requirements, operational procedures, and motivation (Coetsee, 1999).

Management should anticipate potential employee reactions and develop a change programme to assist employees in embracing change. Therefore, effective change management involves engaging all relevant stakeholders and preparing them to accept the changes, the outcomes of the process, and any potential resistance. For change management to succeed, individuals need to be adaptable to facilitate the implementation of changes (Palmer & Dunford, 2008). Having the right people in the workforce greatly affects the success of change implementation (Collins, 2000). Change management restructures and prepares individuals for organisational transitions. Hughes (2007) emphasises that managing change requires effective communication channels, appropriate timing, and a change readiness system. Effective communication, perseverance, integrity, and commitment are vital for successful change management (Whelan-Berry & Somerville, 2010).

A recent study by Albrecht et al. (2022) examined how organisational resources related to change, such as support from senior management and the organisational change climate, impact employee engagement during transitional periods. The results established a positive relationship between job resources linked to change and change engagement. However, surprisingly, no direct link was found between organisational resources and change engagement; instead, the change-related job resources influenced this relationship. Similarly, Rousseau and Have (2022) explored evidence-based practices that facilitate successful and well-planned organisational change. Their findings revealed that leveraging science-informed methods significantly enhances the likelihood of successfully planned change; consistent evidence sources such as scientific research, stakeholder feedback, organisational data, and practitioner experience improve decision-making and the quality of the evidence. These practices transform the change process, foster trust in leaders, and engage members at all levels.

They posited that applying an evidence-focused approach and reliable data can make change management more feasible, thereby adding validity and reliability to the experiences of change practitioners. Fusch et al. (2020) investigated change management during the pandemic. They evaluated organisational change through the lens of change management strategies aimed at enhancing the performance of organisations and leadership responses to the global COVID-19 crisis and social distancing measures. By examining leadership communication and the challenges of implementing change, such as employee resistance, the study highlighted that leaders must adopt new technologies to address disruptive innovations,

mitigate resistance to change, foster stakeholder understanding, and consider the effects of change initiatives on employees.

2.3.1 Change Management components from a Middle Eastern perspective

Organisational change cannot be examined without its unique conditions, considering that every setting is different. Instead, organisational change can only be understood and well-managed by considering each organisation's distinctive historical, political, social, and economic qualities (Rees & Althakhri, 2008). While change management theories and models may function effectively in a particular context, they might not be appropriate in another context. Given that most of these practices originated in the West, altering the underlying models and theories could be necessary if these practices are to gain a competitive edge in other environments (Hutchings & Weir, 2006). Therefore, it is essential to consider the applicability, or otherwise transferability, of the Western philosophies and their organisational change practices and processes to developing countries. Considering the context of this study, specific political, social, cultural, and economic concerns relating to the Middle Eastern situation need to be considered.

2.3.1.1 Centralised and tribal system

The Middle East faces sluggish economic growth primarily because of its centralised control over business and political institutions, necessitating that companies cultivate relationships or affiliations with the government to obtain contracts and facilitate transactions (Mellahi, 2003). Therefore, it is unsurprising that wasta, or nepotism, is prevalent. Research shows that nepotism notably undermines organisational job satisfaction and human resource management (Arasli et al., 2006). Additionally, tribalism is a significant feature of the Middle Eastern context that profoundly influences management practices (Rees & Althakhri, 2008).

2.3.1.2 Religion

Islam influences cultural norms, values, and beliefs (Abdulla et al., 2011; Rees & Althakhri, 2008). It is essential to acknowledge that not every Middle Eastern nation fully adopts Islamic values and traditions, with some facing significant conflicts (Branine & Pollard, 2010; Smith et al., 2007). For example, while Wasta involves personal relationships in employee selection and hiring, Islam prioritises qualifications, skills, and community

reputation (Abdulla et al., 2011). Islam encompasses prayer but also emphasises adherence to principles drawn from the Holy Quran and the teachings of the Prophet Mohammed, which are relevant in both professional and personal contexts (Mellahi, 2003). Darwish (2001) suggests that individuals demonstrating a strong commitment to the Islamic work ethic are likely to be more dedicated to their organisations and report greater job satisfaction. Additionally, the perception of time is a crucial aspect of religion. As Muslims believe only God can foresee the future, long-term planning has been considered challenging in Middle Eastern or Arab regions. However, Rees and Althakhri (2008) contested this view, attributing it to a misunderstanding of Islamic teachings.

2.3.1.3 Culture and Impact of Oil revenue

Beyond the national culture of the UAE, organisational culture plays a crucial role in shaping businesses (Senior & Fleming, 2006; Burnes, 2009). According to Rees and Althakhri (2008), the significant oil revenues in Middle Eastern countries have resulted in the predominance of public sector organisations characterised by bureaucracy, conformity, and a blame-oriented culture. These organisations typically exhibit a top-down communication style, centralised decision-making, and management's hesitance to embrace change and innovation (Althakhri, 2011). Currently, the Middle East functions as an open economy, engaging in international trade with countries around the globe. Consequently, the region must continually refine its organisational strategies and frameworks to sustain its developmental progress.

2.3.1.4 Organisational change management studies in UAE.

Notably, the UAE has highlighted the necessity for deeper research on change management by scholars, researchers, and relevant stakeholders (Bin Taher et al., 2015; Al-Ameri, 2013). As a result, various studies have explored different aspects of change management within organisations, including police departments, in the UAE. A review of these studies helps to understand the direction of organisational change management in the country and provides a guide for this study. Table 2 presents an overview of these studies.

Reference	Scope	Methodology	Findings
Al-Shebli (2016)	Developed a strategic framework for the management of	Case study and semi-structured	Among the main organisational challenges is the absence of leadership skills that enable the successful deployment of

	transformational change in public sector organisations	interview	sustainability change initiatives.
Al-Karaeen (2016)	The research examined the significance of effective leadership in implementing vital change in an organisation, using the ADP as a case study.	Case study and sequential exploratory methodology	Change management responsibilities are an essential task for senior police leaders. Situational leadership is the preferred leadership style. Also, the study observed a lack of required competencies and training.
Al-Humairi (2017)	Assessed employee resistance to organisational change in public sector organisations in the UAE	Hypothetical-deductive approach and literature review	Feedback, workload, employee participation, satisfaction, employee happiness, loyalty, social aspects, work confidence, personal confidence, training, and internal and external learning support have direct effects on the support of the workforce to enable organisational change
Al-Shehhi (2014)	Examined the institutionalisation of organisational change in the Middle East	Case study and semi-structured questionnaire	Four critical factors and characteristics for institutionalisation are management, employees, context and change characteristics.

Table 2 Existing studies on organisational change management in the UAE

The study by Al-Shebli (2016) explored the entrenchment of sustainability strategies in public sector organisations in Abu Dhabi to enable improved competitiveness. Using semi-structured interviews for data collection and content analysis, he examined the sustainability concept and the primary drivers of sustainability initiatives for these organisations, the critical sustainability initiatives presently implemented to effect change and the significant challenges to implementation. Similarly, Al-Karaeen (2016) investigated the factors related to change management within the Abu Dhabi Police. The study used the ADP as a case study to assess the significance of effective leadership in implementing vital change in organisations. Specifically, it examined the functions of leadership in the execution of projects, the relationship between leadership and change management and the influence of the government of the UAE on the role and responsibilities of the ADP. Adopting a sequential exploratory methodology, the study prioritised change management responsibilities (assessing expectations regarding changes from the government and implementation) as an essential role for senior police leaders.

Al-Humairi (2017) explored employee resistance to organisational change within public sector organisations in the UAE. The research assessed key employee characteristics that affect how employees respond to organisational changes and the connections between these variables. The study utilised a hypothetical-deductive approach, which includes a literature review, theoretical frameworks, hypothesis formulation, and deductions. Al-Shehhi (2014) examined the institutionalisation of organisational change in the Middle East by analysing various models and strategies for facilitating change, identifying crucial factors and characteristics that impact institutionalisation, and developing a theoretical framework. The study used the Abu Dhabi Police as a case study and conducted semi-structured interviews with senior managers and a questionnaire survey for employees.

The findings of these various studies were insightful. Al-Shebli (2016) confirmed the need for the development and deployment of an awareness-raising training programme on sustainability across an organisation, for collaboration across sectors to capture and share best practices on transformative change to ensure sustainability, for improved leadership skills (required to deploy sustainability initiatives successfully), which is among the biggest challenges for organisations, and for improved sustainability initiatives from the public sector organisations in Abu Dhabi. The developed framework for the transformative change towards sustainability contained driving factors for achieving sustainable, transformative change outcomes, and they include policy, structure, training programmes, sustainability-related activities, reward systems and performance reporting.

Al-Karaeen (2016) identified situational leadership as the preferred and most common leadership style, which allows senior police leaders to be flexible and adaptable, to a certain extent, in their leadership style. Also, the study identified an apparent lack of the competencies and training needed for project management as factors that challenge successful performance. Al-Humairi (2017) showed that feedback, workload, participation of employees, satisfaction, happiness of employees, loyalty, social aspects, work confidence, personal confidence, training and internal and external learning support have direct effects on the behaviour of employees in enabling organisational change. Al-Shehhi (2014) established four critical factors for institutionalisation: management characteristics, employee characteristics, context characteristics and change characteristics. Last, communication played a significant role in achieving shared meanings, interpretations and perceptions. This short section has just explored the relevant studies on organisational change management in

the UAE, and further sections in this literature will further explore some of the key concepts, such as resistance.

2.3.2 Employee responses to change

Organisational change entails transitioning from a familiar and confident state to an uncertain future. This shift introduces ambiguity that significantly impacts employees' views of their value and skills (Herold et al., 2008). For change to be sustainable, individuals must adapt their work behaviours and attitudes (Buchanan et al., 2005). Effectively managing individuals during this process necessitates addressing their behaviours, thoughts, and actions. Unfortunately, many organisational change initiatives overlook the human aspect (Brenner, 2008). How individuals respond to change is primarily influenced by their perception of it. This perception, whether favourable or unfavourable, is shaped by how they view the outcomes of the change and their sense of influence and control over these outcomes (Herold et al., 2008).

Therefore, employee responses to change must be vital to the change process (Al-Abdallah et al., 2023; Ybema & Horvers, 2017). Aldulaimi (2019) supported this view, noting that employees are the drivers of any change initiative and must be involved. Leaders drive an organisation's strategic direction, but employees are critical for any strategic direction (Belias & Koustelios, 2014). Authors have differing opinions on the role of employees in the change responses debate, primarily due to the focus on resistance that accompanies any change initiative. For instance, Al-Abdallah et al. (2023) examined organisational change through the perspectives of both leaders and employees, presenting a strong argument for considering the employee viewpoint in discussions about the change process. In contrast, Anderson (2011) contended that addressing resistance issues becomes possible when employees actively support the change within the organisation.

The study further showed that fear of job loss or uncertainty must be managed with more straightforward communication so employees feel reassured about the change. In their research, Al Dossari (2016) observed that communication is vital, especially in a Middle Eastern context. Ybema and Horvers's (2017) study showed that employees' responses help to manage the strategic challenges of front-stage and backstage resistance. Al Dossari (2016) argues that employees drive the proper behaviour for successful change management and

foster learning through participation in the change process. Engaging employees is, therefore, central to a successful change initiative (Aboumoghli & Al Abdallah, 2018).

For this to be successfully achieved, trust must be built between leadership and the employees, and engaging employees at the early stages of the implementation is vital (Anderson, 2011). According to Alasadi & Askary (2014), it will help employees take ownership of the change process and can lead their voice to the process. When employees participate, their reactions can vary from excitement to anxiety. These responses should be rational reactions to the potential threats associated with new organisational changes. Throughout the change process, these reactions can play a crucial role in predicting success (Al-Khrabsheh et al.., 2018; Al Dossari, 2016; Belias & Koustelios, 2014).

When individuals encounter situations, they consider to be beyond their abilities, they adapt. They must believe they can take on the challenges they frequently face to manage them (Fullan, 2014) successfully. A person's capacity to navigate change depends on their ability and willingness to apply their skills while being conscious of the opportunities and risks that change presents (Safo-Ado, 2014). Many individuals develop the skills necessary and are prepared to use them to address the problems they face effectively. They typically do not view these problems as significant alterations in their lives since they can usually predict the outcomes of various scenarios (Safo-Ado, 2014). However, their expectations are tested when they confront challenges outside their skill set. The discomfort arising from change stems from the disparity between their perceived abilities and the difficulty of the problems they encounter. Turner (2017) explored how a system upgrade affected employees' job performance. The research revealed that while employees had an initial positive outlook, their engagement dwindled due to inadequate training and coordination of communication strategies during the implementation process.

The response to change depends on how an individual perceives the circumstance. One person might perceive a given circumstance as a positive change, while another might view it negatively. Herold et al. (2004) state that how individuals perceive a change and their sense of influence and control over it impacts their view of it as either negative or positive. They tend to feel more at ease with a change when they believe they possess the capability and motivation to succeed, along with some ability to predict and influence the outcome. Fullan (2014) also pointed out that individuals often view change negatively when they struggle to anticipate it, dislike what it entails, or feel unprepared for its effects. While they might have

felt emotionally stable with some control, uncertainty leads to anxiety as they perceive a chaotic environment where they feel limited in control.

Therefore, the magnitude of a change might be inconsequential; however, the level to which an individual's expectations and capacity to envisage the outcome dictates their perception and emotional response to change. Change is regarded as minor when it does not substantially alter expectations. In these cases, people merely adapt to the change by making minor adjustments to their expectations and quickly overcoming any initial worries. When faced with significant change, individuals often feel their expectations are undermined, resulting in a perceived loss of control over essential aspects of their lives. This can lead to feelings of confusion, anger, fear, and anxiety, disrupting their comfort zones. Responses to such change may vary, including cooperation, acceptance, support, indifference, decreased interest, apathy, reduced contribution, regressive behaviour, minimal effort, deliberate mistakes, and protests. Current literature highlights a scarcity of studies related to the Middle East, and understanding the factors influencing employee behaviour in this region could assist organisations in formulating effective strategies to tackle these issues.

2.3.3 Resistance to organisational change

Despite its benefits, change is often resisted and challenging to implement (Patrick, 2002). The transition from the known to the unknown enables resistance (Coghlan et al., 2015; Senior & Fleming, 2006), as it is common for people to enter a state of comfort and fight to remain there. It has been proposed that cognitive comfort comes from established patterns of behaviour rather than from the uncertainty and insecurity of change (Alas, 2007). Manuela and Clara (2003) stated that initiatives to bring about change in organisations frequently encounter resistance. Individuals typically aim to maintain a comfortable arousal and excitement (Nadler, 1981).

Resistance can be described as behaviour meant to obstruct the adoption of a new system or to keep its designers from realising their goals (Egan & Fjermestad, 2005). Resistance can be described as an occurrence that delays the introduction and hinders the implementation of a change process (Manuela & Clara, 2003). Evans et al.. (2004) maintained that resistance is any behaviour that strives to maintain the status quo, a persistent resistance to change. It prevents implementing a new application, system or process (Egan & Fjermestad, 2005). The

phenomenon of resistance affects change by delaying the start, avoiding the execution and increasing the expenses of the process (Manuela & Clara, 2003).

Employees who struggle to embrace or adapt to management's proposed changes are resistant (Evans et al., 2004). This resistance may stem from feelings of frustration and anxiety, concerns about losing status, financial security, or power, uncertainty regarding the future, perceived injustice in the change process, conflicting commitments that oppose the new direction, a desire to protect what they believe is best for the organisation, a wish to encourage dialogue, and the intention to suggest alternative solutions (Evans et al., 2004).

Organisations often perceive resistance to change negatively (Durant, 1999), and the severity of that attitude is reflected in organisational behaviours (Manuela & Clara, 2003). Resistance to change is one of the company executives' most perplexing and persistent challenges (Egan & Fjermestad, 2005). Nadler (1981) viewed resistance to change as an issue that must be resolved or eliminated. In contrast, Thomas et al. (2011) argued that not all forms of resistance have adverse effects, as some can even facilitate or act as a catalyst for change. Management must seriously consider resistance to change as a crucial factor in enabling a business to realise the benefits of transformation.

Change necessitates transitioning from familiarity to uncertainty, naturally leading to resistance; thus, resistance is a common and anticipated part of the change process (Palmer et al., 2009). People often resist change, even when it is essential for growth and progress (Nadler, 1981). However, it is important to remember that change also brings opportunities for growth, innovation, and improvement. Consequently, the primary reason for this resistance is fear of the unknown. The concept of resistance has been defined beyond the behavioural dimension. Oreg (2006) suggested that it may also involve how change recipients feel about the change, including fear, anxiety or stress, which can be associated with the affective aspect of resistance, as well as how they think about the change (such as its value, advantages over disadvantages and benefits over harms).

Piderit (2000) explained that resistance should be viewed as a tri-dimensional behaviour to adequately capture the complexity of this idea, and that people can simultaneously or even antagonistically act in all three dimensions: cognitive, behavioural, and emotional. Given this, individuals are likely to resist change if the new arrangements conflict with their existing rules or unconsciously accepted routines. In contrast, people are more amenable to changes that do not challenge their predominant habitual behaviours (Ribeiro & Scapens, 2006).

Change managers or agents play a crucial role in assessing why an employee's reaction to change can escalate from simple unease to negative or hostile behaviours, such as absenteeism, boycotts, and even sabotage (Baker, 1989). Their understanding and management of resistance is key to effective change management.

Additionally, it is crucial to examine the primary reasons people resist change and how these reasons relate to the different types of change. Resistance should be viewed as feedback from employees within an organisation (Cameron & Price, 2009). These individuals are intimately familiar with the business's daily operations and can clearly identify any problematic aspects of the suggested change. The success of a change initiative can be significantly influenced by employees' attitudes towards change within the organisation. Employees' perceptions of an organisational change are their attitudes towards change (Khatoon & Farooq, 2015).

This attitude can range from positive, characterised by eagerness and receptivity, to negative, marked by pessimism and resistance (Khatoon & Farooq, 2015). Understanding employees' feelings towards change is essential for achieving company goals and objectives. When implementing complex technological changes, fostering a new mindset alongside the willingness to unlearn and relearn facilitates the process (Stolnik et al., 2016). Employee attitudes towards organisational change are shaped by the nature of the change, personal factors, the surrounding context, and the process involved (Khatoon & Farooq, 2015).

According to Stolnik et al. (2016), employee engagement, commitment, and acceptance of change are essential for success in any organisation, regardless of the type of change. Management should recognise the strong connection between employee resistance to change and its impact on their behavioural intentions, affecting their likelihood of adopting the proposed technology (Jost, 2015). Resistance is diminished or eliminated when the change benefits employees (Stolnik et al., 2016).

Al-Humairi (2017) explored the concept of employee resistance to organisational change in public sector organisations in the UAE by assessing key employee characteristics that influence their behaviour towards such changes and the relationships among these variables. The findings indicated that feedback, workload, employee participation, satisfaction, happiness, loyalty, social dynamics, work confidence, personal confidence, training, and both internal and external learning support directly impact employees' behaviours in facilitating organisational change. Generally, individuals are more likely to accept change when it is actively championed; they perceive it as strong, reliable, attractive, knowledgeable, or

aligned with their social group. Conversely, when the change advocate is viewed as unreliable, unpleasant, or dissimilar to them, individuals tend to resist the change (Jost, 2015).

In a recent study, Hubbart (2023) explored how acceptance of change affects the success of initiatives. He analysed how operational and organisational philosophies foster a culture that embraces change, leading to better outcomes. Promoting change acceptance requires investing in employees through meaningful, quality jobs and fair work environments, ensuring early buy-in and ultimately boosting long-term productivity. Moreover, providing quality jobs benefits businesses and is essential for employee growth, career advancement, and preparation for future challenges.

Addressing resistance to organisational change, as Kotter and Schlesinger (2008) propose, involves six approaches. First, education and communication bridge knowledge gaps about change. Second, involvement and participation engage employees when initiators lack necessary information. Third, facilitation and support help employees adapt, thereby reducing resistance. Fourth, assistance is provided in managing uncertainty and anxiety during transitions. The fifth strategy, negotiation and agreement, aims to soothe those in power to lessen their resistance. If these strategies fail, manipulation and cooperation may be employed as a last resort. Lastly, coercion could involve threats like dismissal or transfer to enforce change. Dawson (2003) observes that failure often stems from management's reaction to resistance rather than the resistance itself.

2.3.3.1 Reasons for Resistance

Employees often resist change for various reasons. While identifying specific causes can be difficult, recognising general trends is easier. As previously mentioned, it is crucial to uncover and address the reasons for resistance from individual and group perspectives before implementing any change. Factors contributing to individual resistance can include established routines, age, job security, economic concerns, selective processing of information, and fear of the unknown. Moreover, individuals may be unprepared for change as they are used to existing working methods. A lack of trust in new processes, especially compared to current practices, is a significant factor in this resistance. Khatoon and Farooq (2015) suggest that scepticism towards a change initiative often arises from negative experiences with change. Baker (1989) noted that a primary motivation for resisting change is

maintaining long-term relationships and the fear of losing them. Generally, people fear change, as it can jeopardise their security. For example, during the implementation of robotic equipment at Ford Australia, many employees objected to its use in the factory (Hellriegel & Slocum, 2009).

Schoor (2003) identifies several reasons for resistance to change, including self-interest and concerns about how such changes may impact job security, professional skills, and social status within the organisation. Additionally, redistributive factors contribute, as employees often fear losing some or all privileges when responsibilities and tasks are redistributed. Introducing new individuals unfamiliar with the organisation's culture and procedures can lead to destabilising effects. Furthermore, the change itself may affect the organisation's political dynamics. Dawson (2003) argues that individuals resist change for various reasons, such as unclear objectives, insufficient knowledge, and a lack of employee involvement.

Change breeds uncertainty, causing fear of the future. This stems from ignorance about the change process, goals, and outcomes. Consequently, individuals avoid understanding the change process and seek knowledge relevant only to them. People tend to select preferred facts while making decisions, which is known as selective information processing (Hellriegel & Slocum, 2009). Thus, resistance increases as they focus only on their interests, missing the overall picture.

Baker (1989) suggested that managers should communicate the reasons for changes to affected employees and provide adequate information before the transition. Employees who receive timely and accurate updates about changes are more likely to embrace them than those who do not (Mohrman & Lawler, 2012). Additionally, confusion regarding new tasks can lead to resistance against change initiatives. If employees lack sufficient information about the skills and knowledge required for their new roles, they may doubt their ability to meet expectations. Thus, management must ensure staff receive the necessary training and resources to perform effectively (Mohrman & Lawler, 2012).

Horgan and Simeon (1988) employed open system, expectancy, and social information processing theories to pinpoint the elements leading to resistance against organisational change. Their research revealed that individuals with low expectations of success or are sceptical about the rewards from successful performance tend to find adaptation difficult. They posited that the Open System Theory implies that adaptation is facilitated in

environments characterised by strong collaboration and few communication barriers. Additionally, the Social Information Processing Theory suggests that negative information heightens anxiety regarding changes, whereas positive news fosters a more optimistic perspective change.

Research has identified various reasons for employee resistance to organisational change, which can be broadly classified into two main categories: human factors and management factors (Al-Ameri, 2013). This classification is depicted in Figure 8. The human factors encompass several aspects, such as behavioural, social, psychological, cultural, and demographic influences. The behavioural aspect suggests that individuals tend to resist the personal impacts of change rather than the change itself. Oreg (2003) noted that people respond differently to change adoption or resistance, with those exhibiting dispositional resistance experiencing negative emotions like fear, anger, and anxiety. Additionally, demographic factors such as age, race, experience, and gender can also affect resistance to change (Hassan & Davies, 2003).

Employees' resistance to technological changes can be strongly influenced by age. Lombard and Crafford (2003) note that individuals aged 50 and older often resist adapting. McCausland et al.. (2015) indicate a negative correlation between trainees' chronological age and trainers' expectations for their success and training evaluations. Furthermore, Touron and Hertzog (2004) found that older trainees face more challenges than their younger counterparts when learning and mastering new skills. Many senior managers in this age group prioritise stability in their roles, making them less open to embracing change.

The psychological aspect relates to the emotional turmoil often linked to change, especially when negative past experiences are involved. This may manifest as distrust among colleagues, challenges learning new tools or processes, job insecurity, feelings of unappreciation, boredom, and a lack of motivation (Mason, 2002; Oreg, 2003). It is crucial to avoid stereotyping older trainees as inherently struggling more due to their age. The definition of "old" is also nuanced, and various factors can impact an older individual's capacity to adapt to new technologies. According to McCausland et al. (2015), past experiences significantly shape how older adults respond to new technological initiatives.

Cultural factors include thoughts, beliefs, values, and emotions (Hofstede, 2005). These cultural traits can present challenges during the implementation of change, particularly when

individuals feel threatened (Paoline et al., 2000). Furthermore, efforts to introduce organisational changes that clash with deeply rooted cultures and traditions in Middle Eastern countries will likely encounter resistance (Alichleh AL-Ali et al., 2022). On a social level, integrating innovations or technologies influences employees professionally and personally (Gomez & Rosen, 2001). According to Hayes (2014), every organisation operates within a social context where employees strive to preserve their societal relationships, whether formal or informal.

The management factor includes features such as high costs associated with change, the effort necessary for additional training, fear of losing power, and fear of work overload. The high cost of change is related to cases in which management believes that change cannot be avoided but is fearful of the associated expenses of the processes, such as the acquisition of technologies (Kaila, 2005). It is crucial to factor in these essentials before implementing a change process in an organisation. Also, the fear of loss of power or social standing by managers could make them antagonistic about any organisational change (Gabriel & Carr, 2002; Kaila, 2005).

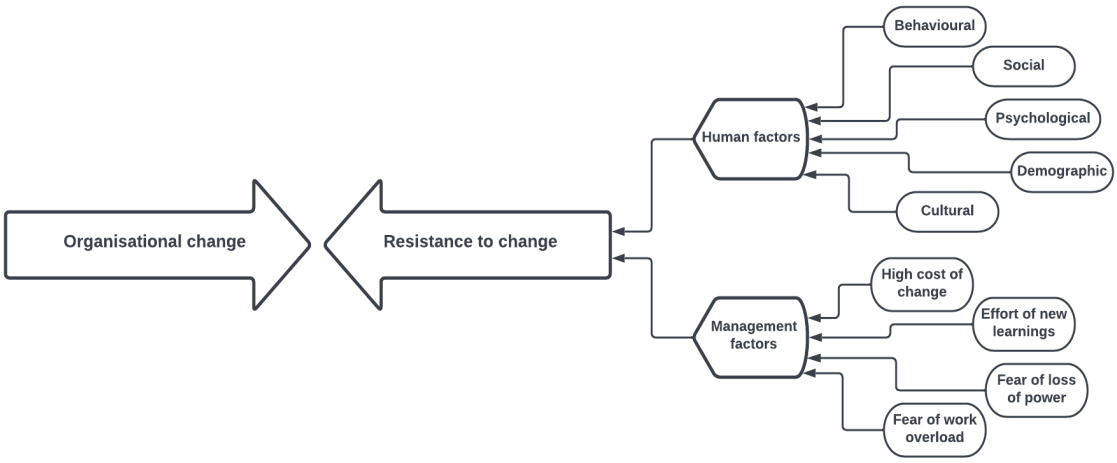


FIGURE 8 CAUSES OF RESISTANCE TO ORGANISATIONAL CHANGE (ADAPTED BY THE AUTHOR)

2.3.3.2 Types of resistance

Resistance to organisational change can be categorised in several ways. Yilimaz and Kilicoglu (2013) identify three types: blind, ideological, and political. Blind resistance is an instinctive defensive response to change, driven by fear of uncertainty. People often display intolerance, discomfort, or apprehension when confronted with impending changes. This resistance typically arises among a small segment of the organisation that remains hesitant

and resistant to change, regardless of its nature. They also observed that ideological resistance occurs in individuals who fundamentally oppose a proposed change, often due to scepticism about its timing or expected outcomes. This resistance is commonly rooted in differing philosophical beliefs, principles, or viewpoints, as even well-intentioned individuals may hold conflicting opinions on organisational change due to these ideological differences. Such resistance stems from rational disagreements about deeply held beliefs, feelings, or ideologies. Finally, political resistance is driven by individuals' fears of losing vital positions, power, status, or roles during a change initiative. Yilimaz and Kilicoglu (2013) note that this resistance emerges when organisational members feel they could lose something valuable if the changes proceed.

Dent and Goldberg (1999) identified three levels of resistance to change: organisational, group, and individual. Organisational-level resistance pertains to culture, structure, power dynamics, function, and responsibilities. According to Mike et al. (2006), group-level resistance focuses on shifts in group norms, mindset, cohesiveness, and the intensity of commitment. Resistance at the individual level is often linked to feelings of uncertainty, insecurity, selective perception and retention, and established employee habits (Dent & Goldberg, 1999). Thomas et al.. (2011) then elaborated on organisational-level resistance, breaking it down into technical, political, and cultural categories. Technical resistance refers to the challenges faced when transitioning from current processes to new ones, while political resistance emerges when changes affect influential leaders or stakeholders. Alichleh AL-Ali et al. (2022) further indicated that cultural resistance stems from hesitance to change due to an organisation's established cultural norms, values, and standards.

2.3.4 Change Management Models

To effect change, an organisation must clearly understand what needs to be achieved and its capacity to implement change, including its core values, procedural knowledge and available resources (Jacobs et al., 2006). Identifying and understanding the type of change needed by the organisation and comprehending the appropriate change model an organisation requires is essential (Anderson, 2012). Change theories and models are fundamental to the success and development of an organisation (Burke, 2013), although they differ depending on basic theoretical assumptions and beliefs (Anderson, 2012).

Errida and Lotfi (2021) described a change management model as a compass that can enable and guide change initiatives by identifying the precise procedures and actions to take, outlining the different elements affecting change, and identifying the measures needed to succeed in the change management process. Some varied models can be adopted for change management implementation. These models and theories consider the numerous areas where change can occur and instruct on the developmental measures required to manage change in an organisation. Therefore, no single model is best suited, as every model works effectively depending on the organisation's dynamics, culture and needs (Gray, 2013).

In their study, Phillips and Klein (2022) analysed the most appropriate measures and strategies practitioners took to promote and enable effective change management. They evaluated several change management strategies embedded in numerous models and frameworks and identified the frequency of implementation of these strategies by change management practitioners. Some frameworks and models evaluated are ADKAR, Ackerman Anderson and Anderson, McKinsey's 7-S, GE CAP model, Carnall, Lewin's Model, Kotter, Nadler and Tushman model, and Luecke model. They concluded that strategies associated with communication, encouragement, stakeholder involvement, organisational culture, vision, and mission are required to implement organisational change.

An overview of some of these change models for effective change management is presented in Table 3.

Change model	Features
Kurt Lewin	Defined three steps of effective change implementation: studying individuals' behaviour and overcoming the status quo, effecting the change and preventing a reversal.
ADKAR	Proposed that effectively managing the people dimension in a change management scenario is built upon the management of five drivers of change. The acronym of the model translates to A (awareness that there needs to be a change), D (desire to ensure participation and support for the change), K (knowledge of how the change must be and what it would look like), A (ability to initiate daily implementation of the change) and R (reinforcement to keep the change in place).

Organisational Growth	Recognising organisational change through organisational growth, it was argued that growth is necessary for organisations that envision the long term and that change is unavoidable.
B-L Model	The Burke-Litwin Causal Model of Organisational Performance and Change, also known as the B-L Model, included 12 theoretical constructs to differentiate between an organisation's culture and climate.
Kotter	Outlined eight steps that are required to produce successful organisational change: a sense of urgency, a powerful guiding coalition, creation of a vision, communication of that vision, empowerment of others to act on the vision, planning for and creating short-term wins, consolidation of improvements and production of more change and, finally, the institutionalisation of new approaches.
McKinsey 7S	Listed seven important organisational attributes that facilitate the realisation of objectives. They are strategy, structure, systems, style, staff, skills and shared values.
Kubler-Ross	Expanded on the behaviour of the individual, not on that of the organisation. It assessed the reactions expected from employees when change occurs: denial, anger, bargaining, depression and acceptance.
Nudge theory	A behavioural economic concept that influences persons' behaviour and decision making through "choice architecture"
John Fisher's change curve model	It guides individuals on how to handle personal change. The different stages include anxiety, happiness, fear, threat, guilt, depression, hostility, gradual acceptance, moving forward, disillusionment, hostility, denial, anger, and complacency.

Table 3 Overview of Organisational Change Models

When selecting a model for the change management process, the type of change the organisation implements, its expectations, culture, needs, and the staff profile should be considered (Gray, 2005). The Kurt Lewin model (Lewin, 1947) was the first framework developed for organisational change management. This structured three-step model includes the unfreezing, moving, and freezing stages. The first step, unfreezing, is characterised by preparing employees mentally for change by letting go of previous ways of thinking,

acknowledging that human behaviour is linked to the status quo, which has many forces resisting change, embracing new processes and behaviours, and diminishing the forces that uphold the status quo. Schein (1999) proposed three initiatives to address the unfreezing stage: providing reasons for abandoning the status quo, generating anxiety about the new change elements, and ensuring psychological safety.

The second step of the Kurt Lewin model, moving, involves evaluating the forces associated with change to progress from a less acceptable attribute to a more acceptable one. This step also encompasses a shift in values and behaviours within the organisation. The final step, freezing, focuses on adopting new values and behaviours, solidifying the new mindset, establishing a state of equilibrium, and protecting the newly acquired attributes from regression. Additionally, these attributes must be practical and compatible with the individual's personality and environment to prevent regression (Schein, 1999).

The Kotter model (1996) was developed as an eight-step framework for effective organisational change management. The first step of the model emphasises the need to create urgency for change. This step involves assessing the organisational environment for potential opportunities and crises, persuading 75% of the managers about the risks of maintaining the status quo, establishing essential, practical change goals, and motivating employees to recognise the change and the necessity of stepping outside their comfort zones to act on the planned goals and achieve inspiring results. The second step focuses on forming a strong and dedicated coalition or group that will collaborate as a team to implement the change.

The change-focused team should be comprised of individuals with the necessary skills, expertise, dedication, and emotional stability; in turn, such a team fosters organisational prosperity (Collins, 2000). The third step entails crafting a transformative vision, formulating strategies to translate the organisation's vision into reality, and having the creative and emotional intelligence needed to deliver efficient and impactful services. This vision primarily motivates individuals to pursue a common goal, align efforts, and clarify comprehensive decisions. The fourth step is conveying the vision to employees to gain their backing. This requires ongoing, multi-channel communication, managers exemplifying new behaviours, and ensuring a thorough understanding and acceptance of the vision.

According to Tatikonda and Mitter (2004), inadequate communication can result in limited action or disregard for the vision. The fifth step involves empowering the workforce regarding the vision, eliminating barriers to change and transformation, motivating risk-

taking, and implementing innovative actions. The sixth step includes planning and creating achievable short-term wins and defining and promoting improvements while acknowledging and rewarding employee participation. The seventh step consolidates the realised improvements, promotes additional implementation plans, engages supportive individuals who can execute these plans, and strengthens the process with more targets. Finally, the eighth step institutionalises new measures, marked by proactive discussions linking new methods to successful outcomes, recruiting suitable employees, and promoting existing talents.

Peters and Waterman (2004) developed the McKinsey 7S model to analyse organisational changes and implement effective change management strategies. The framework comprises seven elements: systems, structure, strategy, staff, style, skills, and shared values. Systems relate to procedures, from funding to human resources, that ensure an organisation operates smoothly. They can enhance or impede practices and processes and significantly impact the performance and success of an organisation. The structure involves dividing and integrating tasks with specialisation. Strategy, which must align with the model's six other components, is characterised by an organisation's commitment to ensuring that its business strategy aligns with its vision, mission, and values.

The staff focuses on human resources, analysing the required number of employees, the recruitment process, training provision, motivation, and the employee reward system. The style associated with the organisation's management addresses leadership and connects every initiative they implement to core values. An organisation's management style is designed to create a positive reputation. Skills represent an organisation's essential qualities and help characterise it based on its operations and what it excels at. Both existing and new skills can be integrated to achieve the desired outcomes. Shared values refer to the organisation's managerial concepts and principles; they uphold and support the organisation's business, guide employee behaviour, and steer organisational actions.

In their book, Jones and Recardo (2013) presented the Kubler-Ross model, which describes the five phases of response to unpleasant news or changes and has been adapted to analyse the performance of employees upon notification of changes in an organisation. They observed that the first phase, denial, is characterised by the incapacity to activate proper thinking and action when processing unpleasant information. The second phase, anger, describes the individual's response to reality and the confirmation of the information or news,

including blaming others and various manifestations of anger. The bargaining phase arises after the anger has subsided, when the individual tries to source available solutions, including negotiation out of the situation. The fourth phase, depression, involves multiple adverse emotional reactions, such as sadness, regret, fear and guilt. At this phase, there is a loss of hope and a lack of excitement and motivation to work. Lastly, the acceptance phase occurs when there is a realisation that resisting change is unproductive, and the individual retreats and accepts the change and the associated consequences. This phase is characterised by unhappiness.

The ADKAR model (Hiatt, 2006) emphasises managing change through five drivers: (A) awareness of the need for change, (D) desire to support it, (K) knowledge of how to implement it, (A) ability to apply it daily, and (R) reinforcement to sustain it. Initially a tool for assessing change impact, it now aligns change management efforts with clear objectives, enhancing employee understanding of change motivations. Early communication conveys the benefits of change to generate enthusiasm. Change agents gauge workforce sentiment and identify knowledge gaps to foster support for change. Hiatt (2006) noted that this helps determine how much information is needed to inspire a desire for change. They can then assess employee skills and knowledge to reinforce the necessary incentives and encouragement for maintaining change.

Greiner's Organisational Growth Model (1972) highlights that growth necessitates organisational change. It outlines six phases where managers must adapt their strategies for managing change and employee behaviour. For example, encouraging innovation is crucial at the start before guiding employees in subsequent stages. Merson (2011) categorises crisis scenarios into six types: identity, leadership, autonomy, control, red tape, and development. He suggests that organisational change crises are managers' main challenges at each growth stage. Merson also notes that each evolutionary stage can lead to a revolutionary crisis, leaving existing operational methods ineffective. Organisations will inevitably experience both types of periods, and managers must resolve crises to foster growth; otherwise, advancement opportunities diminish.

The Burke-Litwin Causal Model of Organisational Performance and Change (Burke & Litwin, 1992), often called the B-L Model, consists of 12 theoretical constructs that distinguish an organisation's culture and climate. This model clarifies the distinction between transformational and transactional dynamics, identifies the types of change, and guides the

impact of organisational variables. Burke (2002) argued that change rarely follows a linear path and is best illustrated as an upward spiral accommodating regression and growth. Anderson (2012) noted that earlier change models, practices, and empirical research enrich the model throughout this process, enhancing its comprehensiveness. The B-L model's structure delineates change processes into two categories: management oversees structure, systems, and climate, while leaders govern three core aspects of change: the external environment, the culture, and the mission and strategy (Burke et al., 2008). The B-L model recognises leadership's need to facilitate organic changes in employees while assigning management the role of driving extrinsic changes (Burke et al., 2008).

Nudge theory, introduced by Thaler and Sunstein (2008), influences patient behaviour through "choice architecture" (Voyer, 2015). It posits that external forces shape decisions, with choice architects designing environments to steer choices. This concept of "libertarian paternalism" enhances decision-making while preserving freedom, encouraging long-term benefits over short-term gratifications. Its effectiveness in physical activity and financial planning has been demonstrated. Nudge interventions use strategies like framing, reminders, gamification, and social influence (Kwan et al., 2020). Research by Arno and Thomas (2016) shows that Nudge Theory effectively promotes healthier eating habits. Furthermore, Kwan et al. (2020) emphasise the delivery of nudge interventions and patient characteristics as critical to their effectiveness. Beshears and Kosowsky (2020) indicate that applying behavioural science can address managerial challenges and public policy goals, facilitating behaviour changes across various contexts.

The John Fisher change curve model, introduced at the Berlin Tenth International Personal Construct Congress and updated in 2012, is known as the Personal Transition Curve (Fisher, 2012). This model helps individuals manage personal change by highlighting its effects and encouraging commitment to a successful transition. For organisational change, it assists leaders in understanding individual responses and guides effective implementation. The stages of this curve include anxiety, happiness, fear, threat, guilt, depression, hostility, gradual acceptance, moving forward, disillusionment, denial, anger, and complacency.

All the change models discussed above have been criticised or commended in one way or another. In effecting change, the organisation must clearly understand what needs to be achieved and its capacity to implement change, including its core values, procedural knowledge, and available resources (Jacobs et al., 2006). Once the appropriate change model

has been adopted, the organisation must identify and understand the required change type (Anderson, 2012).

The Organisational Growth Model has advantages and disadvantages, similar to other frameworks for organisational transformation. Its advantages are its systematic method for navigating change, identifying specific areas that need attention, and the ability to help managers develop targeted strategies. It acknowledges the changes accompanying growth, allowing managers to choose effective strategies for facilitating change and promoting organic growth by reinvesting profits. However, it has limitations; it assumes growth is linear and consistent, while external factors can disrupt this process, and it lacks guidelines for managing challenges during change. The changes may occur during organisational decline (Merson, 2011).

The Lewin model outlines key phases for implementing change. Transitioning through these stages may require enhancing driving forces, reducing opposing ones, or combining both. This is vital for fostering proactive and reactive organisational change through knowledge sharing and adaptive leadership styles (Hussain et al., 2018). While the model has evolved with valuable inputs, it is criticised for its limitations. Notably, Dawson (1994) and Kanter et al. (1992) argue that it is inadequate for ongoing processes in continuously changing environments, deeming it overly simplistic.

Dawson (1994) argued that the model is unsuitable for radical processes as it overlooks speed and focuses on magnitude – small changes can lead to significant effects. The Lewin model addresses behavioural shifts from various angles, including group, societal, and organisational changes (Peters & Watermann, 2004). Transformative changes are suitable only for significant structural shifts (Cummings & Worley, 2009). A key critique is the model's neglect of politics and power in conflicts (Wilson, 2006), although this is countered by the view that Lewin addresses issues like religion and racism (Dawson, 1994). Finally, top-down management is more effective than bottom-up for enacting change (Wilson, 2006).

