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By

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A Thesis submitted in fulfilment of the requirements for the Degree of Doctor of Philosophy

Faculty of Business and Humanities
Munster Technological University

Research Supervisor: Prof Margaret Linehan

January 2021
The author hereby declares that, except where duly acknowledged, this thesis is entirely his own work and has not been submitted for any degree in a University or Institute of Technology.

Candidate: Paul Hegarty

Research Supervisor: Professor Margaret Linehan
Abstract

The aim of this research is to determine if the Irish Defence Forces would benefit from the introduction of change management processes when implementing new technological systems. The extant theory has neglected to examine the application of change management processes in military organisations, a shortcoming this thesis addresses. The research draws on semi-structured interviews undertaken with military and civil servant professionals from the Irish Defence Forces and the Department of Defence.

Analysis of the interviews resulted in a number of new findings. The research highlighted the current deficiency in long-term funding and long-term strategic planning at the political level, and the consequential impact this omission has for capability development planning by the Defence Organisation. The lack of certainty at the policy level, therefore, has negative implications for the Irish Defence Forces, as evidenced by the findings of this research. Consequently, the Irish Defence Forces would be an ‘exception’ when compared to the extant literature on modern ‘best practice’ for a military organisation.

A primary outcome identified the urgent need for the Irish Defence Forces to develop and implement a change management process for managing technological change. The current ‘silhouette approach’ which promotes the delivery of ‘pet projects’ is having a detrimental impact on organisational efficiency. The evident lack of identified change agents and a proactive communication process was notable, and the absence of astute leadership at the strategic level was significant. The current dynamic between the current organisational culture, which is risk averse, and the reliance on dogmatic generational ‘frames of reference’, which inhibit organisational transformation are highlighted as a significant impediment to successful organisational change.

The study is significant as it informs theoretical understanding of change management processes by introducing a focus on the Irish Defence Forces, hitherto lacking, and informs the understanding of organisational change in a military organisation. Finally, the combination of the theoretical and empirical research conducted permitted the creation of a new change management process framework for the Irish Defence Forces.
Acknowledgements

I wish to acknowledge my debt and gratitude to everyone who contributed directly or indirectly, towards this milestone. The last five years would not have been possible without the encouragement and help of a great many people, many who have had significant influence on the realisation of this thesis, all to whom I am immensely grateful.

Margaret, there are no words that can adequately surmise my debt of gratitude as your astute guidance, support, and ‘steady hand at the tiller’ helped me to develop and grow, both personally and professionally, during this research. Your unique ability to manage my time and to provide support was always very much appreciated. I am genuinely grateful that you helped guide me through this process, and I am very fortunate to have had you as my supervisor.

The study itself would not have been possible without the open and honest engagement of the participants from the Irish Defence Forces and the Department of Defence. I would like to convey my respect and sincerest appreciation towards those who participated, as their acumen, knowledge and honesty has been the foundation of this work. Their willingness to be gracious of their time and expertise was valued in understanding the issues being examined. The flexibility shown by my Commanding Officers in the Irish Naval Service, and the Command and Staff School in allowing me the time and space to complete this research has been very much appreciated.

While there may have been many lost weekends and missed bedtime stories, the last five years would not have been possible without the unconditional and stoic love and support of my wife Elaine, and our children, Isabelle, Alexander, Felix and Charlie. While the concept of ‘working on my PhD’ may have been alien to you, your patience and ability to help me maintain perspective has helped more than you could imagine.
### Glossary of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AC</td>
<td>Air Corps</td>
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<tr>
<td>C&amp;S</td>
<td>Command and Staff Course</td>
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<tr>
<td>Civ-Mil</td>
<td>Civil-Military</td>
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<tr>
<td>DF</td>
<td>Irish Defence Forces</td>
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<tr>
<td>DFHQ</td>
<td>Defence Forces Headquarters</td>
</tr>
<tr>
<td>DFR</td>
<td>Defence Force Regulation</td>
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<tr>
<td>DoD</td>
<td>Department of Defence</td>
</tr>
<tr>
<td>DOTMLPFI</td>
<td>Doctrine, Organisation, Training, Material, Leadership, Personnel, Facilities and Interoperability</td>
</tr>
<tr>
<td>EAM</td>
<td>Electronic Asset Management System</td>
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<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FMC</td>
<td>Fishery Monitoring Centre</td>
</tr>
<tr>
<td>FOCNS</td>
<td>Flag Officer Commanding Naval Service</td>
</tr>
<tr>
<td>FORST</td>
<td>Fleet Operational Readiness, Standards and Training</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GPS</td>
<td>Global Positioning System</td>
</tr>
<tr>
<td>HLPPG</td>
<td>Higher Level Planning and Procurement Group</td>
</tr>
<tr>
<td>IKON</td>
<td>Information and Knowledge Online</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organisation for Standardisation</td>
</tr>
<tr>
<td>MBA</td>
<td>Master of Business Administration</td>
</tr>
<tr>
<td>MDMP</td>
<td>Military Decision Making Process</td>
</tr>
<tr>
<td>MIF</td>
<td>Management Information Framework</td>
</tr>
<tr>
<td>MoD</td>
<td>Ministry of Defence</td>
</tr>
<tr>
<td>NATO</td>
<td>North Atlantic Treaty Organisation</td>
</tr>
<tr>
<td>NCO</td>
<td>Non-Commissioned Officer</td>
</tr>
<tr>
<td>NHQ</td>
<td>Naval Headquarters</td>
</tr>
<tr>
<td>NS</td>
<td>Irish Naval Service</td>
</tr>
<tr>
<td>OC</td>
<td>Officer Commanding</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>OIC:</strong></td>
<td>Officer In Charge</td>
</tr>
<tr>
<td><strong>OPDP:</strong></td>
<td>Operational Planning Design Process</td>
</tr>
<tr>
<td><strong>PfP:</strong></td>
<td>Partnership for Peace</td>
</tr>
<tr>
<td><strong>R&amp;D:</strong></td>
<td>Research and Development</td>
</tr>
<tr>
<td><strong>SAF:</strong></td>
<td>Swedish Armed Forces</td>
</tr>
<tr>
<td><strong>SMC:</strong></td>
<td>Strategic Management Committee</td>
</tr>
<tr>
<td><strong>SOPs:</strong></td>
<td>Standard Operating Procedures</td>
</tr>
<tr>
<td><strong>STANAG:</strong></td>
<td>Standardisation Agreements</td>
</tr>
<tr>
<td><strong>UK:</strong></td>
<td>United Kingdom</td>
</tr>
<tr>
<td><strong>USA:</strong></td>
<td>United States of America</td>
</tr>
<tr>
<td><strong>VDA:</strong></td>
<td>Virtual Desktop Architecture</td>
</tr>
<tr>
<td><strong>VUCA:</strong></td>
<td>Volatile, Uncertain, Complexity and Ambiguous</td>
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Chapter One:

Introduction
Chapter 1 – Introduction

There is no more delicate matter to take in hand, no more dangerous to conduct, nor more doubtful in its success, than to be a leader in the introduction of changes. For he who innovates will have for enemies all those who are well off under the old order of things, and only lukewarm supporters in those who might be better off under the new.

Niccolo Machiavelli (1513)

1.1 Background to the Study

The study was undertaken in the context of the Irish Defence Forces, which is a military organisation, with a particular focus on technology and change management. While this study will focus on the Irish Defence Forces it is pertinent to acknowledge that similar to other military organisations, the Irish Defence Forces seeks to modernise and transform through the introduction of modern technological systems. Moreover, while the study will discuss theory, which is applicable to all military organisations irrespective of size, culture budgets and operations, including capability development and management, further analysis of other military organisations is beyond the scope of this study, which focuses solely on the Irish Defence Forces.

1.1.1 Overview of the Management of Defence in Ireland

In 2015, the Irish Defence Forces published its second White Paper on Defence, (Department of Defence, 2015), and sought to encapsulate a modernisation programme that would ensure that the Irish Defence Forces was capable of providing an organisation that would be prepared to deliver a flexible and adaptive response to any adverse changes in a dynamic security environment. The publication of the White Paper, witnessed a new term enter the lexicon of defence policy in Ireland and the term Defence Organisation was created, which comprises the Department of Defence and the Defence Forces (Department of Defence, 2015, p.1). In order to achieve the policy objectives of the White Paper, (Department of Defence, 2015, p.23), the Defence Organisation seeks to ensure that there is appropriate planning and capability provision to mitigate national security risks and defend sovereign interests, and to respond effectively to those incidents which could have a
significant adverse impact on the State and its citizens. Kirwan (2020) observed that Defence is a product of three core elements: Government policy, the development and delivery of military capability as an instrument of Government policy, and vital defence administration undertaken by civil servants in the Department of Defence. While the work of the civil service and military personnel within the Department of Defence may be heavily integrated, civil servants and military elements fulfil distinct but complimentary roles drawing on the discrete experiences of both the armed and unarmed servants of the state (Department of Defence, 2015, p.1).