The Kotter model facilitates stakeholder collaboration during extensive changes, yielding successful outcomes (Miles et al., 2023). Graves et al. (2023) noted its effectiveness in large-scale educational initiatives, especially for an online substance use and pain management curriculum. However, it faces criticism; the model's first step creates urgency without a clear vision, risking resistance when the future is uncertain (Okemba, 2018). Additionally, while the appealing vision in the third step may not suit all organisations, the framework suggests

misleading validation of vision through predetermined criteria. Leaders should assess this vision collaboratively, recognising potential internal resistance and confronting it directly as an effective strategy.

The McKinsey 7S model helps enhance organisational effectiveness during strategy implementation by identifying performance challenges and enabling improvements. It fosters feedback and communication, promoting understanding of the organisational structure and environment for successful execution (Kumar & Geetika, 2019). However, it has been critiqued for overlooking important competencies, complicating competitiveness assessments of business units (Peters & Watermann, 2004). Effective functioning requires connection among the model's seven elements, which apply to various organisational changes (Peters & Watermann, 2004). In contrast, the Kubler-Ross model outlines grief stages but faces criticism for lacking empirical support and cultural applicability based on a specific cultural context (Okemba, 2018).

The Kübler-Ross model has faced criticism. Avis et al. (2021) argue that, despite its popularity, it misrepresents grief because it is based on interviews with terminally ill patients instead of bereaved individuals. This renders claims about the five stages of mourning unfounded and suggests a misleading representation that these stages are the only way to grieve. In contrast, while focused on personal changes, the John Fisher change curve model provides a more detailed analysis of its phases than the Kübler-Ross model.

This study aligns with the ADKAR model, which uses sequential steps to address significant obstacles to change, like employee ignorance about its benefits – often a source of workforce anxiety and resistance. The model defines change in two aspects: business and people, achieving success when both occur simultaneously. The business aspect involves identifying needs, defining objectives, designing solutions, and implementing changes. The people aspect includes actions by management, employees, and the marketplace. The ADKAR mechanism helps change leaders achieve desired outcomes as a structured support system.

Roshini and Varghese (2023) highlighted the numerous advantages of the ADKAR model, which has been successfully adopted by many organisations, particularly in the healthcare sector. This model promotes employee-centred change, assisting individuals in embracing and implementing organisational changes, which leads to effective change management. Prunuske et al. (2022) noted that this change model is essential for identifying the elements that drive lasting change, especially in enhancing and monitoring effective change in higher

education, where reform programs boost Awareness, Desire, and Knowledge levels within the ADKAR framework. In summary, various change management models provide a foundation of key elements for successfully navigating organisational change.

A study by the Boston Consulting Group (Sirkin, Keen, Jackson 2005) proposed four metrics to improve the effectiveness of transformation implementations. The researchers introduced the D.I.C.E. model to promote better outcomes. They described "D" as duration, stressing that the project's overall lifespan is vital for achieving the intended results. Establishing appropriate durations along with key milestones or checkpoints throughout various stages is essential to monitoring and managing the process effectively. The "I" stands for the team's integrity during the transformation. The authors noted that achieving the right balance within the team is crucial; otherwise, leaders and members may struggle to embrace the change and commit to their responsibilities fully. This leads to “C”—commitment—and “E”—effort—both of which are key to the project's success.

In their bibliometric analysis, Oludapo et al. (2024) identified four critical factors contributing to transformation failures: management, technology, innovation, and information systems. Key issues included a lack of readiness among top management, ineffective communication, and the failure to address the “technology shock” associated with new systems. Organisational leaders need to comprehend the benefits of digital solutions and technology while fostering the motivation, ownership, and accountability required to effectively integrate technology into business processes, thereby bridging the gap between business and technology (Heracleous & Gledhill, 2024).

2.3.5 Components of the Change Management Model

Organisational change must be analysed in the context of the unique circumstances in which an organisation operates, considering that management practices are guided by organisational culture, which might not be applicable across national boundaries (Rosenzweig & Nohria, 1994). It has been argued that change management and knowledge transfer that do not consider important factors such as culture, leadership, communication and training will result in resistance to change and ineffective outcomes for an organisation (Rees & Althakhri, 2008). Also, stakeholders have been described as vital. They must be informed and carried along regarding all changes so that their emotions and understanding can be well managed

and they can respond to change positively (Russ, 2008). This research explores these critical components of change management.

2.3.5.1 Organisational culture

Traits and differences in culture have been acknowledged as very important in determining the similarities and differences in the behaviour of an organisation when internationalising (Leung et al., 2005). According to Hofstede (2005), culture can be defined as the communal programming of thinking and belief that differentiates people belonging to a particular group from other groups. Accordingly, culture comprises values, thoughts, ideas and feelings.

An organisation's culture is founded on values, shared beliefs, and assumptions. Greenberg and Cropanzano (2001) note that many of its activities may need adjustment when an organisation with a typical culture tries to implement change. In organisations with deeply rooted values, the dynamics between managers and staff can evolve during this transition. This shift becomes particularly challenging amid widespread changes, especially when companies aim for a substantial transformation (Val & Martines, 2003). Furthermore, national culture is vital for comprehending organisational behaviours and practices. Research shows that national culture greatly affects organisational change (Al-Haddad, 2015; Al-Karaeen, 2016; Baddah, 2016; Burnes, 2009), as well as management control (Chow et al., 1999), leadership (Casimir & Waldman, 2007), and employee outcomes (Begley et al., 2002).

Mullins (2005) emphasised the significance of aligning organisational culture with change objectives to minimise resistance from entrenched cultural norms and beliefs. Mosadeghrad (2006) examined the role of organisational culture in successful change management, highlighting its substantial impact. Long-term management, collaboration, open communication, teamwork, and risk-taking foster a collaborative organisational culture. A strategic plan guarantees integration and alignment within a quality organisational culture.

Grabowski and Roberts (1999) reported that change management necessitates blending many cultures to create a cohesive system in which each member organisation's underlying presumptions and professed values can be built around the requirements for creating a culture of dependability. Culture is crucial to change management and can produce continually motivated people who provide fresh insights, understanding, and solutions. Creating an

atmosphere where employees can express their concerns and feel belonging promotes excellent team dynamics and organisational success.

Management theories reflect the socio-cultural traits of their origin societies (Hofstede, 2005). Planned changes from Western countries have often been applied within Western cultures (Nica, 2013). These frameworks promote Western ideals like individuality and social equality (Cummings & Worley, 2009), recognising contributions, fostering open communication, and implementing success-oriented practices. Recently, there has been an increased application of change models in non-Western cultures (Al-Humairi, 2017), but effectiveness depends on shared values with the original framework. Challenges arise when adapting to cultures with differing values (Cummings & Worley, 2014). For instance, Asian countries typically emphasise social hierarchy and privacy, which can hinder the application of Western models (Cummings & Worley, 2014; Al-Humairi, 2017; Al-Shehhi, 2014).

The cultural traits of the UAE and other Middle Eastern countries differ significantly from those in the West, impacting change management (Rees & Althakhri, 2008). Studies by Mellahi (2003), Hofstede (2005), and Rees & Althakhri indicate that Arab culture features power imbalances, uncertainty avoidance, patriarchy, tribalism, and strong political influences. Such traits result in leaders with significant authority and high respect for hierarchies (Al-Shehhi, 2014). Additionally, central control often requires businesses to secure government approval for contracts (Mellahi, 2003). Tribalism also significantly shapes management practices in the UAE. Considering these factors, clear policies and strategies are essential for helping employees understand and commit to the organisation's goals (Abdulla et al., 2011).

Organisational culture can also crucially influence change in an organisation. Due to the inflow of revenue from oil, the public sector, a segment of society that national, provincial, and local governments control, is very influential in Arab countries (Althakhri, 2011; Thomas, 1996). The organisational culture of Middle Eastern countries has been described as bureaucratic, and the management style is characterised by authoritarianism, centralised decision-making, a top-down communication approach and a reluctance to adopt change and innovation (Althakhri, 2011; Ryan et al., 2008).

To grasp how organisational culture impacts police performance, it is essential to consider the historical and social contexts that shape it. The paramilitary nature of police forces, focusing

on discipline and authority, fosters a culture of command and control (Morrell & Bradford, 2018; Thea, 2012; Williams et al., 2021). This structure can lead to a "code of silence," where officers shield each other from outside scrutiny, hindering accountability. Furthermore, the recruitment and training procedures typically emphasise obedience and conformity, cultivating values prioritising loyalty to colleagues over ethical principles. Such a culture may impede change and innovation, resulting in an environment that facilitates misconduct (Popoli, 2017; Xanthopoulou et al., 2022). Studies show that officers who view their organisational culture as fair and supportive adopt proactive, community-focused policing practices (Dixon et al., 2018; Pyle & Cangemi, 2019). Reforming police culture often underscores the significance of leadership and management practices, particularly among leaders who demonstrate ethical conduct and promote transparency and community interaction (Odor, 2018; Thea, 2012; Thokozani, 2017; Williams et al., 2021). By integrating feedback and promoting collaboration in policing strategies, it is feasible to transform cultural norms towards enhanced accountability and align policy values, ultimately building trust and cooperation within the community (Paoline & Gau, 2020; Williams et al., 2021).

2.3.5.2 Leadership

Leadership is associated with change, as challenging the status quo is an attribute a leader must have (Zel, 2016). Change starts with leaders formulating organisational strategies and the processes leading to actualising those strategies. Spearheading the change process is much more than management, considering that the leader is primarily responsible for the process and has to add value to management functions (Zel, 2016). According to Goleman (2000), leadership is fuelled by change, and true leaders understand, accept and lead change. Leadership is how an individual influences and guides others to accomplish a specific task or reach a shared purpose (Northouse, 2007). Winston (2004) described a leader as an individual who ensures that an organisation moves along the right path. Only a leader can quickly solve the constantly shifting demands of the corporate environment. To adapt the organisation to the changing environment, leaders must make the appropriate decisions at the proper times. They must inspire their teams to work hard and initiate changes (Goleman, 2000). Northouse (2007) emphasised that managers must cope with the significant uncertainties that arise in complex and confusing situations; those who can do so successfully set themselves apart,

become essential figures within the organisation and achieve considerable influence and authority.

Organisational leadership guides and manages people to achieve shared goals (Northouse, 2007). Leaders identify risks during change and demonstrate resilience and persistence. By acting decisively at critical stages, they tackle risks and enhance success. Employees must transform behaviour, requiring leaders to foster a change-oriented mindset for lasting patterns essential for project success (Kotter, 1996; Zel, 2016). Leadership must embed change by building necessary competencies. Al-Karaeen (2016) assessed effective leadership in facilitating changes within the Abu Dhabi Police Organisation, highlighting the integral role of change management for senior leaders and a gap in needed competencies and training.

Winston (2004) defines organisational leadership as persuading a group towards corporate goals. An effective leader communicates the vision, sets measurable goals, aligns rewards, inspires team members, and addresses resistance to change. Goleman (2000) describes a leader as someone who understands their organisation's strategy, structure, systems, goals, style, personnel, and talents. Beer et al. (1990) note that managing change requires skills to achieve goals, manage anxiety, communicate effectively, interpret uncertainty, motivate, and guide decision-making. Winston (2004) also highlights variables influencing change management and leadership effectiveness, including leadership tenure, employee readiness, communication, and resource allocation.

Regarding leadership and change management, Murray (2000) suggested that the descriptions of the concepts of management and leadership, particularly within the context of the police, should be carefully crafted. Management involves planning, budgeting, and operations, but leadership develops the vision of achievable goals and adopts strategies to turn vision into attainable goals. Higgs and Rowland (2000) highlighted a range of competencies that leaders must possess to implement change effectively. These include creating the case for change (the necessity for change), creating structural change (deep understanding of issues and provision of required processes and tools), engaging others (involvement and participation), implementing and sustaining change (formulating, monitoring, reviewing, adjusting and controlling plans) and facilitating and developing capacity (challenging, motivating and supporting others).

Alvesson and Sveningsson (2003) also noted that respect and open communication between superiors and subordinates boost employee morale. Every institution has a distinct pattern:

regular contacts, commercial processes, bureaucracy, corporate rules, and other components of running an organisation. According to Stogdill (1974), leadership qualities are also essential talents that a successful leader must have. According to this idea, some of the most critical leadership qualities include adaptability, environmental awareness, cooperativeness, assertiveness, decisiveness, dominance, energy, self-confidence and the capacity to manage under pressure. Additionally, Greenberg (1994) outlined some of the most essential traits of a leader, including intelligence, diplomacy, creativity, organisation, social skills and persuasiveness.

According to Kouzes and Posner (1995), exemplary leadership is defined as five key leadership behaviours: showing the path, inspiring a shared vision, questioning the process, empowering others to act and providing encouragement. According to Greenberg (1994), innovation, incorporating new ideas and concepts, leads to new, desirable results; to successfully manage change, leadership must incorporate entrepreneurship, creativity and innovation. Hamel (2013) contends that for an organisation to be profitable and to sustain its competitive advantage, it is essential to mobilise talent for leadership, allocate resources and develop strategies.

Fielder (1967) emphasised leaders' need to adjust their approaches based on circumstances through a contingency model. He stated that different situations require varying leadership levels and that leaders must develop appropriate tactics accordingly. He outlines three aspects characterising a situation: leader-member relationships, task structure, and position power. Strong leader-member relationships facilitate subordinate support, while task structure reflects the work's difficulty. Position power indicates a leader's authority, which is crucial for decision-making and success. There is no universally good or bad leadership style; effectiveness depends on context. Thus, a leader’s personality and the internal situation inform the leadership style. For example, task-oriented leaders may excel in sales, while relationship-oriented leaders may thrive in customer management. Practical leadership approaches must be identified and reassessed based on specific contexts (Beer et al., 1990). Strong leadership is essential for driving change, requiring adaptability and planning skills to manage strategy, people, and processes (Winston, 2004).

Northouse (2007) stated that effective leadership is needed to integrate the system, personnel and processes. Top managers can adapt to change by modelling it in their conduct. Although management and leadership are distinct concepts, both are necessary to effect change.

Managers frequently concentrate on structures, strategies and systems, whereas leaders place greater emphasis on soft concerns, such as interpersonal conflicts, sense of purpose, motivation and communication. Senior and Fleming (2006) argued that leadership influences people to achieve organisational goals. Winston (2004) asserted that competent leaders, a climate of trust and an environment that promotes organisational learning are necessary for managing or leading strategic change. By familiarising themselves with the employees in the organisation and identifying key variables in motivation, managers can create a motivational environment (Beer et al., 1990).

Cultural leadership is crucial in policing, especially during changes. Winston (2004) describes it as leaders' ability to act independently of cultural influences. The ADP has a unique culture, requiring leadership that demonstrates' leadership' instead of' rulership". Lewin (1947) identified three leader types: autocratic, democratic, and laissez-faire. Autocratic leaders make unilateral decisions without employee input, resembling a hierarchical structure where employees are at the bottom. This style features one-way communication, limiting subordinates' decision-making power, and often disregards criticism (Hoyle, 2012). It suits decisions that do not need collaborative input and typically results in low motivation and minimal subordinate contributions.

Bush (2008) noted that democratic leadership principles are evident in participative settings, emphasising collaboration and shared authority. Similarly, Woods and Gronn (2009) stated that this leadership style protects individuals from unjust authority. Democratic leaders seek input from subordinates, enriching decisions with diverse perspectives. However, a major criticism is the potential for prolonged decision-making. Laissez-faire leaders give subordinates maximum authority, which can motivate employees, but a lack of oversight may lead to poor decisions (Lussier & Achua, 2009).

Nicholson (2009) identified another type of leadership, transactional leadership. This leadership is a form of management centred on establishing precise objectives and goals and sanctions and incentives to promote compliance. Researchers identify this leadership style as the leadership of stability, according to Lussier and Achua (2009), and it attempts to maintain stability through the usual social and economic interchange rather than by advocating for change. According to Bryant (2003), this style is characterised by three key elements: setting a shared organisational goal with subordinates, providing or promising rewards upon completing a task and responding to employees' needs as the task is being completed.

Transformational leadership uniquely addresses the need for change, inspiring action through a compelling vision while uniting a team for implementation (Bass, 1990). These leaders act as change agents, motivating followers by appealing to their ethical values (Bass, 1990). This style aims to inspire, guide, and empower employees to drive organisational change (Martin et al., 2005), effectively communicating values, delivering insights, fostering identity, and meeting needs (Bass & Avolio, 1994). Characterised by charisma, transformational leadership enhances attitudes and productivity. Such leaders help followers develop skills, achieve job satisfaction, perform efficiently, and improve organisational effectiveness (Lussier & Achua, 2009). Howell and Avolio (1993) emphasised that these leaders genuinely care for employee well-being and encourage support for shared goals. Babcock and Riley (2012) observed that a transformational change plan includes traits like long-term goals across strategies, leadership timelines, economic cycles, project integration, and collaboration across various functions and regions.

2.3.5.3 Communication

Communication is an essential skill in change management (Lanning, 2001). It plays a crucial role in implementing change, as such processes can trigger irrational emotions that may negatively affect an organisation's ability to achieve its goals (Amichai-Hamburger, 2001). Supporting this view, Palmer et al. (2009) indicated that emotions can significantly influence the acceptance or rejection of change within an organisation, regardless of members' cultural backgrounds. Therefore, the communication method used by organisations must effectively inform all stakeholders about the changes (Palmer et al., 2009). The goals of the communication process encompass effectively conveying the vision, strategy, desired outcomes, and scope of the change project to all relevant stakeholders (Errida & Lotfi, 2021).

Recently, there have been numerous changes in global information and communication technologies. These developments have created new ways to organise and handle corporate communication processes and practices (Siljanovska, 2015). Communication is acknowledged as one of the most vital functions within an organisation. Furthermore, internet communication has greatly enhanced this function, especially in influencing an organisation's objectives, values, plans, and strategies (Ewing et al., 2019; Siljanovska, 2015). Over time, social media has emerged as the most prevalent form of computer-assisted communication, propelled by technological progress (Langer, 2014).

Effective communication is a crucial skill that leaders and managers need to have. This ability allows successful managers and leaders to set clear expectations, goals, and objectives for everyone involved. Strong internal communication boosts corporate performance and aligns with business strategies (Palmer et al., 2009). It ensures that team members understand and support the current and future direction of the organisation (Lanning, 2001). Russ (2008) noted that the processes of acquiring, storing, delivering, and conveying information are growing. He acknowledged that while change can provoke strong emotions, these feelings can be channelled to build commitment and readiness for change. Emotional appeals can create urgency and help shape change strategies, facilitating successful transitions.

According to Palmer et al. (2009), two key challenges in communicating changes to stakeholders include managing emotions and not considering the effects of changes on employees' personal lives, such as their families and friends. Since individuals can react differently to change, addressing stakeholders' emotions during the change process is vital for a successful outcome (Russ, 2008). Clear communication fosters understanding and support among team members regarding current and future changes (Lanning, 2001).

Communication professionals are increasingly essential for informing employees about relevant events within and outside the organisation. Grabowski and Roberts (1999) emphasise that effective communication is vital in successful change management. It allows members to discuss organisational improvements, understand the impacts of the intended changes, and seek clarifications regarding the organisation’s development. Moreover, clear communication helps members fully grasp their roles and responsibilities as the change process unfolds. Corporate communication is key to managing change effectively. Employees are more inclined to cooperate when they understand the rationale behind the changes. Once the workforce clearly understands the project and its changes, ongoing communication is critical to sustaining the desired mindset (Gotsill & Meryl, 2007).

According to Russ (2008), effective communication plays a crucial role in minimising resistance to change and promoting teamwork. However, it should be focused and timely. Three key factors must be considered in effective communication: the audience, the message, and the timing. The initial step in managing change involves raising employee awareness and fostering a desire for change. Hence, early communications typically emphasise the risks associated with the status quo and the reasons for change. Furthermore, communications throughout each process phase need to be strategically planned to deliver relevant messages

at the appropriate times (Austin & Currie, 2003). Therefore, understanding the target audiences, key messages, and timing of these communications is vital during the planning stage. The change management team should create a communication strategy that addresses the needs of executives, supervisors, and front-line employees, as each group will have different informational requirements depending on their role in the change process (Austin & Currie, 2003).

Russ (2008) points out that challenges can occur without seamless communication, especially during the project's initial phase. Brown (2005) argues that effective communication is vital for system deployment, especially at the adoption stage. Lanning (2001) agrees, highlighting the importance of efficient communication and asserting that using diverse communication methods enhances effectiveness. According to Davenport (1998), the focus of communication should primarily be on the organisational and strategic aspects of the established system. Additionally, conveying the technical details is crucial for users to grasp this change element fully. Kotter (1996) notes that informing people about changes in advance is one of the best methods to mitigate resistance to change. When changes occur, it is essential to clarify the implementation process, outline the expectations for employees, explain how the changes will impact their roles, and detail the support from the organisation to foster a more significant commitment to the transition.

Davenport (1998) argued that communication is the first and most crucial stage because it clarifies the implementation process and shows people the desired outcomes, including the methods to be adopted. Employees should be able to express their complaints and share their opinions on the suggested change. Effective communication modifies attitudes towards and perceptions of implementing change (Davenport, 1998). A change process that redesigns attitudes and is effectively conveyed can overcome the resistance barrier. It starts with reestablishing a conception of security based on the effects of change, such as quelling fears regarding job loss, a change in position, and overall employment stability.

A proper management approach clarifies the benefits of change and why it is necessary to disrupt the status quo. This encourages employees to fully support the change programme (Horgan & Simeon, 1988; Russ, 2008). Organisations should establish employee participation and consultation while preparing for a change process (Lewis, 2006) and build trust among employees through open communication about the current condition and future state. There is also an opportunity to receive valuable input from employees, which could be

appropriate for the transition process. It is evident that poor communication results in low job satisfaction, which may impact employee performance, mainly when there is a change in technology, work structure or management. Communication is one of the significant tools that can be used to dispel misgivings about change (Dawson, 2003); hence, it is an essential technique for overcoming resistance to change. It is possible to comprehend employees' emotions by speaking with them and learning about their viewpoints. Additionally, employees who interact with management effectively can help resolve issues arising from the change process (Khatoon & Farooq, 2015).

Furthermore, Lewis (2006) posited that the change implementation stage is where most change projects fail and listed two frameworks designed for effecting change: those that allow for the participation of the organisation's human capital (the participatory framework) and the programmatic change framework. The participatory framework enhances the empowerment and involvement of an organisation's human capital in change implementation. In contrast, the programmatic framework ensures stakeholder compliance and incorporates a top-down approach to implementing change (Lewis, 2006). The programmatic framework often uses small informal meetings with employees and pamphlets to identify and implement changes (Lewis, 2006; Richardson & Denton, 1996). However, Lewis (2006) recommended adopting programmatic frameworks to be more participatory, as two-way communication supports effective change management in police organisations.

In the Middle East, effective communication is highly valued. The contextual nature of communication can influence how it is understood. Hall and Hall (1990) categorise cultures based on their communication styles into high-context and low-context. High-context communication relies on the surrounding context, while low-context emphasises explicit written messages. Al-Nashmi and Zin (2011) note that countries experience varying communication satisfaction levels. Consequently, communication in the Middle East tends to be implicit, where nuances and more profound meanings are intertwined with context. High-context cultures often use indirect communication to transmit information and foster social connections. In contrast, low-context cultures typically favour direct communication to improve clarity and reduce misunderstandings (Singhal & Nagao, 1993). Furthermore, communication in the Middle East may be constrained, resulting in resistance to change.

2.3.5.4 Training

Training is a cornerstone of the change process, aiding individuals in understanding the practical implications of the project and its impact on their future work. As Butterfield (2010) underscores, employees must adapt to their environment due to the frequent changes in the workplace. Training and development are potent strategies for overcoming resistance to change. Mastering new methods and technologies is a requirement and a catalyst for enhancing productivity and work quality. Training addresses the 'how' question, while communication addresses the 'why' (Gotsill & Meryl, 2007). Training forms the foundation for understanding the change and the requisite skills (Gotsill & Meryl, 2007). The influence of training on system deployment effectiveness and change acceptance is substantial, swiftly increasing commitment (Beeret et al., 1990). Errida and Lotfi (2021) argue that training bolsters change initiatives by enhancing employees' preparedness and engagement, improving their technical skills, and shifting their mindset.

Raising awareness and changing perceptions fosters understanding and empathy, easing initial worries (Dent & Goldberg, 1999). Businesses can effectively manage change by engaging opposers and providing training to enhance their skills. Thus, training and motivation are crucial for implementing change. Lanning (2001) states that training's primary goal is helping individuals adapt to change before teaching them to use new processes or technology. This approach can help improve user acceptance issues (Siddiqui, 2004). Managers must conduct innovative training sessions that motivate employees to boost performance and align with objectives. The necessary skills and behaviours for change will guide the project team in identifying training needs. The training team should focus on designing programmes for these needs. Schraeder (2009) warns that poor training can erode trust between managers and users, jeopardising success. Creating leadership training is a practical strategy, and Winston (2004) affirmed that leadership skills can be developed through training. Self and Schraeder (2009) also stressed the need for adequate employee training.

According to Williams and Williams (2007), training is a crucial component of putting any system into place, and the advantages of a new system or process might not be realised without adequate and efficient training. There are crucial elements that should be considered when implementing a system. First and foremost, training must be planned for and well-described at the project’s planning stage (Williams & Williams, 2007). Second, to maintain

momentum, all end users affected by the change or new system must receive training before installation. Third, adequate resources should be allocated to end-user support and training. Finally, a suitable support system must be set up after the system has been instituted. Kotter (1996) added that training requires significant money and is often inappropriately established.

Hailey and Balogun (2004) noted that training can drive behavioural changes and support a new system's benefits. Different training types should be tailored to specific skills and the expertise level of end-users. Stewart (2001) suggested training managers before end-users for valuable insights on training adequacy. Gargeya and Brady (2005) identified two training tiers: one for all users to utilise new technology effectively and another for management to understand the system's implications. Upper management should communicate this to their teams to reduce resistance (Davenport, 1998). The authors also highlighted that training is often neglected during implementation, leading to higher long-term costs and inefficiency. Lanning (2001) emphasises that deployment training must ensure that end-users understand and accept changes to facilitate system adoption. Thus, practical training can reduce end-user resistance (Siddiqui, 2004).

Sharma and Yetton (2007) examined the influence of training on the effectiveness of system deployment, introducing a fresh perspective. They posited that the complexity of the system and the interconnected actions significantly affect how end-user training promotes user acceptance and successful implementation. According to Sharma and Yetton (2007), the system's characteristics are crucial for practical training. Moreover, ongoing support from the organisation is essential for successful system deployment (Kemp & Louw, 2008). Key aspects of this support include regular maintenance, equipment updates, and training, particularly during the rollout phase. Additionally, Williams and Williams (2007) highlighted issues related to insufficient human resources allocated for training and end-user support throughout projects, suggesting this reflects a lack of user awareness about potential future challenges with the system.

Kemp and Low (2008) assert that user involvement and training significantly influence perceptions of the installed system. Al-Mashari et al. (2003) state that a well-structured training strategy is essential for successful project implementation. Additionally, Kemp and Louw (2008) emphasise the need for frequent updates to the training plan to adapt to project dynamics and environmental shifts. Williams and Williams (2007) highlight that ongoing training should help staff navigate change effectively. The training should encompass careful

planning regarding objectives, necessary resources, and expected outcomes. Lanning (2001) further supports that substantial resource allocation is crucial for practical training, planning, and execution. Before implementing any organisational changes, each employee must be informed about these processes. Effective practical training is critical in fostering employee acceptance and adaptation to change.

2.3.5.5 Culture and cultural values

Culture significantly shapes individuals' values and their interactions with others. It plays a vital role in influencing engagement, motivation, team dynamics, perspectives, decision-making, and outcomes, which are essential for effectively implementing and maintaining change. In a multicultural society, understanding the factors that drive people's behaviours and decisions and their cultural dimensions can improve change management strategies (Marsicano, 2024). Adopting a culture-centred approach to change can significantly enhance the success of change initiatives. Successfully facilitating change among individuals from diverse cultural backgrounds requires an appreciation of their differences and personalised strategies for each one (Marsicano, 2024). Different countries possess distinct cultures that can affect organisational change and the effectiveness of change management processes.

Rees and Althkhri (2008) highlighted the potential influence of Arab and Middle Eastern cultures on change management practices. Hofstede (2005) noted that strong male orientation, significant collectivism, substantial power distances, and high uncertainty avoidance characterise the Arab world's national culture. For instance, the interplay of the first two traits creates an environment where leaders maintain strict control and authority, while followers profoundly respect hierarchy. Support for this notion comes from Abdulla et al.. (2011), who state that supervision is critical to job satisfaction in the UAE. Moreover, teamwork and knowledge sharing are highly esteemed in the Arab world, reflecting collectivist values (Hofstede, 2005), in contrast to individualistic contexts. In this cultural setting, group affiliation often serves as the foundation for motivation and rewards, with nepotism potentially accepted when individuals have strong familial connections. Trust and loyalty are also highly cherished. Within this context, Abdulla et al. (2011) argue that employees perceive justice and fairness when strong trust exists between managers and their subordinates.

Cultural value plays a pivotal role in change management. Attempts to implement change in organisations in Arab countries often face challenges because they typically conflict with entrenched cultural values, customs, and traditions (Alichleh AL-Ali et al., 2022). Embracing and succeeding in change entails fostering a culture of change that aligns with a nation's cultural values. During periods of change, employees often experience uncertainty due to a disconnect between the changes being implemented and their cultural values, leading to concerns about job security and fears of redundancy. In the UAE, organisations employ expatriates from diverse backgrounds, bringing their beliefs and cultural values shaped by their national histories (Abdulla et al., 2011). This diversity can lead to various preferences and characteristics that may conflict with the change initiative, resulting in slower acceptance and a demand for familiar engagement methods. Compared to Western nations, the power distance in Middle Eastern cultures is significantly more significant, and notions of femininity and masculinity vary across cultures. These cultural factors can influence whether employees feel disengaged or supportive during organisational changes.

Ali and Anwar (2021) highlighted the positive impact of change management, especially cultural change, on boosting organisational performance, service quality, efficiency, and effectiveness. Alotaibi et al. (2023) contended that there is a strong positive connection between effective change management strategies that incorporate cultural values and enhanced performance efficiency in organisations in Middle Eastern countries. They also noted that the successful implementation of change initiatives fosters higher employee engagement, cultivates a more adaptable culture, and optimises processes.

2.3.5.6 Stakeholder involvement

The involvement of various stakeholders in change initiatives is widely recognised as essential to effective change management. These stakeholders represent various values, interests, needs, and expectations. Stakeholder involvement in change management refers to the active engagement of individuals or groups affected by, or capable of influencing, a change project by valuing their input, addressing their concerns, and fostering collaboration (Conde & Lonsdale, 2015). This approach aims to secure their commitment, support, and the values they can contribute to the project throughout the processes leading to the change and its successful implementation (Freudenreich et al., 2020). Conde and Lonsdale (2015) further noted that the adoption and implementation of change necessitate adaptive strategies that

significantly depend on the involvement of diverse stakeholders in innovative ways to unify their ideas, efforts, knowledge, and commitments.

The aforementioned submissions regarding stakeholder involvement are grounded in stakeholder theory. This theory posits that an organisation is characterised by a web of relationships essential to its operation among stakeholders- individuals or groups that are either affected by or can affect the organisation's activities (Freeman, 2010). The theory suggests that value creation arises from the combined efforts of this stakeholder network (Haslam et al., 2015), as stakeholders facilitate resource provision, shape the organisation's impact and effectiveness, and benefit from its operations.

The support of stakeholders for any organisational change is significant. Organisations should seek support from or address the needs of not only their owners, leaders, or shareholders but also those of other entities, particularly employees, for effective change management (Yilmaz & Gunel, 2008). Therefore, it is important to identify strategic stakeholders who influence the organisation and can also be influenced. Additionally, the level of involvement of stakeholders in a change process varies; for example, concerning innovations, such involvement depends on the extent of contributions or influence that the relevant stakeholders have on the change (Alvarez & Sachs, 2021).

Cecilie (2008) also posited that certain factors must be addressed or fulfilled for successful stakeholder involvement in change management. These factors include stakeholders' early awareness of rules and standards, the availability of managers or leaders, the recognition and acknowledgement of the diversity within and among different departments or units of the organisation, clarification of roles and responsibilities in the change, and constructive conflict among stakeholders. Furthermore, Kilpimaa (2009) argued that enabling structures and resources, which can be defined as the necessary tools, systems, and support mechanisms to support the change management process, are crucial for determining the level of stakeholder involvement. He indicated that providing stakeholders with these structures and resources during this process will assist them in effectively fulfilling the critical roles and responsibilities necessary for successful change management.

2.4 Technological change

Technological change is a distinct and specific subset of organisational change, as it involves introducing, adopting, and adapting new tools, systems, and processes within an organisation. This topic has become increasingly important for organisations that need to enhance their services to the public or expand their market share. Technology is essential for the survival of any organisation, whether in the public or private sector. Consequently, technological change significantly impacts an organisation's performance (Li et al., 2005). An organisation can compete internationally and increase its market share in global marketplaces due to the availability of new machinery, techniques, and business models. Technology offers various resources to any organisation and helps control costs (Chapman, 2002). Technology adoption and implementation have become crucial across all sectors to reduce costs and compete with domestic and international markets (Mark, 1987). Furthermore, the speed at which new technologies are adopted substantially influences how well enterprises perform, and this pace of change can create varied effects on an organisation's output and performance. Technology should be evaluated based on key elements of technological evolution (Ali et al., 2016; Li et al., 2005), which include scalability, backward compatibility, dependability, flexibility, performance, extensibility, maintainability, simplicity, and usability.

Technological change can be described as inventing, innovating and diffusing technology or technological processes, which refer to the methods, systems, and procedures that technology enables or improves (Li et al., 2005). According to Chapman (2002), technological change is the most crucial concept for facilitating innovative actions that individuals would otherwise have never performed or would have performed less efficiently and effectively. Implementing new technology has, in all sectors, become crucial to competing and succeeding in national and international markets (Mark, 1987). The ability of businesses to complete tasks faster, better and cheaper will continuously advance as technology evolves through time. In a competitive business environment, organisations must adapt and implement technological advancements (Parasuraman & Colby, 2015).

Hayes (2014) argued that technological changes are evolutionary, with the benefit of generating more job opportunities than they eliminate. A decade later, Kailash and Thomas (1998) concurred that technological advancements are advantageous for all facets of society and are more evolutionary than revolutionary. The rate of technology implementation in organisations greatly influences their productivity and performance (Hayes, 2014), and the

diffusion of technology is considered an enabler of productive outcomes. Li et al.. (2005) confirmed the relationship between technology and performance, stating that technology change can improve an organisation's competitive advantage, thereby increasing its total performance. Globally, technological change plays a significant role in shaping markets in different economies and provides organisations with continuous improvements in their abilities to deliver better, cheaper and faster goods and services. Chapman (2002) emphasised that an organisation must implement technology in a competitive world. Implementing new equipment, techniques, and processes enables an organisation to be competitive globally, increases its market share and contributes to the sustainability of multiple resources (Gonclaves & Gonclaves, 2012).

Regarding policing, technological change is very critical to the continuous operational success and effectiveness of any police organisation. Crime has constantly evolved, requiring police organisations to embrace new technologies to tackle emerging issues (Laufs & Borrion, 2021). The literature highlights the critical need for investment in these technological solutions. Numerous technological applications have been documented in the literature, particularly tools such as computer-aided dispatch, records management, biometric application, and automated speed cameras (Joh, 2019; Koper et al., 2015b; Rogers & Scally, 2018; Weisburd & Braga, 2019).

Additionally, technology offers significant benefits to police organisations. In law enforcement, it improves evidence collection for case resolution, facilitates outcomes, and boosts organisational efficiency (Lum et al., 2017; Maguire, 2014; Saunders & Henderson, 2013). According to Lum et al. (2017), implementing technology significantly strengthens the effectiveness of police agencies tasked with essential duties, such as responding to service calls and managing information. Technology integration in police departments has notably enhanced operational efficiency (Fortin et al., 2023), bolstered crime-fighting initiatives, and optimised resource management. Furthermore, AlYammahi and Robani (2023) found that technology accelerates and improves the accuracy of identifying suspects, vehicles, and relevant locations. In addition, Zhang, Hoover, and Zhao (2014) emphasised that Geographic Information Systems (GIS) play a crucial role in data generation and significantly impact the analysis of crime and disorder issues.

Fortin, Kentzinger, Donne, and Chopin (2023) and Garicano and Heaton (2010) noted that social media and information technology had enhanced the police's ability to gather

community intelligence, notify about emergencies, and enhance community relations, including reporting fraudulent activities. The potential of these new technologies to transform policing, improve efficiency, increase the accuracy and timeliness of crime data, and enhance response capabilities to calls should inspire and motivate law enforcement professionals.

Technological change can significantly benefit organisations, but it also poses substantial challenges. It may change job designs and responsibilities, adversely affecting employees (Kailash &Thomas, 1998). Nonetheless, it is crucial to recognise that such change can lead to job enrichment, enhanced job satisfaction, and increased productivity, ultimately improving operational efficiency. It affects employees' feelings about their jobs, work-related stress, productivity, and overall operational efficacy. The variety of technologies available today makes it difficult for organisations to determine the best options to meet their needs, essential for attaining optimal outcomes (Hassell, 2006; Koper et al., 2015b; Lum et al., 2017).

While technological advancements aim to boost efficiency and performance, effective management is vital to guarantee successful implementation and ease of deployment (Laufs & Borrion, 2021; Saunders & Henderson, 2013; Vinod Kumar, 2014). Smith, Busi, Ball, and Van Der Meer (2008) emphasised that acquiring new technology is often seen as a simple task, leading to poor integration, unforeseen results, adverse effects, and reduced benefits. This oversimplification has caused weak links between work efficiency, crime control, and job satisfaction (Weisburd & Braga, 2019). Additionally, research by Garicano and Heaton (2010), Joh (2019), and Rogers & Scally (2018) reveals that many technologies do not reach their potential due to poor alignment with existing systems and underuse by officers, limiting their advantages.

Training employees at various levels regarding technological changes has been proposed to address several issues. However, Brell et al. (2018) and Werlinger et al. (2009) emphasised that overlooking the strategic role of training, user perspectives, ease of use, and perceived usefulness can adversely affect technology implementation outcomes. Understanding these training elements is crucial for successful technology integration, as it aims to keep the audience well-informed and prepared. To address this challenge, Alyammahi and Robani (2023) suggested performing a technology capability assessment, which involves examining the user journey and helping them create a personalised plan to enhance their core competencies in utilising relevant technology within their department. This approach ensures that individuals' core competencies and needs are fully met (Koper et al., 2015b), identifies

gaps, and encourages officers to take charge of their professional development (Wilson & Weiss, 2014).

Understanding technology readiness is essential during technological change. This understanding aids in managing how users or employees respond to implementing new technologies (Han et al., 2020; Maali et al., 2020). Defined as the willingness of individuals to learn and utilise technology for its intended purpose to achieve desired results (Parasuraman & Colby, 2015), technology readiness encompasses various mental motivators and inhibitors that can influence resistance to technological changes (Ali et al., 2016). Parasuraman and Colby (2015) identified four key dimensions of technology readiness: two motivators, optimism and innovativeness, and two inhibitors, discomfort and insecurity. Optimism and innovativeness serve as motivators for enhancing performance and productivity. Optimism reflects a favourable view of technology, suggesting it can enhance control, efficiency, and flexibility. Similarly, innovativeness encourages individuals to embrace roles as thought leaders and technology trailblazers; conversely, discomfort and insecurity act as inhibitors, fostering resistance. Discomfort arises when individuals feel overwhelmed by technology, leading to a sense of lost control. Meanwhile, insecurity stems from distrust and uncertainty regarding the technology's reliable performance for its intended purpose, contributing to resistance to change.

Resistance to technological change is a common reaction, as introducing or implementing new technology within an organisation often raises employee concerns (Prosci, 2002). However, effective management and understanding employee responses can be crucial in addressing these concerns and ensuring successful adoption or implementation (Jiang et al., 2000). The likelihood of encountering resistance during the implementation of technological changes tends to be greater than that for other organisational changes. Gonclaves and Gonclaves (2012) asserted that introducing technology in organisations significantly heightens the chances of resistance to change. Craine (2007) further reinforces this idea, indicating that technological advancements and innovations have amplified employee resistance. Hayes (2014) identified three primary reasons for this resistance to technological change. First, individuals may resist because they feel unskilled in using or reaping benefits from new technologies. Second, employees in traditional industries may not understand the application of modern technology and how it affects business processes. Third, introducing

new technology can reshape an organisation, prompting senior and middle management to reevaluate business models.

Chapman (2002) argued that resistance would be most excellent when change is seen negatively, as many employees believe that change raises work pressure by adding unwanted tasks, accountability and responsibility. They also claimed that most workers are against new technology because they think change will not fix all the issues quickly. However, it is important to remember that because technological change significantly impacts organisational performance, Hayes (2014) advised that resistance to change may occasionally be good, as technological changes sometimes act as catalysts for inventive behaviour. Recognising that opposition to change is a given when it is implemented without employee input is crucial. As a result, Gray (2005) supported the introduction of change management to support the implementation of innovations and technological measures. Several motivations for encouraging technological development at the governmental level include lowering costs, enhancing efficiency, exercising control and promoting new services and practices (Hayes, 2014).

2.5 Technology Acceptance Model

The Technology Acceptance Model (TAM) has been widely used in studies on technology management. Davis (1989) proposed the TAM to describe the factors influencing technology acceptance and utilisation. The model also represents how individuals embrace and use technology (Musa et al., 2023). According to this paradigm, users' attitudes—shaped by perceived ease of use and usefulness—affect their technology usage. Other external influences also impact perceived utility and ease of use. Numerous research studies have reviewed, expanded upon, critiqued, and investigated TAM's internal and external consistency since its inception. According to Chen et al. (2018), many studies in diverse fields have examined TAM's relevance and application since its introduction in 1989. Various viewpoints exist regarding its relevance to technology management research today.

The model assesses the variables influencing a person's or group's technology acceptance. It explores the elements that could precede management attitudes, beliefs, and Information Technology usage. Al-Ansi (2022) argued that the reactions and perceptions of information technology users can affect or influence their behaviour toward technology

acceptance. According to the model, an individual's desire to use technology is determined by its perceived usefulness and ease of use, and this intention mediates the relationship between actual technology use and utilisation (Chuttur, 2009). The model illustrates how people embrace and utilise technology, implying that various factors impact users' decisions regarding how and when to use new technologies when introduced. These factors include, among others, perceived utility.

Perceived usefulness assesses how much individuals believe a specific technology enhances their job performance. According to Venkatesh and Davis (2000), the perceived ease of use also affects the perceived effort required to use a technology. The model highlights that external factors influence these perceptions of value and ease. There are varying views on these external variables, and our analysis clarifies their distinctions and impacts on the model (Legris et al., 2003). Technology's perceived usefulness and ease of use hinge on four primary factors: individual differences, system characteristics, social influence, and facilitating conditions. Individual differences include personality traits and demographic aspects such as gender and age, which shape perceptions of usefulness and ease.

System characteristics relate to fundamental features of technology that sway individuals' perceptions regarding its effectiveness or usability. Social influence involves how individuals develop their opinions about information technology. Lastly, facilitating conditions encompass the support from an organisation that encourages effective technology use. In police departments, the perceived usefulness of technology is primarily driven by compliance, as individuals adopt behaviours to earn rewards or avoid penalties. Management must effectively communicate the benefits of the technology while addressing users' concerns about job security, monitoring, skill reduction, and health and safety. This involves providing reassurance about job security, demonstrating the positive impact of monitoring on safety and efficiency, offering training to mitigate skill reduction, and ensuring the technology's compliance with health and safety standards.

Like other models, the Technology Acceptance Model (TAM) faces criticisms. Research, including studies by Shroff et al. (2011) and Chuttur (2009), suggests that the model lacks critical components necessary to establish a robust theory for information technology management studies, primarily due to its theoretical limitations and practical effectiveness. Additionally, it has been criticised for overemphasising external variables when assessing individual attitudes. However, since TAM focuses on the outcomes of IT usage, it has

predominantly been utilised to explore internal motivations instead of external factors. There is a growing call to incorporate external elements into the model, especially as the use process has often been overlooked. Despite these criticisms, TAM remains a valuable tool for understanding and predicting technology adoption and use. Its continued use and potential for future research make it a significant model in technology management.

The likelihood that employees will adopt and view new technology as beneficial increases with their perception of how effectively the systems facilitate their job tasks (Dillon & Morris, 1996). The theory of reasoned action, which suggests that social behaviour is influenced by personal attitudes aimed at anticipating information system use, serves as the foundation for the TAM model (Lin, 2007). An organisation's guiding standards are the only factors influencing the technology used in the workplace, as they dictate employee behaviour. These standards can include policies on technology use, training programs, and performance evaluation criteria. Consequently, rule-governed behaviour is at play when utilising a system. According to King et al. (2009), this model is the most commonly used approach for measuring user acceptance of technology. This popularity is mainly due to the model's simplicity and ease of understanding, not necessarily its applicability in real-world situations.

Numerous studies, including Averweg (2008), Koufaris (2002), and Pijpers (2001), have examined the Technology Acceptance Model. Venkatesh and Davis (2000) created a theoretical expansion of the TAM and used social impact and cognitive instrumental procedures to explain perceived usefulness and usage intentions. They discovered that job significance and output quality influence interaction when determining perceived usefulness. Pijpers (2001) also looked at the variables affecting managers' attitudes, beliefs, and IT usage in typical European-based businesses using the model. They discovered external variables that Davis (1986) did not identify, such as demographics, information technology, managerial knowledge, manager personality, corporate characteristics, and information technology features.

Irani et al. (2009) also propose that the Technology Acceptance Model be broadened to include external factors such as social influence and organisational culture. This perspective emphasises the complex dynamics of technology adoption, indicating that organisational context shapes individual perceptions of technology. Supporting this argument, Bouwman and van de Wijngaert (2009, p. 199) assert that the conventional TAM may fall short, restricting its ability to effectively predict Dutch police officers' willingness to adopt mobile

technologies. This insight points to the necessity for tailored models that consider the unique operational climates and cultural values within police agencies (Al-Karaeen, 2016).

2.5.1 Technology Acceptance in Police Organisations

Technology is increasingly essential for police organisations, necessitating the enhancement of their ability to innovate with new technological tools (Colvin & Goh, 2005; Koper et al., 2015a; Lum et al., 2017). It introduces promising resources for police officers. For instance, Manning (1992), as Lindsay et al. (2011) referenced, highlights the significant change brought by two-way radios and mobile data terminals in patrol cars. Koper et al. (2015b) support these insights, arguing that technology favourably impacts problem-solving capabilities in policing. Their research indicates that technological resources grant officers better access to crucial information, leading to informed decision-making and strategic incident responses. Chan et al. (2001), referenced by Ernst et al. (2021), surveyed 506 Australian police officers, finding that about 72% believed that information technology plays a vital role in enhancing police work. Officers mentioned that these technologies promote a problem-oriented approach to policing, aligned with modern strategies focusing on community engagement and proactive crime prevention. In the UK, recent government initiatives emphasise integrating advanced technology in policing, permitting officers to record data directly into police systems, thus streamlining processes and reducing the administrative challenges traditionally faced during fieldwork (Colvin & Goh, 2005).

Numerous studies have examined the use of technology in policing (Gardner, 2015; Koper et al., 2015a; 2015b), but they differ in their methodologies and areas of focus. Laufs and Borrion (2021) indicate that accepting technology within police organisations is significantly hindered by the expenses of acquiring new equipment and the ongoing necessity for upgrades, thus increasing costs. The role of information technology in police work has garnered substantial academic attention, particularly regarding its ability to enhance operational efficiency and effectiveness (Laufs & Borrion, 2021; Lum et al., 2017). While recent technological developments show potential for improving police performance, few studies have assessed their effectiveness in crime reduction (Lindsay, Jackson & Cooke 2011, 2014; Lum et al.., 2017). Ernst et al. (2021) and Lindsay et al. (2014) suggest that police organisations are shaped by a range of factors, including their structural characteristics, the types of policing tasks, and the socio-political context, which embrace risk and excitement while prioritising crime-fighting efforts over community-oriented strategies.

In conclusion, the interplay between technology adoption and organisational culture creates a challenging landscape for police agencies looking to integrate modern technological solutions into their operations. Understanding these dynamics is crucial for enhancing law enforcement's effectiveness and ensuring that technologies resonate with the communities' values and needs. Ongoing research should examine the impact of social dynamics, organisational structures, and varied interpretations of occupational culture on the acceptance and utilisation of technology in policing. The benefits of technology become clear when linked to broader organisational change, particularly when new strategies are combined with technological advancements (Lum et al., 2017). Improved training and a stronger emphasis on the strategic use of IT for problem-solving and crime prevention, as well as its behavioural influence on officers, will enhance its effectiveness in crime reduction (Lum et al., 2017). Evaluating the successful implementation and use of technology in police organisations should extend beyond mere economic efficiency; it is essential to acknowledge the sociocultural factors that impact technology acceptance. These technologies have greatly enhanced law enforcement's ability to respond rapidly to criminal incidents, thus improving public safety through better communication and decision-making. However, this enhancement does not automatically result in greater effectiveness or efficiency in police work nor ensure a positive effect on crime control (Gardner, 2015).

2.6. Public sector management theory: TPA and NPM

Public sector management theories are frameworks designed to guide the management of public institutions. They clarify the complexities of governance, policymaking, and public administration (Iacovino et al., 2015). These theories draw on political science, economics, sociology, and organisational theory to address challenges in the public sector. Their development began in the early 20th century, influencing governance and public administration (Sarker & Pathak, 2000). Traditional public administration (TPA) and New Public Management (NPM) theories reflect the evolution of public administration and expectations. Each theory wave has been shaped by political, social, and economic contexts affecting public organisation management (Samaretunge et al., 2008; Barzelay, 2001).

The theory of traditional public administration focuses on organising and managing individuals and resources to achieve governmental objectives, commonly termed public administration (Hood, 1991). Its core principle is cooperative rational action, emphasising the

management of public affairs and policies. Public administration involves overseeing programs that serve the public, effectively bringing politics to life in everyday contexts. Caiden (1982) characterised public administration as the execution of policies established by recognised public authorities, establishing a framework to ensure public compliance and the relationships between citizens and appointed officials working towards collective benefits. Beyond managing attitudes and behaviours, it includes overseeing public institutions, offices, property, and the organisation of social objectives and group decision-making.

Public administration involves the activities necessary to fulfil a government's or public policy's intentions or desires (Dunleavy & Hood, 1994). Consequently, through organisation and administration, the ongoing operational segment of government is tasked with enforcing laws passed by legislative bodies (or other authorised agencies) and interpreted by the courts. In its broadest scope, public administration encompasses the activities involved in executing governmental operations, regardless of the particular government branch (Sarker & Pathak, 2000; Hood, 1991). In its most precise sense, it pertains solely to the executive branch's actions.

New Public Management (NPM) addresses historical failures in public administration by criticising traditional practices. It outlines strategies for restructuring public sector organisations to align with commercial management techniques while tackling bureaucratic inefficiencies, accountability issues, and resource mismanagement. Critiques of NPM from a political standpoint are limited, with few developing countries successfully reforming their public sectors (Kalimullah, Alam, & Nour, 2012). NPM is considered both an 'administrative argument' and an 'administrative philosophy, ' which, although related, are distinct yet similar. NPM is understood through two paradigms: managerialism, which relates to private sector operations, and public choice, which encompasses broader discussions about government. It promotes entrepreneurial management and contrasts with traditional bureaucracy by emphasising output control, decentralisation, and competition in public services.

NPM is a contemporary management approach that upholds fundamental public values using economic reasoning (Samaratunge et al., 2008). These values are dynamic and ever-changing. Public administration's traditional conceptions have significantly changed to address the growing geopolitical and economic difficulties. NPM is now a management tool for public sector enterprises (Kalimullah et al., 2012). Two main characteristics are the

division of policymaking from implementation and the significance of management practices influenced by the private sector. This new method of managing public affairs was based on a critical analysis of bureaucracy as the organising principle of public administration. It also promised a smaller but better government, strongly emphasised empowerment and decentralisation, prioritised customer satisfaction, and supported improving public accountability mechanisms and institutional growth. It includes worries about professional power inside public services and the ensuing disempowerment of service consumers, as well as the capacity of public administration to ensure the economic, efficient, and effective delivery of public services.

The NPM and traditional public administration differ significantly in various aspects. Despite its widespread appeal, conventional public administration often overlooks many crucial environmental factors. Consequently, governments worldwide have faced numerous environmental challenges over time, leading to the development of NPM (Sarker & Pathak, 2000). First, there is pressure from large and expensive governmental sectors to either cut programs or enhance efficiency. Second, there have been noteworthy technological advancements, particularly in information technology. Third, the economy has become increasingly globalised, resulting in heightened competition. Fourth, significant burdens on the public treasury due to mismanagement, corruption, ineffective resource allocation, and bureaucratic inefficiency have made it essential to liberalise the economic sector. Resource management is expected to improve in efficiency due to the demands of competition and the economic downturn. Finally, in today's competitive market, customers are demanding high-quality products and services, and they are willing to assess the offerings from various companies (Hughes, 2003; Minogue et al., 1998).

Mansour (2018) notes that New Public Management (NPM) has been widely implemented in Gulf Cooperation Council (GCC) nations, with the UAE at the forefront of this transformation, fostering the diversification of its economic assets beyond oil exports. Thea (2012) highlights a research gap regarding NPM in police organisations. Nonetheless, interest among policymakers and practitioners has surged over the last decade, as pointed out by Hartley et al. (2023) and Morrell and Bradford (2018). This resurgence in interest is partly due to evolving changes in policing and its representation in public discourse, as observed by Quick (2022). The adoption of NPM in policing and public safety institutions has revolutionised bureaucracy in developed nations, moving away from a strict formal hierarchy

toward organisations that foster employee innovation and prioritise business-oriented practices (Hartley et al., 2023; Thea, 2012). In the future, researchers might consider examining the long-term effects of public sector reforms and their potential positive influences on the Middle East. Studies by Dixon, Bhuiyan, and Üstüner (2018) and Mansour (2018) highlight the potential for further research to influence the implementation of NPM within an Arab context significantly.

2.7 Research conceptual framework

The conceptual framework guiding this study is presented in Figure 9. The expansion of theories and strategies that address change needs the development of a framework which will categorise and integrate the various theories and approaches (Goes et al., 2000). This chapter critically reviewed relevant literature which contributed to building the framework. The focus will be to find out and investigate the various constructs and variables and their proportional implication and to explore the circumstances of each variable that can drive or hinder the implementation of a successful organisational change. The framework highlights the relationships among this research's constructs, theories, and variables.

Also, the impetus for developing the framework was to identify a relevant change management model that contains the main topics of the research and then add other valuable models to it as necessary. Therefore, this study mainly utilised Kurt Lewin's change model. The first task for effective change in that model is the study of the behaviours of individuals and the overcoming of the status quo. Thereafter, the change can be brought into effect. It lists three steps of effective change implementation: studying individuals' behaviour and overcoming the status quo, effecting the change, and preventing reversal.

Additional change management models partly adopted for the framework include the Kubler-Ross and ADKAR models. Kubler-Ross expanded on the behaviours of individual responses to organisational change instead of that of the business or organisation, as behaviours of individuals are crucial and helpful in projecting or forecasting the expected reactions from employees as a result of change implementation. ADKAR proposed that effectively managing the people dimension in a change management scenario involves managing five drivers of change: awareness, desire, knowledge, ability and reinforcement.

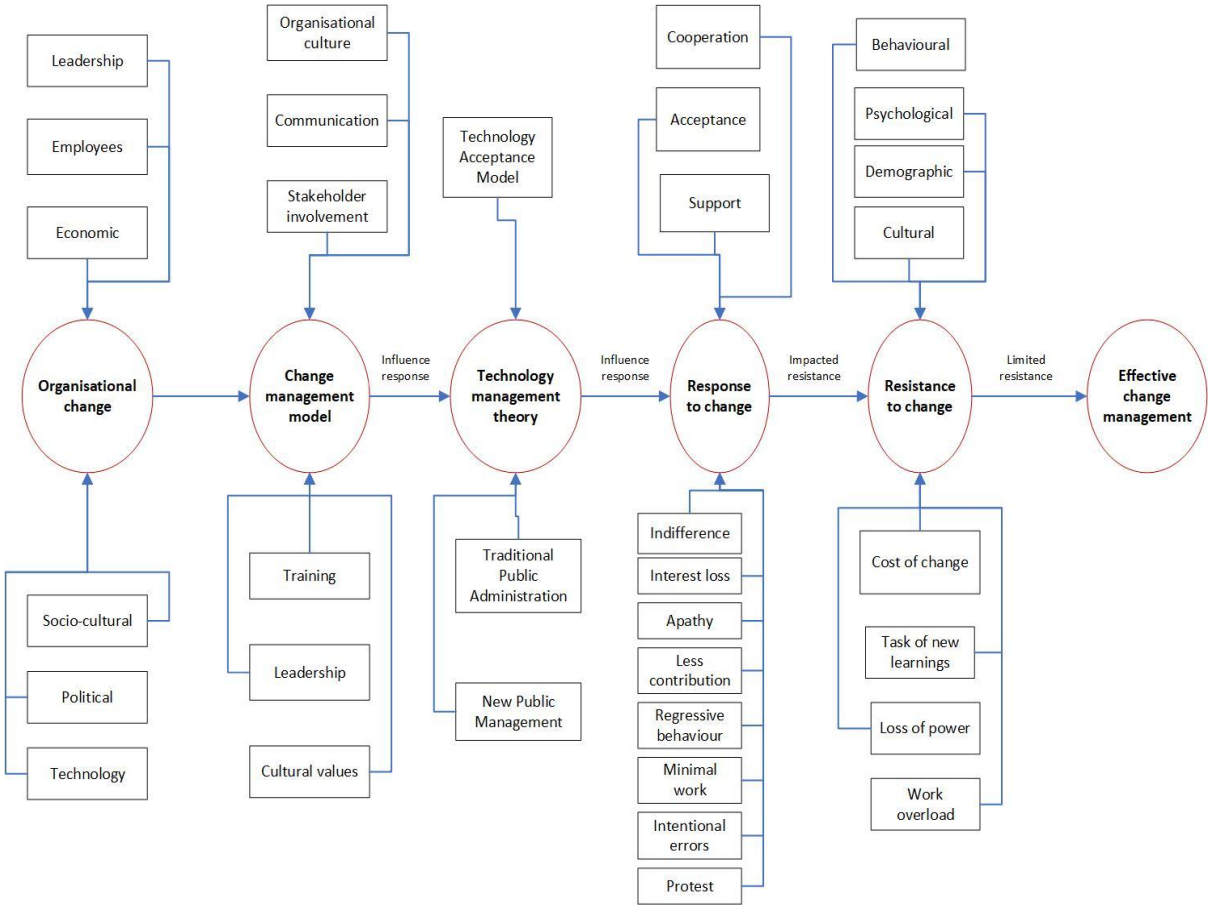


Figure 9 The conceptual framework for the study

The conceptual framework consists of five constructs and several variables. The constructs examined in this chapter include response, resistance to change, and the change management model. The framework's logical flow, depicted in Figure 9, indicates that a change management model can lower resistance and enhance responses to change, resulting in effective change management and positive outcomes.

The change management model construct entails reviewing the various components involved in change management. These components encompass communication, organisational culture, training, leadership, and stakeholder engagement (Rees & Althakhri, 2008; Phillips & Klein, 2022). Next, the response to organisational change was analysed, involving variables like cooperation, acceptance, support, indifference, loss of interest, apathy, reduced contribution, regressive behaviour, minimal effort, intentional mistakes, and protest (Torrington & Weightman, 1987; Watson, 2001). These variables can be categorised into positive and negative responses to change. The extent of influence and control individuals have over the results of change affects whether the reception of change is favourable or unfavourable (Herold et al., 2008). Additionally, the resistance to change construct includes two primary variables: human behaviour and management (Al-Ameri, 2013). The human

aspect consists of various factors, including behavioural, social, psychological, cultural, and demographic elements. The management aspect addresses issues such as high costs associated with change, the extra effort needed for acquiring new information, fear of losing power, and concern about work overload.

2.7.1 Research questions and literature review

This chapter reviewed the existing literature on organisational change and change management to present an extensive introduction to the subject focus, thereby increasing background knowledge and understanding. The emergence of the research questions was guided by the several works of literature that were reviewed, as illustrated in Table 4. These questions examine technological change in the Abu Dhabi Police and assess the employees' responses to these changes to enable effective change management. The first question relates to understanding the reactions of employees of the Abu Dhabi Police to technological changes in the organisation. The second question assesses the factors driving resistance to technological changes in the organisation. The third question identifies the measures required to address resistance to technological changes to achieve effective technological change management in the organisation. Based upon the follow-up interview, the last question provides recommendations and contributes to theory and practice.

Research questions	Literature
What are the employees' responses of the Abu Dhabi Police to technological changes in the Abu Dhabi Police Department?	This emerged from the review, as the literature showed that responses to organisational change include cooperation, acceptance, support, indifference, loss of interest, apathy, decreased contribution, regressive behaviour, minimal work, intentional errors and protest (Gabriel & Carr, 2002; Kaila, 2005; Watson, 2001).
What are the factors that drive resistance to technological changes in an organisation?	This came up from the literature, as the review established that factors such as: fear, anger, anxiety, learning difficulties, job insecurity, hard work, fear of loss of power and work overload drive resistance to organisational change (Hubbart, 2023; Al-Ameri, 2013; Hassan & Davies, 2003; Mason, 2002; Oreg, 2003).

What measures are required to address resistance to technological changes to achieve effective technological change management in an organisation?	This emerged from the literature relating to change management, which established that culture, communication, education, politics and leadership are factors for managing resistance to organisational change (Jaeger, 1990; Rees & Althakhri, 2008; Fusch et al., 2020; Albrecht et al., 2022; Rousseau & Have, 2022; Phillips & Klein, 2022).
What are the critical lessons from the implementation process?	This is a critical part of any change process. Organisations must constantly review their processes to adapt to change and ensure that their strategies (communication, organisational culture, training, leadership, practices, methods, structure and people) align with their present reality (Nelson, 2003; Rees & Althakhri, 2008).

Table 4 Relationship between research questions and literature review

2.8 Chapter Summary

A thorough review of several studies has been conducted to support this research. The literature review offered a complete insight into the elements of organisational change and change management, including the nature of change, technological innovations, resistance to change, and the impact of culture, leadership, and communication on successful change management. It also highlighted the relevant literature and theories that this study seeks to contribute to. Focusing on change management within the Abu Dhabi Police Department, this research specifically investigates employees' reactions to technological changes within the organisation. Various reasons for organisational change have been identified, such as economic, political, technological, environmental, and socio- cultural influences, along with leadership challenges and issues like high production costs, low productivity, ineffective employees, and the necessity for enhanced efficiency. Overall, these factors address needs, innovation, and performance. Organisations are continually upgrading technology, which is a crucial asset for satisfying and expanding customer bases, streamlining operations, reducing costs, saving time, enhancing product quality, increasing productivity, and providing other benefits. Furthermore, it has been argued that examining organisational change in isolation, without accounting for contextual factors, can lead to inaccurate conclusions. This is because

change management theories may work well in one context but not in another. Factors such as history, culture, politics, religion, society, and economics significantly influence organisational change. Therefore, evaluating the applicability of Western philosophies and their change practices in the Middle East is essential. The Middle East has distinctive traits that can dramatically impact management approaches in the region, including centralised control, nepotism, tribalism, loyalty, cultural values, communication styles, religious practices, male dominance, high levels of collectivism, substantial power distances, and a unique organisational culture. As the Middle East continues to interact with global business partners and trade, organisations in the region must regularly reassess their strategies and models for sustainable growth. Relevant studies have provided key insights into various aspects of organisational change and change management in the UAE, with findings that significantly inform this research.

Also, technological change is an aspect of organisational change that has dramatically encouraged employees to perform innovative actions that they have never performed or would have been performed less efficiently and effectively. However, it can also change job designs and responsibilities, hurting the employees. Resistance to technological change is natural, as technology adoption usually raises concerns for employees, and studies have shown that technological advancements have led to increased resistance in organisations. Sometimes, employees believe technological changes raise work pressure by adding unwanted tasks, accountability and responsibility (Ali et al., 2016). Similarly, literature on managing technological implementation was reviewed; the Technology Acceptance model (TAM) is widely utilised in technology management studies. Equally, literature relating to public sector theories showed that they are models designed to clarify, comprehend, and direct the management of public institutions and organisations. These theories shed light on the intricacies of governance, policymaking, and public administration (Barzelay, 2001).

In responding to questions relating to managing resistance and implementing effective change management, the relevant literature showed that comprehending the appropriate change model an organisation requires is essential, as change theories and models are fundamental to the accomplishment and progress of any organisation. These theories and models are also critical to reducing resistance to change and producing effective change management overall. No single model is best suited for an organisation, as every change management model can work effectively, considering the organisation's dynamics, culture

and needs. Relevant change management models adopted for this research include the Kurt Lewin, Kubler-Ross and ADKAR models.

Furthermore, it is of utmost importance to consider specific components of a change management model to reduce or eliminate resistance to change and ineffective change outcomes in an organisation. These components include organisational culture, leadership, communication, training, and stakeholder involvement.

Cultural traits play a crucial role in determining the similarities and differences in the necessary behaviour of an organisation. The culture of any organisation consists of its values, shared expectations, and beliefs. Leadership in an organisation entail influencing, directing, and managing individuals to achieve common objectives or goals. It involves recognising risks and challenges in the change process while demonstrating resilience, patience, and persistence. Communication empowers effective managers and leaders to establish clear expectations and objectives for all parties involved. It ensures that team members understand and support the organisation's current status and the desired future. Training helps individuals grasp the implications of a project and its impact on their future assignments. This affects the effectiveness of system deployment and acceptance of change. The primary aim of training is to equip employees with an understanding of and readiness for the change before instructing them on how to utilise the new process or technology.

The literature review highlights knowledge gaps that inform this study, which focuses on three main points: insufficient research on change management in public institutions compared to the private sector; limited studies on technological changes in UAE public sector organisations; and the unique culture of police entities like the ADP, characterised by rigidity and tight control, impacting change implementation. More research is needed to explore the influence of factors such as history, culture, politics, religion, society, and economics on organisational change in developing countries, particularly the UAE. This study offers valuable findings for security-oriented organisations in the UAE and similar regions. It aims to identify employee perceptions of technological changes and inform effective change implementation. Additionally, the study will help leaders engage employees and plan for technological projects, shedding light on employee challenges within organisations. It proposes a technological framework for organisational change initiatives relevant to the Middle East, aiming to enrich theory and practice with practitioner feedback.

Chapter 3: Research Methodology

3.1 Introduction

This chapter outlines the methodology used to achieve the study's research objectives, including the methods applied. To achieve this, it describes and justifies the philosophical, epistemological, and methodological approaches that informed the methods deemed suitable for the research. The processes and activities related to data collection and analysis are also discussed.

This chapter justifies the selected research paradigm and methodology by considering several research philosophies and methods to meet the objectives. It describes the philosophical approach and research design, including the rationale for choosing a case study technique, data collection and analysis techniques and processes, research validity and ethical considerations. This study evaluates employees' responses to technological changes being implemented in the Abu Dhabi Police Department. Hence, selecting an appropriate approach and tools enables results (Marczyk et al., 2005) that clarify the process of supporting effective organisational change management.

3.2 Research philosophy

The research philosophy should encompass three fundamentals: scientific theory in behavioural science, goals and norms, and various interventions that address the research questions (van Strien, 1978). In social science research, two key philosophical frameworks govern choices relating to epistemology: social constructionism and positivism (Easterby-Smith et al., 2009). The primary distinction between these two lies in how reality is perceived- objectively or subjectively (Easterby-Smith et al., 2009). Objectivity refers to perceptions influenced by human life's physical and mental stability, independent of human knowledge. In contrast, subjectivity pertains to interpretations shaped by the perceptions of individual minds.

The philosophy of any study is governed by ontology, methodology, epistemology, and human nature, highlighting the connection between the researcher, reality, and the methods employed to establish that reality (Collis & Hussey, 2003). Ontology pertains to the

researcher's perspective on the nature of reality, whether it is objective or subjective (Collis & Hussey, 2003; Robinson, 1998). Objectivism asserts that social entities exist independently in reality, while subjectivism claims that understanding the specifics of a situation is essential for gaining a fuller comprehension of reality. In this study, focusing on technological change management in the ADP, the aim is to assess employees' reactions to technological changes and the factors driving these responses, as well as to identify ways to manage resistance and achieve effective technological change management within the organisation. This reinforces the case study approach adopted by the research, which seeks to establish the "how and why" (Baker, 1989). Concerning ontology, this study initially considers what exists within the ADP regarding technological changes. Additionally, the focus of the ontology in this study is on specific employee perspectives of reality, as the approach promotes collaboration with interviewees as the data unfolds. This collaborative aspect ensures that the study emphasises the researcher's perspective and the employees' lived experiences. An open and reflective stance is maintained, as the researcher's ontological perspective can influence the study (Collis & Hussey, 2003). Furthermore, all stages of the study are thoroughly examined.

Research in epistemology concerns researchers' assumptions about what constitutes acceptable knowledge (Collis & Hussey, 2003; Robinson, 1998). It must align with the study's ontology and consider the relationship between the researcher and the research itself (Collis & Hussey, 2003). Additionally, it is influenced by beliefs regarding observer independence (Creswell, 2009). In qualitative research, a critical component of an epistemological argument is the individual's level of knowledge, which can be attained through specific research techniques. The objective approach to epistemology is grounded in observable situations, while the subjective approach is significantly shaped by personal understanding and experiences. Human nature encompasses both individuals and their environments. The objective perspective of nature adopts a deterministic view of the environment, whereas the subjective perspective sees individuals as initiators or active participants (Collis & Hussey, 2003). This research aims to understand how ADP employees respond to technological changes and the factors influencing those responses. It embraces an epistemology that emphasises credibility and clarity from the outset, reinforcing the philosophical foundation of the research. This aligns with Creswell's (2009) assertion that researchers should ensure their research approach is consistent with their epistemological beliefs from the beginning and take responsibility for this alignment. Furthermore, given the study's exploratory nature, employing an interpretivist approach for data collection was

deemed suitable to enhance the understanding of the phenomenon being explored, as Silverman (2013) suggested. The chosen epistemological framework is expected to shape the study's findings by providing a more nuanced understanding of employee reactions to technological changes and the factors that inform these responses.

The research methods included thoroughly evaluating various approaches, mainly positivism or phenomenological/interpretivism (Gray, 2013). The various types of knowledge associated with different philosophical approaches assist the researcher in understanding the benefits and limitations inherent in these approaches regarding data collection and analysis (Bryman, 2015). Positivism is generally linked to quantitative methodology, as results are typically expressed in numerical and statistical statements of fact (Weaver & Olson, 2006). It views reality as objective and external, while knowledge is perceived as substantial since it is based on the subject of external reality (Easterby-Smith et al., 2002). Positivism considers scientific knowledge factual, valid, and accurate (Creswell, 2009; Crotty, 1998; Saunders et al., 2009). Easterby-Smith et al.. (2002) reported that positivism manipulates theoretical propositions through hypothetico-deductive logic, fulfilling four basic requirements: falsifiability, relative explanatory power, logical consistency, and survival. It relies on the power of deduction, derived from theoretical hypotheses and data collection, and can be highly useful when examining the frequency of occurrence of an event (Easterby-Smith et al., 2002).

The phenomenological approach (interpretivism or social constructionism) views reality as socially composed and subjective (Saunders et al., 2007). Easterby-Smith et al.. (2002) reported that the approach focuses on appreciating all participants' various constructions and meanings of an experience. Considering that the participants' interpretations are subjective, the interpretations are likely to be moulded by the experiences of these people in their specific contexts. A phenomenological approach critically and systematically defines and interprets subjects (Bassey, 1999).

People and their ways of interacting, thinking and forming ideas about how the world is constructed are central to the phenomenological approach. This is supported by Creswell (2009), who posited that, within this approach, people are not only perceived as a primary information source, but their "insider" perceptions are also held in high regard due to their perceived experiential authority within the area of investigation. Pollard (1998) clarified that the researcher can engage in fieldwork, conversations, verbal acts, notes and other sources associated with daily social activities and then use analytical processes to systematically

structure, interpret and understand the data. This approach rarely applies statistical data and does not assume absolute reality, believing that reality is a blend of processes and social actions driven by several ever-changing factors (Berger & Luckmann, 1966). This study applies the phenomenological approach due to its suitability. Applying a specific approach to research is determined by the research questions, objectives, and the researcher's interests (Easterby-Smith et al., 2002; Morgan, 1988). The researcher's role in the phenomenological approach is crucial, as their interpretations and understanding of the data will shape the study's findings and conclusions.

The decision to employ a phenomenological approach in this research stems from its various relevant elements. This study focuses on the human reactions of Abu Dhabi Police employees resisting technological changes, which are often driven by personal interests and are challenging to pinpoint or quantify. The benefits of these changes are anticipated to influence the employees' responses, as their interests are at stake. This corresponds with the phenomenological perspective, which posits that social norms, shaped by subjective human interests, construct our reality. Saunders et al. (2007) articulately state that this approach perceives reality as a socially constructed and subjective phenomenon.

Moreover, the expectation that employee responses to technological advancements in the ADP are subjective highlights the importance of each employee's experience in adopting or utilising the new technologies, as these experiences significantly shape their responses. This research explores how these changes impact ADP employees and influence their emotions and thought processes. Understanding these elements is critical as it will provide insights into the reasons behind ADP employees' experiences and responses, thereby facilitating effective change management. This aligns with Easterby-Smith et al. (2008), who emphasise that the phenomenological approach should prioritise understanding the diverse interpretations and meanings that participants attach to their experiences.

Furthermore, Easterby-Smith et al. (2002) argue that this approach is more concerned with the cognitive and emotional reflections of individuals or groups rather than merely examining external causal factors and laws typically used to explain behaviours. Srivastava and Thomson (2009) support this, highlighting that the phenomenological approach centres on social behaviour and human interaction, holistically addressing research issues and uncovering latent insights rather than merely focusing on cause-and-effect relationships.

Similarly, the phenomenological approach is suitable for this study because it tends to lend a comprehension of an occurrence from the view of participants or actors directly affected by it (Cavaye, 1996; Creswell, 2009). This aligns with the intent of the study to connect directly with employees of the ADP who have been impacted or involved in the implementation or application of technological initiatives in the organisation. As these employees are directly affected by technological change in the ADP, they are expected to better understand the changes' circumstances and outcomes.

In addition, the data necessary to address the research questions and achieve the study's goals will be gathered from various ADP employees. This method will enable many employees within the organisation to voice their opinions freely, providing insights into their subjective views, feelings, responses, behaviours, and explanations concerning implementing technological changes at ADP. This approach aligns with data collection in the phenomenological framework, which advocates for gathering and synthesising data from diverse sources to foster a clear understanding and interpretation of the viewpoints of different individuals (Easterby-Smith et al., 2009). Finally, a phenomenological approach is particularly suitable for qualitative data research, offers in-depth or prolonged analysis of a few cases, and uses multiple methods to present various perspectives on a phenomenon (Easterby-Smith et al., 2002). This is relevant to the current study, which employs qualitative interviews to gather comprehensive data on employees' perceptions of technological changes at ADP.

3.3 Research design

Following the adoption of the phenomenological approach for this exploratory study, a case study methodology was adopted for the data collection. Yin (1994, 2009) defined the case study methodology as investigating contemporary phenomena within a real-life setting, where the boundaries related to the phenomenon and the setting are unclear and where numerous information sources are utilised.

Case study research is a thorough approach that combines various data sources to offer detailed insights into complex phenomena in real-life settings. As Eisenhardt (1989) noted, case studies typically integrate data collection methods such as archives, interviews, questionnaires, and observations. She also highlighted that evidence can be qualitative (like

words) and quantitative (like numbers). Observation techniques can provide advantages over methods that rely mainly or entirely on self-reporting (Morgan et al., 2017).

Baxter and Jack (2008) noted that the case study methodology facilitates the exploration of contemporary phenomena within specific contexts, especially when these phenomena are difficult to quantify or distinguish from their surroundings. As mentioned, findings arise from thorough analysis, making this methodology suitable for studies aimed at uncovering detailed insights from data collection. Furthermore, this approach helps manage the complex and dynamic aspects of the social world. Ultimately, the methodology allows for the adoption of various methods and the triangulation of multiple evidence sources to investigate, explore, and understand phenomena. Eisenhardt (1989) supported the flexibility and diverse functions of case study methodology, highlighting its applicability for various purposes, including description, theory testing, and theory generation. This method is frequently used to evaluate process changes for efficiency and effectiveness (Baxter & Jack, 2008), focusing on understanding the dynamics present in specific environments or settings (Eisenhardt, 1989).

Yin (1994) indicated that the design or model of a case study involves various data collection and analysis approaches, along with multiple forms of evidence. This methodology can effectively answer the research questions of “what, " “why, " and “how” (Yin, 2003). This study focuses on the technological changes being implemented within the Abu Dhabi Police. It examines the different cases of various technological changes that may be introduced across other departments within the organisation. Therefore, this study treats the ADP as a general case study, while the different departments investigated are evaluated as embedded case studies. A comparative analysis between these distinct departments within a broader case study (the organisation) could yield informative and interesting results. The intent is to gather various data sets through interviews to assess the impacts of technological changes on employees, their responses or resistance to those changes, and the measures necessary for effective technological change management within the ADP. This primary data collected from the interviews will be combined with secondary data from document reviews.

The case study methodology has also garnered criticism. A significant concern is the reliability and validity of the results, as the method has been described as highly descriptive and biased, especially when analysing a single incident, due to the danger of overstating “easily” available data (Voss et al., 2002). It has also been argued that the methodology offers little for scientific generalisation and is therefore lacking regarding contributions to scientific

progress (Stake, 1978). However, Yin (2003) disregarded this notion, arguing that the methodology is often applied to investigate different areas and factors of organisational behaviour, processes and practices within an individual entity.

3.4 Data collection

According to Yin (2009), interviews are a vital source of evidence in qualitative case study research. When designed and communicated thoughtfully, they can provide valuable insights into perceived causal relationships and explanations. Utilising interviews in this study is fitting as it focuses on participants' opinions and behaviours. Consequently, this research employed semi-structured interviews with open-ended questions to gather qualitative primary data from employees of the Abu Dhabi Police regarding the effects of implemented technological changes. This includes their responses, resistance to changes, and strategies for effective technological change management within the ADP. Employees are essential stakeholders who significantly influence project implementation, including individuals from lower, middle, and senior management across various ADP departments. This diverse group enhances the comprehensiveness of qualitative data collection from employees familiar with the challenges of implementing technological initiatives.

Semi-structured interviews include defined questions that allow researchers to seek clarification from participants when needed and to investigate new topics that may arise during discussions (Bryman & Bell, 2007). According to Johnson and Onwuegbuzie (2004), this type of questioning does not limit interviewees' responses, providing more comprehensive information. It offers a supportive framework for the interviewer while allowing for deeper exploration of specific issues or the pursuit of additional evidence (Easterby-Smith et al., 2009; Yin, 2003). Primarily, semi-structured interviews are utilised in qualitative research (Bryman & Bell, 2007). Moreover, the semi-structured interview aligns with Eisenhardt's (1989) guidance. In light of her recommendations, the research methods used in this study – semi-structured interviews and observation – are well-founded. This aligns with the researcher’s methodology for this thesis. Semi-structured interviews merge a predetermined series of open-ended questions (designed to encourage dialogue) with the flexibility for the interviewer to probe specific themes or answers further.

3.4.1 Semi-structured interview design and process

An interview guide with many objectives was developed to achieve an optimal outcome from the interview session. The guide was a checklist to ensure all critical topics were discussed with the participants. The first objective was to maximise the interview response rate. The research goals were established, and the interview composition and layout were adequately analysed to ensure logical flow (Bell, 2010). Participants were given a proper explanation of the research, which discussed the research aim, objectives, and process.

The second objective was to review the relevant literature to produce appropriate and credible interview questions related to the research work's primary research questions (Bell, 2010; Saunders et al., 2009). The interview questions were structured into different sections in line with the identified themes for the study. The third objective was language; the interview questions were initially developed in English, but an Arabic version was produced after the original was approved. The translation was done by a language professional with relevant experience to ensure that both versions were compatible. The interviews were mainly carried out in Arabic (the native language of the interviewer and the interviewee), although they were subsequently translated into English.

For the fourth objective, the interview questions were constructed clearly and logically to ensure the timely completion of the interview. Each interview session was relatively short, although rigorous and engaging, and the interview site was confirmed to be suitable for the process. The fifth objective was to conduct a pilot study for the interview (Bryman & Bell, 2007; Creswell, 2009; Saunders et al.., 2009). This involved an in-depth review of the questions and conducting trial interviews with selected volunteers before the actual administration. This ensured that the questions could be easily understood, allowed for helpful feedback, and amended queries where necessary. The last objective involved conducting the interviews with the participants properly and well-planned. A sample of the interview questions is provided in Appendix C. d

3.4.2 Population and sampling

The employees of the Abu Dhabi Police Department were the population in this study. Research participation of every member of a population is generally not possible; instead, a subset of the population is selected as a representative sample with the aim that, to a degree, findings can be widely applied (Saunders et al., 2009). Therefore, the sample selected for

participation should be appropriate and representative (Saunders et al., 2009). Appropriateness involves being informed and knowledgeable enough to respond to interview questions. At the same time, representativeness captures all relevant or concerned subsets within the population to craft an in-depth analysis.

The study followed the sampling procedures suggested by Saunders et al. (2009), which included stratified random, simple random, purposive, cluster, systematic, and multi-stage sampling. It first defined the population and outlined an appropriate sampling structure. The employees selected to participate were from different departments, including guards and establishment, policing operations, central operations and security and port operations, based on the relevance and involvement of these departments in technology implementation and adoption. The department employees were selected based on their awareness and familiarity with the implemented technologies. Second, the researcher ensured a suitable sample size was drawn from the lower, middle and senior management positions. The study processed inputs from 40 ADP employees. Sample adequacy in terms of composition and size is essential in assessing the quality and credibility of qualitative research (Spencer et al., 2003). Morse (2000) notes that qualitative research often utilises small sample sizes to facilitate the in-depth, case-oriented analysis crucial to this study. The chosen sample size aligns with those in similar studies, like Al-Karaeen (2016) and Al-Shebli (2016). The number of case studies selected is appropriate and matches the primary aim of involving departments that have experienced diverse and significant implementation and adoption of technological initiatives. Notably, data collection ceased once saturation was achieved, as subsequent interviews yielded no new insights.

The interviews were conducted in person or electronically using Zoom and MS Teams. Notably, both platforms functioned effectively, with no technical issues reported during any of the interviews; as a result, there were no challenges or limitations encountered. Following this, all data were gathered, organised, and analysed. The next step involved choosing the correct sampling method. Purposive sampling was selected to interview the most appropriate participants (Saunders et al., 2009).

The purposive selection drew from different departments, hierarchical positions and ranks to provide access to a broad range of responses and concerns related to the impacts of technological changes on the employees of the ADP, responses or resistance to these technological changes and the factors driving those responses, as well as the measures

necessary to manage these resistances to achieve effective technological change management in the organisation. These data and information were collected from employees across the organisation's various management levels. Once the participants were selected, the interviews were performed to understand the challenges and responses of the interviewees concerning technological changes and to gather their input on what effective organisational change management would look like and the issues that were experienced.