The culture of the command and control element of the Irish Defence Forces dates back to the formation of the state due to two primary factors: firstly, the size of the army was too large after the civil war and needed to be reformed, and secondly, there was a long-standing fear at the military-political level that if the army remained too large it could capitate the government. The political policy of the time was that the Defence and the army had always to be carefully watched and controlled (O’Halpin, 2016, p.217). Table 1.1 provides an overview of the Defence Organisation. As outlined in the White Paper on Defence (2015, p.109-110), the Secretary General and the Chief of Staff are the respective heads of the civil and military branches of the Department. As such, they act as the principal policy adviser and principal military adviser respectively to the Minister for Defence.

Table 1.1 – Overview of the Defence Organisation
Gosselin (2015) posited that placing the Secretary General as the accounting officer has strengthened the oversight role on the military because almost all operational decisions involve funds, property, capability development or other resources, bringing them within the remit of the accounting officer. In their role as accounting officers, senior civil servants within the Defence Organisation are now central to the decision-making process, which previously would have been considered purely a military domain. Okros (2015) contends that senior civil servants now see themselves as having a clear and important role in providing managerial oversight of armed forces decisions. Furthermore, Lagasse (2010) posits that this has shifted the balance in military-bureaucratic relations, with military leadership answerable to senior civil servants on matters of financial expenditure. Okros (2015) further argues that this policy has further exacerbated confusion of roles between military and civil servant management.

In addition to being the principal policy adviser, the Secretary General is also the Accounting Officer for the Defence Vote and is answerable directly to the Oireachtas. This current structure contravenes the findings of the Efficiency Audit Group (1991, p.8) which identified the need to transfer the full accountability for Defence Forces operational expenditure to the Chief of Staff. It should be noted that the government of the day in 1991 and each successive government chose not to implement this core recommendation. An additional key structure, which exists between the civil and military elements of the Defence Organisation, is the Strategic Management Committee (SMC). The SMC is the senior civil-military monthly forum attended by the Department of Defence (DoD) Management Board, and the Defence Forces General Staff and is chaired by the Secretary General. The DoD Management Board comprises the Secretary General, three Assistant Secretaries and the Director of Operations who is the equivalent of an Assistant Secretary. The Defence Forces General Staff comprise the Chief of Staff, two Deputy Chiefs of Staff and the Assistant Chief of Staff. The SMC is described as, the central forum for management and oversight of civil and military matters. It provides the means by which senior civil and military managers can engage in policy development and oversight of implementation while respecting the separate lines of authority within the Department’s civil and military structures (Department of Defence, 2015, p.109). The SMC is responsible for the creation of strategy that will transcend all elements of the Defence Forces, which additionally informs capability development across all
services, corps and formations. The following section will provide an overview of the Irish Defence Forces.

1.1.2 Overview of the Irish Defence Forces

The Irish Defence Forces was established in 1924 and was primarily based around a land-centric organisation that was premised on the system the British Army had used prior to the declaration of the Irish Free State (Defence Forces, 2016). After completing a visit to the US Military academy in 1927, the Irish Defence Forces organisation was formed and implemented through the appropriate legislation. In addition, the Air Corps was also established at the same time albeit in a smaller role than its current existence. A maritime formation was added in 1946 although it was preceded by earlier maritime defence organisations. The structure that has existed for over 96 years has remained in situ and heavily influences the command and control element of the Irish Defence Forces. At present, operational command of Irish Defence Forces elements, Table 1.2 below, is invested in the General Officer Commanding (GOC) Aer Corps, GOC 1 and 2 Brigades and Flag Officer Commanding Naval Service (FOCNS), (Defence Forces, 2015).
As demonstrated in Table 1.2, the Chief of Staff of the Irish Defence Forces, therefore, has no command over the force he oversees, and this has a significant impact on how the Irish Defence Forces is organised. Additionally, from a management and administration perspective, within Defence Forces Headquarters (DFHQ), all senior management positions such as: finance, procurement, logistics, personnel and training are filled by Army officers, and this includes all of the staffing directorates in Defence Forces Headquarters, which are *aligned to the joint directorates ‘J1-J9’* (Hegarty, 2018, p.30). The term Joint directorates refers to the departments tasked with certain key responsibilities within a military system, for example, J1 manages all personnel matters, J2 is responsible for the compilation and management of intelligence, J3 refers to the management of operations, and J4 is responsible for logistics, and so on. In most modern military organisations these directorates would be staffed by tri-service personnel, however, this approach is not used within the Irish Defence Forces. The internal issues that this land-centric bias has caused has only materialised after the elevation of a *different colour uniform to the post*
of Chief of Staff (Hegarty, 2018, p.31), as traditionally the Chief of Staff has always been an army officer and the ‘de facto’ figure-head of the army. While other military organisations will not form part of this research, it should be noted, that no contemporary military organisation operates their command and control structure on the construct used by the Irish Defence Forces (Hegarty, 2018).

From an organisational strategic planning perspective, the Chief of Staff issues his annual plan each year through the Strategic Planning Branch and this is circulated throughout the Defence Forces, to all branches, directorates and services, and this cascades down into the individual plans and work reference documents created by each unit. The responsibility for managing and delivering the annual plan is delegated to both Deputy Chiefs of Staff and the Assistant Chief of Staff, as they each have specific responsibilities for managing all associated objectives, as they are responsible for the strategic directorates within Defence Forces Headquarters (Kirwan, 2020).

Moreover, in addition to each service, Army, Naval Service, and Air Corps having their own unique culture, operational profiles, and capability and technological requirements, each of the directorates and corps additionally have their own unique cultures, operational profiles, and capability and technological requirements. This organisational structure infers a complex silo approach that causes significant challenges during periods of change and transformation. Due to the unique nature of the Irish Defence Forces command and control structure, it can be inferred that when it comes to the management of change, the services, branches and directorates are not homogenous.

Reflecting on the implications of the current civil-military structure and the associated military command structure, there are significant complications for the Irish Defence Forces when it comes to capability development and managing change during the implementation of technological systems. In order to provide a more robust research project, this thesis will focus on two areas. Firstly, it will identify a technological project that was implemented across the Irish Defence Forces, thus allowing an opportunity to examine how each service, branch and directorate
implemented and managed the change. The project selected for this is the Information and Knowledge Management (IKON) project that commenced in 2012 and concluded in 2016 and was implemented throughout the organisation and importantly was technologically focussed. Secondly, the research will examine individuals’ lived experience of technological change in the Irish Defence Forces across each service, branch and directorate, thus providing the basis for cross comparison. The following section will outline my personal motivation for undertaking this research.

1.2 Personal Motivation for Undertaking this Research

Currently, there is a significant demand being placed on the Irish Defence Forces to modernise and transform, and central to this transformation is the introduction of technological systems. As a military force, and in line with the objectives of the White Paper 2015, the Irish Defence Forces are required to maintain parity with other militaries in key areas to ensure interoperability primarily as an independent force, and secondly with partner nations, and technology is a key enabler for this policy requirement.

Over the previous ten years, I have undertaken a number of academic course in order to develop my personal and professional skillset. In 2012, I completed an MA in Project Management and this course provided me with an exposure to project management methodologies and theories. As part of this programme, I completed a dissertation that examined if the value management process could be used to monitor scope in military projects. The primary motivation for undertaking this topic was to explore how the Irish Naval Service managed projects and to establish the organisational maturity for implementing project management. My research identified that the Naval Service did not manage scope creep and from a value management perspective, the organisation did not benefit from projects being implemented as it did not assign critical success factors, and was not performing optimally. My research observed that by inculcating a value management process into the Irish Naval Service the organisation would become more efficient and effective at managing the triple constraints of time, cost and performance in project delivery.
Throughout my career, I have been involved in small to large-scale technological projects that were unique to individual units, and others that transcended the Naval Service. As a project member and as a project manager, I was exposed to a diverse range of projects and frequently questioned if a change management process would encourage the Irish Defence Forces to become more effective and efficient when implementing projects that encompassed technological change. My experience highlighted an organisation that appeared to conduct little strategic planning, and holistic capability development was largely overlooked. As my awareness and knowledge of the wider Irish Defence Forces developed, I became frustrated with the lack of strategic planning that was being conducted throughout the Irish Defence Forces, as technological projects appeared to materialise from nowhere, yet had a significant contagion effect. There was never any communication about future projects and projects that were implemented top-down often overlooked the intricacies of the Irish Naval Service and other services and formations, and frequently omitted any training requirement prior to their implementation.

In 2014, I was project manager for the implementation of a Warship Electronic Chart Display and Information System (WECDIS) project that would allow the Irish Naval Service transition from traditional paper based navigation methods to digital navigation. The project provided me with an opportunity to plan the project from initiation to fleet-wide implementation and required organisation wide support as it involved multi-disciplinary teams. To ensure successful delivery the project had to be installed across nine operational ships, including the modernisation and upgrading of the simulation suite in the National Maritime College of Ireland, and a multi-user training simulator for officer training had to be designed and installed. The project adhered to International Maritime Organisation civilian standards whilst simultaneously meeting NATO standards for warship digital navigation. Moreover, extensive discussion with eternal stakeholders had to be conducted to ensure the project supported the Irish Naval Service in fulfilling all national and international legal requirements so it could continue to operate seamlessly. For example, to ensure Ireland could legally fulfil its international obligations the project required strategic level negotiations with several Government departments, which culminated with a full national review of Irelands baselines and the publishing of Statutory Instrument No. 22/2016 Maritime Jurisdiction Act.
During the project, other Irish Defence Forces units were consulted with and the Army Ranger Wing were included in the project in order to ensure that both the Irish Naval Service and Army Ranger Wing could operate seamlessly in the operational environment to support tactical operations. The system future-proofed the Irish Naval Service as the technological system is interoperable with all NATO and partner nations and can operate anywhere in the world. As part of the project all officer training in the Irish Naval Service has been updated to reflect best international practice, including supporting doctrinal publications. The project was completed in 2017 and the Irish Naval Service now operates solely on digital navigation.