3.4.3 Demographic characteristics of participants

This section reviews the demographic characteristics of the Abu Dhabi Police interview participants for informational purposes. The study did not specifically examine how these demographic factors influenced the findings, which is a limitation of this research. Nevertheless, collecting demographic data is vital for several reasons, mainly to provide information and enable further analysis. It aids in understanding the representativeness of the employee sample, the organization's academic profile, forecasting general future behaviours within the organisation, reporting on employee performance, tracking population trends of the Abu Dhabi Police over time, and optimising resources for training (Call et al., 2023; Roberts et al., 2020; Brown et al., 2019). The workforce in the Middle East is predominantly male (Al-Karaeen, 2016), and thus, gathering demographic data supports this perspective and assesses if it applies to the Abu Dhabi Police workforce as well. Furthermore, this information may help identify trends within the larger society's population. The demographic features provide insights into employees' age distribution and educational status, recognising that education plays a crucial role in an organisation's growth and development (Al-Harahsheh, 2014). This demographic data can also facilitate targeted investment in employees' education and academic training.

Characterising demographic dynamics within the conceptual framework can be challenging, given that the data was primarily collected for informational rather than analytical purposes. Furthermore, challenges arise in assessing all employee parameters, and the data on the participants interviewed may only represent a subset of the ADP employees. Estimating parameters from the interviewed samples allows for considering uncertainty and correlations between the data sets (Schaub & Abadi, 2011; King et al., 2009).

Interview data were collected from 40 participants from specified ADP departments, including guards and establishment, policing operations, central operations, and security and

port operations. These departments were purposely selected because they had witnessed the implementation and adoption of a significant number of technologies and because of accessibility to an appropriate number of samples for the study. Similarly, the participant selection involved considering different managerial levels (lower, middle and senior) to enable diverse responses. This variety was essential to the study, providing broad and detailed insights into the phenomenon and differing perspectives on the issues under study. The participants, who played crucial roles in implementing, using, and managing the adopted technologies in the organisation, were expected to possess sound knowledge, understanding, and experience in the decisions taken and strategies relevant to the research focus.

All participants were anonymised per the research ethics protocol. To maintain their anonymity, they were assigned labels A1 to A10, B1 to B10, C1 to C10, and D1 to D10 for the departments of guards and establishment, policing operations, central operations, and security and port operations, respectively. The demographic characteristics of the participants were presented by gender, age, experience, and position.

3.4.3.1 Gender distribution

Table 5 illustrates the gender distribution of the interview participants. Most participants were males, accounting for 77% of the total participants, while females represented 23%.

Department	Male		Female	
	Frequency	Percentage	Frequency	Percentage
Guards and establishment	8	80%	2	20%
Policing operations	9	90%	1	10%
Central operations	6	60%	4	40%
Security and port operations	8	80%	2	20%
Total	31	77%	9	23%

Table 5 Participant distribution according to gender

The table shows that the departments of police operations and central operations had the highest and lowest numbers of male participants at 90% and 60%, respectively. The guards and establishment department and the security and port operations department contributed identical numbers of male and female participants. This distribution resulted from men

accounting for a significant ratio of the workforce in Arab countries (Gallant & Pounder, 2008). Also, cultural and social factors, such as the stereotyping of women, limited support, child-bearing factors and family commitment, play a substantial role in the employment of women (Gallant & Pounder, 2008). Another critical factor is the organisational culture and structure of the police system, as many security outfits globally are male-dominated.

3.4.3.2 Age distribution

The distribution of participants regarding the age variable revealed that the highest number, 16, came from the 30–40 age group, while the lowest number, 4 participants, was from the 50 years and above group. The groups of 30 years and below and 40–50 had 13 and 7 participants, respectively. The overall age range of the study participants indicates a fair distribution of interviewees across diverse age groups.

3.4.3.3 Experience

The distribution of the participants concerning the number of years of work experience showed that most of the employees had spent a sizeable number of years on the job. It was expected that this would have an impact on their responses towards the implementation of change in the organisation. Thirty-five per cent of the interview participants, the largest category, had between 10 and 20 years of work experience. This was followed by participants with 5–10 years of experience at 30%. Participants with the lowest percentage of participation (15%) were those with 5 years or less of experience.

3.4.3.4 Position

The distribution according to position or rank occupied by participants showed that the middle managers were the major participants at 45%, followed by lower management at 37% and senior management at 18%. This distribution can be regarded as a fair representation of the managerial statuses of employees at the ADP.

3.5 Data analysis

The data collected by this study were systematically structured and processed using qualitative content analysis to discover the inherent factors influencing the themes and to assist in interpreting the data. The data were subjected to content analysis to gain insights into

the variables of interest in the investigation and establish the interrelationship between these variables (Zhang & Wildemuth, 2009).

The NVivo software tool was utilised to analyse the content of the data. This software has been widely employed in various qualitative studies due to its numerous advantages, including multiplicity, time efficiency, capabilities for text and multimedia, and the capacity to manage large volumes of data (Hoover & Koerber, 2011; Zamawe, 2015). Conducting a content analysis of the collected data allowed for the examination of contexts and details related to changes in the ADP and to what extent participants agree or disagree with various issues of change. In this study, using the NVivo tool for data analysis began with familiarising oneself with the data process, which involved reviewing participants' responses to the interview questions regarding technological change management in the Abu Dhabi Police. The transcripts of each employee's responses to the interview questions were in English. They were analysed, summarised, and documented. Subsequently, the documents were uploaded into the software tool for analysis and interpretation.

The interview documents were analysed and interpreted by adopting the six steps of thematic analysis adapted from Braun and Clarke (2006) and Radnor (2001). The thematic analysis technique provides step-by-step guidance for data analysis.

According to Braun and Clarke (2006), the first step of thematic analysis is termed familiarising yourself with your data. This step involves transcribing the collected data as necessary, ensuring that the data is read and reread, and noting down ideas that are initially formed or identified. The second step is generating initial codes, which entails selecting and collating the relevant and essential elements of the data collected, systematically tagging them as codes across the entire data set. The third step of the analysis is called searching for themes. This involves collating all the identified codes into possible themes while assembling all the related data for each potential theme. The fourth step is reviewing themes, which entails verifying the validity of the themes concerning the coded extracts and the complete data set, while producing a map of the thematic analysis. The fifth step, defining and naming themes, involves continuous analysis of the data to refine the details of each respective theme, telling the complete data analysis story, and producing clear definitions, descriptions, and names for each theme. The final step of thematic analysis is making the report. This presents the opportunity to deliver the final analysis, including selecting clear and engaging

examples and extracts, linking the analysis to the research questions and literature, and creating an academic report or account of the analysis conducted.

The techniques and steps described above enable logical data coding and evidence collection for this study while decreasing the risks of inaccuracy. Applying this technique ensured sensitivity to details, appropriate access to data and information, a robust search for patterns and the creation of data-centred theories (Radnor, 2001). Similarly, the technique allowed for the emergence of key themes from the data, which could then be compared with themes from the existing literature. This subsequently improved the process of interpreting the data and the findings.

The first step of the study data analysis was organising the significant amount of data collected from the 40 participants interviewed. This included verbatim accounts of the discussion between the interviewer and the employees interviewed. The interview transcripts were read multiple times to ensure the contents were clearly understood (Baker, 1989). This process, which included listening to the interview recordings and then transcribing, reading and re-reading them, ensured familiarisation with and a deeper understanding of the data collected from the employees (Silverman, 2013).

The third step was identifying broad themes in the interview transcripts. The codes and nodes were combined as themes emerged, and various concepts were synthesised as the employees' responses were analysed. The coding process can be fast-tracked in NVivo using a unique feature to identify themes (quick word frequency) automatically. This results in a word cloud providing insight into emerging themes, as illustrated in Figure 10. The word clouds created by NVivo provided a broad sense of the themes located in the data, which helped with the analysis. The themes created at this step were not considered conclusive, as they were broad and required further refinement. All data were still being considered at this step.

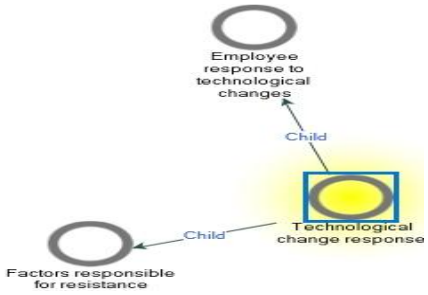
FIGURE 10 GENERATION OF WORD CLOUDS

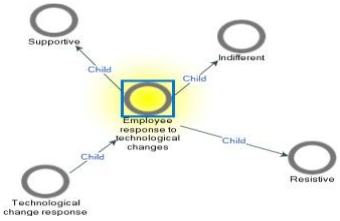
The fourth step was reviewing and revising the broad set of themes to produce a more focused selection. This involved the iterative process of revisiting the transcripts and comparing them with the related literature (Glaser, 1998). The fifth step was defining the themes and sub-themes. The definition process involved a clear and comprehensive final analysis of the themes and accurately linking them with data, while any irrelevant themes were discarded. The sixth and final step was interpreting the data and producing the report. The final themes and sub-themes were presented and discussed in the study report. Interconnections between the themes, sub-themes and data were determined. Similarly, these

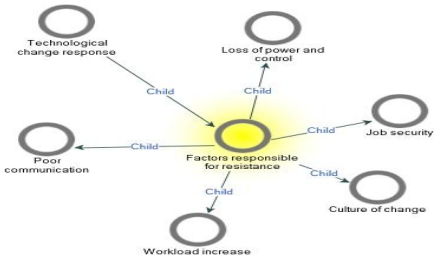
themes and sub-themes were further compared with the literature. A sample illustration of the code outlines resulting in the different themes is presented in Figure 11.

Thematic analysis

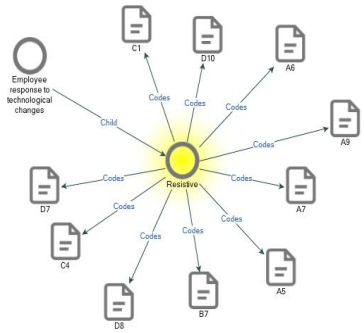
Response to technological change



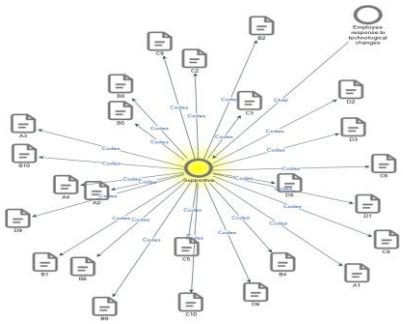




Sub-theme analysis: Employee response to technological change

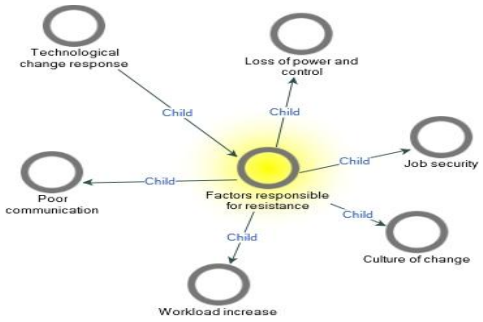


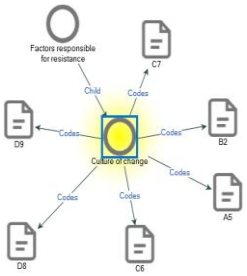
Resistive

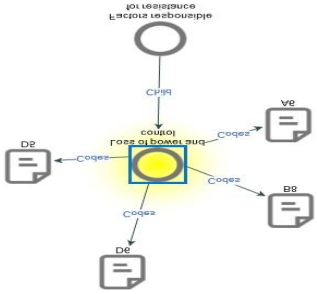


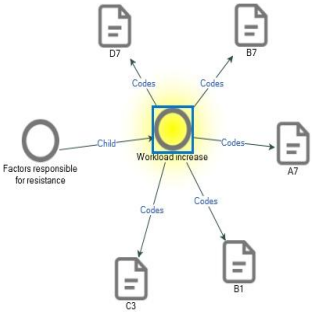
Supportive

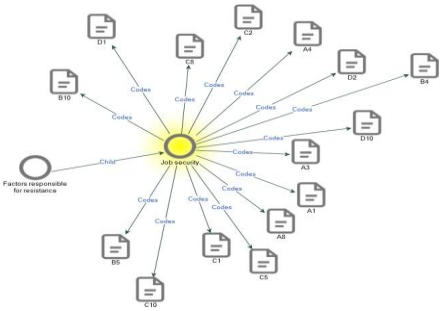
Sub-theme analysis: Factors responsible for resistance

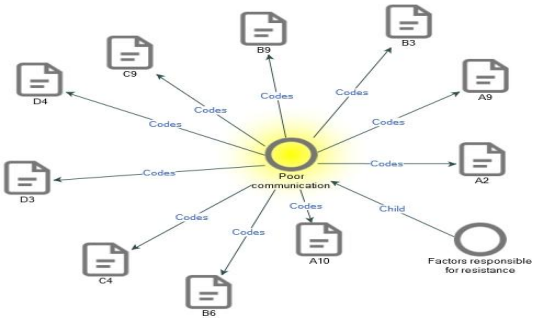




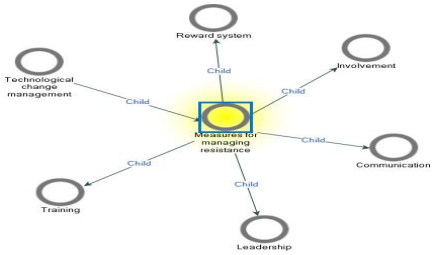




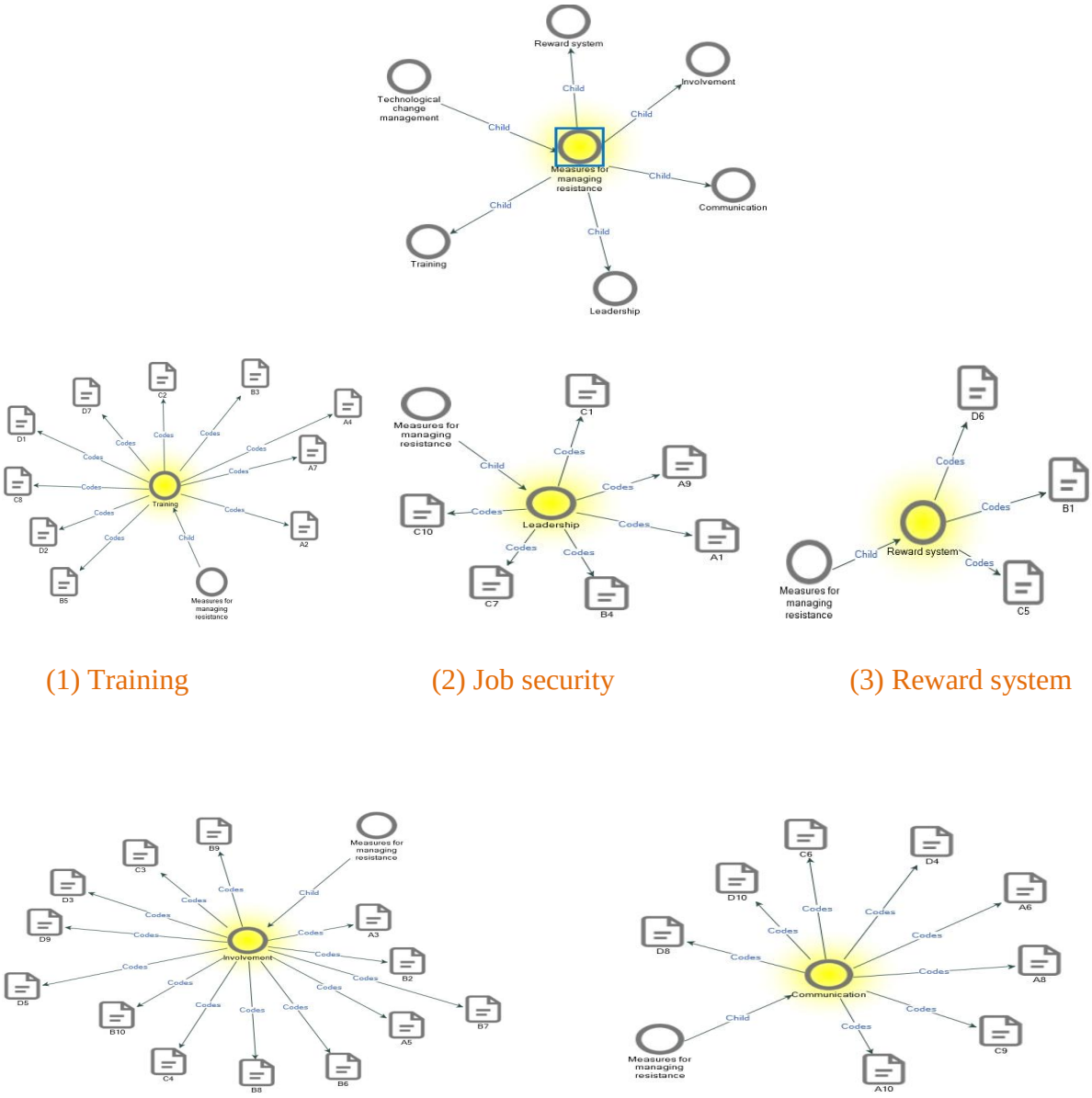




Technological change management



Sub-theme analysis: Measures for managing resistance



(1) Training (2) Job security (3) Reward system

(4) Involvement (5) Communication

FIGURE 11 SAMPLE ILLUSTRATION OF THE THEMATIC DATA ANALYSIS

3.6 Research validity and reliability

Qualitative research involving interviews is prone to several validity and reliability issues (Greener, 2008). Research validity is related to the study's success in realising planned objectives (Bryman & Bell, 2007; Golafshani, 2003). It establishes whether the survey has measured or examined what it planned to measure and whether the result accurately

represents the study context and data analysis outcomes (Joppe, 2000). Validity is classified as either internal or external (Yin, 1994).

Internal validity refers to the researcher identifying phenomena and data that can be used to match real-life experiences. It involves establishing a fundamental relationship assuming certain circumstances produce other circumstances (Yin, 1994). Fisher (2005) referred to it as the validity of cause-and-effect claims. External validity refers to the overall acceptability or satisfactoriness of the research work (Yin, 2003). The results must be generalisable and applicable in other settings and at different times to establish external validity (Silverman, 2013; Yin, 1994).

Multiple processes were conducted to ensure the validity and reliability of this study. For this study, interviews were used to collect data from various employees in the ADP. In ensuring validity, the interview approach for the data collection was critically reflected upon, and the collected data was aligned and connected to the research aim and objectives. In addition, pilot interviews were carried out with some employees and colleagues to guarantee the validity of the content of the interview questions. This involved conducting trial interviews with three individuals at the organisation. After the interview questions used for data collection were developed and their validity established, problems with the wording of questions, spelling, editing, interview techniques and timing were resolved. During the full-scale research, responses were well documented, and helpful notes and points were taken during the interview sessions. Interview responses were transcribed to ensure accuracy, which aligns with Yin's argument (2009).

Reliability can be described as the degree of repeatability in generating the same outcomes (Greener, 2008) or as the consistency of results over time (Joppe, 2000). It pertains to replicating an applied research process and the methods' accuracy. Research must reproduce similar results using the same methodology to be considered reliable. According to Yin (1994), reliability is essential for minimising errors and biases in research. Several factors can influence the reliability of a study, including bias, subject error, and observer error (Voss et al., 2002). Assessing reliability for this study was challenging, as employees' views on technological changes at the time of the interview might evolve in the future. Nevertheless, efforts were made to ensure reliability during the interview to separate the researcher from the interview processes as much as possible while guarding against potential biases. Additionally, the decision to keep the identities of the employees who participated in the

interview anonymous, without revealing their statuses or positions in the ADP, was intended to enhance the responses' reliability. Furthermore, transcripts from the interview were accurately transcribed in English, and the descriptions or definitions used for coding the data remained consistent throughout the data analysis phase of the study.

Additionally, participants were assured confidentiality to promote honest feedback. The structure of the interview questions was designed to minimise or eliminate the risks of bias and observer error. Colleagues and related professionals contributed to evaluating the interview questions for consistency. Every research step and procedure was thoroughly documented, allowing for replication by other interested researchers. The interview questions were thoughtfully crafted to avoid ambiguity, as confusing questions could influence responses. In certain instances, additional questions were added to gather more information or clarify participants' answers. Joppe (2000) emphasised that planning extra or follow-up questions before the interview can enhance reliability.

3.7 Ethical considerations

The study observed all ethical considerations outlined by the university throughout the research. All participants recruited for the study were provided with consent forms to fill out and sign. The consent form and the participant invitation letter outlined the study's objective and other relevant details; both informed the participants about their rights and confirmed their willingness to participate. The invitation letter and consent form are presented in Appendices A and B, respectively. None of the participants were pressured or stressed to respond to the interview questions and were allowed to withdraw participation at any point.

The study ensured the anonymity of all participants' information and research data concerning storage. The use of alphabet–number pseudonyms was adopted to protect their privacy. No personal details of the participants were recorded, and opportunities to request transcripts were provided. Before data collection, adequate permission was granted by the organisation and the affected authorities. There was no consequence for refusal to participate, even after the initial agreement. Assistance was received from the university's committee on ethics to ensure adherence to ethical standards. Also, the moral requirements of the university for research guided this study (NTU, 2025).

3.8 Chapter conclusion

This chapter presented the research methodology adopted by the study. It described and justified the selected methodology involving the research philosophy, research design, data collection methods, ethical considerations, and study validity. This research applied the phenomenological philosophy appropriate for a qualitative methodology; the case study methodology was adopted to collect data. This chapter outlined how a single case research study was applied within the ADP as a general case study, while the different departments were analysed as embedded case studies.

A semi-structured interview approach was utilised for data collection; open-ended questions promoted broad discussions on technological change management in the organisation. Purposive sampling was employed to select the interview participants. The average time allocated for each interview was about 45 minutes. The data collected from the participants were processed using the content analysis software tool NVivo. Notably, the study was subjected to some validation approaches to guarantee the reliability and validity of the study's results. Finally, this research conformed to all of the ethical considerations outlined by the university.

Chapter 4: Within-Case Data Analysis

4.1 Introduction

The analysis and findings of the data collected through the semi-structured interviews are presented in this chapter. The data collection involved the participation of 40 employees, purposively selected from the various departments of the ADP based on the involvement of those departments in technology implementation and the employees' familiarity with the implemented technologies. The different departments of the organisation make up the cases. The study examines, identifies and discusses themes that indicate the employees' responses to the ADP to technological changes being implemented to enable effective organisational change management. These case departments are as follows:

1. Guards and establishment,
2. Policing operations,
3. Central operations, and
4. Security and port operations.

The chapter comprises background information on the main case study (the ADP) and case departments and a within-case analysis of each case department in the organisation.

4.2 Background of the main case (the ADP)

The ADP invested in a suite of applications across different departments to enable them to function more effectively. Therefore, a technological mapping exercise was completed to understand what each department needs to become more effective, and a plan of action was created regarding training and developing officers. Below is a map of the four different departments and the technological tools.

An overview of the technologies implemented in the different departments is provided in Table 6.

	Departments	**Implemented technology**
Case one	Guards and establishment	Information technology, Geographic Information Systems, e-government services, biometric facial recognition systems and robot police technology

Case two	Policing operations	Robot police technology, biometric facial recognition systems and information technology
Case three	Central operations	Biometric facial recognition systems, information technology, e-government services and Geographic Information Systems
Case four	Security and port operations	Geographic Information Systems, information technology, e-government services, biometric facial recognition systems and satellite systems

Table 6 Tools implemented in different departments

As mentioned in Chapter 1, these implementations have revolutionised ADP as the leading police organisation in implementing cutting-edge technologies. The case studies explore the perceptions of officers in different departments regarding their experiences of the implementation process and how these tools have become effective in their jobs.

Overall Strategic use of information technology in reaching different demographics in Abu Dhabi

The Abu Dhabi Systems and Information Centre (ADSIC) has emerged as a critical actor in the digital transformation of state entities within the Emirate of Abu Dhabi. ADSIC has significantly redefined governmental departments' operational practices and public engagement strategies by prioritising technological advancements. A central tenet of its mandate is to facilitate the development and implementation of innovative digital services designed to enhance the efficiency and effectiveness of communication channels utilised by these entities. Participants recognise that ADSIC has successfully created user-centric platforms allowing enhanced public access to an extensive range of services. This transformation streamlines interactions between government and citizens, thereby promoting transparency and ensuring that pertinent information is readily accessible to the public.

In addition, ADSIC plays a crucial role in disseminating essential information and fostering an informed citizenry. The organisation collaborates closely with various stakeholders to ensure that the digital solutions developed align with community needs, thereby supporting the broader digital transformation goals of the Abu Dhabi Police (ADP) and other government entities. Participants in the discussion emphasised the importance of ADSIC's work, highlighting its dedication to improving user experience and fostering a digitally empowered society. Participant A4 remarked that the information centre has transformed into a comprehensive platform for delivering reliable information to the public swiftly and

effectively. Participant C3 observed that ADSIC has been crucial in ensuring that information reaches diverse demographic groups within ADP.

Moreover, social media platforms have empowered relevant units within the ADP to communicate and share important information effectively. This medium has enabled them to announce news, respond to public inquiries, and garner community support for various initiatives while raising awareness about safety and security measures. The use of social media inspires citizens to develop a deeper sense of loyalty and national identity (Participants A2, B3, C4, D5). Several platforms, such as the "Insta Meylas" initiative launched in 2015, have enhanced communication between the police and the community. The ADP has also strategically used Facebook as an official communication channel to boost interaction and engagement with residents. These social media platforms have successfully disseminated accurate information and increased public awareness of advancements in robotic technology and innovations in police vehicles, attracting significant attention on these platforms (Participant B3).

4.3 Case one department: Guards and establishment

4.3.1 Case background

In this case, participants represent a cross-section of employees from the Department of Guards and Establishment. This department protects and secures government, diplomatic, and public establishments and properties, playing an essential role in commercial and industrial safety. It is also tasked with planning and managing riot prevention and control. Its services include preparing plans, policies, and regulations for the private security sector.

The organisation has invested in new technological solutions to enhance deployment. Participant [A 1] stated, "The organisation has introduced new technologies, such as the Geographic Information System, to assist us in our work." Participant [A 5] noted that the new e- government platform facilitates a "seamless exchange of information between different departments to provide better services for residents." Participants agreed that the primary drivers for these changes were security threats to the Abu Dhabi Emirate and the need for the organisation to improve in terms of time management, data management, and capacity.

All participants confirmed they had witnessed or experienced the adoption of technological changes, including information technology, the Geographic Information System, e-government services, biometric facial recognition systems, and robotic police technology. The participants played a role in implementing, applying, or managing these technologies and innovations. They unanimously agreed that the decision to implement new technological tools had significantly improved effectiveness and efficiency. For instance, Participant [A 4] mentioned that utilising the latest geographic information system transformed decision-making, reduced operational costs, enhanced communication and information management, and facilitated mapping and planning necessary to understand patterns and relationships. Participant [A 3] referred to using the biometric application in preventing and prosecuting crime, including fostering collaboration among Emirati police forces and those in the Gulf region. Participant [A 7] noted that facial recognition technology enables the mapping of different faces and the storage of those images in a database. This information can be uploaded into report management systems (RMS) and evidence management systems (EMS), providing prosecutors with immediate access and reducing prosecution bottlenecks.

Another participant, [A 5], shared that in 2020, ADP patrol cars were upgraded to include a biometric facial recognition system. This system is designed to identify individuals on watch lists, locate wanted criminals, and recognise license plate numbers of vehicles of interest, including those exceeding speed limits. Additionally, it serves border check purposes. These improvements have led to more effective tracking of suspects and provide real- time data access, enhancing decision- making and prosecution processes.

4.3.2 Within-case analysis

The analysis of participants' responses in this case department related to the research questions revealed several themes that underscore the case's uniqueness. Furthermore, the case illustrated the interconnections among these emergent themes. In the following subsections, these themes will be discussed and analysed in detail, encompassing excitement about new opportunities, anxiety, job security, workload, training, communication, and the vital role of leadership in managing change.

- *What are the employees' responses to the Abu Dhabi Police's adoption of technological changes in the organisation?*

Two prominent themes emerged regarding responses to change within the department: excitement for new opportunities and anxiety. The construct of response to change pertains to

how employees react to and engage with technological advancements in the workplace. Following implementing these technological changes, some employees responded enthusiastically, viewing them as a chance to learn new procedures, processes, and practices and enhance their skills and expertise. Conversely, other employees experienced anxiety related to the latest technology, driven by concerns over perceived effort expectancy, particularly regarding the user-friendliness of the new systems. It is important to note that responses varied, reflecting different emotional layers associated with the technology. Personal experiences, which are subjective and varied, can substantially influence an officer's response to various situations. Overall, excitement was the dominant response, with 70% of interview participants expressing this sentiment, while the remaining 30% conveyed feelings of anxiety, according to the data analysis.

Perception of change	Percentage of participants
Excitement about the change	70%
Anxiety about the change	30%

Table 7 Perception of change

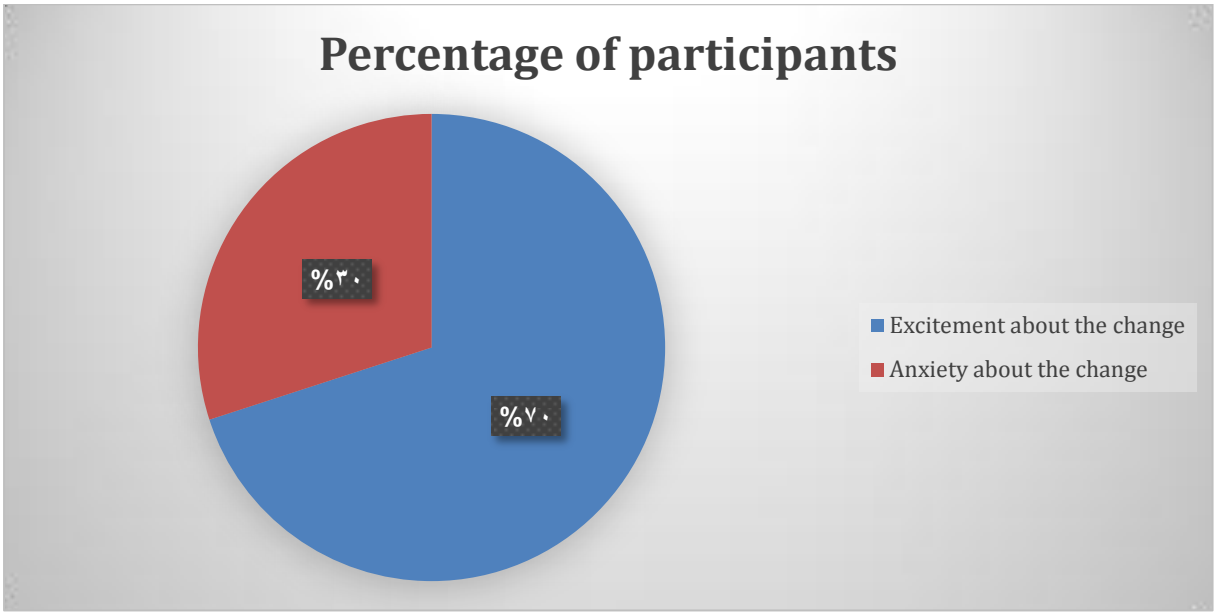


FIGURE 12 PERCEPTION OF CHANGE

This study systematically examined the emerging themes in relation to the various variables defined in the conceptual framework. The analysis revealed a strong correlation between these themes and the framework's variables. A key emerging theme is the enthusiasm for new opportunities. This theme closely relates to the variable concerning positive responses to change, which includes cooperation, acceptance, and support among employees. This

relationship indicates that when employees show excitement about the new opportunities resulting from technological advancements, they are more likely to demonstrate collaborative behaviours, embrace the changes, and support both their colleagues and the organisation. This dynamic is crucial for cultivating an adaptive workplace culture that excels in innovation.

Conversely, another critical emerging theme identified is anxiety in response to these technological changes. This theme can be directly associated with various adverse reactions to change, including indifference, loss of interest, apathy, decreased contributions, regressive behaviours, and minimal work output. The relationship here indicates that employees experiencing anxiety about impending changes may become disengaged and less productive. Their apprehension can manifest negatively, such as reducing their commitment to tasks or exhibiting a lack of enthusiasm for collaborative efforts. This underscores the importance of addressing employee concerns and providing adequate support during transitions to mitigate anxiety-related responses and enhance engagement.

Overall, the study highlights how employees' emotional landscapes—characterised by excitement or anxiety—can significantly influence their responses to technological changes, ultimately impacting the success of such initiatives within the organisation.

- *What factors contribute to resistance to technological change?*

Job security and workload emerged as central themes highlighting the challenges faced during the transition. These factors affected both employees and the technological developments within the department. Although there were no concrete instances of layoffs linked to technological advancements or organisational changes, some participants voiced concerns about adapting to the new technology. As noted by [A 4], this recent surge in technology implementation is crucial for ADP, involving multiple departments and aimed at streamlining our current systems. Many employees are genuinely apprehensive, particularly those who perceive that a significant portion of their duties is being assumed by technology, which could lead to a reduced workforce. “These technologies are remarkable in their capabilities; while they offer substantial benefits, they also raise concerns about the future for certain front-facing departments where workloads have significantly diminished” (A 5). Participants felt that too little was done to alleviate their anxieties or assure them about job security and employment-related fears, which might have shaped their views.

Moreover, the rollout of new technologies has also led to a temporary increase in workload. Participant [A 6] observed that this situation has required more steps for process automation,

initially demanding more extensive data processing related to suspects or crime incidents. [A 7] pointed out that data migration posed a significant challenge, as the sensitivity of the information rendered it unsuitable to assign specific tasks to the data migration team. Additionally, [A 4] provided examples where a single employee or a small group had to handle, coordinate, or oversee multiple tasks because some colleagues were unfamiliar with or lacked expertise in specific technologies. This added responsibility can be pretty overwhelming for those employees. The emerging themes also reflected the framework's variables of human factors (such as psychological challenges—difficulty learning new things, job insecurity, and increased workload) and management factors (concerns about work overload).

- *What measures are required to address challenges to implementing new technological changes and achieve effective technological change management in the organisation?*

Training, communication, and leadership themes have emerged as essential strategies for managing resistance to technological changes and ensuring effective change management. For employees who are end users, it is crucial to receive thorough and quality training to understand and implement the new technologies effectively. Additionally, clear communication regarding expectations, goals, and objectives among all stakeholders is vital for securing employee buy-in and minimising or eliminating resistance. Implementing these training and communication measures necessitates strong leadership, as effective leaders are responsible for guiding and influencing the development and actions associated with technological changes. Participants underscored that, although the essential components are already in place, the accurate measure of success hinges on the effectiveness of coordination and the promptness of actions. This is vital to achieving a seamless implementation, particularly from the viewpoint of the officers involved.

Key themes from the within-case analysis have been integrated into this study's conceptual framework and are discussed further below.

4.3.2.1 Excitement about new opportunities

The initial theme revealed from the findings was the enthusiasm regarding new opportunities. This highlights the feedback and reactions of employees after the departmental implementation of technological changes, characterised by their support and joy. This sentiment stemmed from the belief that the new technologies would introduce exciting

opportunities to learn about innovative processes and systems. The prospect of learning typically generates excitement. As Participant [A9] noted, "Technology plays a massive role in the development of any organisation. Moreover, as an employee, it excites me because I enjoy new things. Discovering new options leads to exploration and means new methods and outcomes. I genuinely feel optimistic about these opportunities." Participants expressed that the technological changes would enable them to try fresh and different approaches, enhancing speed and quality for better results. Participant [A4] noted that the adoption of e-gov services facilitated a shift from traditional bureaucracy to progressive e-public services, such as improvements in traffic safety, personnel training, and community awareness initiatives. This transition benefits both operators and users of the system, as it allows them to appreciate the system's effectiveness and user-friendliness. The upgrade to e-gov services introduces unparalleled enhancements, streamlining the provision of legal documents like ownership renewals and driver's licenses. Furthermore, it automates several vehicle licensing tasks, such as replacing a damaged license, requesting a new vehicle license, renewing a license, reserving a vehicle number, and paying traffic fines (Participant A5).

4.3.2.2 Anxiety-Stressed about the change-

The theme of anxiety was also demonstrated in the responses of the employees. It describes the feeling of concern about losing out and the fear of being unable to use the new technologies to the organisation's satisfaction, as the employees were not yet skilled. This theme involves employees in the department feeling pressured, anxious, uncomfortable or tense at work concerning the technological changes. These feelings can affect the job performance of employees, as well as cause issues in their personal and professional lifestyles. Most participants acknowledged some challenges concerning introducing and adopting technologies in the organisation. Participant [A3] emphasised that "there is a real fear of the unknown as new technologies are introduced. The implementation of technology fosters concerns and apprehensions about the future. In this context, employees often feel anxious and dissatisfied because they are uncertain about what tomorrow will bring regarding their jobs or professional development." While some of the participants were not bothered by this concern, they expressed the existence of that fear for some employees in the department.

4.3.2.3 Job security

The next theme uncovered in this case was job security. This referred to factors identified by the participants as contributors to resistance to technological changes by the department's employees. Job security protects ADP employees from problems such as layoffs or economic downturns that could affect their jobs. It reduces the number of people terminated at the organisation to a minimal level. A few participants in lower management positions responded that organisational change involving new technologies often produces feelings of likely job loss among them. However, none of the participants cited specific examples of employees who had their employment terminated due to significant change projects in the organisation. Some fear that implementing innovative solutions will often result in the automation of specific job functions initially carried out by humans. As a result, some employees might be replaced. There are equally instances where employees might not be able to level up with a system upgrade or change, thereby lagging in the discharge of their responsibilities. According to Participant [A8], "Technologies have been acknowledged as beneficial to organisations, but there is likely to be resistance from some quarters, as specific jobs can be affected or terminated. Increased system efficiency may necessitate reduced manpower hours, increasing the likelihood of redundancy or redeployment". The findings from the interview data reveal that a system change can cause employees to feel emotionally disturbed, as they think their services might no longer be needed due to redundancy.

4.3.2.4 Workload

Within the research, this theme is described as the increase in the volume of work or tasks expected of employees in the ADP departments within a specified period, particularly by specific individuals or machines. This theme was identified as contributing to the challenges faced while implementing new technologies. Some participants believed that the potential for a workload increase exists in the ADP due to the introduction of new technologies or system upgrades. This change can lead to more steps in process automation or increased data and information processing. Participant [A1] stated, "Work is stressful, and adding more learning to an already stressful situation increases anxiety. These tools are designed to make things easier, but it takes time to build competence. " In another response, Participant [A8] expressed, "My superior believed that applying new technology in carrying out my duties should make my work faster and that I should be able to do more within the same time allotment. While that benefits my department and my organisation, it has burdened me with

much more work than before. This has been a concern for me. " As noted by participants [A4 and A7], the inherent demands of their roles require a comprehensive understanding of various technological systems. This necessity has contributed to heightened stress, as officers must invest additional time to gain proficiency and confidence in effectively using these new systems. Participant [A5] further emphasised that the stakes in policing are exceptionally high, necessitating a focused effort to adapt to these technological advancements. This added pressure highlights the importance of allocating dedicated time for training, enabling officers to enhance their confidence and competence as users of these systems.

The analysis revealed that employees engaged in more activities and tasks related to introducing and implementing new technologies in the department. Despite the intention behind these technologies to enhance operational efficiency, the transition to using new tools is neither immediate nor straightforward. Familiarising oneself with these systems requires significant time and effort, emphasising the ongoing need for officers to prioritise data accuracy amidst the complexities introduced by new technological tools. Consequently, while these innovations have the potential to streamline processes, they also necessitate a substantial commitment from officers to master them fully, thereby ensuring the integrity of data management remains intact.

4.3.2.5 Training

Another theme that emerged from this case was training. This reference explicitly measures essential and fundamental to successfully managing employee resistance to technological change in the ADP. The training of the employees, who are the end users of the technological infrastructures, was listed by all the participants as an essential factor for successful technological change management. According to the participants, training should be given high priority and adequate time to overcome resistance to change. Participant [A10] expressed that "*employees of the organisation need education and training to maximise the technology to the potential of the ADP. Training will go a long way in making me the best."* Participant [A5] expressed, "*I believe the management should allocate resources for training simultaneously as they allocate resources for a new system. My frustration with the training system stemmed from recognising the topics we needed to cover; however, I felt that the time allocated was insufficient for us to gain the necessary competence. Additionally, it seemed that the trainers did not sufficiently address the diverse needs of the officers or adapt the training accordingly. This situation contributed to a heightened sense of frustration and*

anxiety". Trainers are expected to be knowledgeable resources and change champions, as they are critical stakeholders who directly influence the end users of the technological infrastructure. Also, participants suggested that senior management should be involved in training sessions, leading by example and allowing their subordinates to participate in the required training interventions. Assessing the degree or level of training provided for the employees concerning the technological changes made in the organisation would have further enriched the findings. However, the inaccessibility of these data, though requested, limits this assessment.

4.3.2.6 Communication

This theme can be defined as a crucial change management skill, enabling leaders and employees to establish expectations, goals, and objectives. This approach ensures that all members understand and support the technological changes. Participants highlighted communication as a significant factor in overcoming resistance to technological change. They emphasised the importance of consistent communication in shaping employees' perspectives about organisational change. One participant, identified as [A4], emphasised the importance of effective communication during times of change, stating, "Whenever management introduces something new, such as innovative technologies or processes, it is essential to have regular communication and meetings with employees to help alleviate their fears and uncertainties. Relying on providing critical information only a few days prior or on the actual implementation date does little to support the workforce and often leads to confusion and anxiety." This perspective was reinforced by another participant who shared similar concerns, highlighting a widespread sentiment among the group.

The findings from this discussion indicate that employees who use new technologies require consistent and timely information from management to navigate these transitions smoothly. When workers receive necessary updates early and in a structured manner, they tend to feel more valued, informed, and adequately prepared for the changes ahead. Moreover, most participants acknowledged that the organisation had improved communication channels across various levels. However, they unanimously agreed that timeliness remains a critical factor for managerial roles, stressing that timely updates can significantly influence employee morale and foster a more supportive work environment during periods of change.

4.3.2.7 Leadership structure and consistency

The final theme uncovered in this case was leadership, which the participants described as equally important as any other factor for effective technological change management. It entails formulating an organisational strategy for technological change in the ADP, leading the process by influencing and guiding the employees to perform specific roles, and actualising a shared purpose. Responses showed that leaders and managers had significantly impacted the prior success of introducing technological infrastructures in the ADP.

Participant [A10] expressed that *"leadership has an effect in enabling a successful implementation and continuity of a change in an organisation, going by some previous technology that has been adopted. My assessment is based on this technology and innovations, particularly e-government and information technology, which have been introduced over the years, with different heads of department being in charge at different times. Leadership can make a big difference in the ease of implementation and acceptance."* Another participant affirmed this viewpoint. The data indicated that effective leaders provide clear direction and instil confidence in employees during uncertain periods, particularly during change initiatives. Moreover, maintaining structure and consistency fosters continuity, offering a sense of stability for staff. Overall, participants agreed that implementing these strategies will help mitigate resistance to change initiatives and facilitate effective management of technological transitions.

The organisation must continue enhancing its technological capacity based on the identified drivers. Interestingly, in this case, implementing the aforementioned technological changes has improved employee performance by increasing effectiveness and efficiency. However, it has also led to more data sharing within and outside the department, resulting in more significant time and effort spent on retrieving and analysing data and information.

4.4 Case two department: Policing operations

4.4.1 Case background

This case concerns participants who are employees of the department of policing operations. The department advances the police's proactive crime prevention and community protection

responsibility. Their roles include preventing crimes, investigating crimes, and maintaining general law and order. They are also responsible for monitoring traffic and traffic violations. They also participate actively in local events and social programmes to develop and strengthen relations and partnerships with the public.

Various technological changes have been made in the department to assist employees in providing better services and performance. The participants had all participated in using or applying new technologies, including robot police technology, biometric facial recognition systems and information technology. According to another participant, [B2], "The organisation has tried in this aspect. Using robots for policing and IT and other essential systems has been great for my department in the ADP". Participant [B5] noted that "technologies have been brought to the organisation which I am using in performing my duties and functions. Information technology has been beneficial for me.". Participant [B6] highlighted that implementing advanced technical infrastructure at the primary data centres has significantly improved the monitoring of security wireless communication systems, contributing to the efficient and effective execution of police operations. Participant [B8] also noted that the new system facilitates a secure wireless network designed for public safety and security applications, creating a safer environment for addressing challenges. Introducing cloud networks and virtual servers enhances operational capabilities, reduces electricity consumption, and lowers the carbon footprint associated with server usage. The necessity for police personnel to effectively fulfil various demanding and often conflicting responsibilities, all while maintaining professionalism, alongside the challenges posed by security threats to the nation, has compelled the ADP to introduce and implement technological advancements. These changes have enhanced the speed and efficiency with which department employees carry out their duties. As a result, they are better equipped to swiftly complete tasks and provide services that benefit the public more effectively.

4.4.2 Within-case analysis

The different themes identified within this case include excitement about productivity, excitement about additional skills, poor communication, workload, training, involvement and communication.

- *What are the employees' responses of the Abu Dhabi Police to technological changes in the organisation?*

The employees' responses to implementing technological changes in the department unveil several emerging themes, primarily centred around enthusiasm for increased productivity and the acquisition of additional skills. Employees anticipate that these technological advancements will enhance their productivity by streamlining tasks and improving activity management, ultimately leading to better service delivery. Additionally, they are eager to learn new skills to improve their value and capacity within the department and the organisation.

Robot technology has emerged as a remarkable highlight at various events, capturing attention with its innovative applications and advanced capabilities [B4]. This technology shines not only in entertainment but also significantly enhances our educational efforts, ultimately fostering greater confidence within the community [B6]. However, a primary challenge has been building the confidence to use this technology effectively [B3]. A key initiative has involved utilising robots to present engaging digital traffic awareness videos that educate the public about road safety and responsible driving [B5]. Additionally, robots have interacted with customers at service centres, enriching the learning experience by providing real-time assistance and information. These initiatives aim to nurture a more informed community regarding technology and safety practices [B7].

An analysis of the emerging themes about the relevant variables of the conceptual framework regarding responses to change indicates a strong alignment. The themes of enthusiasm for productivity and eagerness to gain new skills correlate with the framework's variable of positive responses to change, which includes cooperation, acceptance, and support. Notably, no emerging theme is linked to the variable of negative responses to change.

- *What are the factors driving resistance to technological changes in the organisation?*

The emerging themes of inadequate communication and increased workload were identified as contributing factors to resistance against technological changes. Insufficient communication can lead to a lack of essential information from management to end users regarding the department's various phases of technological transitions. It is crucial to mitigate this issue, as technological changes can provoke irrational emotions that fuel resistance. Additionally, increased workload may result from these changes, potentially requiring more tasks, such as processing larger volumes of data or completing additional steps in the

automation of a system. This theme of increased workload aligns with the management factor variable (fear of work overload) in the conceptual framework. The conceptual framework did not include the theme of poor communication.

- *What measures are required to address resistance to technological changes to achieve effective technological change management in the organisation?*

Training, involvement, and communication emerged within the case as measures for managing resistance to technological changes and achieving effective technological change management. Employees require quality and adequate training to take advantage of technological changes. Involvement entails ensuring that every party involved in the technological change project participates in the implementation processes to secure their acceptance and cooperation. Also, communication between management and employees on the expectations and objectives of all parties is crucial to managing resistance and enabling effective change management. Additionally, the themes of training and communication align with comparable variables within the framework for managing resistance to technological changes. Although the theme of involvement was not explicitly identified or aligned with the framework's variables, it can be interpreted as employees seeking a sense of ownership or feeling valued during the implementation phases. Key themes from the within-case analysis have been integrated into this study's conceptual framework and are discussed further below.

4.4.2.1 Excitement about productivity

The next theme uncovered within the case was excitement about productivity, which references the feelings of excitement and support exhibited by employees in response to implementing technological changes within the department, as they believe these changes will make them more productive in serving the organisation and the country. A quote by Participant [B5] exemplifies this concept: “Hours spent on doing some daily routine work manually have been made productive due to the use of technology to automate those tasks. I can do more tasks within the same allocated period. I am happy about this. Of particular use to me is facial recognition, which has helped me and my colleagues in tracking criminals and suspects better, without intruding physically in public spaces and with more results recorded.” The data showed that using technology to carry out operational duties has increased the productivity of employees in this department. Analysing the participants’

responses within the case revealed that applying technological tools and resources has made the employees respond positively, as they are more productive. This productivity has manifested in simplifying tasks, better management, and seamless collaboration.

Participant [B6] highlighted that biometric technology has become vital for identifying patterns of violations and evaluating them while also monitoring the locations and times of accidents and traffic congestion. This technology proactively analyses driver behaviour to enhance traffic awareness and improve incident responses. A notable advancement is the introduction of the Dangerous Driver System, which resulted in approximately a 5% reduction in the number of dangerous drivers in 2022 compared to previous years, as well as a decline in the rate of serious injuries during the same period. These advancements were supported by case analysis systems, traffic simulation and prediction tools, and enhanced response strategies, all contributing to the achievement of national objectives. The upgrade to biometric services introduced enhanced functionality that was unprecedented in our experience. It fostered more excellent connectivity within the community and significantly streamlined the operations of the Abu Dhabi Police, saving valuable time and educating the public about traffic safety and the importance of adhering to regulations (Participant B5).

4.4.2.2 Excitement About Additional Skills

The theme of excitement regarding additional skills reflects the enthusiasm employees feel about the opportunity to acquire new competencies associated with operating advanced technologies. Employees believe that learning these additional skills increases their value and enhances their capabilities in the workplace, ultimately leading to improved job performance. Participant [B10] remarked, “New technologies allow me to upgrade my skills. I love acquiring new skills, and this has benefitted me.” Another participant echoed this sentiment. The participants [B4-B7] expressed a shared excitement about witnessing the implementation of technological changes within the department, as it would provide them with opportunities to develop additional skills for the betterment of the department and the organisation. They expressed satisfaction with Abu Dhabi Police's leadership in innovative technology, and their investment is commendable.

4.4.2.3 Timely communication

The next theme highlighted in this case is inadequate communication, which emerged as a key factor driving employees’ resistance to technological changes in the department. This

issue is characterised by poor information management and limited guidance from supervisors during the different stages of technology implementation or upgrades. Participants emphasised the critical role of management communication during these transitions. One participant, [B3], voiced frustration over the lack of regular meetings or workshops for information sharing throughout the implementation process, revealing a significant communication gap. I remember an incident involving the introduction of a new camera intended to provide visual and audio feeds from crime scenes. This technology had the potential to benefit more officers, representing a missed opportunity. The findings indicate that addressing poor communication is essential when implementing technological changes, as it can lead to negative feelings that breed resistance. Such resistance may undermine the ADP's ability to accomplish its objectives efficiently. Participant [B9] stated, "communication about upcoming changes and assurance of their benefits would greatly help in achieving the objectives of technological changes within the department or organisation." Overall, department employees stressed the need for consistent and regular communication to effectively manage technological change.

4.4.2.4 Workload

Increased workload emerged as a significant theme contributing to the resistance against implementing new technologies within the department. As the central policing unit, this department bore a substantially broader range of responsibilities than other units, which likely intensified their perception of an increased workload. Participant B3 noted that my workload expanded significantly for several months due to the differences in the system upgrades from what we previously utilised. This transition resulted in heightened information processing demands and required us to develop new procedures to address various situations. Participant B5 remarked that the initial phases of implementing the robotic technology were exceedingly challenging, as we needed additional hours to train the robots and explore various ways to harness the technology effectively. Although we encountered multiple obstacles at the outset and faced a steep learning curve, the environment was particularly stressful due to the high stakes involved and our commitment to meeting expectations. As a result, we exerted considerable effort to ensure everything operated smoothly, but such dedication came at a cost. Participant B4 shared, "*In some cases, I coordinate multiple assignments within the department, which can be overwhelming at times. Additionally, I often assist my colleagues. However, this does not negate the advantages that technology brings*."

The analysis of the data collected from participants revealed the negative implications of technological changes within the department, particularly regarding the additional tasks imposed on employees.

4.4.2.5 Training and Involvement

Training, another theme uncovered within this case, is the requirement that employees understand technological changes, which helps them remain compliant in the face of consistent change, overcome resistance and enable effective organisational change management. Training employees to use new technologies should be prioritised to manage resistance effectively. Participant [B7] shared that "*the organisation has done well so far in providing training for employees affected by technological changes. More could still be done with training. More employees still require training to ensure they perform work easier. This additional training could be in sending staff abroad where those technologies are made, an example being the facial recognition technology adopted in my department to capture suspects.*" Participants agreed that the training times were underestimated, especially given the timeline to master the tools adequately. This led to technical debt that could have been avoided from the beginning.

A significant theme identified within this case is involvement. This theme emphasises the importance of ensuring that all relevant stakeholders participate in the technological change project's implementation processes. Their acceptance and cooperation with the change strategies and plans are vital. Participant [B4] stated, "*To maximise employee potential, it is essential to allow them to contribute input regarding any technological change*." Meanwhile, B5 suggested that a feedback cycle concerning training and content could have provided timely insights and prompted a reassessment of strategies.

Several measures are recommended to manage resistance to technological advancements effectively and facilitate successful organisational change. These include providing comprehensive training, involving all stakeholders in change initiatives, and maintaining clear communication between management and employees. Engaging employees early in the planning stage of technology implementation is crucial for fostering acceptance and ensuring seamless integration of new technologies.

4.5 Case three department: Central operations

4.5.1 Case background

The case department relates to participants who are employees in the Department of Central Operations, which acts as the control centre for safety and security. Their roles include formulating and providing policies, strategies, and procedures for reducing and controlling crime. They are responsible for planning, coordinating, managing, and regulating security crises, disasters, emergencies, and crimes. The department also provides and regulates information and resources for addressing these events.

Various technological changes have been implemented in this department. The participants used biometric facial recognition systems, information technology, e-government services, and the Geographic Information System. Participant [C3] stated, "*Being in this department has given me opportunities to come across different technologies and applications, such as information technology, e-government services, and the Geographic Information System, that have been introduced to the ADP."* Another participant, [C8], agreed: *"The department has been well supported with innovations. The biometric facial recognition systems and the information technology are good examples of this support.*"

The different technological changes implemented in this department provided more insights into and understanding of the case and its functions. Implementation within this case is driven by the need to simplify and streamline complex processes and workflows to improve productivity and the opportunity to centralise services and decision-making and support multiple departments in the organisation. Implementing these technological changes improved work quality, impacted the performance of the employees via better delivery of services, improved public complaint resolutions and enhanced interpersonal relationships with other personnel and the public. However, some employees were negatively impacted by the changes, as after the implementation of the technologies in the department, the volume of work performed by the employees increased.

4.5.2 Within-case analysis

In examining the research questions for this study, several themes emerged that underscored the uniqueness of this case and illuminated the interconnections among these themes. The analysis of the responses, particularly about the research questions, was thoroughly discussed and resulted in several prominent themes, including a positive perception of technology's

usefulness, apprehension towards a new order, a culture of change, issues related to workload, and the training and reward systems in place.

Furthermore, digital services have significantly improved efficiency, ensuring seamless continuity and enhancing effectiveness through activating the data centre control room and the technical operations room. The upgraded e-government services now provide functionality that greatly surpasses previous capabilities. Citizens can access legal documents, including ownership renewals and driver's licenses. In addition, the system enables users to request the issuance of vehicle licenses for damaged vehicles, obtain replacement licenses, renew existing licenses, reserve vehicle numbers, and pay traffic fines.

- *What are the employees' responses of the Abu Dhabi Police to technological changes in the organisation?*

The themes that emerged within this case include positivity about technology's usefulness and the fear of a new order. The employees in the department responded to the technological changes in opposing ways; some were positive about the utility of technology and expected that the technology changes would add value to the department, considering that technology generally has inherent benefits for individuals and organisations. Other employees responded with fear of a new way of doing things, which would require learning new methods or processes to use the latest technologies. They were comfortable with the usual ways of doing things and resented the introduction of new processes.

Perception of change	Percentage of participants
Positivity about the utility of technology	60%
Fear of a new order	40%

Table 8 Perception of change 2

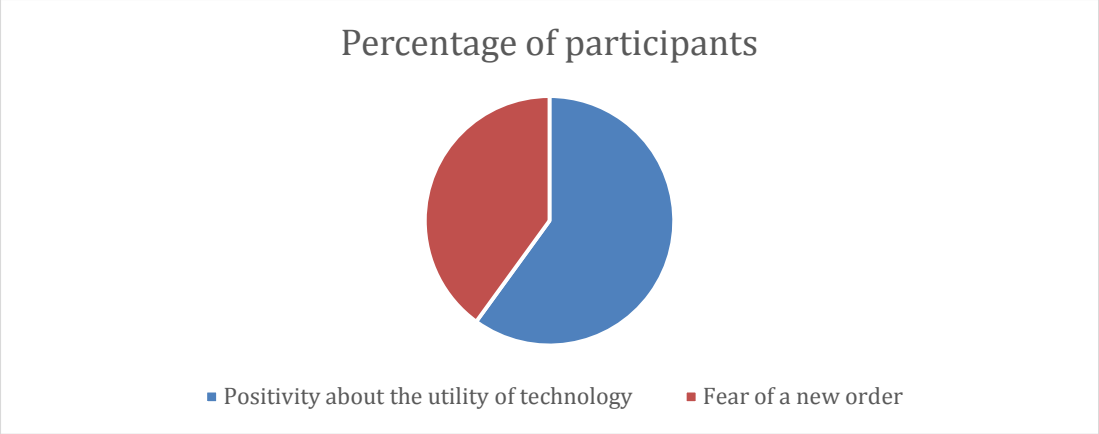


FIGURE 13 PERCEPTION OF CHANGE (2)

The comparison of emerging themes from the within-case analysis with the variables of the conceptual framework revealed a precise alignment. The theme indicating a positive attitude toward the usefulness of technology can be characterised as a positive response to change, reflecting cooperation, acceptance, and support. In contrast, the second emerging theme—fear of a new order—represents negative responses to change, which include indifference, loss of interest, apathy, reduced contribution, regressive behaviour, minimal effort, intentional errors, and protest.

- *What are the factors driving resistance to technological changes in the organisation?*

The themes of cultural change and workload have emerged as significant factors contributing to the challenges faced during technological transitions. Many employees tend to hold on to established values, processes, emotional reactions, and traditional job models, which can significantly influence their resistance to adopting new technologies. Additionally, this resistance can be further intensified by increased workloads, mainly when there is a surge in activities and responsibilities without a proportional increase in staff. Within this conceptual framework, these themes can be tied to human factors, such as the psychological strain of additional learning and management issues, including the fear of being overwhelmed by work.

- *What measures are required to address resistance to technological changes to achieve effective technological change management in the organisation?*

Themes of training and reward systems emerged as critical factors in addressing the challenges associated with technological changes within the case. These themes serve as

established measures for managing resistance to such changes and achieving effective technological change management. Training is vital as it equips employees with the understanding and knowledge necessary to navigate the implemented technologies, ensuring they can use them correctly and with ease. This proactive approach helps mitigate negative emotions that could contribute to resistance. Similarly, providing rewards (or consequences) before, during, and after the implementation of technological changes can motivate employees to perform at their best while encouraging appropriate behaviour among those who may struggle with the transition.

4.5.2.1 Positivity about the utility of technology

Another theme uncovered within the case was positivity about the utility of technology. This was about how the employees in the department responded to the implementation of technological changes, and it revealed that they believed that the technologies being implemented would help them perform their duties. Technology's inherent benefits made them feel optimistic about embracing the changes. Participant [C3] said, *"I have always been positive about introducing any new system or innovations in the ADP because I believe the management will never introduce anything that is not going to be useful to the organisation."* The findings showed that participants believed that the usefulness of technology has never been in doubt, as it has always been beneficial to organisations and individuals in their experience. The interview data within the case demonstrated that the general usefulness of technology in organisations has led the employees to respond positively to its implementation in the department. Participants in central operations agree that

4.5.2.2 Fear of a new order (threat of artificial intelligence and cyber-attack)

Another theme uncovered within the case is the fear of a new order or way to accomplish tasks. This can be described as employees' negative feelings about learning and adjusting to new ways or processes due to the introduction of new technologies. Participant [C2] stated, "It is not easy learning new ways or methods of doing things at this stage of my life and career. So, you can understand my concern regarding new technologies. For example, learning a particular aspect of the GIS Information System implemented was difficult. This aspect involves providing detailed geographic coordinates related to crime incidents within a community and ensuring that all the points on the map contain detailed information relating

to the crime scene and victim.*" According to [C3],* Automation and process optimisation are central to ADP's technology initiative. While there is an ambitious plan to be first to market with the latest technologies, it often seems that we have not developed a comprehensive readiness or risk mitigation strategy for these tools, particularly regarding data privacy, ethical concerns, and the technological and cultural complexity required to achieve the necessary outcomes transition. *Participants [C4] and [C6]* opined that these newer methods still require the current workforce to enhance their knowledge, skills, and abilities to thrive. Participants are worried about the speed of technological change and the potential for a cyber-attack due to the system's vulnerabilities.

Participant C5 noted, "I think MOI and ADP 5-year strategic plans need to be reviewed as I feel sometimes it is a short time before new technology emerges. When asked to learn a new way of doing things, it is somewhat frustrating when you think the older way is working. The TAMM, the e-gov services platform, now has over 50 government services via one portal. Before the integration, we had different ways to access information, which worked well, so you can imagine the reluctance to move to an integrated system. Departmental roles may have impacted the usage of e-services. Some department officers expressed interest in these services but stressed the importance of their usefulness and benefits. Many found that e-services were incompatible with their daily routines and complicated to operate, deterring them from further use. Participants pointed out that IT officers manage the functionality and operation of these services, while those with less engagement often struggle to recognise their sustained value.

4.5.2.3 Culture of Change

The next theme revealed in this case was the culture of change. It describes a situation where employees affected by transitions tend to hold on to existing processes, practices, routines, values, and emotions, significantly influencing their attitudes toward change. Participant [C5] noted, "While a few new technologies and innovations have been successfully implemented, not every employee embraces the culture of change. Some employees require encouragement and oversight; otherwise, they may revert to familiar behaviours." The findings indicated that not all employees were fully prepared or willing to embrace technological change. Organisational culture plays a pivotal role in shaping employees' responses to these transitions. Some personnel cling to traditional job performance models, viewing change initiatives as threats to their privileges and positions. Participant [C7] emphasised the

necessity for these changes to be advocated at every level of the organisation, alongside more visible leadership at the operational stage to cultivate a culture open to change. Participant [C8] suggested that sustaining this momentum requires engaging officers at all levels in driving the agenda rather than relying solely on a top-down approach, which could enhance overall engagement.

Moreover, information technology can potentially improve administrative efficiency and, more critically, enhance law enforcement's ability to identify individuals, locations, and issues contributing to crime by augmenting their capacity to gather, manage, and analyse data. This underscores that effectively utilising technology in policing goes beyond merely understanding its efficiencies; it often involves necessary changes to the organisation's culture, practices, and infrastructure to enhance crime control, efficiency, and accountability. Unfortunately, this transformation does not always occur naturally.

4.5.2.4 Workload

Another theme identified in the case was workload, which was recognised as a significant factor contributing to resistance against implementing technological changes in the department. The introduction of technology was associated with an increase in the number of tasks employees would be expected to manage, including enhanced data processing and management responsibilities. Participant [C7] noted, “The initial increase in tasks typically triggers employees to feel apprehensive about change and subsequently resist it.” The data analysis suggests that an uptick in activities and responsibilities without corresponding increases in personnel can foster resistance to technological changes due to the added workload. Although technology can improve efficiency and effectiveness, it may impose new demands and complexities within police operations [C6]. For instance, a new information technology system enhances officers' access to information and enforces stricter reporting requirements, necessitating more detailed documentation of incidents and activities, ultimately exacerbating the workload.

4.5.2.5 Training

The next theme identified in this case study was the significance of training. Training empowers employees with the knowledge needed to effectively utilise the new technologies being implemented, which helps mitigate resistance to change. Participant [C1] emphasised,

“Providing resources for training employees on the systems is essential to prevent situations that could lead to employee resistance. Training is crucial to addressing this concern.” The analysis of the interview data suggested that training should be integrated into the change initiative from the beginning. This training must coincide with the planning of the technological changes. Furthermore, offering the appropriate types of training alongside adequate resources and funding is vital. By considering these factors, organisations can more effectively manage resistance to technological changes and ensure successful change management.

4.5.2.6 Reward system

The subsequent theme identified in this case study pertains to the critical role of training in technological change. Practical training equips employees with the necessary skills and knowledge to adeptly navigate the newly implemented technologies, reducing resistance to change. Participant [C1] articulated this perspective by stating, “Providing resources for training employees on the systems is essential to prevent situations that could lead to employee resistance. Training is crucial to addressing this concern.” The analysis of the interview data indicates that training should be systematically integrated into the change initiative from its inception, occurring concurrently with the planning of technological modifications. Additionally, it is imperative to offer targeted training programs and ensure the availability of sufficient resources and funding. By considering these elements, organisations can enhance their capacity to manage resistance to technological advancements and facilitate effective change management processes.

4.6 Case four department: Security and Port Operations

4.6.1 Case background

In this case, the participants were employees from the Department of Security and Port Operations, responsible for enhancing the security capacities and capabilities of the country’s ports, free zones, and borders. It standardises the essential security processes, procedures, and requirements, focusing on the entry and exit of individuals and goods at the free zones and ports.

The department has witnessed the introduction and implementation of multiple technological changes to improve the services being carried out by the employees. According to the participants in this case, such technological changes include the Geographic Information System, information technology, e-government services, biometric facial recognition systems and a satellite system. Participant [D9] said, "*The department is doing well in technology adoption. We are equipped with what you can find in other systems, such as the Geographic Information System, information technology and other useful ones.*" Participant [D2] agreed, *"One of the best things happening to the department is adopting highly essential systems for our daily activities and services. Much value has been added by these technologies that have been introduced to the department."*

Implementing these technologies and systems has provided a better understanding of the case and its practices. The threat to the security of the country and the need for efficient public services are factors that have driven the implementation of technological changes in the department. The findings showed that the department is expected to continually implement technological changes to safeguard and secure the country and the populace against any threat. The implemented changes have positively and negatively impacted the employees' job performance. Some employees experienced fewer or no errors in their tasks, indicating the positive impact of the technological changes. However, others were impacted by an increase in the workload because of the implementation of the changes. Unsurprisingly, these heterogeneous impacts defined how employees responded to the technological changes.

4.6.2 Within-case analysis

The analysis of the interview data regarding technological changes has led to the emergence of a few interconnected themes from this case that highlight its peculiarity and uniqueness. These themes include possibilities, fear of redundancy, loss of power and control, lack of communication, training, effective management, and continuous engagement and information.

- *What are the employees' responses of the Abu Dhabi Police to technological changes in the organisation?*

Two prominent themes that emerged from this case were the possibilities presented by new technologies and the fear of redundancy. The theme of possibilities reflects a positive sentiment among employees that technological advancements could create new opportunities in the workplace. These opportunities include expanding their knowledge base, the option to

work remotely or offsite, and the ability to accomplish more tasks in less time. In contrast, the fear of redundancy centres on employees' concerns that these new technologies might render them obsolete, particularly if they feel unqualified or lack the necessary skills to manage or implement these innovations. This anxiety could lead to job insecurity, such as termination, redundancy, or reassignment.

The analysis of these emerging themes was compared with the variables outlined in the conceptual framework. The possibilities' theme was revealed to align with positive responses to change, such as cooperation, acceptance, and support. Conversely, the fear of redundancy corresponds with adverse reactions to change, including indifference, loss of interest, apathy, reduced contribution, regressive behaviour, minimal effort, intentional mistakes, and active protest.

- *What are the factors driving resistance to technological changes in the organisation?*

In this case, two emerging themes can be identified as factors contributing to resistance against technological changes in the department: loss of power and control and inadequate, inconsistent communication. Implementing a system change or upgrade often requires new skills and knowledge, which can lead to employee displacement. Additionally, poor communication can negatively impact the perception of management and fuel resistance to change among staff. The conceptual framework highlights losing power and control as a management-related concern, specifically the fear of losing authority. However, the theme of lack of communication was not included in the conceptual framework.

- *What measures are required to address resistance to technological changes to achieve effective technological change management in the organisation?*

Training, effective management, continuous engagement, and information emerged as themes required to achieve effective technological change management. Quality, adequate, and timely training was deemed essential to understanding and operating the technological changes being implemented in the department.

Employees deserve to be supported throughout the change project via continuous engagement and information regarding the plan, purpose, objectives and process. This encourages them to embrace the technological change project, reducing or eliminating resistance. Effective management is expected to continually provide proper employee training, engage them and ensure they are informed about the technological changes. Managers need managerial skills

and knowledge to manage, guide and direct employees on what to do regarding technological changes, thereby reducing or eliminating resistance.

Furthermore, the themes were compared with corresponding variables in the conceptual framework for measures to manage resistance to change. Training can be identified in the framework, while the theme of effective management can be associated with the framework's leadership variable. The theme of continuous engagement and information can be equated with communication in the framework.

4.6.2.1 Possibilities

One of the key themes identified was the concept of possibilities, which refers to the positive outlook that new technologies bring to expand employee opportunities. The findings suggest that these possibilities include enhancing knowledge, enabling remote or offsite work, and accomplishing more tasks in a reduced timeframe. Participant D8 remarked, "The implementation has provided me with possibilities. There is so much that can be achieved if one understands the benefits. I know I can leverage these technologies to enhance my life." Many employees enthusiastically welcomed these changes, recognising the variety of options the new technologies presented.

Before this implementation, ADP generated separate reports from various legacy systems, requiring manual comparisons of spreadsheets and mapped reports to derive actionable insights. Another participant highlighted that ADP now utilises GIS technology to unify personnel and processes for improved decision-making. ADP has acknowledged that the geolocation and spatial capabilities of GIS are integral to all areas of police operations and align with its strategic objectives. According to Participant D4, "The GIS has emerged as an efficient means of consolidating information and analysis quickly and easily for those who require it. "Participant D2 noted that the new system has alleviated prior challenges, such as accurately mapping policy responses tailored to emergencies and facilitating information sharing among various police departments and disaster response teams. These details include incident locations, asset placements, responder locations, points of interest, and more. They commented that the ease of generating reports has significantly improved their job performance.

4.6.2.2 Fear of redundancy

The next theme uncovered within this case was fear of redundancy. This describes the concerns and worries expressed by the employees as new technologies were being implemented. They feared the technologies would make them redundant, as they might lack the required education or expertise to manage or administer these technologies, which could lead to firing or retrenchment. Participant [D9] commented, "*It must be noted that there are employees who are genuinely worried that the new technologies introduced by the organisation can take away their jobs or mar their career growth in the department, as they may be made redundant by the new technologies. I have had this discussion with some of my close friends in the organisation, and I started having that fear, too, and technology evolves globally. I have limited education so that you can understand my fear concerning technological evolution, such as Geographic Information Systems. These things are becoming more smart-driven."* The findings showed that workers feared only those with the knowledge and skills to operate newly introduced technologies would be prioritised in the workplace. The technologies demand the ability to apply new knowledge and skills when performing tasks in the workplace, which some employees might not have or be capable of learning.

4.6.2.3 Loss of power and control

Another theme within this case was the loss of power and control. This can be described as a situation where managers or experts risk losing their positions if they fail to adapt to or lack expertise in the technological changes their department attempts to introduce. Participant [D4] articulated this concern clearly: "Major technological changes, when implemented, could lead to some job activities or posts being discontinued. This might cause some of us to be moved to another department if opportunities exist, or worse, have our contracts terminated." The findings indicated that any system change or upgrade often necessitates new expertise or knowledge, which can result in displacing current employees from their formerly held positions. Organisations may seek new professionals with the required skills, making retaining their roles challenging for existing staff. As a result, the fear of undesirability can generate anxiety and resistance among employees.

4.6.2.4 Lack of communication

Another significant theme identified was the lack of communication, which catalyses employee resistance to technological changes within the organisation. The data reflects

minimal engagement between project leadership and the employees—those who are ultimately expected to utilise the new technologies adjacent to their operational roles. Participant [D3] expressed this sentiment, remarking, “Some of my colleagues had issues of not being reached out to before changes that affect the department. They feel the organisation is not doing enough in terms of communication.” Participants described this lack of communication as detrimental to adopting technological changes, brewing negative emotions and feelings among the workforce. A culture of transparency and regular updates could help bridge this gap and foster a more collaborative atmosphere.

4.6.2.5 Training

The third theme that surfaced was the critical need for adequate training. Management is responsible for providing employees with the necessary knowledge and understanding of how to use and apply the new technologies introduced in the department. This comprehensive training can alleviate or eliminate any apprehensions or resentments employees might harbour toward the changes, thus reducing potential resistance. Participant [D5] expressed this sentiment effectively: "A common reason why new systems or changes fail is the reluctance of the employees to accept the new changes and the lack of comprehensive training and training personnel to address the situation.” The data findings underscored that providing proper and timely training for the right personnel is essential in encouraging employees to embrace new technologies and utilise them to enhance their performance in the workplace. Participants emphasised that training is not merely about understanding how to operate a system but also the newly implemented technologies' benefits, components, and functionalities. Practical training is pivotal in managing resistance and ensuring productive change management processes within the department.

4.6.2.6 Effective management

Effective management, a central theme within this case, is the adept direction of employees concerning the plans and processes involved in technological change. It involves clearly defining the roles and responsibilities of employees in achieving the objectives of a given change initiative. This clarity fosters a sense of ownership among employees regarding the project, enhancing their willingness to accept and work toward successful implementation. Participant [D10] highlighted a significant concern: "Unfortunately, not every manager has relevant knowledge, skills, and commitment regarding different technological changes being

implemented. Their interests drive some. They may not get the employees under them to embrace and accept the changes." The interview data revealed that managers and leaders have considerable influence over the success of any technological change within the department. As such, these individuals must possess sufficient knowledge and skills to effectively guide their teams, inspire confidence, and encourage adaptation to new systems and processes.

4.6.2.7 Continuous engagement and information

Finally, the theme of continuous engagement emerged as a key element in the successful implementation of technological changes. This concept entails the regular and open engagement of employees by management, ensuring they are informed about the purposes and objectives of the changes being introduced. Such engagement encourages collaboration and consensus on various issues related to the change project. When information is consistently shared among all relevant parties, it fosters a shared understanding of the ongoing processes. Continuous engagement allows employees to provide input and actively participate in discussions about the changes, enhancing their sense of agency. Participant [D3] summed it nicely by stating, "Information is everything. I believe that even if one must accept a change, being given the respect of being properly informed on the new change and being asked for input will reduce resistance and produce successful implementation." The findings indicated that participants highly valued the regular exchange of information, promoting employee contributions regarding the change. This approach can effectively manage and minimise potential resistance, creating a more positive and productive environment for implementing new technologies.

4.7 Chapter conclusion

Overall, the themes identified in this case study illustrate the complexities of navigating technological change within an organisation. Organisations can significantly mitigate resistance and ensure a more successful implementation of technological innovations by addressing loss of control, enhancing communication, prioritising training, providing effective management, and fostering continuous engagement. The collective insight from participants emphasises the importance of strategic approaches in managing change to

cultivate a supportive environment that encourages employee buy-in and ultimately drives organisational success.

This chapter analyses interview data from participants across various departments within the organisation. The departments included are guards and establishments, policing operations, central operations, and security and port operations. For each department, background information and analysis were provided. The valuable insights from participants greatly influenced the findings and conclusions of this research. Additionally, the emerging themes from each department were compared against the variables in the conceptual framework, particularly to responses to change, factors that drive resistance to change, and strategies for managing this resistance. Notably, all themes regarding responses to change aligned with the related variables in the conceptual framework; similarly, the factors contributing to resistance also matched their corresponding framework variables. However, the themes related to communication and reward systems did not align with the strategies for managing resistance. These four cases are significant for developing a new model addressing technological change.

Chapter 5: Discussion

5.1 Introduction

This chapter discusses the research findings generated from analysing the interview data. This study examined the implementation of technological changes in the Abu Dhabi Police to understand how employees' responses might enable effective organisational change management. The discussion of the findings involves understanding the several themes that emerged from the analysis of the participants' responses and conducting a cross-case analysis of those themes that emerged from the within-case analysis. The different subjects or constructs include employees' responses to technological changes in the ADP, factors responsible for resistance to technological changes, and measures to manage these resistances to achieve effective technological change management in the organisation.

The ADP has incorporated several technological changes, including the widespread use of information technology and training and development of its employees, to manage these changes and any associated challenges (ADP, 2018). There has been a substantial advancement in the application of information technology by organisations in the public sector in the UAE and Abu Dhabi. These benefit both the government and the populace in terms of work becoming easier and faster to process and providing better services and results (Al-Ameri, 2013; Lundvall & Nielsen, 2007).

5.2 Cross-case analysis

In light of the prevalent and emerging themes observed across various cases, a cross-case analysis approach was employed to investigate commonalities and distinctions. Yin (2003) noted that treating each case study as an independent entity is a prerequisite for cross-case analysis. The previous chapter provided a detailed examination of the findings from the four case studies, each presented in separate sections. This chapter seeks to synthesise these studies, emphasising patterns and fostering a discussion around them. Employing multiple case studies to explore a similar phenomenon significantly enhances the overall robustness of the research (Yin, 2003). In this section, we will examine the similarities and differences among the cases concerning the emerging themes identified in the preceding chapter. The

four cases, representing various departments with unique responsibilities, nonetheless converge on a common objective: ensuring national safety and security.

5.2.1 Process of cross-case analysis

The cross-case analysis was structured around the research questions, drawing upon existing literature on organisational change and change management. Notable similarities emerged in employees' responses from various departments to implementing technological changes. Additionally, the analysis identified factors contributing to resistance against these changes and strategies employed to manage such resistance. However, significant variations were also observed among the departments.

After completing each case study analysis, the researcher performed multiple reviews of the findings, highlighting the similarities and differences. Illustrative examples from the case studies were documented to support these conclusions. In ensuring a comprehensive and accurate cross-case analysis, the researcher adhered to the methodologies established by Ayres et al. (2003) and Kollom et al. (2021) by validating the dataset through multiple coding processes and respondent validation.

A challenge emerged regarding the multiple coding process, as the initial interviews were conducted in Arabic and later translated into English for analysis. The software tool NVivo assisted in this translation effort. To minimise subjectivity within the dataset, the researcher made comparisons of themes in Arabic, mainly when specific terms had varied meanings in English. This approach facilitated a deeper understanding of the complexities of experiences as interconnected narratives rather than isolated units of meaning.

Decontextualisation techniques, including coding and matrix creation—particularly in translation cases—can sometimes isolate meanings and obscure their significance, a potential issue acknowledged in the literature. As a fluent Arabic speaker, the researcher achieved a level of respondent validation by thoroughly reviewing the key points of the transcripts, thereby ensuring the accuracy and richness of the data. The chapter begins with a summary of the cases and a multi-case analysis, followed by a discussion of the limitations associated with the cross-case analysis. It concludes with an analysis of the follow-up interviews conducted with senior leaders within ADP.

5.3 Summary of cases

5.3.1 Responses to technological changes

The analysis of the cases examined revealed noteworthy similarities in employee responses to technological changes across various departments. A predominant sentiment among employees was enthusiasm and optimism regarding the introduction of new technologies. Nevertheless, the underlying reasons for this positive disposition varied significantly among individuals. Conversely, a minority of employees expressed apprehension in three out of the four departments (notably excluding case two), with the sources of their anxiety differing across contexts.

5.3.2 Factors Contributing to Resistance to Technological Change

The employee responses concerning the factors contributing to resistance to technological change exhibited notable parallels among several departments. Specifically, employees in cases one, two, and three identified workloads as a critical factor influencing their resistance, while those in case four did not perceive it as a significant issue. Furthermore, a lack of communication was highlighted by employees in cases two and four as a contributing factor to their resistance. Beyond these commonalities, additional concerns emerged; for instance, job security, the prevailing culture of change, and feelings of diminished power and control were articulated by employees in cases one, three, and four, respectively. These variations can be attributed to the distinct contextual factors influencing each department.

5.3.3 Strategies for Managing Resistance

The cross-case analysis of strategies for managing resistance to technological changes revealed congruences in employee responses across the various departments. Training, effective communication, and leadership emerged as the principal strategies identified by employees in all four cases. Training and communication were frequently mentioned in tandem in cases one and two, while training was noted in isolation in case three. Communication, characterised as continuous engagement and the provision of information, was predominantly highlighted in case four.

Moreover, training and leadership were frequently referenced in cases one and three. In contrast, effective management as a component of leadership was articulated independently in case four. Effective management (leadership) and continuous engagement (communication) were crucial in case three. Involvement and reward systems were infrequently mentioned, appearing solely in cases two and three, respectively. The observed disparities in these factors across the different cases may be ascribed to variations in employee motivations and interactions with the newly implemented technologies. The case studies have shown that officers in different departments experienced a spectrum of emotions during implementation.

5.4.1 Excitement and fear

Excitement and fear, which relate to how the employees responded to implementing technological changes in their respective departments, are central themes that emerged from the cross-case analysis. As shown by the cross-case analysis, this theme was separately identified in different case analyses and cut across all the case departments. Most of the department employees exhibited this response to implementing technological changes.

5.4.2 Workload increase

The research revealed workload increase as another significant emergent theme from the cross-case analysis that drives resistance to technological changes. It is prominent in all the responses across each of the departments. In cases one, two and three, employees shared similar views about workload, and the various participants' arguments were similar.

5.4.3 Information sharing and strategic use of social media channels

Information sharing is the third central theme that emerged from the cross-case analysis; it was equated to training, communication, and continuous engagement and information, all of which can be considered measures for managing resistance to technological changes. The theme emerged with broad similarities in each of the analysed cases. Information sharing through the training of employees is essential for preventing or addressing resistance to technological changes. The social media channels have helped provide information on the technology and opportunities for a short demonstration. The ADP conforms with this strategic information technology plan by adopting and applying social networks in its operations and

community relationships to realise excellence in several cases, including effective communications, rumour, and crisis management (Al-Karaeen, 2016).

5.5 Discussion

The research questions guided the cross-case analysis. Drawing from the literature on organisational change and change management, certain broad similarities emerged in how employees across different departments responded to the implementation of technological changes, the factors contributing to resistance against these changes, and the strategies employed to manage that resistance. Nonetheless, there were also notable differences among the departments. Table 9 summarises the emergent themes identified across the various cases. In analysing each case study, the researcher reviewed the results multiple times, noting similarities and differences. Illustrative examples from the case studies were also highlighted as part of the analysis effort.

The findings of the cross-case analyses showed how the different case departments approached the constructs of responses to technological changes, factors responsible for resistance to technological changes and measures for managing resistance. This section presents the insights gained from the findings. Table 10 presents a multiple-case matrix of the possible and explores these relationships.