Reflecting on this project, lessons learned, and my experience to date, I believe that investigating how the Irish Defence Forces manages change would allow me to develop my professional knowledge and build on my existing academic experience. An opportunity presented itself to conduct a PhD programme with Cork Institute of Technology and I availed of this opportunity in order to research change management in the Irish Defence Forces.

This research is important, as it will lead to a better understanding of how the Irish Defence Forces implements new technological systems through the application of change management. The following section introduces the study.

1.3 Introduction to the Study

This chapter provides both an introduction and background to this research. A number of concepts are presented in this chapter to contextualise the study. In particular, the potentially related areas of change management, the understanding and creation of strategy pertaining to military organisations’, organisational culture and technology are overviewed.

Holmberg and Alvinius (2019) contend that the need for transformation in the military domain has been understood in a broad manner, incorporating different trends and major reforms that can be said to incorporate pressures for change. Cohen (2004) previously noted that causes for change
stem from fundamental changes in international politics and the continuing maturation of the informational technologies, which will drive the strategic and technological change. Furthermore, Galli (2018) acknowledged that strategic and operational change is a constant concern in order to remain relevant and competitive, and reflects the maxim of Clausewitz (1989, p.88), who noted that while the nature of war remains constant, its character is constantly changing. Consequently, strategic leaders in the military should have an interest in understanding the reasoning behind why their respective organisations will be required to change and evolve, both now, and into the future, and why they, as leaders, should understand the need to manage such change. Barbaroux (2011) posits that the real challenge for military organisations is understanding that in order to survive and further develop, they need to balance the contradictory forces of being able to transform themselves while increasing flexibility yet maintaining reliability. An objective of this research will explore the role of change management processes and their potential suitability for use in the Irish Defence Forces, with an emphasis on technological projects.

Military organisations, since the time of antiquity, have continuously sought to leverage technologies that provide advantage against their prospective adversaries on the battlefield (Regens et al. 2020). As military organisations evolve and modernise, technology will become a prominent catalyst in providing the means to develop more efficient and effective systems. Petersson (2011) contends that economic and technological pressures will make defence transformation indispensable for nations who wish to prepare for the future. Inherent in this observation is the military pursuit of innovation and technological transformation that underpins military progress, and associated capability development programmes. Farrell and Terriff (2002) view technological systems, as one of the primary drivers for change and military organisations will be required to follow in the wake of new technologies. This research will examine the processes the Irish Defence Forces utilise in identifying and adopting technological systems, while simultaneously examining the ability to implement new technologies. Barwell et al. (2015) urge caution and highlight the need for military strategic leaders to have a clear understanding of the challenges associated with integrating new technological systems. Therefore, leveraging technology and achieving long-term transformation requires a future-oriented strategy that provides the Irish Defence Forces with a vision of the future.
Uttley et al. (2019) query how successful militaries absorb their visions of the future into their current plans and structures and stress the importance of understanding such reasoning. They further warn that militaries are under significant pressure to adapt their force to ensure that they are fit for purpose in a rapidly changing world, yet simultaneously, strategic leaders face the difficult task in attempting to change a system that is largely already ‘set and fixed’ in place by a host of previous policy decisions. Porter (2016) acknowledges this conundrum and highlights the issues through a UK lens, as his research identified that: on one hand, militaries face the impossibility of anticipating the character of future conflict, alternatively, policy necessarily presupposes a fixed future set by the UK’s current strategic role. Porter (2016, p.239-245) surmises by warning that military leaders have become victims of a misplaced confidence in their ability to anticipate and prevent future threats due to an excessive faith in the predictive power of risk analysis, horizon scanning and future techniques. Schwab (2017) furthers this and posits that society has entered the fourth industrial revolution and organisations need to be capable of redefining themselves by changing the way the operate by planning for future-oriented requirements. A key component of this research will focus on identifying how the Irish Defence Forces conducts its strategic planning and how it uses this process to inform its capability development, when pursuing new technological systems. The complexity of the contemporary global security environment and the anticipated future challenges require military organisations to be fit-for-purpose and capable of completing all current and future tasks assigned to it. Holmberg and Alvinius (2019) reflect on this and highlight the need for military organisations to be capable of incorporating flexibility to their traditional rigid hierarchical characteristics as failure to do so could risk the organisation losing legitimacy both internally and externally. Proactive and transformational leadership will have a prominent role in communicating and leading future organisational change (Stubbings et al. 2019).

In delivering a future vision, Kotter (1996, p.66) espouses the need for organisational leaders to be capable of going after systems and structures that are not consistent with the transformation vision and have not been confronted before. This reflection highlights the issues faced by military leaders in the Defence Forces and the suggestion that these leaders are deemed to be lacking in terms of the skillset required to prepare their organisation for future challenges is notable. The
publication of the recent *Workplace Climate in the Irish Defence Forces Report*, by MacMahon and MacCurtain (2016), highlights the issues the Defence Forces are having with respect to its internal organisational culture, the lack of leadership at all levels of the organisation, and its inability to effectively manage the change the organisation is currently undergoing. The dynamic between these variables have the potential to negatively affect a high performing military organisation, such as the Defence Forces. Allen and Polmar (2007, p.20-21) further posit that there must be belief in the transformation initiative and to achieve this there must be clear, continuous, and credible communication aimed at winning hearts and minds in the organisation. Furthermore, this observation indicates that there should be a mechanism for encouraging current and future staff to develop the knowledge and associated skill, required for improving the performance and efficiency of the Defence Forces. Essentially, leaders in the Defence Forces should understand the need for change, the ability to plan for it via a strategic policy, and the ability to implement necessary changes. This research will examine how senior leaders within the Irish Defence Forces communicate and lead during periods of change. Kamara (2018) argues that change leaders need to be empowered in order to be capable of influencing activities, while removing critical hindrances to transformation in order to implement lasting change. The role of change agents in guiding the organisation through the change process will also be important in order to get widespread support throughout the organisation, thereby, identifying and influencing any potential cultural resistance to the proposed change.

Research has illustrated that organisational transformation requires a fundamental shift in the core elements of structures, systems, strategy, values and culture and requires careful management (Malhotra and Hinings, 2015). This research will explore the impact of organisational culture and how it evolves during the change process, as it will be pertinent to understand how change initiatives can affect the internal culture of the Defence Forces. Hinings and Greenwood (1988, p.23) posit that key organisational structures and systems are not purely instrumental, related only to task constraints, but are an expression of a set of values and ideas about the organisations and appropriate ways of organising. Key to understanding the organisational transformation process is the requirement for the organisation to have a clear understanding of its current position and its future end-state. Or, as argued by Farrell and Terriff (2002), cultural norms will define the purpose and possibilities of change within the military domain, and it is essential
to study how the central actors involved in the transformation process justify change in terms of goals, strategies, and organisational structure. Understanding this phenomenon, therefore, is pertinent for this research as Kotter (1996, p.67) argues \textit{change sticks when it becomes the way we do things around here and has been culturally accepted into the organisation}. Transformation takes time and Kamara (2018) contends that change initiatives will lose momentum if there are no short-term goals to meet, and failure to plan for this can induce a greater level of resistance to change within the organisation. The following section will introduce the concept of change management.

\subsection*{1.3.1 Change Management}

Organisational change theory has long been central to studying how organisations transform themselves through time (Colville \textit{et al}. 1993; Mintzberg and Wesley, 1992; Greiner, 1972 and Lewin 1951). Militaries continue to face political pressure to improve efficiency, to identify the resources associated with different levels of readiness and to become more accountable for the use of public resources (Chenhall \textit{et al}. 2007). Such an ethos is consistent in many western countries in order for the entire public sector to be more accountable for the expenditure of public resources and to move from a ‘bureaucratic’ mentality to a more ‘business-oriented’ approach to management (Wanna \textit{et al}. 2003). These pressures also extended to defence, with national governments causing the armed forces to justify costs, and more generally, demonstrate concern with delivering outcomes in effective and efficient ways (Chenhall \textit{et al}. 2007).

Change for any organisation is arduous, but, as argued by Rosen (1994, p.2), military organisations, have difficulty changing, because \textit{they are designed not to change} as they are fundamentally designed to perform established tasks with uniformity and regularity. Cohen and Gooch (2006) further posit that most modern militaries have struggled with this challenge and have failed on occasion to anticipate, learn and adapt to changes in their nature of work. The application of change management theories and processes are mechanisms that would allow for more calculated and transparent systems of improving and evolving practices within the military.
Consequently, the presence of change management amongst other western militaries is sufficient to render the topic suitable for application of this thesis.