Cross-case analysis	Themes			
	Case 1 (Guards & establishment)	Case 2 (Policing operations)	Case 3 (Central operations)	Case 4 (Security & port operations)
Responses to changes	• Excitement about new opportunities • Anxiety	• Excitement about productivity • Excitement about additional skills	• Positivity about usefulness • Fear of a new order	• Excitement about possibilities • Fear of redundancy
Factors responsible for resistance	• Job security • Workload	• Poor communication • Workload	• Culture of change • Workload	• Loss of power and control • Lack of communication
Measures for managing resistance	• Training • Communication • Leadership	• Training • Involvement • Communication	• Leadership • Training • Reward system	• Effective management • Continuous engagement and information

Table 9 Overview of emerging themes from the case departments

Cross-case analysis	Themes			
	Case 1 (Guards & establishment)	Case 2 (Policing operations)	Case 3 (Central operations)	Case 4 (Security & port operations)
1 Responses to technological changes	• Excitement about new opportunities • Anxiety	• Excitement about productivity • Excitement about additional skills	• Positivity about the usefulness of technology • Fear of a new order	• Possibilities • Fear of redundancy
2 Factors responsible for resistance to technological changes	• Job security • Workload	• Poor communication • Workload	• Culture of change • Workload	• Loss of power and control • Lack of communication
3 Measures for managing resistance to technological changes	• Training • Communication • Leadership	• Training • Involvement • Communication	• Leadership • Training • Reward system	• Effective management • Continuous engagement and information

Table 10 Cross-case matrix of the emerging themes

5.5.1 Fear and Excitement

Depending on departmental peculiarities, each case emphasised how employees responded to technological changes within the department, and findings from different cases offer contrasting perceptions about change. For example, fear, anxiety and excitement about the change were experienced in other departments, and these behavioural tendencies are opposites, as depicted below.

FIGURE 14 FEAR AND EXCITEMENT RELATIONSHIP

While excitement was evident in all four cases, the underlying reasons for this enthusiasm varied across departments. The rationale in cases one and four shared similarities centred around introducing technologies that enable employees to perform tasks in novel and diverse ways. Participant [A3] remarked, "Utilising new technology for daily routines makes tasks significantly easier and more enjoyable, as these innovations come with enhanced features compared to their predecessors." Given that numerous organisations are embracing new methodologies and increasingly favouring digital workplaces with advanced technologies, it is reasonable to anticipate that employees will feel excited when such transformative changes are implemented in their departments.

Notably, the enthusiasm expressed by participants in case two can be attributed to the technology, which enhances their productivity in executing tasks and acquiring new skills necessary for utilising these advancements effectively. This emphasis on productivity highlights how technology simplifies and streamlines work life, ultimately boosting employee performance. For instance, one participant, [D2], remarked, "Reaching out to each other on work-related matters has been refreshing due to the newly introduced technology.

This has corresponded with a noticeable improvement in task output." Additionally, there was significant excitement surrounding acquiring new skills, as such skills are vital for lifelong empowerment and can significantly benefit one's career trajectory. In case three, employees expressed excitement about the general utility of technology in their departments; this sentiment was less clearly defined and may resonate with the various reasons shared by employees in other departments.

Several employees expressed contrary viewpoints, particularly in cases one, three, and four, which shared commonalities in their concerns. Employees in case three expressed apprehension about introducing technological changes, fearing that these changes would disrupt their established habits and practices. This highlights that modern technology necessitates new workplace skills, expertise, processes, and principles. Those deeply attached to traditional methods may struggle to adapt, as acquiring new skills requires significant effort and commitment. The inability to embrace new ways of working could jeopardise one's professional future, understandably leading to feelings of fear.

In case four, the fear stems more from the threat of redundancy and the potential loss of employment, given that modern technologies often demand specialised skills and knowledge that some employees may lack. This skills gap can lead to job displacement or loss. Realising that technological advancements sometimes render human roles obsolete adds to this fear. The concerns expressed in case one centred around anxiety, which may relate to the fears articulated by employees in cases three and four. Anxiety encompasses worry, concern, or fear. It reflects uncertainty about the future faced by employees who may lack the necessary education, skills, or expertise to engage with modern technologies. Moreover, given that many employees have been in the workforce for many years or even decades, they may find it challenging to adopt innovations and technologies, leading to increased anxiety about their ability to adapt.

Furthermore, it is possible that some employees started with excitement and, given space to reflect, slowly edged towards fear and anxiety. Similarly, some may have started with anxiety or worry about the change and, when given more information and training, became excited once they could see all the possibilities that the technology offers. Participant [A9] said,

"Excitement brings innovations for me because I see new things happening. New things bring new opportunities to explore. New technologies mean new ways of doing things and new outcomes." This is contrary to feeling pressured, anxious, uncomfortable or tense at work, which can lead to worries and concerns about the future. While there was an acknowledgement by Participant [B5] that the new technology has improved the automation of tasks and provided skill upgrades, Participant [D3] notes there were still some negative feelings about learning and adjusting to new ways or processes of doing things due to the introduction of innovative technologies.

Further cross-case analysis revealed varied relationships among the themes across the cases. Employees enthusiastic about the new technologies did not perceive the increased tasks as burdensome; conversely, those who experienced fear or anxiety regarding the technology updates tended to view any additional responsibilities as an increased workload. Consistent communication and information sharing are essential for this latter group to alleviate their fears and anxieties. This sentiment is echoed by Participant [B3], who stated, "Some complained of an increase in workload when the recent changes were implemented; however, I believe this situation could have been better addressed by engaging this group of employees and reassuring them. Such an approach could significantly help them embrace the changes more fully." Additionally, addressing the complaints of workload increase could be enhanced through training, which would help employees understand the full functionalities of the newly implemented technology. This newfound awareness would likely contribute to a reduction in their fear and anxiety.

5.5.2 Leadership style

The nature of leadership in different departments can help explain why some employees feel enthusiastic about recent changes while others experience fear or anxiety. Confident leaders are approachable and maintain an open-door policy, encouraging open communication among team members. This environment can alleviate anxious employees' concerns, especially when their managers ensure effective communication, provide timely updates and offer adequate training. Participant [D3] highlighted that the style and consistency of leadership play a crucial role in creating an atmosphere of openness and learning. This approach helps

employees feel less apprehensive about changes and more confident approaching leaders at any level or time. A solid support strategy includes regularly scheduling meetings with staff and providing training in areas where employees may lack proficiency. Offering this support on multiple occasions can significantly ease employees' fears.

5.5.3 Lack of readiness/management of training from the cases

There was a broad consensus among the officers that, while ADP had adequately prepared for the change, its preparations were insufficient due to a notable lack of officer engagement during the crucial pre-implementation phase. This was considered a significant oversight, as involving the officers could have greatly enhanced the process. The training and communication processes could have been managed more strategically across various tiers of the organisation, facilitating a smoother and more effective implementation of the new systems and processes.

Participants unanimously agreed that ADP had commendably planned for the implementation phase itself, ensuring that the rollout aligned with the strategic objectives the Ministry of Interior set forth. This alignment was recognised as a positive aspect of their planning. However, the frustration expressed by participants in the research largely stemmed from the absence of a comprehensive training and capability plan. There was a clear sense that this brought a misalignment between the training pack and the relevant training received. Additionally, participants emphasised the need for an effective communication strategy that would provide crucial information and establish a robust feedback loop. This feedback mechanism was essential for addressing emerging concerns and ensuring that officers felt supported throughout the transitional period. The lack of structured communication and feedback was recognised as a barrier to fully realising the benefits of the new implementation, leading to feelings of disenfranchisement among the officers involved.

A recurring theme from this study is the perception that a thorough readiness assessment was not conducted before implementation. Participant [A4] noted, “ADP is committed to harnessing the best technology for the people and officers. However, there is a greater need to evaluate available resources and assess our readiness for change. Officers must often undergo

new training and learn to utilise these advanced and beneficial technologies. The frustration arises from the apparent lack of a thorough assessment regarding how a new system may impact officers' current work requirements and the management of the training regimen." Participant [B5] remarked that there seemed to be insufficient evaluation of the technical skills and knowledge of employees who would utilise the technology and its support. This highlights a disconnect between thoroughly assessing an organisation's readiness and its ability to adopt and integrate new technology. Participant [C3] also pointed out that while the large-scale implementation of new systems across various departments improved usability, it also introduced unexpected challenges regarding the availability of on-demand support.

5.5.4 Further cross-case analysis propositions and moderation variables

The researcher explored the data set further to identify additional patterns that might provide insight into the varying responses observed in different cases. The subsequent section focuses on examining whether age influenced employees' responses. Additionally, this section investigates how other variables in the study may have moderated the levels of anxiety experienced by participants.

5.5.4.1 Age variables

Table 11 and Figure 15 shows that the researcher examined initial data to understand participants' views on the implementation. Figure 16 was proposed based on this data, followed by a subsequent discussion.

Response	**Age**	Population
Excitement about change	**20-30**	10
Excitement about productivity	**30-35**	12
Anxiety	**36-45**	13
Workload	**46-60**	5

Table 11 Overall response for cross-analysis

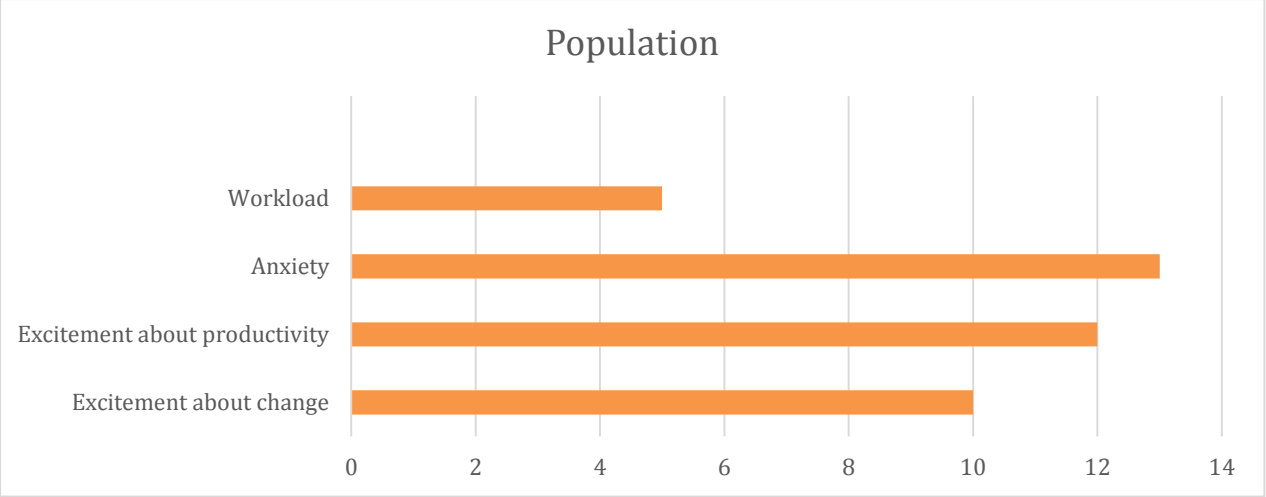


FIGURE 15 OVERALL RESPONSE FOR CROSS-ANALYSIS

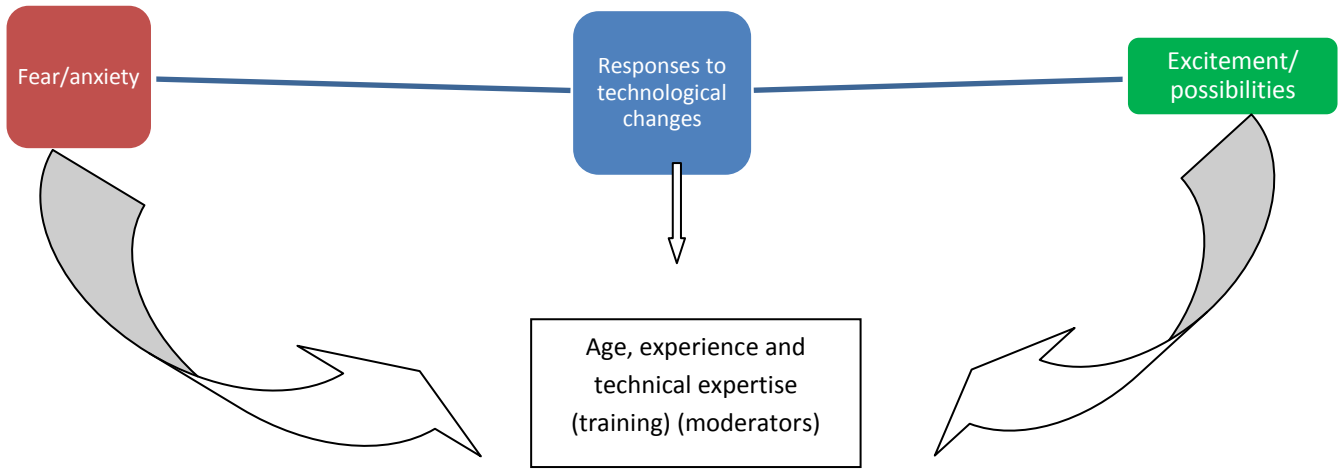


FIGURE 16 THE IMPACT OF AGE, EXPERIENCE AND TECHNICAL EXPERTISE

Age was a significant factor in how personnel responded to the change. Participant [C2] opined, "It is not easy learning new ways or methods of doing things at this stage of my life and career, so you can understand my fear regarding new technologies." In other words, this participant felt it was not worthwhile, especially to learn high-level technological applications at this point in their career. The analysis also indicates that participants with the organisation

for less than ten years expressed enthusiasm about the upcoming changes. In contrast, those who had been there for over a decade exhibited anxiety. The complex interplay of previous experiences significantly influences employee attitudes toward change, with variations that are unique to each individual. Employees with longer tenures at ADP have experienced multiple technological implementations and diverse training programs. Consequently, their resistance or apprehension is not necessarily rooted in a lack of competence but may stem from a "mental stress" associated with undergoing another implementation process. Participant [C7] highlighted the excitement around implementing new technologies, noting their potential to enhance efficiency. In contrast, Participant [D5] expressed caution, stating that while they did not doubt the new system's benefits regarding upgrades and improved response rates, they were apprehensive about the extensive time and effort required and were unwilling to engage in the process.

Age plays a significant role in shaping individuals' reactions to change. While some view change as exciting, others may be more apathetic. This indicates that age can trigger varying responses to change. Additionally, the continuously evolving technological landscape often creates a gap between employees' skills and those needed for success in a technology-driven workplace. ADP might have navigated this challenge more effectively if its training programs had been thoughtfully designed to accommodate different levels of competence. Participant [D1] noted, "The entire process would have been significantly improved if it had been tailored to meet the different needs of end users." This statement highlights the importance of personalised training, which could have alleviated some of the anxiety and resistance associated with change.

5.5.4.2 Anxiety and Job Security Moderated by Other Factors

Through a detailed examination of the case analyses, particularly the insights drawn from cases 1 and 2, it becomes increasingly clear that fear and anxiety surrounding organisational change played a critical role in influencing the implementation process. There are possibilities that, as anxiety levels among officers increased, a corresponding rise in perceived resistance to change emerged, notably due to the anticipation of an increased

workload. Initially, this could have heightened anxiety negatively and impacted the implementation process, creating a challenging environment for the officers involved.

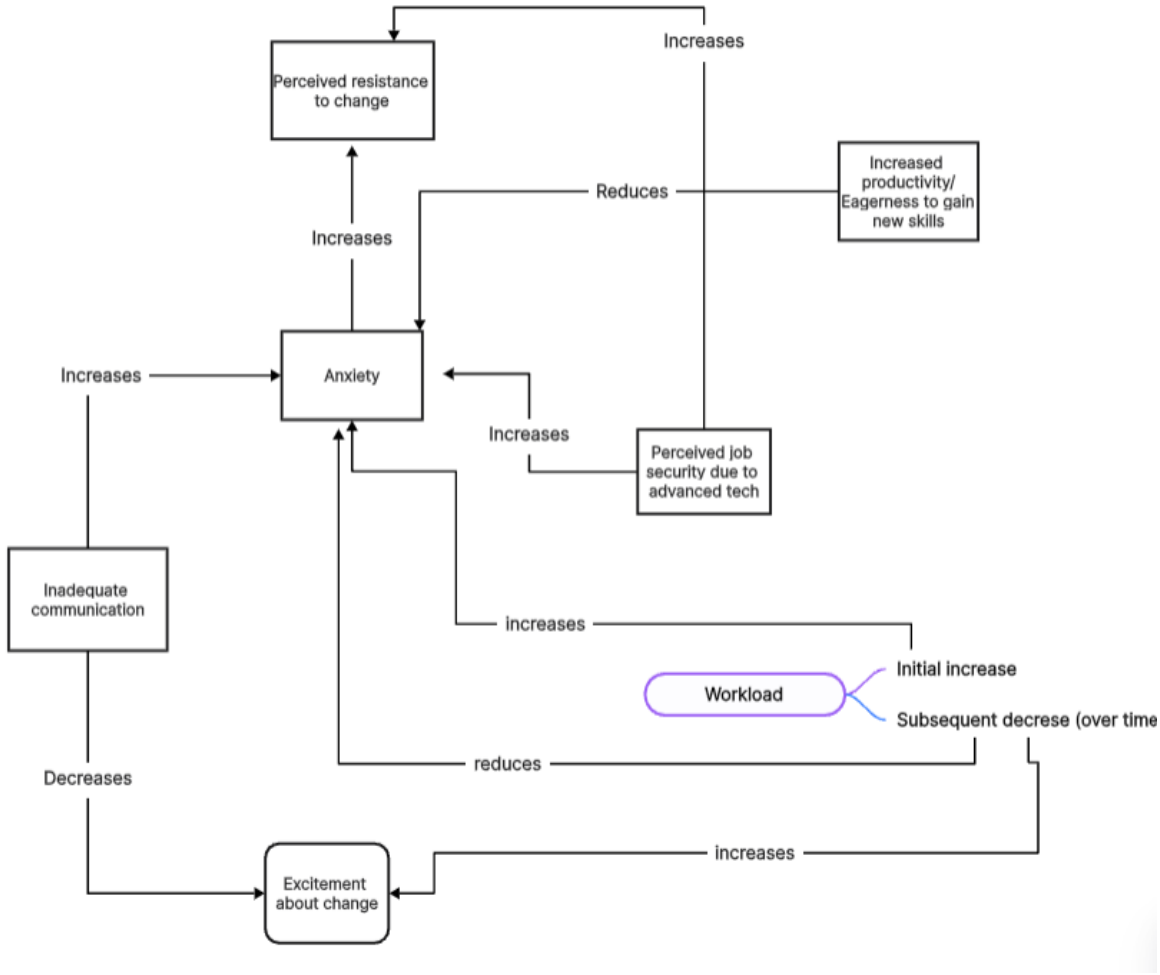


Figure 17 Anxiety and Job security relationship with other factors

Figure 17 illustrates and analyses the interplay between these factors across both cases to enhance understanding. The diagram highlights a crucial point: as anxiety levels among officers increased, a corresponding rise in perceived resistance to change emerged, primarily due to the anticipation of a more significant workload. Initially, this heightened anxiety negatively affected the implementation process, creating a challenging environment for the involved officers.

Interestingly, the initial resistance could be counterbalanced by a perception of enhanced productivity and an eagerness among the officers to develop new skills. These positive perspectives and aspirations mitigated anxiety levels during the implementation phase, suggesting that a sense of growth and opportunity can help alleviate some of the pressures associated with change. As time progressed, a noticeable reduction in the workload—stemming from the newfound efficiencies—began to cultivate a sense of excitement and optimism regarding the change initiative. This shift contributed to a further decline in anxiety levels as officers started to embrace the change rather than resist it. However, this new enthusiasm brought about a different set of concerns. Although the workload decreased, fears related to job security surfaced, primarily due to a lack of clear communication regarding the changes and their implications for roles within the organisation. This aspect underscores an important lesson: Without effective communication strategies, the anxieties faced by officers may worsen.

Insufficient communication could have played a pivotal role in exacerbating the officers' anxiety, revealing a gap that could have been bridged through more transparent dialogue and reassurance. This points to the critical importance of implementing robust and consistent communication channels when managing change initiatives, as it is vital for addressing fears and fostering a more positive reception to change among all stakeholders. Overall, the experiences described in these cases underline the necessity of prioritising communication to navigate the complexities of change management effectively.

5.5.4.3 Culture as a unifying factor

Organisation's effectiveness is greatly influenced by its culture, leadership, and change management practices. Recognising that organisational culture can determine success and the capacity to adapt to change is essential. Change is necessary for the evolution of culture, the realignment of leadership strategies, and the improvement of operational practices to meet emerging demands and challenges. Effective organisational change management involves implementing new processes or structures and the necessary cultural and behavioural shifts for successful adaptation.

5.5.4.4 Impact of leadership and culture of change on technological change

A key emerging theme from the cross-case analysis is that participants largely agree that leadership in ADP has steered the organisation in the right strategic direction and positioned the police as a leading voice in adopting advanced technologies. This has fostered an appropriate culture, establishing an expectation for new tools within the organisation. Most participants confirmed that the culture within ADP has been shaped by the Ministry of Interior's strategic plan and vision. Participant [B5] emphasised that the prevailing police culture in ADP is positive towards initiatives and change. The UAE has been on the front foot in hosting a technology summit, and ADP has been a significant beneficiary of accessing new tools before they are implemented elsewhere.

There is a perceived culture within ADP that continuous investment in technology is non-negotiable (A7). Participant [B6] remarked, "ADP has strong leaders committed to a progressive and modern organisation. However, there is a greater need for a cohesive implementation plan that integrates all key components." Participant [D5] observed that we have embraced a culture of change and are constantly aware that ADP is proactive with technology. However, getting the most out of these tools requires aligning the tools and capabilities within the organisation. Participant [B2] stated that there should be a rethink of the current strategy because whilst ADP has heavily invested in different applications, sometimes it does not translate in consistently good performance. B5 and A3 both agree that we are not often guided by the various tools available and that using these technologies depends on users' confidence. Consequently, officers who are more skilled in using them will perform better, and vice versa.

5.6 Cross-case summary

Several cases highlighted common factors across departments, and a deeper exploration of these revealed similarities and differences. For instance, the guards and the establishment department are responsible for building maintenance and event management. Some employees within this department expressed worries about job security. While the demand for personnel in these roles remains high, there is significant concern that technological

advancements could streamline processes and reduce staff numbers. It is crucial to emphasise that the likely outcome is redeployment to different roles rather than outright job loss. Nonetheless, these concerns are valid as employees may be assigned to less desirable positions or assigned duties they do not enjoy.

Analysis of employee feedback suggests that the increased need for collaboration between departments and branches inadvertently heightened the workload. Participant [D2] noted that this necessity for greater cooperation resulted in an uptick in meetings, which often took longer. Additionally, the varying stages of technological adaptation among employees meant that a significant portion of the meeting was dedicated to supporting struggling people. The Department of Policing Operations offers various services, including crime scene support; however, many entry-level employees find it challenging to access critical communication content. Shift patterns may cause some employees to miss important information, exacerbating this issue. Additionally, the department's geographical distribution across a relatively large area complicates establishing a cohesive communication system. Similarly, security and port operations face comparable challenges due to their widespread distribution.

Training, information sharing, and communication are essential to any change initiative. The ADP has developed a core strategic plan, directed by the Abu Dhabi government, that outlines a technological roadmap for the next 10 to 20 years. However, this plan may not have been translated into operational terms that employees can easily understand. While training has effectively reduced resistance to change, the underlying reasons for such resistance can be subjective, influenced by personal history, current life circumstances, and varying levels of access to training programs.

Employees stationed in various branches have encountered significant challenges attending training sessions and workshops held at the organisation's headquarters. Participant [B3] articulated that "for some of us working outside Abu Dhabi, I can say that the amount of training was not the same for all the workers. More employees still require training to ensure they perform work easily, which may suggest the need for continuous training opportunities to improve competence and confidence in using the new system." This statement underscores

the necessity of equitable access to training across different locations to enhance employee performance and adaptability to new systems.

Moreover, the findings indicate variability in communication dynamics across departments, which may be influenced by factors such as the limited number of staff, the availability of senior personnel, employees possessing higher educational qualifications, fewer shift patterns, and less geographically dispersed teams. These factors foster a collaborative environment conducive to effective communication. However, it was also revealed that certain managers experience deficiencies in establishing clear communication channels with employees. This lack of effective communication could impede efforts to mitigate resistance to technological change within their respective departments. Establishing robust communication channels is particularly critical when adequate training is absent, preventing employees from adequately addressing their technological needs. Participant [C4] emphasised this concern, stating, “There are instances where means or line of communicating to our superior regarding our challenges on some of the innovations being implemented and suggesting solutions on type of training that could help. This needs to be addressed.”

Establishing effective communication channels within organisations is significantly hindered by financial constraints and the requisite additional efforts for training and retraining personnel. Participant [B9] stated, "You must accept that adopting technological change comes with a high initial cost. There is also a growing cost associated with the change process, including expenditures for training and retraining and the considerable effort needed to organise such training." Consequently, it can be inferred that the challenges surrounding retraining and the financial implications are critical factors contributing to the observed resistance to technological change within the organisation, particularly when personnel are expected to allocate time for training amidst their demanding schedules.

Furthermore, it is well established that effective communication is essential across all organisational departments, with particular emphasis on communication with management. Nonetheless, the cross-case analysis identified additional challenges arising from structural issues within the organisation, the geographical distribution of departments, and the pervasive impact of bureaucratic organisational culture. Additionally, managers must exercise

heightened vigilance regarding the diffusion of communication during technological transitions, as the degree of communication dispersion varies among departments. Participant [A1] emphasised, "Managers must not merely rely on issuing directives, official memos, or letters on departmental notice boards; they should engage directly with employees in certain contexts to enhance receptivity."

While organisational leaders demonstrated a robust commitment to change and took ownership of the transformation process, this engagement was more strategic than operational. The implementation of a top-down approach, while prevalent, may not represent the most effective methodology, as it potentially undermines decentralised decision-making and diminishes the willingness among personnel to take ownership of change initiatives. At times, personnel appear to await subsequent requirements rather than proactively fulfilling their existing obligations, which has resulted in communication gaps and engendered uncertainty regarding some implementation initiatives. Participant [B3] noted that management occasionally exhibits an autocratic demeanour, demonstrating insufficient enthusiasm for the change initiative, ultimately hampers the excitement surrounding the organisational changes.

5.7 Conclusion

Research indicates that age plays a significant role in the varying degrees of resistance to change experienced by officers within the Abu Dhabi Police (ADP). Oreg's (2006) study delineates three dimensions of resistance to change: behavioural resistance, characterised by a desire for stability; affective resistance, which pertains to short-term emotional responses to change; and cognitive rigidity, reflecting an unwillingness to embrace new approaches due to prior experiences. It can be posited that officers with longer tenures in ADP may exhibit greater cognitive rigidity compared to their less experienced counterparts, who may instead display a blend of affective and behavioural resistance to change.

5.7.1 Officers' involvement in managing change

While involvement may have been referenced in case 2, it could have positively influenced excitement, alleviated anxieties, improved workload management, and enhanced communication. The role of officers extends beyond merely implementing changes; it encompasses leading and facilitating the transition process while fostering a higher level of participation. Officers typically clarify the rationale behind the change, offer insights from within the team, address concerns, and ensure that all stakeholders are acquainted with the objectives and anticipated outcomes of the project. Furthermore, their involvement at all levels is crucial for maintaining high morale and motivation during change, providing the necessary support and guidance to help everyone navigate the transition effectively. This degree of engagement can contribute to a more favourable and prosperous change management process. A study by Al-Ketbi (2018) and Al-Zaabi et al. (2012) on adopting the e-government system by the ADP revealed that the organisation reaped numerous benefits and established best practices to enhance the efficiency and effectiveness of information analysis. This included managing substantial volumes of diverse data and improving the understanding of user security requirements.

5.7.2 Need for a cohesive plan

Almansoori's (2020) investigation into the UAE police force underscores the presence of change initiatives designed to enhance operational efficiency. Nonetheless, the study points out that certain aspects of change management are frequently executed without a clear purpose and are inadequately planned. The author advocates for organisations such as ADP to establish a well-defined strategy for managing resistance, communication, and cultivating a robust organisational culture. Furthermore, there is a need to refine change initiatives and improve training and preparedness for change to ensure the sustainability of transformation processes. The findings from the current study indicate that although officers' varying ages elicit mixed reactions, this diversity does not adversely affect their perceptions of their capacity to adapt; instead, it highlights the importance of scheduling training programs to accommodate differing expectations. Key factors shaping strategic change management include communication, training, resilience, and commitment to change, all of which are

integral to informing effective change management practices, as evidenced by the research findings.

5.7.3 Limitation of Cross-case Analysis

The cross-case analysis presents several significant limitations. Technology implementation may have affected job performance by reducing human error, enhancing productivity, and expediting communication. However, assessing the impact of these changes proves challenging due to the absence of verifiable records, such as performance data for individuals and departments before and after the implementation. Additionally, estimating the learning costs associated with recent technological advancements and their progression over time presents further complications.

Concerning communication, the individuals leading the initiative at the departmental level likely played a pivotal role. Nonetheless, in the absence of access to specific circumstances and resources allocated to various departments during the implementation process, it becomes difficult to ascertain the extent to which these key individuals influenced employees' perceptions of the change and the nature of any intrinsic or extrinsic motivation that may have contributed to enhanced performance.

Establishing clear causal links or relationships between cases is challenging due to the varied experiences of different officers across distinct departments. However, the author has made significant efforts to identify patterns and explore moderating variables, enabling a deeper research analysis.

5.8 Follow-up interview

To answer the research question on lessons learnt and how leadership could have dealt with the emerging themes from the cases and the subsequent cross-case analysis, a follow-up interview was conducted, and the findings are presented below. Initially, six senior officers from the different departments in the ADP were considered for the follow-up interview. However, only two responded positively and eventually participated in the process. Eight

follow-up questions ranged from leadership involvement and communication to these senior officers. These questions revolved around some of the emerging themes from the cross-case analysis. The following are the corresponding responses.

The initial inquiry investigated the perceptions of senior officers regarding leadership and communication within the ADP and the findings of this research study. The primary emphasis was on elucidating the relationship between leadership communication and the management of the change process. Participant A posited that leadership within the police force has evolved significantly over time, mainly due to the collaborative partnerships established with other police agencies and participation in the ADP Leadership Elite Program, which offers exposure to best practices. Nevertheless, there was an acknowledgement that during the implementation phase, a considerable amount of information remained confined to upper management, failing to disseminate effectively to lower ranks. This information disparity adversely impacted officers' access to critical data necessary for their roles and was inconsistent with officers' responses.

Participant A emphasised that a more coordinated communication strategy could have fostered an environment where officers felt comfortable posing questions about uncertainties, with leaders readily available to provide clarifications. While it was acknowledged that leadership demonstrated a commitment to implement changes effectively, there was a tendency to overestimate the impact of the organisational communication strategy in reaching officers situated in various locations. Both participants agreed that, in a rapidly evolving organisation like the ADP, it is crucial to continually reinforce the objectives of the implementation, highlighting the necessity for change and the accompanying urgency. Officers at all levels must clearly understand the essential imperatives driving the transformation and the criteria by which progress will be assessed. Furthermore, it was recognised that leadership presence across multiple organisational tiers could significantly enhance communication effectiveness. Leaders are expected to exemplify the changes they promote, as followers often derive the importance of these changes from the behaviours of their leaders.

The subsequent query examined the leadership's awareness of communication challenges and alternative strategies that could have been employed to address these issues. Participant B highlighted the prevailing assumption that the existing communication strategy would suffice for all officers to grasp the implementation process. In contrast, Participant A suggested that more drop-in sessions or monthly planned meetings would have bridged communication gaps throughout the implementation phase. Such initiatives are crucial, as they help convey to officers that leaders are engaged and supportive throughout the process at various times. It was noted that leaders typically concentrate on what necessitates change, often allocating insufficient attention to the methodology of implementing those changes. This oversight concerning the "how" of organisational transformation poses significant risks, leading to the emergence of disparate realities during the change process. Comprehensive transformational change must be meticulously scoped and resourced, with a paramount focus on integration; each initiative must be interconnected with others to ensure coherence and effectiveness. Participants acknowledge the need to ensure that communication cascades from top to bottom in a timely and efficient manner. Participant A acknowledged improvements in communication but proposed that further efforts could be made to leverage diverse communication tools to engage officers across various hierarchical levels, thereby fostering greater involvement in the change process. They posited that alternative tools might have facilitated communication with the appropriate audience more effectively. Identifying the specific impediments to effective communication at the outset of the implementation proved challenging. Nevertheless, it was suggested that officers could have articulated their concerns more openly if afforded the opportunity.

The next inquiry aimed to identify alternative measures that could enhance the visibility of the implementation process. Recognising that visual learning serves as an essential modality for understanding information; this research sought to explore the proposition that a coherent communication strategy would significantly elevate the visibility of the implementation efforts. Participant A noted that practical visualisation tools were utilised during the change process and emphasised aligning these initiatives with the broader Abu Dhabi strategic plan. However, at the organisational level, there is potential for investing more effort in curating

content to optimise the visibility of proposed changes. For instance, establishing a progress tracker to reflect the advancement of various departments or locations could foster a sense of healthy competition.

Participant B observed that this opportunity could have been better leveraged to advance the implementation agenda and highlight the organisation's progress toward its objectives. An effective communication strategy may significantly enhance the visibility of changes and assist individuals in understanding the next steps. Participant B proposed conducting weekly or quarterly check-in meetings during which senior officers could discuss the changes and present data employing practical visualisation tools, thereby facilitating the monitoring of project outcomes. Participant A further suggested that a timeline could have been employed to celebrate significant milestones throughout the implementation journey. He stated, "Having a visual representation of our progress is beneficial because it clarifies our current standing, delineates what remains to be accomplished, and outlines each individual's role in the process." Despite the substantial information regarding the changes, officers may still experience confusion about the progress. The participants acknowledged the need for improvement, noting that the visibility of targets and outcomes had increased following the implementation, further aiding officers in understanding precisely what needed to be accomplished.

The subsequent inquiry focused on concerns expressed by certain officers regarding the increased workload associated with overtime during the transitional phase. A critical analysis of how this additional workload could have been managed more effectively was deemed necessary. Participant A asserted that leadership should have adopted a more proactive approach to anticipate this challenge and implement a contingency plan to mitigate its impact. He articulated, "It is essential to solicit feedback from the affected personnel whenever a change is implemented to ensure that their concerns regarding anticipated workloads are adequately addressed." In parallel, Participant B acknowledged, "I recognise that some individuals faced an unintentional increase in workload, which was not a deliberate outcome. It is reasonable to expect that acclimatisation to the new system may initially prolong workflow; however, as users become more proficient, their workload should ultimately

decrease. The overarching objective of the new system is to enhance performance, efficiency, and effectiveness, thereby empowering individuals to work more effectively." However, given that different officers possess varying levels of experience and expertise, it is unsurprising that there are discrepancies in workload levels. Participant A emphasised the necessity of leveraging available information to expedite decision-making, suggesting, "We could have established a collaborative plan as we approached the live implementation." The participants concurred that workload management was a concern during the initial phase, but it was no longer considered an issue. They collectively emphasised the importance of having a robust technical support team available to assist officers in transitioning to the new system. Participant B advocated for creating a sandbox or beta environment where users could build their confidence in the new system through learning and practice, allowing them to identify any usability bottlenecks during testing.

The next question explored what changes have been made within ADP to promote closer collaboration—a culture of managing change—between officers at various levels to ensure everyone feels psychologically safe and is not afraid to voice concerns. Participant A recalled, "As you know, the culture of the ADP is that of a military organisation, where there is a level of hierarchy. However, we should adopt a better collaborative approach at all levels. We should also promote a culture where officers can effectively voice their concerns." They suggested an anonymous survey allowing staff to express their feedback while raising awareness with senior officers to reassure them that their voices are heard. Participant B stated, "We are becoming more inclusive in providing people access to voice their concerns. Leaders want to listen and know how people feel because they will implement what we are trying to do. Understanding their perspective on how things are going is important." Participant B further believes that fostering an environment where people feel free to express their concerns will enable a culture of faster learning and improvement. They noted that in some departments, teams gather once a month to report on the strategic plan and their progress in achieving goals. While this is a step in the right direction, they believe more must be done.

The research highlighted the significant investment in training opportunities; however, it appears that the execution of this training was not conducted promptly. The researcher aimed to investigate potential improvements and mitigation strategies for future technological implementations. Both participants acknowledged that the training could have been executed more effectively. Although training resources were available, there was a lack of effective communication regarding the timing, resulting in officers missing access to essential training when it was most needed, as noted by Participant A. Additionally, the overwhelming volume of training options made it challenging for officers to discern which modules were most pertinent to their roles. Participant B offered a critical perspective: "We are spending much time creating all the modules relevant to the implementation. One of our challenges was that some training may not have been curated properly. In other words, some training may not be relevant to some people, which creates a challenge of fit—does this training fit what this person needs?" Participant B further proposed the establishment of a training validation committee consisting of department leaders to assess the training modules and ensure they align with the specific needs of personnel. Implementing such a committee could facilitate the customisation of training, thereby maximising its effectiveness for all participants.

The penultimate question of the investigation focused on extracting leadership lessons learned during the change process and identifying how leadership could have played a more pivotal role. In hindsight, it is crucial to ensure that change is implemented effectively across the strategic, operational, and executive levels, as highlighted by Participant A. Participant B elaborated on this point, emphasising that "it is important that what we have learnt is that the people will execute the strategy. They need a strong voice and be heard at the start to maximise our output. That way, we can work together to make things work. Otherwise, what will happen is we will have many strategies, but those strategies may fail because we have not included the right people at various levels." A feedback loop system was identified as essential for monitoring the implementation process and determining necessary adjustments to ensure success and continuous improvement. Furthermore, Participant B suggested a comprehensive risk assessment and thorough documentation of the change process should

have been conducted at all levels to identify potential risks and outline requisite modifications.

Finally, the participants reflected on the role of leadership during the change implementation. Participant A posited that leadership should be more actively involved throughout the process—before, during, and after implementation. Continuous engagement across all levels is critical for ensuring the successful execution and sustainability of change initiatives. Participant B echoed this sentiment, advocating for more fabulous leadership involvement, particularly from middle leaders who should have acted as vigorous advocates for the change. Officers passionate about the initiative should serve as ambassadors, effectively conveying the message to the broader community to foster engagement. Both participants concurred that leadership entails active participation in the change process, as demonstrating unity and shared commitment can enhance psychological safety for individuals involved.

5.9 Chapter conclusion

This chapter has highlighted the key emergent themes common to the case departments—guards and establishment (case one), policing operations (case two), central operations (case three), and security and port operations (case four)—and has presented the findings from a cross-case analysis of these four departments. Three primary themes emerged from the study: excitement and fear, increased workload, and information sharing. These themes correspond to the employees' reactions to technological changes, the factors driving resistance, and the measures needed to address that resistance. The theme of information sharing includes both training and communication aspects. The cross-case analyses underscored the varying relationships among the emerging themes, which may be essential for the model of technological changes proposed in the subsequent chapter of this study.

Chapter 6: Conclusions

6.1 Introduction

The focus of this research was the assessment of technological change management within the Abu Dhabi Police. This continues to be acknowledged as a requirement for success and survival in today's environment, which is dynamic and endlessly evolving (Luecke, 2003). The study examined the concept of technological changes, responses to technological changes, factors contributing to resistance and the management of resistance to technological changes. This chapter concludes the thesis and presents an overview of how the research questions were answered. It presents a summary of the study's findings and the implications of those findings. Furthermore, it presents the research contributions from theoretical and practitioner perspectives. A new technological framework has been developed as a guide for effective technological change management in police organisations, as described in this chapter. Finally, the study concludes with recommendations for further research.

6.2 Research focus

Rising concerns over the increasing security challenges facing the United Arab Emirates drove the country to redefine its security architecture (Brumger, 2012; Chandra et al., 2019). These concerns triggered the implementation of innovative technologies that have helped improve the city's security architecture and highlight the importance of Abu Dhabi as a strategic partner in promoting law and order, safety, and peace (Al-Shehhi, 2014).

Over the years, successive plans have been initiated by the government to professionalise the police system and improve its efficiency and effectiveness in carrying out these responsibilities. Introducing technological initiatives is a fundamental aspect of these plans to redefine the country's security structure. Technology adoption is a critical change, requiring leadership to take a holistic approach to maximise success (Soltani et al., 2006).

The ADP has implemented crucial technological and infrastructural changes, and the organisation's adoption of different technologies has produced more significant opportunities to realise a better and more secure society. However, research has shown that the implementation did not go according to plan. Employee perception and feedback were not adequately considered in the early stages of implementation, which has led to some pushback and delayed benefits.

This study examined the concept of organisational change in the Abu Dhabi Police concerning adopting technological infrastructure. It proposes understanding the employees' responses to technological changes to enable effective change management. Therefore, the research questions this study addressed were as follows:

- What are the responses of employees of the Abu Dhabi Police to technological changes in the organisation?
- What are the factors driving resistance to technological changes in the organisation?
- What measures are required to address resistance to technological changes to achieve effective technological change management in the organisation?
- What are the critical lessons from the implementation process?

As a result, the study specifically evaluated the responses of the employees to the implementation of technological changes in the Abu Dhabi Police, determined the factors responsible for resistance to technological changes in the organisation, identified measures to manage that resistance to achieve effective technological change management in the organisation, reviewed the lessons learned from the process and developed a new conceptual framework for technological change management. The following sections summarise the research questions and next steps.

6.3 RQ1

What are the employees' responses of the Abu Dhabi Police to technological changes in the Abu Dhabi Police Department?

This question relates to how the employees responded to implementing technological changes in their respective departments within the ADP. The research findings showed that employees responded with excitement and fear, the prevalent theme that emerged from the cross-case analysis—the employees' responses to the different technological changes cut across all the case departments.

Most employees responded excitedly, although the findings revealed varied reasons for their excitement across different departments. Specifically, for case one, the excited employees envisioned new opportunities that would come with the changes in learning new practices and skills. Employees in case two were more excited about how their work productivity and performance had improved through the use of the latest technologies and the additional skills they would acquire as implementation proceeded. Employees in case three showed excitement in terms of the general inherent usefulness of technology; those in case four were excited that the technology changes would give them access to increased career possibilities and opportunities.

Excitement as a response to technological changes agrees with the findings in the literature and aligns with the research conceptual framework for this study. The literature review showed that possible reactions to organisational change include cooperation, acceptance and support (Torrington & Weightman, 1994; Watson, 2001), which are synonymous with excitement for change. Khatoon and Farooq (2015) argued that positivity is a possible attitude to change. According to Nadler (1981), people usually maintain a comfortable degree of arousal and excitement when changes are introduced in an organisation. Individuals are likely excited and amenable to changes that agree with their predominant habitual behaviours (Ribeiro & Scapens, 2006).

Similarly, a few employees responded with fear across the departments (except case two). The reason for the fear differed. Some employees, specifically those in case one, expressed

anxiety about losing out because of the technological changes. In contrast, participants in the three instances feared new ways of doing things because they were comfortable with the usual ways. The employees in case four expressed fear that the latest technologies would make them redundant, as they might lack the required education or expertise to administer the changes.

Fear corresponds with the research findings and conceptual framework of this study. The literature review highlights that Watson (2001) indicated that reactions to organisational change might involve reduced contributions, regressive behaviour, minimal effort, intentional mistakes, and protests, all potentially fueled by a fear of change. Evans (2004) noted that a change initiative can evoke frustration and anxiety, driven by fears over losing status, wealth, or power, uncertainties about the future, and conflicting obligations that clash with the change. Oreg (2006) described the feelings experienced by those facing change, including fear, anxiety, or stress, shaped by their views on the change's value, its benefits compared to drawbacks, and the advantages versus harms. People may naturally exhibit intolerance, discomfort, or fear when facing impending change (Yilimaz & Kilicoglu, 2013).

6.4 RQ2

What are the factors driving resistance to technological changes in the organisation?

This question aimed to determine the factors responsible for resistance to technological changes across different departments in the ADP. The research findings revealed that some employees resisted the changes due to workload increases, which was the principal theme that emerged from the cross-case analysis. This factor was shared by employees across all the case departments in the organisation, except for case four. The responses of all the employees who shared workload increase as a factor were similar.

Worries about workload increase ranged from additional processes of confirmation (case one) and several steps for process automation of a system (case two) to more data processing and management (case three). Aside from the prevalent factor of workload increase, other identified factors included poor communication in cases two and four and job security, the

culture of change and loss of power and control in cases one, three and four, respectively. These other factors, except poor communication, agree with the literature review, in which psychological factors (difficulty learning new things, job insecurity and hard work) and management factors (fear of loss of power and work overload; Gabriel & Carr, 2002; Kaila, 2005; Mason, 2002; Oreg, 2003) were identified as instigators of resistance.

The workload increase factor aligns with the literature findings and agrees with the research conceptual framework for this study. The literature review showed that workload directly affects employees' behaviour in enabling organisational change. Kaila (2005) posited that work overload from attending training classes, organising and supervising employee training, and spending extra time at work could lead managers to resist change. Also, considering that changes impact job descriptions and responsibilities, it could produce negative employee responses (Kailash & Thomas, 1998). Gabriel & Carr (2002) cited fear of work overload as a management factor for resistance to change.

Also, job security affects the employees' response as it provides a sense of protection for the employees' jobs. Redesigning the attitude of employees can make the change process more effective, which can help overcome resistance at the ADP. Assuring employment stability for the employees will help them remain calm and not agitated about job loss or a change in position. Since technological changes could cause changes in job designs and responsibilities, allaying the employees' fears about the security of their jobs or providing a model to accommodate them along with the new changes will go a long way in addressing the resistance. Job security gives employees a sense of protection despite technological changes. The fear that layoffs or economic downturns would affect their employment will trigger resistance to changes at work.

Poor communication is another factor that triggers resistance. This can produce misgivings about change (Rick & Jeanenne, 2011). Proper channelled communication is significant in overcoming resistance to technological change. Speaking to employees before and after technological change helps with their emotions, and learning about their viewpoints would help overcome poor communication. This will ensure that employees are adapted

successfully to the change. In addition, effective interaction between management and employees would help resolve issues arising from the change process (Rick & Jeanenne, 2011).

Additional findings from post-data collection and analysis showed that cultural values or beliefs are equally important as they involve how employees think, believe, and value things or situations. Not taking these cultural values or beliefs seriously or ignoring them could cause challenges when implementing change (Al-Abdallah et al., 2023). People will react if their cultural traits are threatened (Paoline et al., 2000). The artistic characteristics of the Middle East differ from those of Western countries, which could impact some organisational changes. According to Althakhri (2008), notable power imbalances, patriarchy, avoidance of uncertainty, and tribalism characterise Arab culture. Additionally, teamwork and the exchange of knowledge and values are essential in the Middle East. Furthermore, Islam enormously impacts the formation of cultural norms, values, and beliefs (Abdulla et al., 2011; Ali et al., 2016). Muslims hold that only God can foresee the future, which may lead to a disregard for long-term planning in the Middle East.

6.5 RQ3

What measures are required to address resistance to technological changes to achieve effective technological change management in the organisation?

This question relates to the measures required for managing resistance to technological changes in the organisation's different departments. The measure identified by the research findings is information sharing. This was the principal theme that emerged from the cross-case analysis. Information sharing has broad similarities across all four cases. The study analysed and defined information sharing to encapsulate training, communication, and continuous engagement and information, as these individual measures share similar descriptions in the responses of the interview participants. This measure was separately identified across all departments.

Training, communication, continuous engagement and information were broadly identified as measures for managing resistance across all four cases. Training and communication appeared together in cases one and two, while training appeared alone in case three. Continuous engagement and information (which was equated to communication) were expressed in case four. Aside from the principal measure of information sharing, other measures identified in the cross-case analysis include leadership, involvement and reward system.

Information sharing as a measure agrees with the literature findings and the conceptual framework for this study. According to the literature review, managing change without consideration for key factors such as communication, training, and leadership will result in resistance to change and ineffective outcomes (Rees & Althakhri, 2008). Organisations can alleviate the worries associated with technological changes by training their employees at various levels and phases (Lanning, 2001). Gotsill and Meryl (2007) expressed that training is the basis for understanding the change and the necessary abilities. Beer et al. (1990) argued that training has the potential to increase commitment when change is implemented quickly. Motivating employees to undertake a change project through adequate training to advance their skills could help them overcome resistance (Dent & Goldberg, 1999). According to Lanning (2001), the primary goal of training is to help individuals understand and accept the change before teaching them how to utilise the new process or technology in application-specific training. Consequently, at least partially, training can help address the user acceptance problem (Siddiqui, 2004).

Regarding communication in managing resistance, Amichai-Hamburger (2001) argued that effective communication is essential when implementing change, as change could result in irrational emotions and inadvertently impact the capacity of an organisation to attain its goals. Communication ensures that team members are aware of and supportive of the organisation's current state and desired future (Clutterbuck & Hirst, 2002). Grabowski and Roberts (1999) posited that communication is crucial to the success of change management, while Milis and Mercken (2002) explained that effective communication is a key factor in lowering resistance to change.

Another critical measure to address resistance to technological changes is leadership. The post-data collection and analysis equally confirmed this. Leadership will help formulate an organisational strategy for technological change in the ADP. It will lead the process to that change by influencing and guiding the employees' specific roles to achieve a shared purpose. Findings showed that the managers significantly affect the success of any technological change in the organisation. Therefore, the leaders must evaluate the defined vision by the relevant team. Leadership is how an individual influences and guides others to do a specific task or reach a shared purpose (Northouse, 2007). Senior and Fleming (2006) argued that leadership influences people to achieve organisational goals.

According to further analysis, stakeholder involvement is another important measure. All relevant stakeholders must be consulted when implementing technological changes in the ADP, as their cooperation and acceptance are needed to overcome any possible resistance. Blank (2013) emphasised that management must consider various stakeholders and circumstances as they progress with their change plans and strategies to meet their desired goals. The stakeholders' inputs are of value as the change affects not only them alone in most instances but also indirectly affects their family and friends.

6.6 RQ4

What are the critical lessons from the implementation process?

The cross-case analysis and follow-up interview introduced critical lessons that formed the basis for the proposed technology change framework recommendations. So, rather than duplicate another summary here, this research question is funnelled through several sections, especially section 6.9.

This section presents a new framework for effective technological change management. The findings from the data analysis were used to develop the new framework, which incorporates all the major themes that emerged from the data analysis findings collected from the interview participants.

Figure 18 presents the technological change framework for effective technological change management. The framework's principle and logical progression is that applying a technological change management model will reduce or eliminate the negative response of fear to technological changes, subsequently reducing or eliminating resistance to technological changes through addressing workload increases, eventually leading to effective technological change management.

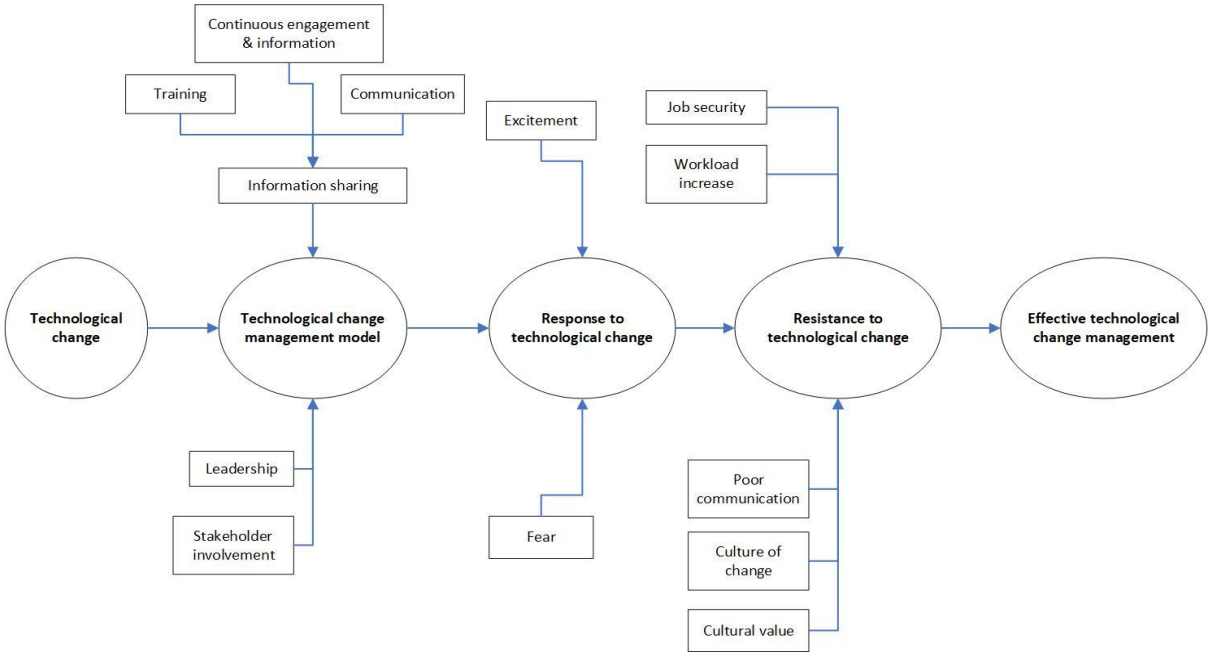


FIGURE 18 TECHNOLOGICAL CHANGE FRAMEWORK

The major themes of the study formed the building blocks for the development of the technological change framework. The first block of the framework relates to the concept of technological changes investigated by this study. The second block relates to the measures to manage resistance to technological changes. Those measures (training, communication, and continuous engagement and information) are encapsulated within information sharing.

The third block of the framework relates to how the employees responded to the technological changes within the organisation. The responses (themes) that emerged included excitement and fear. For case one, the enthusiasm was primarily about new opportunities to

learn new practices and skills, while those in case two were more excited about their work productivity. Case three showed excitement regarding the usefulness of technology. Case four participants were excited that the technology changes would open doors and present new possibilities at work.

The fourth block relates to the factors responsible for organisational resistance to technological changes. According to the central theme that emerged, the principal factor was workload increase, which was shared across all the case departments in the organisation, except for case four. Workload increase entailed additional processes of confirmation in case one, several steps for process automation of a system in case two, and more data processing and management in case three. Also, aside from the central theme of workload increase, other factors identified separately within the different cases include poor communication, job security, culture of change and loss of power and control. Poor communication emerged in cases two and four, while job security, the culture of change and loss of power and control emerged individually in cases one, three and four. The last block of the framework is effective technological change management, which was the overall goal. Additional findings revealed cultural values or beliefs. This is expected to influence organisational change management, as the UAE and other countries have unique cultural diversity and religion.

The new technological framework is interrelated with the study's conceptual framework. Table 12 presents an overview of both.

Framework blocks	**Technological framework**		**Research conceptual framework**
Responses to change	Major theme	• Excitement	• Cooperation • Acceptance • Support
		• Fear	• Loss of interest • Apathy • Reduced contribution • Regressive behaviour • Minimal work

			• Intentional errors • Protest
Resistance to changes	Major theme	• Workload increase	• Work overload
	Other themes (within the case)	• Job security • Culture of change • Poor communication • Loss of power and control	• Job security • Difficulty learning new things • Fear of loss of power
Measures for managing resistance	Major theme	• Information sharing (training, communication, and continuous engagement and information)	• Communication • Training
	Other themes (within the case)	• **Leadership** • **Reward system** • **Involvement**	• **Leadership** • **Organisational culture**

Table 12 Overview of the technological change framework and the research conceptual framework

Comparing the new technological framework to the conceptual framework reveals a significant alignment. Regarding employees' responses to technological changes, the excitement from the study findings agrees with the response elements of cooperation, acceptance, and support in the research conceptual framework. In contrast, fear agrees with loss of interest, apathy, reduced contribution, regressive behaviour, minimal work, intentional errors, and protest.

Regarding the factors responsible for resistance to technological changes, the main factor of increased workload in the study findings aligns with the corresponding factor of work overload in the research conceptual framework. Similarly, the other aspects of job security, the culture of change, and the loss of power and control (excluding poor communication) identified within the cases, as well as the cultural value (from post-data analysis), correspond with the elements of job security, the difficulty of learning new things, the fear of losing power, and cultural value respectively, in the research conceptual framework. Poor

communication was an exception, possibly because security organisations can be rigid and primarily operate by issuing orders and instructions.

Furthermore, regarding measures for managing resistance to technological changes, the primary measure of information sharing- encompassing training, communication, and ongoing engagement- found in the study aligns with the relevant measures of training and communication in the research conceptual framework.

This study highlights that the culture of change is a crucial element of the conceptual framework. It has also demonstrated that, although officers have embraced this culture, there is a pressing need to enhance communication and ensure that training is tailored, relevant, and timely. While it is evident that Abu Dhabi Police has a unique culture similar to that of other Gulf countries, the research shows that Abu Dhabi's implementation of cutting-edge technology has opened the organisation as a learning organisation, similar to police organisations in Western countries. However, the ultimate challenge is finding a balance between integrating advanced technology and preserving its unique culture. Engaging officers in the implementation process is vital for obtaining feedback that improves the system.

As for the other measures of leadership, stakeholder involvement, and reward systems identified in the cases, leadership and stakeholder involvement appear in both frameworks, while reward systems do not correspond with the research conceptual framework.

6.7 Contribution to theory and knowledge

The theoretical implications of this study are the connections between the critical knowledge areas of response to change, factors driving resistance to change and change management measures. This study contributes to the academic fields of reactions to change and change management, which are treated as stand-alone subjects in many publications. It also extends the body of literature and connects responses to change and change management outcomes, thereby defining an underexplored research territory.

The study provided insights into resistance to technological changes and effective change management in the context of a unique organisational culture (Goodstein & Burke, 1997; Gotsill & Meryl, 2007; Kanji & Moura, 2003; Lycke, 2003; Whelan-Berry & Somerville, 2010). The ADP is a security-related public sector organisation with an organisational culture that involves high rigidity, tight controls and solidarity, and this significantly influences the ability of the organisation to quickly implement change (Paoline et al., 2000; Robbins, 2003). This uniqueness challenges how organisational change is introduced, received, responded to and implemented at the ADP.

This study contributed to the body of knowledge by establishing factors specific to implementing new technologies and innovations in an organisation in terms of response to technological change, factors responsible for resistance and the management of resistance to technological change. These findings are specific to technological changes and may not apply to the general organisational change factors. Significantly, a new technological framework was developed to understand the concept of technological change management and manage employees' resistance to technological change, which will result in effective technological change management in organisations.

The following are this study's significance and specific contributions to theory, particularly concerning the themes that emerged from the data analysis.

1. The study expanded the body of literature on the importance of training in avoiding or managing resistance to organisational change, particularly technological changes in a hierarchical system characterised by minimal delegation of authority and command-and-control decision-making. The study revealed that end-users of technological changes require detailed and continuous training to function effectively and leverage the technologies to the organisation's advantage. Training helps individuals understand the benefits, components, and functionality of new technology being implemented, thereby boosting their confidence as technology users in the process (Popoli, 2017). It should receive sufficient attention and be prioritised in a change project, rather than treated as an afterthought. Training must continue throughout the implementation period of technological changes. Additionally, challenges such as travel distance for training and

travel time can hinder training effectiveness. It is crucial to prioritise and integrate training into implementing new technology (Xanthopoulou et al., 2022).

2. The study expresses that communication is a significant and effective measure in overcoming resistance to technological change. Consistency of communication effectively shapes people's perspective about change (Al-Dossari, 2016). The relevant users of new technologies need information from management, and getting such information makes the users of such technologies feel important and valuable. Communicating is fundamental, as people affected by the change feel respected for properly communicating on the technological changes and their input is sought to produce successful implementation (Errida & Lotfi, 2021).
3. The study provided insights into leadership concerning effective technological change management. Leaders and managers significantly impact the success of technological changes (Fusch et al., 2020). Effective leaders help provide direction and instil confidence in people during uncertain times like the change process. It is pivotal in addressing resistance when implementing changes (Zel, 2016). Also, leaders must be ready to lead and get the trust of those they lead. With this, accepting a change becomes effortless and smooth. Leadership requires skills in carrying out tasks and supervising subordinates effectively.
4. The study contributed to knowledge on stakeholder involvement by establishing that mobilising people early from the planning stage is crucial to the success of new technology implementation. Enabling people to provide input into any technological change brings out the best in them (Freudenreich et al., 2020).
5. This research greatly enriches the current literature by investigating the intricate effects of age and experience on two key dimensions: the intentions to use technology and the actual implementation of technology in different contexts. By analysing the influence of varying age groups and levels of experience on people's willingness to adopt new technologies and their real-world interactions with these tools, this study offers thorough insight into the factors motivating technology usage among diverse demographic groups.
6. This research study highlights the importance of understanding how demographic factors and organisational levels impact the use of e-services across different public sector

departments (Al-Shebli, 2016). The findings indicate that even when similar technologies are implemented, the experiences of different departments can vary significantly. This suggests further in-depth studies to explore these differences more granularly.

7. The thesis makes a notable contribution to change management theory and culture by stressing the importance of thorough pre- and post-employee analyses during technological transitions. These analyses are crucial for tracking and evaluating how employees adapt to change. This study has yielded important insights, especially regarding change management in the Gulf region. Additionally, studying change theory in the Gulf context illustrates that while culture uniquely influences dynamics, the role of employee feedback remains consistent across different environments. This feedback is a significant catalyst, enabling the organisation to meet its goals more effectively and efficiently. The author suggests that Abu Dhabi Police shares similarities with police forces globally. Therefore, it must balance adopting advanced technology with maintaining its distinctive culture. Involving officers in the implementation process is essential for gathering feedback that enhances the system.

Other general takeaways from this study include the following: job insecurity does not always mean job losses; staged communication is essential, especially for distributed teams/employees who work in shift patterns; change/implementation owners/champions must facilitate the change process; it is helpful to have informal opportunities to meet the senior leadership team/management board to express concerns about changes (cascaded leadership or leadership accessibility); improved visibility of proposed changes grants personnel the requisite understanding of the processes and expectations; an atmosphere of psychological safety should be provided during change projects; increased conference call opportunities might aid communication; and it is essential to ensure that everyone knows about the changes and to craft a staged approach.

6.8 Contribution to Practice

Through the development of the technological framework, this study contributed to practitioner knowledge. It provided guidance for safety and security practitioners by

explaining how personnel respond to technological changes in an organisation, identifying the factors that drive employee resistance to technological changes, and identifying the measures required to manage resistance by employees to technological changes in organisations in the unique field of safety and security of lives and properties.

The study offered in-depth insights into the feelings of excitement and fear regarding how employees will react to technological changes. It highlighted the significantly increased workload contributing to resistance against these changes. Additionally, the thesis thoroughly examined the importance of information sharing, including training, communication, and ongoing engagement, as essential measures to manage resistance to technological shifts. Consequently, the findings of this thesis and its resulting technological framework are crucial for practitioners aiming to reassess their strategies for implementing technological changes within organisations and make necessary adjustments for effective change management.

This research also contributed to human resources policies, which are often overlooked in discussions in public sector organisations (Al-Humairi, 2017). There are notable differences in how private and public sector organisations approach hiring, training, and rewarding employees. This disparity underscores the necessity of studying how such differences in human resources policies impact resistance to organisational change. The study enhanced our understanding of this important area by exploring employee resistance in this context.

Specifically, this study contributed to practice concerning the emerging themes in the following areas:

1. This study guides practitioners to ensure their employees receive continuous, comprehensive training on new technologies, allowing them to leverage these technologies for the organisation's benefit. Managers must allocate funding and other relevant resources for training simultaneously with the new technology (Errida & Lotfi, 2021). They must prioritise employee training on these new technologies before and during implementation rather than considering it an afterthought. Management should establish a framework for adequate training. Employees in regional branches should also receive sufficient training while considering challenges like travel distance and time.

Managers must ensure equal training is provided to all users of new technologies within the organisation. The training offered by management should be integrated into implementing the necessary technology (Xanthopoulou et al., 2022).

2. This study enables practitioners to communicate effectively, influencing their employees' perceptions of the technological changes being introduced in the organisation. Management will focus on holding regular meetings to address employee concerns regarding these technological shifts (Khatoon & Farooq, 2015). In organisations with extensive geographical reach, written communications about technological changes should be assessed, and the appropriate technologies should be implemented.
3. Practitioners can prioritise leadership in adopting and implementing new technologies. Organisations recognise the necessity of nurturing strong leaders who can provide guidance during change initiatives, especially in uncertain periods typically associated with technological shifts. The study indicates that effective leaders are essential for navigating technological changes (Heracleous & Gledhill, 2024). Managers will understand the importance of acting as coaches, making their presence known to support and guide their teams.
4. Practitioners will appreciate the importance of stakeholder involvement in change initiatives. They will realise that engaging subordinates and other employees in the technological transition can lead to valuable insights (Alvarez & Sachs, 2021). This engagement will enhance interpersonal relationships within the organisation and reduce uncertainty, fostering a sense of belonging among employees, making them feel that the organisation is like family.
5. The research has opened a valuable opportunity for officers to engage in reflective practices regarding their experiences, uncovering previously inaccessible insights. This study has encouraged officers to explore their personal and professional paths more profoundly, fostering a culture of self-reflection and growth within the organisation. Consequently, I believe participating in these discussions fosters deeper introspection among officers and promotes a collective understanding of their challenges and successes, thereby enhancing cooperation and empathy within the team. A key practical contribution is for practitioners to establish an effective feedback system that genuinely captures

officers' perspectives. Such a system should ensure all members feel included, enabling their thoughts and experiences to contribute to organisational learning and development. Creating a platform where officers can safely share their reflections is essential, as many valuable insights may have been lost without appropriate opportunities. By achieving this, we can cultivate an environment that values transparency, encourages open conversation, and ultimately supports the well-being of all officers involved.

Furthermore, the study conducted additional interviews with the ADP managers to get their input and feedback on the findings, identify changes made in the organisation, and explain how things are being done differently because of this study. This helps demonstrate the study's tangible impact and makes the findings more representative. These feedback interviews are included in Appendix F. This section provides further practical contributions, with some suggested for the ADP implementation plan.

6.9 Further practical contribution (recommendations) for future implementation

This research suggests that the Abu Dhabi Police should adopt the technological change framework outlined in this thesis to facilitate the effective implementation and adoption of technological infrastructures, thereby reducing employee resistance. The following section outlines specific recommendations for the ADP. Every implementation process has a clear end goal; for the ADP, this goal is to provide officers with the necessary technological tools to enhance processes, increase efficiency, and improve service delivery to end users. It is important to clarify that the recommendations presented below do not introduce a new model but rather ensure a systematic approach to prevent premature actions. The ADP has already completed several important steps necessary for successful change implementation. However, Figure 19 presents a supportive (practical) framework model designed to enhance future implementations.

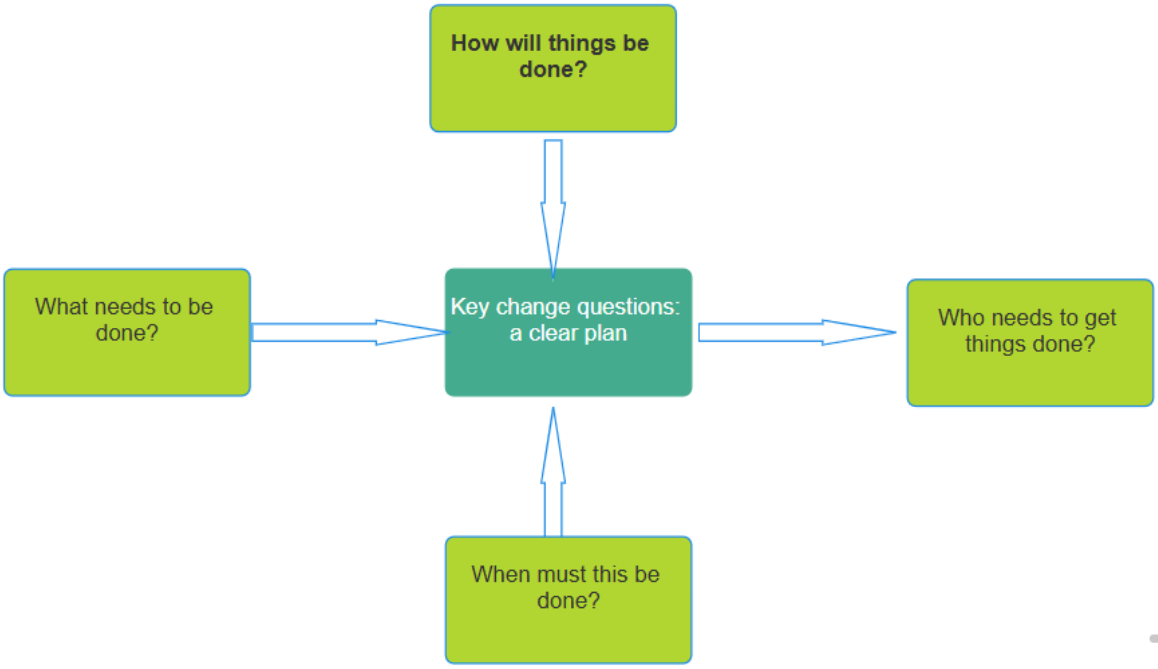


FIGURE 19 CONTRIBUTORY MODEL

Crafting a clear plan of what needs to be done, who needs to get things done, when it will be done, and how it will be done is essential. The following sections expand on Figure 9 and propose further practical ways for implementation success.

6.9.1 What needs to be done?

6.9.1.1 Vision, process and outcomes

Leadership must clearly understand the key processes in the implementation strategy and break them down into key result areas so that everyone knows what is expected and can run with it. This is called the VPC plan. Vision is the strategic focus. Bryson et al. (2011) opined that formulating the strategy is key in any change initiative, as it sets the scene for what will be achieved. This is consistent with what happened at the ADP. However, leadership must develop the process and set key outcomes for the vision. It is not enough to have a set of training and strategic outcomes in place; these must be broken down into key processes and

outcomes. Mapping the process from the vision to the project outcomes with key milestones helps bring further visibility to the implementation plan.

Similarly, with a strategic approach to communications, police organisations can better respond to emerging situations, align actions to policy and build trust within their organisations and with the public. Internal communication is challenging for police departments, as employees are dispersed across a city or region and work varied shifts on a 24-hour schedule. Keeping officers and staff connected, however, is of vital importance in a profession that, until recently, has been slow to embrace innovative technologies. There is a need to establish communication leaders, nurture and support open and transparent communication and use tools and technologies that support communication.

6.9.1.2 Readiness assessment

Arguably the most critical step in the implementation process. While there was a clear vision of the desired change at the ADP, there was no readiness plan to assess the organisation's maturity and the approach that should be taken for implementation. Bryson et al. (2011), Millar et al. (2012), and Parasuraman and Colby (2015) agreed that successful change implementation requires a readiness assessment to understand the current state (people and processes) and structures that need to be in place to help with the change. This may be a readiness questionnaire or checklist gauges where the ADP is and what needs to be in place. Officers' participation early in the process will help; as their understanding of what is being implemented increases, they can take ownership of some tasks.

There is a greater need for ADP to include officers with varying levels of expertise in the decision-making process. This will help to get a more realistic diagnosis of what is required, including the level of training and time required. Management could engage more officers in undertaking a gap analysis between the existing system's issues and the new system's potential and challenges. ADP does its impact assessment, but these are completed as a holistic process and do not provide a detailed analysis of the impact of technology on different departments. The readiness assessment will help identify the necessary capabilities

for efficiently operating the systems and establish a business continuity plan in case of any issues. Fostering a learning culture within the organisation is essential. At the same time, ADP records every incident, and it could enhance this process by creating a forum for officers to share incidents and near misses to improve the system openly. There is much we can learn from one another, and when officers feel psychologically safe, they are more likely to share and reflect on their experiences. Additionally, there is a lack of adequate technology training, yet the effectiveness of analytical tools relies heavily on the operator's skill. This highlights the importance of investing in training for officers on the new technology systems.

6.9.2 Who needs to get things done? (Resource management – champions)

Change champions are critical to the success of any implementation initiative. Bryson et al. (2011) observed that organisations that identify change champions experience less resistance because these champions take ownership of the work and can provide direction and support for other officers. In addition to identifying these figures, there must be a learning pathway to train them and get them excited about the new technologies and what they can bring to the organisation. Change champions can communicate the purpose of the implementation and engage with various teams and stakeholders to build an adequate understanding of what is to be implemented and why and how. Besides change champions, the Abu Dhabi Police must have a rigorous plan for how officers are continuously upskilled to meet the demands of continuous technological upgrades. Ahmad (2017) showed the organisation's commitment to planning for 2057. If these ideals are to be achieved, a robust strategy that evaluates current proficiencies against future competencies must be done, and gaps must be identified.

6.9.3 When must this be done (time and effectiveness)?

Beyond having change champions and maximising the benefits from training, a training system that matches training to officers' (needed) core competencies and ensures that the training is available on time and in different regions is vital for implementation success. The training regime must be timely and accessible, allowing officers to engage in many simulations to get used to the new system.

6.9.4 How will things get done (resistance management, process and culture evaluation and change management)?

6.9.4.1 Resistance management

The ADP should have had a resistance management strategy to help with the implementation process. This would have helped to identify any training and communication issues (Lines et al., 2015). It ensures that officers "do not get on with it" but are given opportunities to voice concerns in a management forum or by using an anonymous system that encourages officers to speak up without repercussions. It also helps leadership to identify the resistance type and what measures may be put in place. Ribeiro and Scapens (2006) advised that resistance comes at different times and that leadership must ensure a feedback system to observe a "live" version of the process.

6.9.4.2 Process and culture evaluation

Leadership needs to ensure that there is a robust process of evaluation of the implementation so that early interventions can be adopted and any impediments along the way are identified and removed. In their study, Hulscher et al. (2003) advised that evaluating the process increased quality improvement and helped practitioners understand the difference between successful and unsuccessful interventions in the implementation process. A "change retrospective meeting" where stakeholders gather to evaluate the process and craft an action plan will ensure that leadership understands the real challenges and is willing to make any desired changes. Paton and McCalman (2008) argued that change implementation always brings some inevitable challenges and that the ability of the organisation to commit to learning and evaluation smooths the functioning of programmes, projects and continuous operations.

Another aspect that ADP could prioritise is culture change. Organisational culture significantly influences a change initiative's success or failure. The values and beliefs that underpin an organisation's culture shape its philosophy and policies, which, in turn, impact the development of change initiatives (Williams et al., 2021). ADP is uniquely positioned to

become a world leader in cutting-edge technologies but must cultivate a culture that fully embraces continuous change. Organisational culture significantly affects how a police organisation functions, making it vital for officers to feel empowered. As Dixon et al., 2018) pointed out, change requires individuals to understand and contribute to reshaping the organisation. Ostroff & Bowen (2000) supported this perspective, highlighting that employee behaviour plays a crucial role in instilling a rich array of values, assumptions, beliefs, and practices that collectively affect change and influence strategies for meeting organisational objectives (Jones et al., 2019; Quick 2022). This notion resonates with the NPM initiative, which advocates giving employees a voice in defining the future of work. Police leaders are essential in fostering an environment where staff can flourish and propose innovative ideas that guide the organisation positively. There is a pressing need to reduce dependency on supervision, as observed by (Xanthopoulou et al., 2022) and to cultivate a culture that prioritises ethical behaviour, accountability, and innovation, as observed by Taleghani et al. (2010). ADP is already at the forefront of innovation, presenting a significant opportunity to integrate these new practices.

Jones et al. (2019) agree with this, asserting that police organisations with innovative and adaptive cultures promote flexibility and employee engagement and can help overcome resistance and achieve successful transformation. Research such as (Adeoye & Hope, 2020; Dixon, et al., 2018; Gochhayat et al., 2017; Hartley et al., 2023; Odor, 2018; Mansour, 2018; Popoli, 2017; Pyle & Cangemi, 2019; Thokozani, 2018; Xanthopoulou, et al. 2022) suggests that an innovative and adaptive culture encourages openness, flexibility, and forward-thinking, all of which correlate with improved performance and effectiveness in police organisations. Studies demonstrate that these cultures support continuous improvement and heightened employee commitment, resulting in more effective responses to challenges and enhanced operational outcomes.

Effective leadership is crucial in navigating and shaping these cultural dynamics (Gochhayat., et al. 2017; Hartley et al., 2023). ADP must harness its innovativeness by employing transformational leadership to inspire and cultivate a positive work atmosphere, stimulate creativity, and mitigate resistance to change. Cultures that foster trust, loyalty, and teamwork

often create a more cohesive and effective organisation. For example, cultures prioritising integrity and accountability shape officers' behaviour and enhance public trust (Adeoye & Hope, 2020). Such environments encourage officers to align their actions with ethical standards and organisational goals, decreasing the likelihood of misconduct and improving overall performance.

6.9.4.3 Culture and training misalignment

The police force's culture prioritises integrating new technologies and practices with traditional approaches to fulfil its goals (Hassell, 2006). Consequently, the Abu Dhabi police have successfully met the needs and expectations of both the community and the institutions they serve, establishing themselves as vital partners within Abu Dhabi. This research aligns with existing literature suggesting that technology enhances performance in police organisations but highlights the need for a comprehensive technology capability assessment. Moreover, it emphasises that the organisational culture must correspond with officers' skills. Training should be tailored to their specific requirements, including creating a pathway allowing officers to track their progress (AlYammahi & Robani, 2023; Fortin et al 2023; John, 2019; Koper et al.., 2015b; Laufs & Borrion, 2021; Lum et al 2017).

Joh (2019) and Laufs & Borrion (2021) report that misalignment can result in poor performance and underutilisation of new technological tools. This is akin to having an advanced smartphone but lacking the knowledge or confidence to fully utilise its features. ADP possesses the appropriate culture and leadership to facilitate organisational technological change but must ensure a technology capability assessment that creates an individualised learning pathway, helping officers build core competence of the different technological tools and help ADP evaluate the strengths, weaknesses, growth opportunities, and potential threats to achieving the intended outcomes. The available training is now tailored to different officers' needs and should have the desired impact. As technology becomes essential, confirming that it improves outcomes and officer performance is vital. Vila et al. (2018), cited by Alyammahi & Robani (2023), pointed out that police

organisations' substantial technological investments must be backed by effective training systems that help officers use the technology competently.

6.9.4.4 Change management

Managing change requires a holistic approach, and the organisation must continuously commit to it. Irrespective of the type of change, having a change management team always helps reduce obstacles to change and manage the associated consequences of the change, and the team engages employees to enable more commitment. People are the human capital of the organisation and in terms of how their characteristics impact change management, it is noted that the behaviour of employees, the skills they possess and the needs, expectations, backgrounds and experiences which they bring into organisations should be taken into consideration to ensure that there is adequate change management. Effective change involves fundamentally changing an individual's thinking, attitudes and values. Therefore, assessing how a change process might affect the behavioural patterns of employees, technology needs, operational procedures, and motivation is crucial. Effective change management entails engaging all relevant parties and preparing them to welcome the changes, the process outcomes, and any resistance to change. Therefore, the level to which the individual's expectations are met and their capacity to envisage the outcome dictate the perception of such individuals, in addition to any emotional responses to change. Employees' expectations are valid in organisational change, as they sometimes perceive losing control over certain vital parts of their lives.

The concept of change in organisations centres on creating a new state or position different from earlier or known ways of operating. It incorporates the development of new possibilities, behaviours, patterns, policies, methodologies or products and reviewing existing patterns to achieve more productivity. It involves altering an organisation's strategy, processes, operations and techniques to meet future possibilities and challenges. Also, it is a continuous process to align the organisation's strategy, practices, methods, structure and

people. It is essential for organisations to understand the driving forces behind the desire for change and to commit to the management of that change.

6.10 Future research

There is potential for this study to be extended. The quantitative analysis of the different objectives of this study, which include the impact of technological changes on employees, their responses and change management, can be further explored. This would generate more data and information to strengthen the findings of this study further. Similarly, there is a need to examine each of the themes identified by this study in detail. This would establish more insight into these essential elements of change management. Furthermore, there is a need to explore this topic using standard quantitative methods (instead of the qualitative methods used by this study), although more interviews might yield more profound insights. Based on the cross-case analysis, research focusing on the moderating impacts of age, education, and location on implementing change in Abu Dhabi Police and how culture shapes the implementation approach at the ADP or in an Arab/Gulf context would be helpful.

Future research could explore how both age and experience affect how individuals respond to technological changes. For example, Shahbaz et al. (2020) investigated the influence of gender on resistance to adopting changes in healthcare data analytics. Similar investigations could be carried out within a police organisation. Additionally, future change management research might look into how employees in a Gulf nation respond to change in relation to established frameworks such as " Kotter's 8 steps, " the " Kubler-Ross model, " and the " change curve. " This research will improve understanding of cultural dynamics and evaluate the factors influencing employees' reactions to change.

6.11 Limitations of the research

This study may have specific limitations. For instance, the absence of two senior officers during the follow-up interviews limited the exploration of themes identified in the cross-case analysis. Additionally, having at least one officer from each department would have offered more insight into the implementation process and allowed for a deeper reflection on some participants' responses, enhancing the follow-up analysis. Nevertheless, the researcher comprehensively analysed the interview data and reported the findings.

Another limitation is data accessibility. The researcher lacked access to certain notes and detailed plans during implementation. This access would have facilitated comparisons between the proposed and actual implementation plans and also aided in the initial interview to understand the sequence of events. Nonetheless, the researcher maximised the available data to present findings and propose recommendations.

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Appendix

Appendix A

Cover Letter

Dear Participant,

I am conducting a research study at the XXXXXXXXXXXXXX as part of the requirements for the award of a doctoral degree at the institution.

You are kindly invited to participate in the study entitled: Effective change management: Understanding organisational responses to technological change in the Abu Dhabi Police. The purpose of the study is to examine the concept of organisational change in the Abu Dhabi Police concerning the adoption of technological infrastructure and assess the responses of the organisation's employees to these technological changes. Your participation will involve answering a few questions concerning enabling effective organisational change management.

The university's ethics committee approves this study, and there are no identified risks with your participation in this research. Also, participation is confidential and completely voluntary, and you may choose not to participate without any consequence. Responses to the interview will be for academic purposes only. The interview session should not be more than 30 minutes.

Further information regarding the research can be obtained from the principal researcher, XXXXX (xxxxxx@yyyyy.com), or the research supervisor, Dr. XXXX (yyyyyyyyy@zzzzz.com).

Thank you. Your assistance is well appreciated.

Sincerely,

XXXXXXXXXXXXX

Appendix B Consent Form

Consent form **Research title:** Effective change management: Understanding organisational responses to technological change in the Abu Dhabi Police This consent form is designed to check that you understand the purposes of the study and that you are aware of your rights as a participant. It is also designed to confirm that you.		
Please tick as appropriate (X)		
	Yes	No
1. I have read and understood the purpose of the research		
2. I have received sufficient information on the study to decide whether or not to participate		
3. You have the full freedom to refuse to take part in the study if you wish, and you can also withdraw at any time without having to provide a reason. Your autonomy is respected and upheld in this study.		
4. I understand that I may withdraw from the study at any time without having to provide a reason		
5. I know that I can ask for further information regarding the study from the researcher		
6. You can rest assured that all information arising from the study will be treated with the utmost confidentiality. Your privacy is a top priority in this research.		
7. I know that it will not be possible to identify any individual respondent in the study report, which includes myself		
8. I confirm that quotations from the interview can be used in the final research report and other publications.		
9. I agree to take part in the study		
Signature:	**Date:**	
Name:		

Appendix C

Interview Protocol

Section 1: Demography of Participants

Features	Category	Please tick as appropriate (X)
Gender	Male	
	Female	
Age	Less than 30 years	
	30 – 40 years	
	40 – 50 years	
	50 years and above	
Education	Diploma	
	Higher Diploma	
	Degree	
	Postgraduate	
Experience	Less than 5 years	
	5 – 10 years	
	10 – 20 years	
	20 years and above	
Position	Lower management	
	Middle management	
	Senior management	

Section 2: Interview Questions

Theme	Questions	Interview questions
Change drivers	Q1: Can you describe new technological initiatives implemented by the Abu Dhabi Police to advance the organisation?	• As you have been in ADP for some time and witnessed the implementation of technological change, could you tell me how that took place? Choi & Ruona, 2011).
	Q2: What are the reasons or factors for these organisational technological changes?	• What were management's aims in the implementation of this technology? Weiner (2020)
		• As you have been in ADP for some time and witnessed the implementation of technological change, can you tell me about the factors that led to its introduction?
Change impact	Q3: What are the impacts of the implemented technological changes on you concerning the performance of your responsibilities?	• Relating to the change, please tell me about the biggest challenge you have dealt with and how you coped with it. McCalman et al.., 2015).
		• What is the impact of the organisational structure on the success of the change management process? Choi (2011); Wohner (2011)
		• How do you think people understood how the change would impact them? Imran, Sabharwal, Khan, Arain (2017)?
		• How do you people understand what they will gain and lose in this change? Imran, et al., (2017).