When seeking to introduce change, research has shown that the more successful cases of change management projects are those that accept that the change process goes through a series of phases that, in total, usually require a considerable length of time (Kotter, 2007). By adopting a common approach to transformation, militaries should be capable of unifying their military structures, capabilities and processes by improving both cognitive and technical interoperability. This methodology further supports collaborative interactions and ensures that commonality exists in both the training and operational domains, thus, achieving a joint and holistic alignment (Barbaroux, 2011). As there is no agreed, single definition of change management, it is notable that all definitions refer to the importance of having a set methodology or process to manage and effect change within the organisation. Creasy (2018) provides his initial definition and describes change management as a process and a competency, but later proposes that change management additionally focuses on the organisational tools that support the individual during the change process. The underlying assertion is that change must be managed, through an accepted and prescribed formulated approach, in order to ensure that there is an orderly and planned transition towards the desired end-state. In identifying, the reason for change, there is generally an identified need to transform the military organisation to reflect international best practice.

Van Doorn (1975) provided research that focussed on the norms of conventional warfare, which originate from the western model of military organisation that produced, and was reproduced, by the professionalisation of war. Farrell (2005) argues that it is tautological to point to the capital pattern of global military development as evidence of the norms that are supposed to explain such military behaviour. However, recent research by Griffin (2016) argues that there is insufficient understanding of military innovation studies that seek to account for drivers of inertia and change in military organisations. In the organisational context, the need for change must be identified and a clear and coherent vision for the organisation established. This is significant, as change management is a function of organisational planning at the strategic level. It is necessary, therefore, that military organisations have considered, and developed the medium to long-term
strategy that will sustain the organisation as it undergoes modernisation through the change process. This observation, relating to the importance of strategy, highlights the requirement for military organisations to have strategies that are both, fit for purpose, and future oriented. The following section will introduce the concept of strategy within a military organisation.

1.3.2 The Role of Strategy in the Military

The introduction of change requires military organisations, therefore, to adopt a strategic outlook. A nation designs its military force structure to perform tasks that fit its concept of national strategy (Greenwald 2000). As outlined by Murray and Grimsley (1994), such a strategy must allow for the need to adapt to the evolving and shifting conditions and circumstances in a world where chance, uncertainty and ambiguity dominate. The concept of a Volatile, Uncertain, Complex and Ambiguous (VUCA) environment has existed since the mid-1990s but recent research, by Lee Kaivo-oja and Lauraeus (2018), highlights the need for military planners to be aware of the chaotic, turbulent and rapidly changing world that has become the ‘new normal’. Within this domain, military leaders need to be capable of making continuous shifts in people, process, technology and structure, and as such, will require more strategic, complex critical thinking skills in order to prepare their military organisation for future challenges. In such an environment, it is not merely equipment that can become obsolescent, but also mind-sets, exemplified by planning to fight the last war, rather than the next (Alach, 2008). This requires management to set down specific strategic, operational and tactical plans with identifiable goals and objectives that have certain time frames and outcomes (Nixon, 2004).

Strategy aims to prepare an organisation for the future through its choices; however, there is no agreed single definition of strategy. While many of the definitions proposed focus on the ends, ways and means of military strategy, there is consensus that strategy requires good generalship, but allows for disagreement about how these three-core elements function (Gray, 2015). The historic definition offered by Von Clausewitz (1976) defined strategy as *the use of engagement for the purpose of war*, but more recent definitions from Freedman (2013) and Heuser (2010) focus on the political and power element of strategy, and Gray (2015) and Royal College of Defence
Studies (2012) focus on the concept that strategy is a bridge between military power and political purpose. Unlike previous definitions, which solely focus on the ends, ways and means of strategy, Gray posits an additional factor, which influences the strategic assumptions. Gray argues that assumptions may be culturally derived, as the innate and natural biases that strategic leaders possess will inevitably influence the direction the military organisations strategy takes. Remaining cognisant that the primary focus of this research is on the Defence Forces, the previous analysis highlights the challenges facing strategic leaders in the military, however, the commercial sector may provide an alternative viewpoint on strategy development that may be worth reflecting on.

While the previous definitions originated from the military domain, there have also been definitions of strategy offered in the commercial sector. Similar to the previous findings, there is an evident congruence between the definitions proposed by Porter (1996) and Johnson et al. (2017), in that the definitions agree that strategy must focus on the long-term direction of the organisation that must be supported by key objectives. An interesting observation by Porter (1996) additionally recognised the need for the organisation’s strategy to prioritise the operational effectiveness of the organisation, thus, ensuring the organisation remain fit for purpose for both current and future long-term requirements. In addition to the definitions proposed, Mintzberg and Waters (1985) proposed that strategy did not adhere to one linear path that reflected the intended strategy of the organisation. Their research observed that the intended strategy will evolve into the organisation’s deliberate strategy and as a consequence of external factors, such as the VUCA environment, there will be unrealised strategy as the organisation progresses through time. In addition, as the organisation transitions towards the future it may experience emergent strategies, those that evolve from the changing nature of the organisations environment and these too will have to be analysed and aligned where necessary.

It is, therefore, necessary for both current and future military leaders to be capable of developing strategic visions that can encompass the needs of the military organisation and simultaneously develop a future strategic plan while remaining cognisant of the VUCA environment within which their organisation operates. When developing strategy, Rosen (1991) observed that enlightened military leadership is the key to improved military efficiency and that strategy creation must evolve
in a coherent and future oriented manner. Farrell (2005) furthers this and argues that strategic action must involve modifying behaviour to increase efficiency in the attainment of community goals. However, Baylis (1989) is critical of policy makers, and suggests that the approach of continuous incrementalism and ‘muddling through’ is problematic as it limits the extent to which military strategic leaders can plan. Uttley et al. (2019) concur with this finding as their research found that the ‘muddling through’ approach reflects a deep-seated organisational culture that seeks to maintain continuity rather than change. In the absence of a clear and coherent strategy, military personnel will do what they have been trained to do; they will carry on and muddle through. While previous studies have focused on other international militaries, none has examined this concept in an Irish context. Research on the process used for strategy formulation is vital, specifically, because it plays a critical role in preparing military organisations for current and future roles.

Analysis has shown that it has become common, and, thus, a concern for policy makers, for defence-related procurement programmes to take in excess of two decades, from concept development to initial operating capability (Goure, 2017). This observation is critical as it further highlights the development of the foundational science and technological knowledge that underpins technological developments and that such systems take time to develop. From a military planning perspective, this concerning and organic problem must be managed and understood. Traditionally, research in this domain postulated that long-term forecasts with a horizon greater than 20 years are so uncommon that they are considered outliers and should not be considered (Fye et al, 2013). This discovery highlights two key findings relating to the objectives of this research, firstly, long range forecasting for technological solutions are possible and have high accuracy levels, and secondly, the need for military organisations to have detailed and long-term strategies that permit realistic and attainable objectives with respect to strategy.

However, an underlying suggestion is that military organisations find it difficult to change, primarily due to its culture and way of operating (Gerras and Wong, 2013). In an organisational context, change will mean different things to different people and will have a determining factor on how the organisations strategy and subsequent proposed changes are to be implemented (Erguin and Tasgit, 2013). This is significant, as organisational culture at the individual level can
negatively affect the organisational aspiration to change (Darwin, et al. 2002). It is necessary, therefore, that organisations consider, and develop understanding, of factors such as culture in advance of any change initiative.

1.3.3 Organisational Culture in the Military

Organisational culture provides the underlying explanation for how groups of individuals work together. Farrell (2018) posits that it can provide an insight as to why an organisation is successful, or not, when achieving the desired results. The previous section introduced the VUCA concept and the inference that change is a concept that remains omnipresent in all organisations. Pool (2000) suggests that organisational culture is a phenomenon, which allows an organisation to address the ever-changing problems of adaption to the external and internal integration of resources or policies to support adaption.

Although there is no agreed, single definition of culture, a number have been proposed. While the various definitions have unifying concepts such as, shared values, beliefs, assumptions and practices that guide member’s attitudes and actions. There is one seminal definition by Hofstede (1990), who posited that culture is a collective programming of the minds of individuals. Other definitions as proposed by Katzenbach et al. (2016) reflect Hofstede’s work and agree that culture refers to taken for granted behaviours which determines how the organisation gets things done. While there are minimal military specific definitions, Shambach (2004) referred to the concepts outlined above while focusing them as the catalyst for defining the ‘do’s and don’ts’ of military members. The underlying suggestion is that individuals from a particular organisation will be unified in their thinking and behaviours as a result of their time spent in a hierarchical military organisation (Alvesson and Sveningsson, 2008). The expected deduction from this understanding is that individuals from the same culture would be expected to behave in similar ways, perceive situations in similar ways and share similar values. Kunda (2009) highlights that if this alignment of shared meanings and assumptions exists in society, it is therefore reasonable to assume that the individuals who experience these meanings will carry them into the organisations within which they work. This is significant as the organisation requires individuals to perform in order to
function and it is the culture that develops that will influence the individuals to support the organisation’s culture.

Schein (1992) elaborates on the definitions offered previously and focuses specifically on organisational culture and links the basic assumptions with the coping mechanism individuals develop for managing internal integration and external adaption and how these individuals will then teach future members to think and feel related to these core cultural beliefs. This finding is important for this research, as military culture is not only just taught at a basic level, but it is also reinforced and inculcated at all levels of the organisation due to its hierarchical structure. A significant utility of Schein’s model is its aid in understanding cultural barriers to adaptation, or in the case of this research, change. Vodonick (2018) concurs with these observations and observes that in organisations where basic assumptions are deep-rooted, deep anxiety can result from the development of mechanisms or viewpoints that contradict those assumptions. In order to pre-empt this, Schein argues that groups will unknowingly distort, deny, project or even falsify what is going on around them to avoid conflict with basic assumptions. This is significant, as this finding infers that groups can delay or disrupt the change initiative, and this has implications for this research as it is focussing on how military organisations implement new technologies.

Military organisations have traditionally displayed and espoused their internal traditions and customs, thus establishing their culture and identity (Holmberg and Vilnius, 2019). Militaries, therefore, can have strong and sometimes over-bearing cultures and changing organisational culture to keep an organisation viable for the future can be very difficult unless based on sound logic, and is promoted through a persuasive communication campaign to its members (Kelly 2008). For change to be effective, it also needs to be implemented at all levels, and embedded in the culture of the organisation (Harding and Pooley, 2007). This observation has implications for this research as military organisational culture is rooted in the past, based on historical ways and prior decisions of the organisations (Farrell, 2018). This is significant for military organisations as the ability for a military organisation to change is critical, so that the organisation can remain fit for purpose. Developments in other military organisations, such as NATO, which is viewed as a standard-bearer, may require changes that affect the organisation’s culture. Such changes may
include; structural change, which may affect the internal structure of the organisation; normative pressure for change, which may require the organisation to fulfil new tasking’s and operations; functional pressure for change, which outlines the need for military organisations to implement new technical innovations to improve organisational performance. Research conducted by Holmberg and Alvinius (2019) identified that if military organisations hold on to traditional characteristics that are not compatible with the demands posed, they risk failing to achieve their goals and will lose legitimacy both internally and externally. This is significant, as the Irish Defence Forces have inculcated their own cultural values as espoused in its Leadership Doctrine (DFDM-J2, 2016) and analysis of the literature indicates that these values may have an adverse impact on how change is perceived internally, particularly if it conflicts with previously held values, thus having potential implications for this research.

Consequently, military organisations should seek to understand and explore how these behaviours should be managed and how the leadership within the organisation can create a culture that supports change initiatives. Erguin and Tasgit (2013) state that there is a correlation between the culture of an organisational system and tendency of attitudes towards organisational change and attitudes of acceptance towards organisational change. This observation highlights the need for the strategic leadership to ensure that the design and future composition of the organisation is created in a manner, which supports the direction the organisation wants to proceed and that the supporting structure is established in advance of the change initiative (Pool, 2000). By creating a relevant structure, the leadership can ensure that the structure supports current and future requirements by ensuring it remains flexible and agile enough to sustain the organisation over the long-term. Holmberg and Hallenberg (2017) identified that the application of generalisations, should be avoided in order to minimise conflict and resistance to the proposed change, however, modern concepts may need to acknowledge that the traditional hierarchical structure normally associated with militaries may not be suitable for future requirements.

Cardenas (2004) posits that constructivists have ignored the external changes that present lesser but still serious challenges to cultural systems and in a military context, this can have detrimental results for future operations. This is particularly evident as the changes occurring externally are
relevant as there is a rising threat that challenges existing military norms, thus, suggesting the need for modification of existing military organisation or operations, or both (King, 2011). The following section will examine the role of technology in being a catalyst for change in military organisations.

1.3.4 Technology in the Military

Technology is having a significant impact on military organisations and as a key component of this research, there is a necessity to understand how technology impacts on military organisations. Schousboe (2019) highlights that the impact of modern technology on warfare has always been a central concern within military science particularly as technological innovation continues to increase in relevance. While these developments may be incremental, or revolutionary in nature, there remains doubt about how military organisations seek to utilise and implement such technologies (MacGregor and Williamson, 2001). Technology in the military continues to evolve and develop at an exponential rate, low-tech to high-tech, yet the previous sections have highlighted that military organisations do not necessarily evolve as rapidly in order to support new systems (Chamayou and Lloyd, 2015). One of the most important lessons in the history of military revolution is that organisational dynamics will determine the setting in which technological innovation will either succeed or fail (Evans, 2000). This is significant as the role of technology is important to future military capability, yet it is the military itself that could potentially hamper its own sustainability and capability development if it is unable to successfully implement the new technology.

When seeking to identify suitable technological solutions military organisations can utilise various processes. This is important as the technology selected must be ‘fit for purpose’ and deliver on the identified requirements (Fedorchak, 2018). This requires an element of foresight from the strategic planners, in order to ensure that the process has been systematic, looks to the long-term, identifies emerging technologies and selects a system that will likely yield the greatest economic and social benefit for the organisation, as posited by Martin (1995). To support the decision-
making process, military strategic planners can utilise scenario-based planning or capability-based planning.

The primary purpose of utilising a scenario-based model is to allow the organisation to develop a culture of organisational learning so that the organisation could manage change. While Schoemaker (1995) supports this observation by agreeing that scenarios provide alternative images of the future in an internally consistent way, he advocates that scenarios should go beyond providing future images towards informing policies and strategies for action. Drew (2006) contends that the scenario-based process encourages the organisation’s strategic planners to consider broader viewpoints and avoid utilising a narrow focus when reviewing and considering new technological systems. However, there is caution in adopting this approach and planners should remain cognisant that scenarios are not selected to predict the future, but to serve as a template to explore different situations and complete a horizon scan of potential future challenges (Christensen, et al. 2004).

An alternative decision-making tool is the theory of concept-driven scenarios. Research by Burmaoglu and Saritas (2017) created a framework that may be used in identifying the social and technological shifts, and the changing characteristics of warfare. Furthermore, the technology-driven response (scenario-based planning) and the concept-driven response are both encapsulated by the military response, which is the one of the primary objectives of this research, with reference to the Irish Defence Forces. An example of this process is the creation of a Future Force Concept in order to inform the strategic planning of a military organisation thus influencing the capability development process used (DCDC, 2017, p.v). The Future Forces Concept allows a military organisation to conduct horizon-scanning externally over a 20-30-year period, thus, allowing them to conduct an analysis of emerging global strategic trends and prepare their military’s for the future operating environment. Gilchrist (2018) posits that an issue prevalent in the military is where technological equipment is often bought before the full challenge of integrating it is understood or planned for. Such criticism highlights the previous caution espoused by Evans (2000) in which he identified that technological superiority means little without organisational effectiveness. Evans further posited that, generally, it is those military forces that succeed in integrating a reformed
organisation with new doctrine, operational concepts and technology in a coherent strategic framework that seem to succeed. This finding is important for this research, as the link between utilising a suitable planning process in order to support the strategic plan being developed by the organisation is critical. In light of such a contention, studies that aim to develop further understanding of concept-driven scenarios and uncover mechanisms in which concept-driven scenarios can be promoted in an organisation are arguably required and hold the potential to be valuable to both military practitioners and future researchers.

While arguments for this study can be drawn from a framework of existing literature, there are a number of objectives associated with this research. The objectives will be covered in detail in Chapter Three, but a brief synopsis is also outlined in this chapter. The following section introduces the rationale for this study.

1.4 Rationale for the Study

A strong rationale, comprising a number of factors, was the driving force for this study. First, there appears to be a significant gap in the extant literature concerning change management and organisational culture in the military. Few researchers have examined how military organisations, undergo change and what, if any, processes do they use to manage this change. As such, whether change management processes are found to have a positive impact on military organisations or not, the extant literature in the psychology and military domains are being added to by the findings of this research.

This research focuses on change management within the a military organisation, as an objective of this research is to identify how military organisations manage the process of creating and developing the strategy that will shape its future capability development, including the role of the Department of Defence and wider Government. Central to this development will be the process used in identifying new technologies that will support a military organisation for current and future operations. At present, there are gaps in the literature concerning how military organisations
prepare themselves for future operating environments. While there has been research previously conducted focussing solely on technology in the military, there is limited literature concerning the role of strategic planning and how military organisations plan for the future, particularly when introducing technology. From an Irish Defence Forces perspective, there is a gap in the research into the institutional approach the Irish Defence Forces utilises in predicting and adapting to the future operating environment. Moreover, there also remains a gap in the literature surrounding organisational transformation within the military and how leaders communicate the proposed change within the organisation. This research seeks to address these gaps by contributing research undertaken in an Irish context, on an Irish national institution, specifically, personnel in Ireland’s military sector.

Finally, there has been internal criticism of the Irish Defence Forces, i.e., that they have been slow to modernise and adapt to changing circumstances, and that change when it does occur is conducted on an ad-hoc basis. Analysis of previous research conducted within the Irish Defence Forces highlighted that the Irish Defence Forces appear to be a significantly under-researched population in change management and technological transformation. Given that the Irish Defence Forces have previously been regarded as leaders in organisational transformation within the Irish public sector, they offer a unique opportunity as a source of research. By exploring how the Irish Defence Forces manage change during technological projects, the study could then be adapted and replicated by other public sector departments or other comparable sized international militaries. This study, therefore, should be useful not just in the Irish Public Sector context, but also in the international military community.