		• How has the change impacted your efficiency in the organisation? Fernandez & Rainey (2006).
Change response	Q4: How would you describe your response to the implemented technological changes in the organisation?	• Relating to the change, please tell me about the biggest challenge you have dealt with and how you coped with it. McCalman et al.., 2015).
	Q5: What factors are responsible for any resistance to the technological changes?	• What did the leadership/management of the ADP experience in introducing change within the organisation's strategic framework? Choi, 2011).
		• How significant is the resistance to change implementation in the ADP? Yilmaz & Kilicoglu (2013).
Change management	Q6: What supportive measures were provided for the employees to adopt the implemented technological changes in the organisation?	• As you have been in ADP for some time and witnessed the implementation of technological change, what preparations were made and support given before implementing the change?
		• What were the procedures/processes implemented in ADP to support change management? Were these effective? Schafer & Varano (2017)
		• How was your department supported during the change? Are people's concerns being heard and responded to? Choi, 2011).
		• How did leadership ensure that concerns were dealt with? Choi & Ruona, 2011).

	Q7: What are the important factors required to manage the resistance of employees to technological changes in order to achieve effective change management?	• What have you learnt in the change management process in ADP? Fernandez & Rainey (2006); Weiner (2020)
		• How did training impact the success of the change process? Choi & Ruona, 2011).
		• What do you think could have been done differently to make the training better for the implementation?
		• During the implementation phase of the change, could you describe the nature of communication between employees of the ADP and communication from management/leadership? Schafer (2009).
		• If you had the chance to change anything in the change process, what would you change and why? Fernandez & Rainey (2006); Weiner (2020).
		• What factors are necessary to improve in any future implementation? McCalman, Paton & Siebe rt (2015).

Appendix D

Sample of Interview Transcript

Participant: D3

Department: Security and ports operations

Date: August 17, 2021

Duration: 40:28

	Interview questions	Participant response
1	As you have been in ADP for some time and have witnessed the implementation of technological change, can you tell me about the factors that led to its introduction?	"Adequate security is a major reason I know of. The country must be safe and secured, and any measure or technology that needs to be introduced to achieve this must be introduced to protect the lives of citizens and non-citizens"
2	As you have been in ADP for some time and witnessed the implementation of technological change, what preparations were made, and what support was given before implementing the change?	"The management at the bringing put some trainings in place to assist us in using these technologies. Although some felt the training were not adequate and there was no feedback"
3	Since you have been in ADP for some time and have witnessed the implementation of technological change, could you tell me how that took place? Choi & Ruona, 2011).	"Meetings and seminars were used to introduce the new technologies to us"
4	What were management's aims in the implementation of this technology?	"The purpose includes providing improved and adequate security, as I mentioned

	Weiner (2020)	earlier”
5	What challenges did the leadership and management of ADP face when implementing changes within the organisation's strategic framework? Choi, 2011).	“I do not think the management experienced any challenge. The employees cooperated, but some were cold”
6	Regarding the change, please tell me about the biggest challenge that you have had to deal with and how you coped with it. McCalman et al.. (2015).	There was no particular biggest challenge, although I know that changes come with side effects. However, it is essential to note that some employees are genuinely worried that the new technologies introduced by the organisation could take away their jobs or hinder their career growth within the department, as they may become redundant due to these advances. There were also negative feelings regarding the newer working methods and the transition necessary to implement them.
7	What is the impact of the organisational structure on the success of the change management process? Choi (2011); Wohner (2011)	“Generally, the impact was ok. The organisation still has the structure to assist the change process. There can be improvement”
8	How did training impact the success of the change process? Choi & Ruona, 2011).	“Training will always be relevant and required for success. The organisation is improving regarding that”
9	What do you think could have been done differently to make the training better for the implementation?	“There could have been engagement with the employees to understand their training needs for every technology introduced

		adequately"
10	How significant is the issue of resistance to change implementation in the ADP? Yilmaz & Kilicoglu (2013)	"Resistance is significant. While some employees were excited, some were cold towards some changes. Some of my colleagues had issues of not being reached out to before changes are made that affect the department"
11	What were the procedures/processes implemented in ADP to support change management? Were these effective? Schafer & Varano (2017)	"Trainings as mentioned earlier, and they were great to certain extent, but there could be more and more training especially with the employees contributing on what they need in the training"
12	During the implementation phase of the change, could you describe the nature of communication between employees of the ADP and communication from management/leadership? Schafer (2009)	"The was communication. However, some employees feel the organisation is not doing enough in terms of communication as they were not included in the consultations before the change"
13	How has the change impacted your efficiency in the organisation? Fernandez & Rainey (2006).	"Largely, my efficiency has been impacted positively. However, the implementation of technologies in the department has resulted in challenging moments for some employees, as they had to dedicate their additional time on some tasks that had become specialised as a result of those technologies introduced"
14	What factors do you believe are necessary to improve in any future implementation? McCalman, Paton & Siebert (2015)	"For future purposes, there should be improvement in some areas. Providing information is important. Information is everything. I believe that even if one must

		accept a change, being given the respect of being properly informed on the new change and being asked for input will possibly reduce resistance and produce successful implementation"
15	What have you learnt in the change management process in ADP? Fernandez & Rainey (2006); Weiner (2020)	"There must be sufficient engagement and collaboration between employees and management in change management"
16	If you had the chance to change anything in the change process, what would you change and why? Fernandez & Rainey (2006); Weiner (2020).	Proper engagement and collaboration between employees and management"
17	How was your department supported during the change? Are people's concerns being heard and responded to? Choi (2011)	"We were provided with training. Also, the employees have concerns regarding being heard and attended to"
18	How did leadership ensure that concerns were dealt with? Choi & Ruona (2011)	"By having meetings with employees"
19	How do you think people understood how the change would impact them? Imran, Sabharwal, Khan, Arain (2017)	"Some understood and some did not see the benefits to their personal life or growth in the organisation"
20	How do people understand what they will gain and lose in this change? Imran, et al., (2017)	"Some believed it will help them to work well and grow, while some feel it might expose their inadequacies"

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Appendix E Sample Data

Subjects	Positive responses	Negative responses
Implemented technological changes	• [A1]: "The organisation recognises the necessity to build its technology and creativity. This will help the organisation increase its professionalism in security and terrorism challenges. Some technologies I remember the ADP had brought are social media information technology and geographic information system." • [A5]: "The new e-government platform enables a seamless exchange of information between different departments to provide better services for residents." • [C3]: "Technology has been known to improve performance and increase organisational efficiency. Therefore, ADP has realised this and introduced innovations to achieve it. Common ones are e-government platform, social media, database management, GIS, etc." • [D3]: "Several technologies have been introduced in the ADP in software, electronics, e-	[D5]. The system has delivered results, and my department has benefitted significantly from the new tools. However, we can improve the coordination, integration, and readiness to maximise the output. A culture of change is embedded in the organisation, but ensuring this culture is championed and cascaded down is the next step. Nonetheless, the culture of change in ADP has shaped many aspects.

	government, and new techniques. Introducing technology will help the organisation do more activities, specialise in processes, and improve workflow." • [A4]. ADP is fully committed to harnessing technology effectively. Our solid system is mainly due to our leadership's vision and foresight.	
Factors driving technological changes	• [B5]: "The organisation is determined to implement the best practices for improving service quality to the people, ensuring excellence and outstanding performance. This improvement in technology will ultimately grow the organisation. • [C8]: "It is our responsibility and ambition to work hard and maintain our successful service to the country using technology. To achieve better use of technology, it is most important for the organisation to keep pace with the development and technological revolution. Although there are other reasons too". • [D4]: "As you know, the ADP is	

	working towards improving its efficiency and effectiveness and professionalising its activities for better services to the populace. It is a contract we sign with the country." • [A5]: "Threat assessment of terrorism for the introduction of person scanning K9 to detect explosives being carried by a person. The training of COVID-19 detection K9 that would allow for sweat samples to be taken from persons and for the K9 to detect the chemical of hormonal changes in a person infected with the virus." • [A1]. Our leaders are great examples, but we need more visible leadership at every level to champion change. Leadership visibility does help a lot. • [B6]. ADP has strong leaders with the vision and strategic foresight to make timely decisions. However, I think the strategy execution needs a little reworking to maximise the strategic intent[D2]. We have a great system. However, more significant challenges are lacking.	

	If everyone works together, ADP will benefit. • [D3]. Leadership is a significant factor, and we gain consistency from our leaders because they are dedicated to introducing the latest technology to ADP. Consequently, there is an expectation that new technological tools will be implemented in conjunction with the MOI strategic plan.	
Impacts of implemented technological changes	• [D9]: "The GIS and information technology has contributed to the efficiency of our operation, time effectiveness, and also, it has improved the image and reputation of the organisation." • [C8]: "The consistency and discipline in the employees to things right at all times has been made possible and entrenched. Expected outcomes have been regularly realised, which is important for the people and the organisation." • [B6]: "Technology had standardised our processes and practices. Tasks are completed	• [A6]: "Working with the information technology and social media has greatly added to tasks of the current employee. Unfortunately, additional hands were not hired to cover the additional responsibilities." • [C7]: "I spend extra time organising and managing data to present them understandably. This was a departure from the past. Although this will improve services, spending more time than usual could be challenging." • [B3]: "Using technology to

	quickly and optimised, as employees know what to do and how to accomplish various responsibilities. Since the organisation started applying more technologies to operational activities, we have made a great leap." • [D2] Using new technology has been refreshing, particularly from an operational efficiency perspective. • [A9] Innovation generates excitement due to its potential for enhancing technology and improving outputs and outcomes. Watching the tools in beta or modelling mode naturally instils enthusiasm as you envision these tools' possibilities. • [C3]. ADSIC has been vital in ensuring that information connects with the wonderful variety of demographic groups within ADP. It plays a crucial role in sharing important updates and encouraging meaningful engagement. • [A2]. Social media platforms have made it easier for everyone to	work collaboratively with other branches has increased my total workload. Moreso, staffing has not increased" • [A3] Utilising the technology will make tasks easier, but user confidence is required to ensure this can be achieved. It took extra time to reach a level of competence. Initially, I received much support and made mistakes.

	access real and accurate data, boosting public awareness and building confidence in the information we share. • [B3]. The "Insta Meylas" initiative, which began in 2015, has wonderfully enhanced the communication between the police and the community. • [C4]. The ADP has thoughtfully embraced Facebook as an official communication channel, making connecting and engaging with residents meaningfully easier. • [D/B5]. Social media platforms and ADSIC have played a wonderful role in spreading accurate information and boosting public awareness about the exciting advancements in robotic technology and police vehicles. It is great to see so much attention and interest on these platforms!	
Employee response to technological changes	• [C5]: "I have always been positive about introducing any new system or innovations in the ADP because I believe the management will never introduce anything that will not be useful to the organisation".	• [D6]: "Some of us fail to see the benefits of introducing these new changes, particularly those of us in other branches. We viewed these changes as an extra burden, although others

	• [A4]: "We live in a world where technology rules, so I look forward to when the organisation plans to bring new technologies to provide better services. New technologies mean new ways of doing things, processes, training, and results. So for me, I am happy and embrace it." • [A5]: The upgrade to the E-gov services offers enhanced functionality that is unprecedented in our experience. It facilitates the provision of legal documents, including ownership renewals and driver's licenses, among other options. Additionally, it automates various vehicle licensing processes, such as replacing a damaged license, requesting a replacement vehicle license, renewing a vehicle license, reserving a vehicle number, and paying traffic fines. • [B5]: "Hours spent on doing some daily routine work manually have been made productive due to the use of technology to automate those tasks. I can do more tasks within the same allocated period. I am happy about this. Of particular use	might feel differently about them." • [B3]: "I am sure that some employees are not happy regarding the reward system of the organisation" • [D1]: "The truth is that there are those who feel technological change can be a challenge to their career growth. They feel threatened, and such employees are not likely to be enthusiastic about adopting these changes." • [C6]: "We have those employed in ADP for years, so each time change comes, they feel their best ability cannot be offered anymore. Also, they feel that management has little value for them during change and that everything is to the organisation's benefit." • [B2]: "Sometimes management operates in an autocratic way. They instruct employees to do this or that, supervise them, and rate their performance for rewards or

	to me is facial recognition, which has helped me and my colleagues in tracking criminals and suspects better, without intruding physically in public spaces and with more results recorded." • [B6]: "Biometric technology has become vital for identifying patterns of violations and evaluating them while also monitoring the locations and times of accidents and traffic congestion. This technology proactively analyses driver behaviour to enhance traffic awareness and improve incident responses. • [B10]: "New technologies allow me to upgrade my skills. I love acquiring new skills, and this has benefitted me." • [C3]. My system use has increased tremendously, but I have also encountered unexpected challenges. • [C7]. My efficiency has improved, and the new system has benefited my work, allowing me to complete tasks quickly. I feel incredibly fortunate to be part of the faster-track program, which has been	punishment. They often fail to understand or consider their feelings, emotions and support for new changes." • [C2]: "It is not easy learning new ways or methods of doing things at this stage of my life and career. So, you can understand my concern regarding new technologies. For example, learning a particular aspect of the GIS Information System implemented was difficult. This aspect involves providing detailed geographic coordinates related to crime incidents within a community and ensuring that all the points on the map contain detailed information relating to the crime scene and victim." • [C3]: "Automation and process optimisation are at the heart of the technology initiative at ADP. Whilst there is an ambitious plan to be first to the market regarding the latest technologies, sometimes it feels

	extremely helpful. • [C2] Learning new things at this stage of my life has not been easy; however, if it is necessary for your job, you must find a way to accomplish it. • [A7 ADP is committed to continuous improvement and has been at the forefront of cutting-edge technology. • [B2]. I think the implementation has been successful overall, but the leadership needs to rethink the strategy to get the best out of the system. Training and communication can be improved, which will significantly enhance the system's effectiveness. • [C4]. Communication needs to improve to keep officers informed and on time about what is happening. Different communication channels could have been explored. We have many ways, and I believe the tools were not utilised to the best of our ability to get information across to officers	like we have not completed a detailed readiness or risk mitigation strategy for these tools, especially on data privacy, ethical concerns and the technological and cultural complexity required to bring about the needed transition. • [C5]: "I think MOI and ADP 5-year strategic plans need to be reviewed as I feel sometimes it is a short time before new technology emerges. When it comes to learning new ways, it is somewhat frustrating when you think the older way is working. The TAMM, the e-gov services platform, now has over 50 government services via one portal. Before the integration, we had different ways to access information, which worked well, so you can imagine the reluctance to move to an integrated system.
Factors responsible	• [C7]: “Culture is crucial in shaping employees' response to change.	

for resistance	Some personnel still prefer the traditional performance model because they see change measures as a risk to their privileges and position." • [B3]: "Whenever new major changes are implemented; I fear some job activities may be discontinued. This might cause some of us to be moved to another department if opportunities exist, or worse, have our contracts terminated if there are no openings in other places we could fit into." The workload increased at the start, especially when trying to use two systems and master the new system, and it took longer to get there. • [D3]: "I know colleagues whose tasks or activities increased after system upgrade. A few steps became several due to the different components that had now been added to the system. This also involved different verification processes." • [C1]: "The amount of work has increased despite no increase in the number of personnel. We had to	

	support other departments in their work activities due to the implemented changes. There are more activities and responsibilities to carry out now, although the management has promised to look into this." • [B3]: "There were no regular meetings or workshops for sharing information during implementation, further proving the lack of communication. This created negative feelings from the employees related to the project." • [B5]: "A manager can lose his position if he is not familiar or not an expert in the area of change the organisation is trying to introduce. Instead of training him, a new advert could be placed for such new position and he might become redundant or a subordinate to the new expert coming in to manage the innovation or system" • [B5]: "The initial phases of implementing the robotic technology were exceedingly challenging, as we needed additional hours to train the robots	

	and explore various ways to harness the technology effectively. Although we encountered multiple obstacles at the outset and faced a steep learning curve, the environment was particularly stressful due to the high stakes involved and our commitment to meeting expectations. As a result, we exerted considerable effort to ensure everything operated smoothly, but such dedication came at a cost. • [B4]: "In some cases, I coordinate multiple assignments within the department, which can be overwhelming at times. Additionally, I often assist my colleagues. However, this does not negate the advantages that technology brings." • [A1]: "Work is stressful, and adding more learning to an already stressful situation increases anxiety. These tools are designed to make things easier, but it takes time to build competence". • [A8]: "My superior believed the application of new technology in	

	carrying out my duties should make my work faster and that I should be able to do more work for the same time allotment. While that benefits my department and my organisation, it has burdened me with much more work than before. Sincerely, this has been a concern for me". • [D9]: "It must be noted that there are employees who are genuinely worried that the new technologies introduced by the organisation can take away their jobs or mar their career growth in the department, as they may be made redundant by the new technologies. I have had this discussion with some of my close friends in the organisation, and I started having that fear, too, and technology evolves globally. I have limited education so that you can understand my fear concerning technological evolution, such as Geographic Information Systems. These things are becoming more smart-driven."	
Supportive measures for	• [C9]: "The volume of training given was adequate to successfully	• [D4]: "Those employees working in other branches

employees	apply the new change. Providing the abilities and needed perform on the job." • [A6]: "Managers playing the role of coaches can be seen to be present in some departments or sections. Other managers can emulate this as it contributes to the performance of an employee in the discharge of duties."	experienced difficulties in attending training and workshops in the organisation headquarters. Sometimes, they spent so much time travelling from their locations to Abu Dhabi, which is challenging." • [B3]: "For some of us working outside Abu Dhabi, I can say that the amount of training was not the same for all the workers."
Measures for managing resistance	• [C2]: "Training has a major objective, and that is to ensure that employees are aware and also understand the benefits, components, and functionality of new technology and innovations." • [D7]:" Commitment and the general performance of staff are appraised annually, and reward accorded accordingly." • [C10]: "Involving employees will surely improve our relationships in the organisation and eliminates the feeling of uncertainty. Members will truly feel this is their family." • [C1]: "Communicating is fundamental. I believe that even if	• [B9]. I think the cost of training has increased, and the cost-benefit ratio is not favourable. I have had to undergo much retraining, and hiring experts is expensive. While money has not been a significant issue, training expenses could have been reduced. The system has considerable technical debt, which could have been avoided with earlier intervention. • [B5]. I believe our training is excellent, but there was

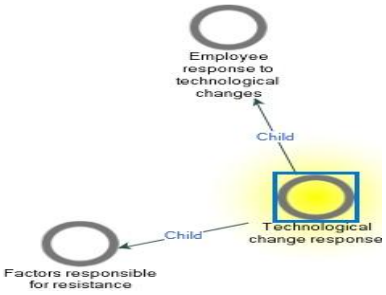
	one must accept a change, being given the respect of being properly communicated to on the new change and being asked for input will possibly produce a successful implementation." • [A5]: "I believe the management should allocate resources for training simultaneously as they allocate resources for a new system. My frustration with the training system stemmed from recognising the topics we needed to cover; however, I felt that the time allocated was insufficient for us to gain the necessary competence. Additionally, it seemed that the trainers did not sufficiently address the diverse needs of the officers or adapt the training accordingly. This situation contributed to a heightened sense of frustration and anxiety. • [A10]: "leadership has an effect in enabling a successful implementation and continuity of a change in an organisation, going by some previous technology that has been adopted. My assessment is	insufficient evaluation of how our skills align with the required competencies. For example, I received ample support in uploading and conducting further crime scene analyses. Initially, I thought I would not need it, but it became essential for using the new technology. Therefore, these issues could have been avoided. User confidence is crucial for ensuring the maximum utilisation of technology. I do not want my mistakes to render a report inadmissible, so you can imagine that sometimes, I go above and beyond. • [D1]. Training is good and available but not tailored to maximise officers' needs. I could have benefited from other training, and sometimes, you only need someone to come and sit with the officers and show

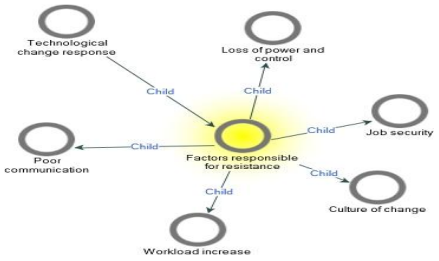
	based on this technology and innovations, particularly e-government and information technology, which have been introduced over the years, with different heads of department being in charge at different times. Leadership can make a big difference in the ease of implementation and acceptance." • [B5]: " A feedback cycle concerning training and content could have provided timely insights and prompted a reassessment of strategies. • [B7]: "The organisation has done well so far in providing training for employees affected by technological changes. More could still be done with training. More employees still require training to ensure they perform work easier. This additional training could be in sending staff abroad where those technologies are made, an example being the facial recognition technology adopted in my department to capture suspects." • [D3]: "Information is everything. I	us how it is done. We would have saved lots of time trialling it. [B3]. The training was often late and inaccessible, challenging my team and me. They could have offered more on-demand options and a system that facilitates support. Some of us work in different locations, so having these trainings available is beneficial. Strong leadership involvement would also be advantageous.

	believe that even if one must accept a change, being given the respect of being properly informed on the new change and being asked for input will reduce resistance and produce successful implementation." • [B5]. Our culture is very optimistic about change, as reflected in the MOI strategic plan and the investment in technology across the UAE.	

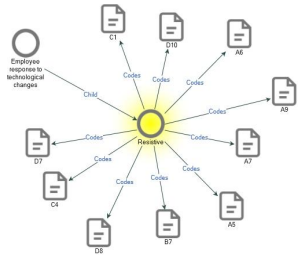
Appendix F

Sample of thematic analysis for technological change

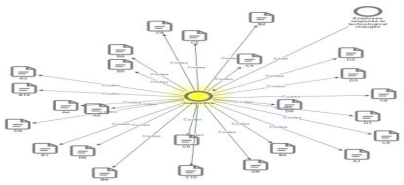




Sub-theme analysis: Employee response to technological change

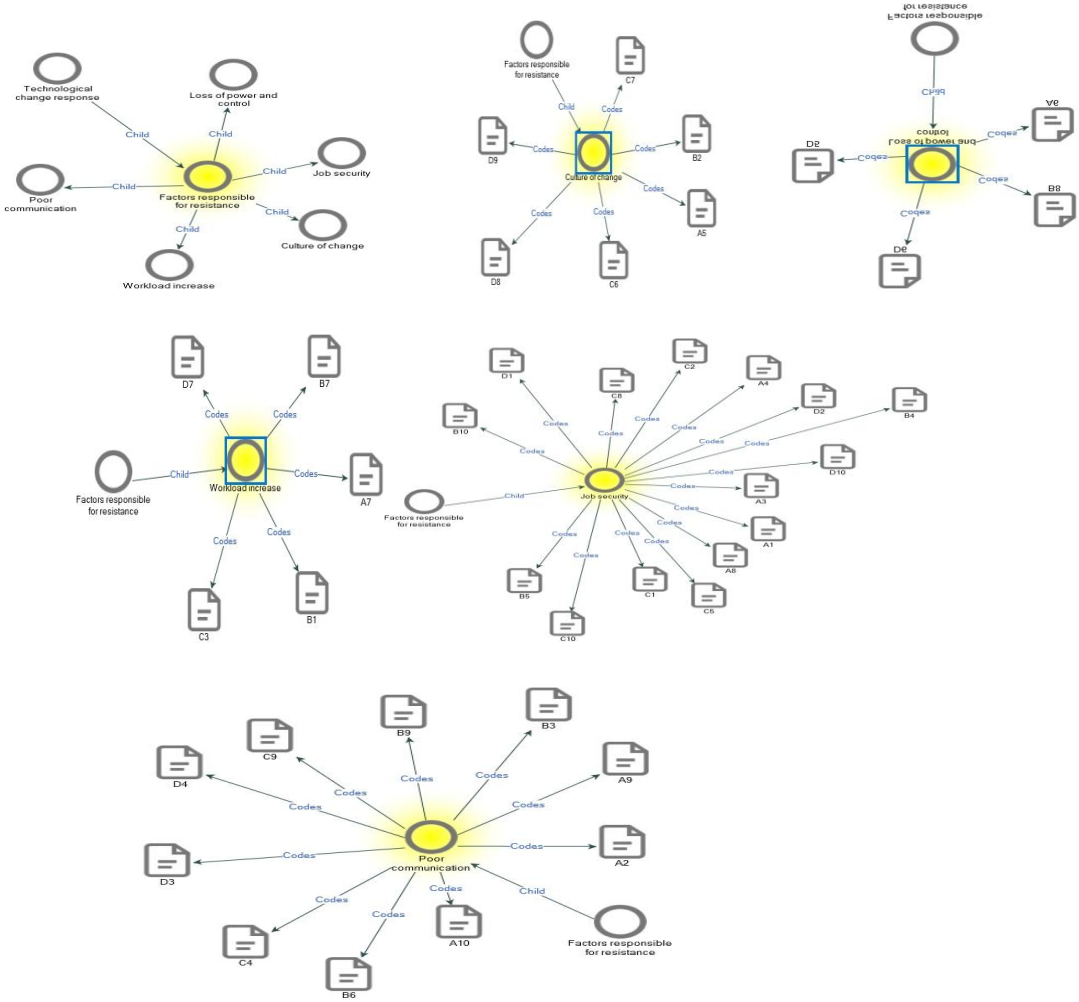


Resistive



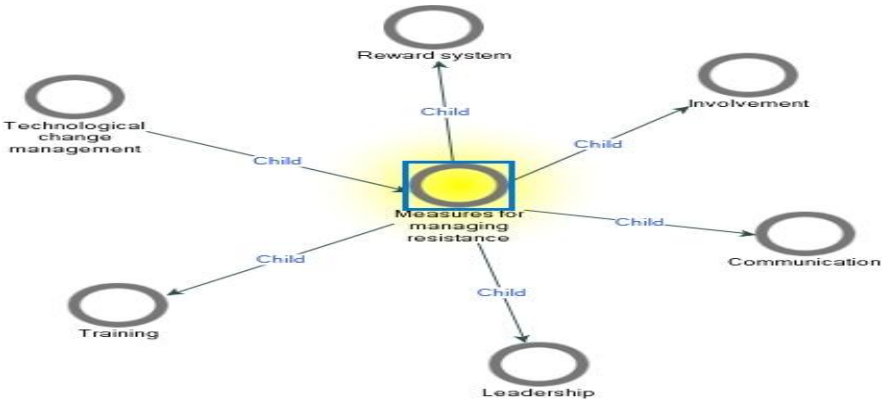
Supportive

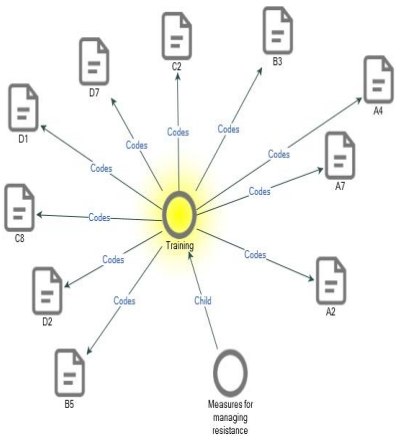
Sub-theme analysis: Factors responsible for resistance

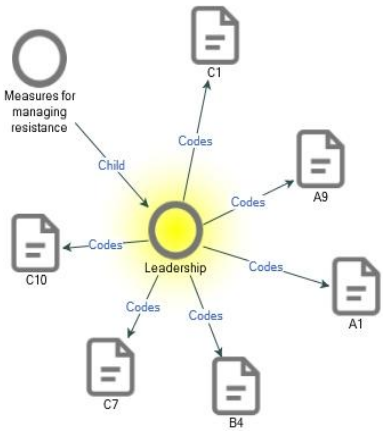


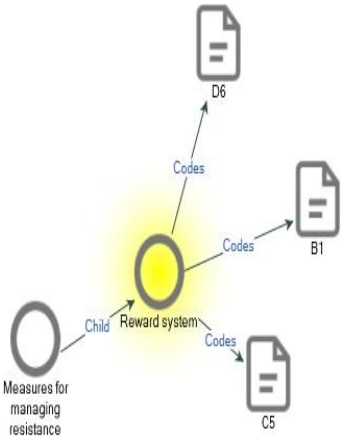
Thematic analysis for technological change management

Sub-theme analysis: Measures for managing resistance

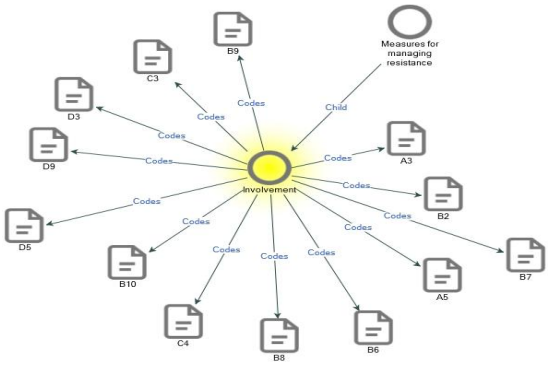




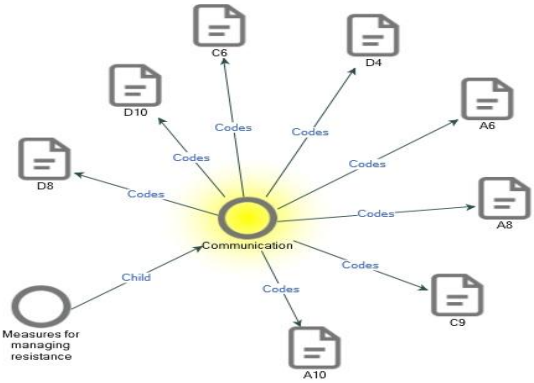




(1) Training (2) Job security (3) Reward system

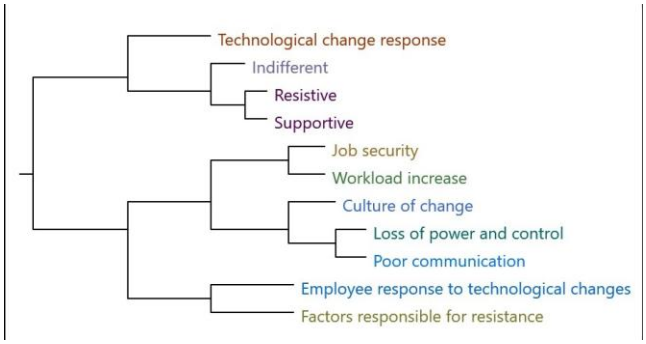


(4) Involvement



(5) Communication

Samples of word cloud and item clusters


Technological change response
Indifferent
Resistive
Supportive
Job security
Workload increase
Culture of change
Loss of power and control
Poor communication
Employee response to technological changes
Factors responsible for resistance

Appendix G

Practitioner contribution: Interviews

1. From the cross-case analysis, leadership and communications were key factors that could have been improved during the implementation of the technological change. What is your take on leadership and communication in the ADP?
2. Improved visibility of proposed changes so officers have an essential understanding of the processes and expectations. What could have been done differently to have improved the implementation's visibility (not the communication)? For example, what are the dashboard/metrics of key happenings?
3. Workload officers raised concerns about overtime workload increment during the change; how have workload increments been better managed?
4. Culture of change Changes have been made within ADP that promote closer collaboration (a culture of managing change) between officers at different levels to ensure better psychological safety (not being afraid to voice concerns) among everyone.
5. There was heavy investment in training opportunities, but it may not have been done in a timely manner. What could have been responsible for this, and how could these be mitigated for future technological implementations?
6. What are the leadership lessons learnt? In what ways could leadership have helped with the change?
7. What lessons were learned about leadership involvement in implementing the change?

Participant

Q1

Thank you. It can be done differently to address these problems, which are related to the communications in terms of senior members. Some areas that have a lot of senior officers have been experienced during this change. If we make any change, we find the geographically widespread implementation of this change to have.

Ambassadors of this change are to raise awareness amongst others, especially when some area is complex and needs to be selected, but this envoy is uncertain. Assessors of this implementation of change to raise awareness. The criteria are that we need ambassadors to make awareness of each level because the audience's acceptance will be much better when we have change champions. Ambassadors for the Change are at the same levels as.

Q2

We need a report called, for example, the ***performance of the change*** *or other projects at the senior level, which is at strategic levels. We have no* ***report or quarterly review of the*** *performance of such a project. Still, at the down level, we don't have the review of these, awareness, or the matrix that takes the staff or employees about the progress of any change they are part of. Hence, if we have* ***a report of awareness*** *of the change that can be reached to the down level who can see the progress of the change.* ***Careful cascading of information***

Question #3: *the workload's really that during the change, many kinds of stuff many officers are concerned about the workload, and they already have workload, but with the change, they may face more workload, so I think when we implement any change, we need to have a feedback of these people, and we make sure we have answered their concern and related to the workload they will face, we don't want to make a conjunction of a load of work that some stuff they will face in that they will be the resistance of them so to eliminate or to lower down the resistance I think we need to have a clear view of what the workload that will happen so we may suggest having (functions)team whose supporting these people who are may take some part of the workload of these people to make sure they will not face a heavy workload so they may be happy as they will have a supporter from a that who will implement the change*

For question #4, *as you know, the culture of the archetypes is a military organisation where senior managers and the lower Staff need to obey the commanders the commander or instructions they receive from the higher level, but I think during any change as we are, going to have a new future and a new generation of work and you let's say uh a new era of to technology change that will be happened I think it's better to have a collaboration any uh rapprochement between the two levels actually about the change so we may have a like a survey and anonymous survey that they can answer and they can raise any awareness who are you it lit the senior officers to understand what's going on and to know what they need what they concern so that will be a good rapprochement between the two levels and that will result in an exemplary implementation of any project or also to change the culture of the semi-military organisation*

#Q6

it's training investment or investing in training wasn't appropriate in regard of timings, and there was a lack of training, and especially there are some training it's being done during the change and they were not uh making uh the feed the land of change so I would say is that before having any change we need to think about this change will affect who and what they respond as training is the very most important part and also what I think is that it can helps to accept the change which is technological change is very important so any future I would say is that training it can be done uh pre-implementation of the United currency exchange or also it can be implemented during the technical change for some stuff and this stuff will work in parallel uh and this training it can also be help of implementation in any technological change

Questions #6

Leadership is critical within that leadership. It needs to understand the level they need to understand the organisation's culture. They need to make sure that any implementation at the strategical levels wouldn't be done at the same level or the same performance down a level, so as we do have uh organisation which is uh hierarchy organisations capture structure so

we need to make sure that any implementation of any change it needs to be done correctly at all three levels in the strategical operational and an executive level and uh this is what Number 7 could have in each change they implemented in a program with three projects, let's say, at each surgical level, executive level, operation, and level. Hence, they need to make sure that they cover it well at each level; they understand the cultures of each level, what the needs of each level of this implementation of the creature gain are, and any needs to implement that change at the three levels successfully.

For question 7

leadership involvement is OK in advance. I mean, the pre-implementation for that change is that there was a commitment during the implementation of the change. Also, there were some involvements of see me uh senior uh managers, but at the high level, at the beginning of the project, there was involvement. Still, this involvement is less during the implementation than it has been implemented. I wouldn't say there was a high senior-level involvement during the implementation. It's hard to see the senior manager managers after implementing the change. Still, I would say that the engagement of any leadership can be seen, or it needs to be seen in pre-post and after the implementation to make any correction or reaction to the implementation of change because when you have made any change, there are some areas for improvement. If there is no engagement of the high level or the leadership, that change will not be improved.

Participant

During the implementation, there was a lot of information at the top. And I think, yes, we had leadership at different levels. However, things could have been better coordinated.

Leadership at different levels is able to communicate information to the people. People understand what technology is all about. Leaders can articulate those things, and they're able to lead from the front. It did fail at some point. It was like we were telling people what to do. We're not part of the implementation. One of the things I've learned is that, yes, if we want to do something, it's very important that leaders are also on the ground to be able to manage the change process themselves so that they are part and parcel of it.

Because there was an assumption that communication was good and everybody understood what the implementation was all about. Everyone is willing to commit to it because they know what.

The outcomes will be, but. It is interesting that you know this has been raised, and I would say yes. Looking back, I think it was more of an assumption.

Q2

Rather than being a deliberate attempt to make the communication issue not even across different locations, in the future, I think it's essential that Our communication strategy, primarily online, is obvious. And what we have done more now is not just to talk about what we want to do but to try as much as possible. To include video animations. So, break it down. I think we will then have a cascade communication strategy where some of the things we're saying may not be accessible at every level because some people may it may not be relevant to them, so again, making sure that we tailor what we are trying to communicate with the right audience.

That will help us going forward.

Q3

Yeah, indeed, we can improve the visibility of the proposed changes. So officers have a better understanding of what is required of them. Yes, in terms of communicating, there was a clear strategy of expectation and what the process would be. But yes, we could have looked at having a milestone cheque at the point that we should have. So that officers know.

We are on a journey, so having a visual representation of where things are is helpful because people know where we are and what we need to do. It will also help them understand where they are on the journey. Having that opportunity for people to see, especially a big project like that, is not in that subconscious.

And we know where we are in our target. And you know what we have to do to get to those targets. So, I think, yeah, it is something that we could improve on in the future. We could improve on that, and I think we were doing something in that direction now, ensuring that our strategy's enhanced visibility and that people at different levels know exactly what we can do. And one thing we can do that we didn't do was have a monthly meeting where people can all like. Meet the board, where officers have a chance to ask questions. We can tell people where things are, so you know, so kind people are along in the journey.

Q4/5

So yes, we can work on that aspect o of a more inclusive culture in the future.

Yeah. Workload. I'm aware that some people had an increased workload, which was not deliberate but a consequence of implementing a new system.

And you're trying to get rid of the old system. People are not used to the new system and don't make mistakes, so it might take longer to get used to it. Still, as someone used to the system, hopefully, their workload should be reduced because the whole essence of having the new system is that we want improved performance. We want greater efficiency and effectiveness. We want people to know that they can work faster and wiser. I want to use the information we have to make decisions faster. But at the start, because of the new system, you have to get used to it. So yeah, things could have taken a bit longer for the first six months, but I think, looking at today, I feel that issue wasn't there before. What is not there now as it was before?

So yes, what was close at the start, maybe we could have arranged more. We could have reduced what we expect people to do while.

Learning this new system, knowing fully well that it would take them some time, I think the other thing we should have done was to have a sandbox environment or a beta environment where people can learn and just practice and practice and practice. So, they get used to the system, so that could have maybe helped people who were unsure of what to do.

OK. Yes, the culture of managing change. I think we have we are becoming.
More inclusive.

In terms of giving people access to voice their concerns. Yeah, leaders want to listen. They want to know how people feel because they will implement what we are trying to do. So, we must understand how things are going from that perspective. Also, a suggestion: we have some incredible officers. We believe they are perfect and can contribute to our work. So, by allowing everyone to have a culture where people can voice their concerns. So, one of the things we've implemented is.
At different locations, people, there's like a farmer. People gather once a month to just talk about our things and the key officers so they can share the goals I will link to the strategic plan. And how we are working towards meeting the goals we have set for ourselves; people to ask questions about where things are with them, what they're saying outside and if there are things we need to do differently to make changes faster. So, we must listen. So, it's a culture of openness where officers have been listening, and it's essential. It's beneficial. They're able to share their concern. They can articulate what they want so that we can move swifter.
Move faster with people because, yes, we are working together as well.

Q6

Yes, training, we're spending much time creating all the modules relevant to the implementation. One of our challenges was that some training may not have been appropriately curated. In other words, some people may. Some training may not be relevant to some people, creating a challenge of fit. So, does this training fit what this person needs? So, some people have to go to some training? We're not relevant to what they are supposed to do, which created an issue that creates a problem, so I think in the future, it's just to make sure that we are involved and, again, what we could have. Because we want everyone to commit to their professional development, we could have engaged a validation committee where.
We look at different people in different places and get their managers to review the training to ensure it is appropriate for them.

So, having that validation committee would have been helpful for us so that the training is bespoke to people and they're able to get the most out of it.

It's all about just listening to people. Oftentimes, when you implement a strategy, you can see the whole view from where you are, but you need people when you zoom, you know, to those tiny details you, and then you can zoom in. Yeah, but I want to see what's going on. So, I think it's essential that what we've learnt is the people that will execute the strategy. They need a strong voice, and they need to be heard at the start so we can maximise the output that we have. That way, we can work together to make things work. Otherwise, what will happen is that we have many strategies. However, those strategies may fail because we have not included the right people at different levels. We don't have a sound feedback system that will help us to know how things are going and what we need to do differently so that we have not gone too much into it and realise that we will fail.

Q7

So, we need to have done a detailed risk assessment and have a change log strategy to identify the risks involved or the changes that will be required. Also, let's have a competency assessment of what will happen and what will happen with the go-live if it does not go well.

So those things would have helped us to do better. So yeah. As I said, leadership involvement is significant, and I think we should have used maybe change champions. Officers who are passionate about the change, you know, taking time to invest in a few of them so that they will be the voice of the change.

They will be the ones to support and help us take the message to people so that everybody is engaged, and I think, like I said, that leadership is not just. Offering what to do but also being part of the change and being able to show people that we are part of this together sometimes feels like we are just telling them what to do. We are not the ones doing it, so I think having that approach where there is collaboration. At a different level, I think it will give people more psychological safety about what they are doing and what they want to commit. More to the change that we have planned to do.