1.5 Research Question, Aims and Objectives of the Study

The main research question is; Can change management processes enhance the Irish Defence Forces ability to identify and implement new technologies? Stemming from this research question, sub-research questions arise:
• Does the Irish Defence Forces conduct strategic planning when identifying new technologies to meet capability requirements?
• Does the Department of Defence have an impact on capability development within the Irish Defence Forces?
• How does military culture affect organisational transformation?
• Do senior leaders in the Irish Defence Forces communicate and lead effectively during periods of change?
• Do respondents believe that change management processes will benefit their organisation, and, if so, why?

To address the main research question, the overarching aim of this research, therefore, is to explore if the Irish Defence Forces can benefit from change management practices and processes when implementing change projects. The purpose of doing so is to add to existing literature concerning the areas of change management within military organisations. The role played by strategic planning, and how these change processes are managed and communicated with reference to organisational culture, are explored. The specific research aims, and objectives of this thesis are the following:

• To determine if change management processes are suitable for the Irish Defence Forces. In particular, this research, aims to examine the role played by the organisational culture of the Irish Defence Forces during the change management process and what threats, if any, exist for military organisations.

• To explore how capability development is advanced within the Irish Defence Forces, and to ascertain if the respondents understand the role and process of strategy formulation during the change process, and the role played by the Department of Defence and wider Government.

• To identify the importance of proactive and inclusive leadership to ensure that change is managed effectively during the transformation process.
• To provide military participants in this research a mechanism through which to express their opinions and experiences, while also highlighting organisational issues which may have a detrimental impact on organisational efficacy.

In order to accumulate appropriate data to address the research objectives, both primary and secondary research was conducted for this study. Secondary research is presented in this thesis in the format of a literature review, while primary research is presented via the identification, and analysis of, a number of thematic areas which were identified on completion of semi-structured interviews. The following section sets out the content and structure of the thesis.

1.6 Structure of Thesis and Outline of Chapter Content

The structure and content of the remaining chapters of this thesis are outlined in this section. The study comprises five chapters and is set out as follows:

Chapter Two comprises a review of pertinent existing literature relating to the research question. Consequently, the chapter addresses three key areas, which are addressed in a number of sections. The first section addresses existing literature concerning change management. Following a brief introduction, the concept of change management is defined and change management as a process is discussed. In addition, reasons for, and challenges associated with utilising change management are discussed.

The second area addressed in Chapter Two is strategy. The primary focus of this section concerns defining and outlining an understanding of strategy. In addition, the potential benefits associated with strategic planning in military organisations, when developing future force concepts that will prepare the organisation for current and future operations are examined.

The third section addressed in Chapter Two relates to organisational culture. The concept of organisational culture is defined, following which the concept is discussed in relation to change initiatives.
The final area addressed in Chapter Two relates to technology. The chapter discusses how technology is considered within the military and its suitability for future use.

Chapter Three outlines the research methodology engaged for this study. The chapter opens with defining management research. The chapter further outlines the scope of the study, and the research questions. The choice of, and rationale, for the research methods employed are considered. The study is rooted in both phenomenology and grounded theory. Phenomenology concerns objectively studying the subjective. Consequently, this study rests in phenomenology as it explores concepts, for example, the meaning of change and organisational culture, which may be viewed differently by individuals. Phenomenological studies lend themselves well to qualitative data collection methods; therefore, qualitative data in the form of semi-structured interviews was employed for this study.

Semi-structured interviews were deemed the most appropriate data collection tool as they allow for consistency across the interview process, while simultaneously providing for flexibility to enable probing of interviewee responses. This chapter then focuses on the selection of respondents, details of the interview process and describes the data analysis techniques used in this study. Furthermore, this study uses grounded theory, as rather than attempting to prove or disprove an initial hypothesis, data was collected in order to facilitate the generation of new knowledge and theory.

Chapter Four provides analysis of the findings of the study. The data obtained during the interview process was analysed, allowing for the development of thematic areas. The themes which emerged were analysed and discussed.

Chapter Five, the final chapter, draws on the key findings identified in Chapter Four in order to make a number of recommendations for both practice and future research. Additionally, the chapter details the limitations inherent in the study, proposing implications for military
organisations and suggesting directions for future research. This chapter presents an overall conclusion, summarising the key points of the thesis.

1.7 Conclusion

This chapter provided an overview to the background of the study, regarding arguments drawn from a framework of existing literature, in addition to objectives underpinning the reasoning for the study. The following chapter, Chapter Two, reviews existing literature pertinent to the areas of research identified in this chapter.
Chapter Two:

Literature Review
Chapter 2 – Literature Review

2.1 Introduction

This chapter comprises a review of existing literature pertinent to the research questions. The chapter is subdivided into five key areas, specifically exploring change management, strategy, organisational change and culture, leadership and transformation. Following a brief introduction, each topic is further discussed through an analysis of literature relevant to the specific area of investigation. The chapter concludes with a brief theoretical underpinning regarding the potential implications of change management practices and theories on the implementation of technological projects.

From a review of the literature, it has become evident that there are many diverse perspectives on change management and how organisations utilise its associated theories. Analysis of the literature highlighted the evolution change management theory has undergone in recent decades; however there was an evident lack of research conducted in military organisations which this research aspires to contribute to, by researching the understanding the management of change in the Irish Defence Forces. Strategy in the military has been studied for centuries and contributes significantly to military development, however, there has been little research conducted within the Irish Defence Forces on how strategy is identified and developed, particularly when identifying and implementing technological systems. Additionally, and critical to the development of strategy within the Irish context is the input from the Department of Defence, which represents the civil input to strategy formulation. Previously, there has been minimal analysis of the processes used in formulating the strategy used in identifying and selecting new technological systems for the Irish Defence Forces, which is significant for this research. Furthermore, an analysis of the literature focussed on organisational change and culture, as the culture within hierarchical military organisations can have a significant impact on how change is managed, particularly when introducing new technological systems, an area that has had minimal focus in the Irish Defence Forces. Finally, the management of change as the organisation transforms relies heavily on the role of leadership within a military organisation. The Irish Defence Forces prepare all senior
leaders for future strategic positions, based on their leadership doctrine, and this research examined this doctrine against extant literature in order to establish how change was managed and communicated within the Irish Defence Forces.

The first section explores change management. The latter part of this section on change management theories and their potential suitability for military organisations are discussed. Other aspects of change management explored in this section include the potential advantages and challenges associated with change and use of change management in military organisations.

2.2 Change Management Theory

*We speak of change, but we do not think about it... We say that change exists, that everything changes... but... we reason and philosophise as though change did not exist. In order to think change and see it, there is a veil of prejudices to brush aside, some of them artificial, created by philosophical speculation, the other natural to common sense.* (Bergson, 1999, p.131).

We live in a world that is full of change and how organisations manage change is a key competency if organisations want to develop and grow, and to be able to take advantage of new challenges (Vedenik and Leber, 2015). Change in organisations has moved from being a topic of casual interest to one of major importance and it has been the focus of much research over the past few decades, (Kotter, 2007; McNish, 2001; Stickland, 1998; Mabey and Mayon-White, 1993; Pettigrew *et al.* 1992; Kanter *et al.* 1992; Pettigrew, 1985 and Lewin, 1947). Change is a ubiquitous notion that fascinates and frustrates (Chia 2014) and it has to be carefully managed because it is something made to happen, to or within, an organisation.
In today’s turbulent business environment, on-going and successful change and innovation are necessary for organisations to survive, be effective and sustain a competitive advantage (Holt and Vardaman, 2013). Wright (2002, p.6) reflecting on research by Davis (1995) further observed that most managers in today’s business world when asked about what the biggest problems facing their organisations was, their short and honest response was staying ahead of change and clarified that the principal challenges faced by leaders was that of adapting to and managing change.

Change can be seen as a temporal state between two stable moments of a specific organisation (Lewin, 1947). It can be viewed as a general feature of organisations imprinted in the process of constant reproduction (Chia and Tsoukas, 1991), as a simple rhetorical means to decouple an organisation from its dynamic environment, or as a social technology concealing capitalistic logics in modern management (Alvesson, 2011). Tiernan et al. (2006) further support this theory and acknowledge how change has become an important issue for organisations due to the nature of the business environment within which they operate. Organisations continually face unique sets of factors that shape change, depending on the nature of the industry and the characteristics of the organisation and some of those elements forcing change are outlined in Figure 2.1 below:
The awareness of such challenging factors will allow organisations to alter their strategies and operations, thereby becoming more able to deal with change. The factors as espoused by Tiernan et al. further highlight the importance of new technologies for an organisation that arises from the discovery that ideas and their implementation generate organisational growth and well-being as posited by Jones (2005).

Change, therefore, by its nature, can often be complex and ambiguous but, where permissible, an adherence to systematic processes can offer a blueprint that allows an organisation to holistically and methodically work through this turbulent period (Kelly 2008). Observations by Vadi and Vedina (2007) outline how change in organisations has moved from being a mere topic of
discussion to one of major importance and that organisations are subjects of natural selection and have to find an appropriate niche in order to retrieve resources. Castel et al. (2010) and Barbaroux (2011) further observed that the real challenge for organisations that seek to reconfigure themselves in order to survive and further develop is to reconcile these contradictory forces: how organisations manage to transform themselves, increase flexibility and, at the same time, maintain reliability during change periods as change does not just happen; it is interactive by nature.

It is, therefore, necessary to understand the levels at which change can affect the organisation. Armstrong (2009) observed that change management covers two distinct areas, that of strategic change, and that of operational change. Armstrong (2020, p.26) further elaborates on both levels, and defines strategic change as *that which deals with the broad, long-term and organisation-wide issues*, while operational change relates to *new systems, procedures, structures or technology which will have an immediate effect on working arrangements within part of the organisation*. This clear distinction is key to the objectives of this research, as the following sections will focus on both strategic and operational change.

Defining change management, therefore, is a complex and difficult process, as it consists of three layers; organisations, people and projects (Galli, 2018). Creasy (2018, np) defines change management as:

*The application of a structured process and set of tools for leading the people side of change to achieve a desired business outcome; it is both a process and a competency.*

This definition assumes that the change being introduced adheres to a structured process that is understood by all individuals within the organisation. Creasy (2018, np) further contends that change management also encapsulates:

*The process, tools and techniques to manage the people side of change to achieve the required business outcome.*
The definition proposed by Creasy (2018) identifies that the change management process incorporates the organisational tools that can be utilised to help individuals make successful personal transitions resulting in the adoption and realisation of change. The process focuses on four key areas: processes, systems, organisational structure, and job roles. Creasy (2018) additionally refers to the three layers in change management and highlights the common levels that change management will affect during change projects, namely, the organisation, the individuals within it and the processes that will be introduced. The similarities between both concepts are notable and the desired outcome of both suggestions is the realisation of a desired business outcome or end state. Creasy’s definition will be used for this research as it identifies that change management requires a process to manage the change being implemented, and more importantly, it acknowledges the role of competence and the need for leaders to understand that change affects the organisation across three core layers, namely; the organisation itself, the people within the organisation and the projects being implemented. Furthermore, the definition provided by Creasy aligns to the focus of this research as it identifies the need for competency, an attribute that senior leaders will be required to develop. Analysis of the current literature, therefore, demonstrates that change management as a concept is both widely understood and utilised, yet each contributor to the extant literature provides minor variances on how they define change management. The following section will examine change in the military and outline its relevance for this study.

2.2.1 Change in the Military

Military change or stasis is the result of, at its most general and basic, three main factors: the existence of an external threat, the culture of the state/government that controls the military, and the state of technology, in short: threat, culture, and technology (Davidson, 2011; Kier, 1997; Rosen, 1991; Posen, 1984). To elaborate on these three points, the reference to threat refers to the evolving complex environment within which military organisations operate. Culture highlights that military organisations are slow to change and will provide significant resistance to change initiatives, but underlines that the military leadership can drive change through; and technology, reflects on the need for military organisations to have an external actor forcing the military to change and evolve. Change for any organisation is arduous, but, as argued by Rosen (1994, p.2),
military organisations in particular have difficulty changing, because they are designed not to change as they are fundamentally designed to perform established tasks with uniformity and regularity. Cohen and Gooch (2006) further posit that most modern militaries have struggled with this challenge and have failed on occasion to anticipate, learn and adapt to changes in their nature of work. When implementing change, militaries will always seek to ensure that a common approach is utilised, therefore, allowing them to align their military structures, capabilities and processes, improving both cognitive and technical interoperability and support collaborative interactions on the battlefield (jointness). This observation highlights the applicability of Creasy’s definition and further emphasises that change requires process and competency. Barbaroux (2011, p.631) conducted research which highlighted this issue for North Atlantic Treaty Organisation countries who had failed to modernise their structures and systems and retained legacy forces. He observed that the most common failure related to the various military organisations inability to develop and implement coherent change programs for current and more importantly, future operations. This observation was surmised by Howard (1974, p.5), with the inadequate thinking about operational requirements, the best of technology and the biggest budget in the world will only produce vast quantities of obsolete equipment. Such failure is widely accepted amongst scholars as they have acknowledged that organisational change is an extremely difficult reality in practice, as over 70 percent of organisational change efforts fail (Burke, 2011; Beer and Nohria, 2000; Cinite et al. 2009). This, therefore, indicates that without suitable processes and relevant competence, change will not be successfully managed, a phenomenon this research seeks to explore.

The need to change has been further compounded as post-cold war era has required military forces to transform from large standing armies, designed to defence the European mainland from a Soviet invasion, to smaller, but qualitatively better, forces geared towards out-of-area operations outside Europe (Norheim-Martinsen, 2016). Whilst this transformation was driven and led by NATO nations (Farrell and Rynning, 2010), smaller militaries such as the Irish Defence Forces utilised the NATO processes and standards as a benchmark against which to measure and standardise their need to change (Department of Defence, 2015). However, key to change in any military
organisation is an understanding of future warfare, which needs to be at the core of a successful transformation (Roxborough, 2000), which further iterates the need for competency.

Organisational change is a complex, dialectical process, where the catalyst of change develops and is developed by the process itself, and where the old and new intertwine, cumulatively building an innovative dynamic that is not necessarily linear, because it can evolve in both progressive and retrogressive ways (Ambos and Birkinshaw, 2010). Research by Scarborough (1993) illustrated that the military context should provide a rich empirical terrain from which to investigate organising phenomena and address the underlying principles supporting organisational change management, however, this has not always been the case. Kurt Lang (2013[1965], p.839) identified that modern military establishments qualify as complex organisations irrespective of size (...) As a consequence, military organisations share many of the problems of other organisations of comparable complexity. He further argued that, except on a theoretical level, there are few systematic comparisons of military organisations with civilian bureaucracies of comparable size and complexity. These observations highlight the need for greater understanding of how military organisations manage change and as echoed by Roxborough (2000, p.367):

Sociologists interested in organisational dynamics have tended to ignore military organisations, leaving these to political scientists and historians to study. This is a pity, since military organisations often serve as extreme cases of processes that occur in other kinds of organisations, thereby providing useful tenets of sociological propositions.

Analysis of the literature has shown that sociological insights into other organisational environments may also benefit the way military organisations are understood, insofar as a case can be made that military organisations have become like ‘normal’ organisations (Norheim-Martinsen, 2016). This observation has relevance for this research, as two of the objectives of this research will be to investigate if change management processes are suitable for the Irish Defence Forces, and to highlight organisational issues, which may have a detrimental impact on organisational efficacy.
Yoo et al. (2006) additionally espoused a similar theory as their research observed that designing organisations require setting up and codifying the underlying structures, processes and goals, which support both organisational and organising phenomena. One of the key tenets within these structures and processes is organisational change, as it is of paramount importance (Van de Ven and Poole, 2006). When looking at change in military organisations, it is important to acknowledge that while they share similarities, unlike most commercial organisations military organisations are hierarchical, and must be, for a variety of reasons (Garden 2002). Farrell (2008) further developed this concept as he observed that military organisations because of their make-up function on routines and standard operating procedures and depend on stability for functional integrity.

This hierarchical nature of the military provides an advantage when considering change as it allows for communication to travel both up and down the chain of command (Garden 2002). Such tenets become pertinent, particularly as a military organisation introduces change, the organisation will have to find ways to maintain the reliability of their structures to ensure the continuity of their actions. Such reliability is necessary when organisations confront highly volatile, hypercompetitive environments such as those created during the introduction of a technological system (Ilinitch et al. 1996). Thiele (2006, p.7) further developed this concept when he observed that the higher the speed of change and the more complex the organisation, the more important is appropriate support to commanders by means of up-to-date management methods and communication. Therein lies the dichotomy for military organisations, how do they advance as an organisation when their internal processes are seen as inherently conservative, as compared to other organisations? (Lang, 2013 [1965]). Liddell-Hart (1954, p.v) surmised this conundrum when he observed through his now famous aphorism, that the only thing harder than getting a new idea into the military mind is to get an old one out.

In order to survive, organisations must develop the ability to change continuously in a fundamental manner (Burnes 2004). Research by Busser (2012), Josh (1991), and Clemons (1986) demonstrated that if an organisation is to remain competitive and relevant, successful implementation of modern technology is critical to enhancing productivity of the organisation. In
a highly connected world, the actions of organisations are subjected to considerable public scrutiny, especially with regard to issues of social responsibility, sustainability and ethical work practices (Oswick 2013). Shaw (2006) further developed this concept by demonstrating that organisations and management researchers are not studying static phenomena but are studying organisations that must change to survive and be effective. This organisational capability requires the ability to adapt as context, opportunities, and challenges change, ultimately allowing organisations to redesign themselves (Lawler and Worley 2006). Such theory was further developed by Prahalad, (2011) and Thiele, (2006), as their research indicated that what matters is not ‘best’ practice, but ‘next’ practice, and failure to evolve will result in loss of relevance and militaries of no relevance are a contradiction in terms.

A military organisation that seeks to modernise and develop its capabilities towards the ‘next’ practice must utilise modern change management processes and procedures (Miles, 1997). Wright (2002) elaborates on this theory and establishes that organisations must use a suitable change management methodology when executing a project that will introduce change. Organisations that seek to make fundamental changes in how they conduct their business, in order to cope with a new, more challenging environment, must be prepared to introduce this proposed change in a manner that ensures the change effort is not wasted, as not since the great industrial revolution have the stakes of dealing with change been so high (Kotter, 2007 and Beer and Nohria, 2000). This observation is reviewed acutely by Ulrich (1997), when his analysis observed that, the difference between winning and losing organisations would not be dependent on the pace of change, but, rather on the ability to respond to the pace of change, and that losing organisations would spend time trying to control and react to change rather than responding to it quickly. Recent research by Holmberg and Alvinius (2019, p.131) observed that this phenomenon remains for military organisations, and that they continue to hold similar traits when it comes to reacting to change. This research will investigate the role of leadership and communication when implementing organisational change and will provide an additional context, which will contribute to the current literature in this field, as the study of military organisations, has not been extensive to date. Furthermore, the challenge that change introduces to a hierarchical organisation, such as the Irish Defence Forces will additionally contribute to current knowledge.
While every organisation’s change initiative is unique, it is critical that the change theory used to manage change is both reflective of the organisation’s needs and applicable to how the organisation functions. The following section will outline theories of change management and illustrate how an organisation must carefully select the change process that will guide it through an arduous and turbulent period as it implements change. This research will now reflect on theories of change management and outline how these theories have developed.

2.2.2 Change Management Theories and Associated Models

The breathless rhetoric of planned transformational change, complete with talk of revolution, discontinuity, and upheaval, presents a distorted view of how successful change works (Weick, 2009, p.229).

This section provides a brief background to change management theories and the most popular change models in use today. Research has illustrated that there has been an increasingly vocal criticism regarding the simplicity, the triviality and the general inertia of change management theories albeit without much impact (Wetzel and Regber, 2013; Alvesson and Sveningsson, 2008; Sorge and Witteloostuijn, 2004; Grey, 2002; Luhmann, 2000). Change is the only thing that remains constant in organisations (Armstrong, 2009), and the link between organisational dynamics and the frequency of environmental changes is increasingly strong, resulting in changes that are endemic and both rapid and strong (Brown and Eisenhardt, 1997). Organisational change management is not only to maximise the collective benefits for the people involved in the change process, but for the overall change process sustainability (Kearns, 2004). Consequently, change processes and implementation present a major challenge to managers (Soparnot 2011), as there are many change theories in existence.

Change itself has the ability to both benefit and destabilise organisations (Thévenet 1988) while simultaneously having the ability to show internal and external partners that it can provide both stable and predictable outcomes (Freeman 1988). It is, therefore, pertinent to review some of the
seminal theories of change and their associated models, as there are theories, which suggest that change drives itself. Alternatively, there are theories, which suggest careful preparation is required (Soparnot, 2011). Demers (1999 p.135) posits that:

...behind the apparent division of literature on organisational change, two very different perspectives can be found. The first places the emphasis on the management of organisational change, whereas the second deals with managing the change capacity of an organisation.

This reflection critically highlights the conundrum that exists within organisations when managing change. The first element acknowledges that organisational change is something which can occur within, or to, an organisation, whether the organisation is ready or not, and must be managed irrespectively, through an identified process. The second part acknowledges that organisations must have a high degree of resilience internally to manage the change and will require clear leadership and communication in order to manage the change process, while simultaneously managing any potential cultural issues that may arise. Irrespective, change management involves evolving from a current state to a desired state and requires a process that manages this change (Galli, 2018). These opposing views reflect the criticism that exists surrounding the theoretical instability that characterises change within an organisation (Pettigrew et al. 2001). A unified theory, therefore, of organisational change is informed by three main observations of the nature of organisational change:

1. Organisational Change is a risky strategy, as it is often related to the violation of an organisation’s core cultural values and, potentially, the organisation’s identity, (Hannan et al. 2007).

2. The analysis of organisational change needs an approach that can account for the specifics of the organisation in question as scholars have noted that this tendency to rely on universal remedies is counterproductive (Ostrom, 2007).
3. There is a widespread habit within organisational change research to ignore the major influence of cross-country cultural and institutional differences and this has been substantiated in organisation theory and practice (Sorge, 2005).

There is little consensus on how to fully evaluate organisational change processes as the theories of organisational change that do exist are often very fragmented (Jacobs et al. 2013). Such a lack of consensus can result in an organisation questioning its readiness for the introduction of change, as the readiness for change is a complex multidimensional construct including individual and structural factors that occur at differing levels, and the readiness for change requires the willingness, capability and mindfulness to change (Holt et al. 2013). Moreover, unlike operational changes designed for fine-tuning and gradual improvements, planned organisational change is typically a large-scale change implementation with the intent of revolutionising the way an organisation functions and presenting its members with a future vision on a whole new level (Burke, 2011). Irrespective of whether the change is initiated by proactive internal dynamics or forced by external circumstances (Jacobs et al. 2013), it reflects an intense effort to secure organisational effectiveness (Damanpour and Schneider, 2006).

It is now acknowledged that organisational change is a complex process that is impacted by a variety of contingencies, including internal, organisation-specific factors and various aspects of the organisational environment, and that there is no one-best way to manage organisational change (Galli, 2018; Burnes, 2009; Parker et al. 2001; Pettigrew, 2000; Stickland, 1998; Cummings and Blumberg, 1987). This criticism was further supported by Dunphy and Stace (1993, p. 905) who espoused that managers and consultants need a model of change that is essentially a situational or contingency model, one that indicates how to vary change strategies to achieve optimum fit with the changing environment. Change management, therefore, takes the help of basic frameworks and mechanisms to manage any organisational change effort with the aims to maximise benefits and minimise the change impacts on the targeted workforce and avoid interferences (Kotter, 2011). Furthermore, the correct change model, incorporating antecedents, critical success factors and outcomes of change initiatives can provide the basis for processual studies of organisation change projects (Parry et al. 2014).
In identifying what characteristics are required, Burnes (2011, p.447) proposes that the key requirements for a model of organisational change are: reliable performance indicators that can be used to assess if a change project is succeeding or failing, and, relevant project characteristics that impact on project success, and these need to form the core of an organisational model. Conversely, Vednik and Leber (2015) posit that change management approaches have two main objectives: to assist the organisation in achieving its goals, which cannot be attained with the existing organisational structure, functioning, and client servicing, and, to minimise the adverse effects of any changes made. Table 2.1 provides an analysis of some of the various extant planned organisational change management models by identifying key core themes.

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<th>Differentiating Planned Organisational Change Models by Type</th>
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<td>As continuous or stepped change</td>
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<td>Change in the context of its impetus, being planned or emergent</td>
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<td>Change in terms of its organisational origins, namely top-down or bottom-up</td>
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<tr>
<td>Change in terms of its size and impact, identifying the transformational and incremental elements and the necessary steps in achieving such change</td>
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Table 2.1 – Differentiating Planned Organisational Change Models by Type

Source: Adapted by the author
The concept of continuous change was adopted by Pettigrew et al. (2001) to describe an ongoing, evolving and cumulative process of change, based on the emergence of new patterns in the absence of explicit prior intentions within an organisation. The continuous, or stepped, change occurs when change is not spontaneous but is driven by specific interventions of change management (Maimone and Sinclair, 2014). According to Ashby’s (1991) Law of Requisite Variety, modern organisations need to increase the level of internal variety to cope with the complexity of the environment within which they operate (Ashby and Goldstein, 2011). In achieving this internal variety, the organisation must remain flexible, but an evident criticism of this model highlights the paradoxical nature of organisational flexibility, as it requires an ongoing compromise between conservation and change, planning and discovery of new opportunities and solutions (Maimone and Sinclair, 2014). This concept was further examined by Brown and Eisenhardt (1997) when they observed organisations operating in the technological sector adopted chaordic models (in order to facilitate innovation and continuous change). Their proposed framework ultimately acknowledges that creativity is an emergent phenomenon that can be facilitated but not rigidly planned, as chaordic change can arise from the chaos as a result of the inter-play between managerial strategies and spontaneous change. Further research by Maimone and Sinclair (2014) examining organisations transitioning through technological change, observed that organisations must remain aware that they are complex systems that must remain flexible and adaptable in order to attain its point in equilibrium between order and chaos, in their continuous search for excellence.

The emergent perspective on change models emphasises a top down or bottoms-up approach to change and views outcomes as the result of the cumulative and oftentimes piecemeal adaptive actions taken in situ by organisational members in learning to cope with the exigencies of organisational situations (Chia 2014). According to this view, change is not a linear, one-off isolated event but a continuous, open-ended and iterative process of incremental aligning and realigning organisational priorities with an ever-changing environment (Dawson, 2003; Falconer, 2002; Pettigrew, 2000, Woodman and Cameron, 2001; Beer and Nohria, 2000; Weick and Quinn, 1999; Orlikowski, 1996 and Mintzberg and Westley, 1992). Advocates of emergent change appear to be much more attuned to how organisational actors, through their everyday practical coping
actions, react to the demands put on them by responding appropriately and meaningfully despite inherently ambiguous and ever-changing organisational circumstances (Chia 2014).

Research by Beer and Nohria (2000), focussed on utilising a softer approach during organisational change and developing a corporate culture and human capability by building trust and emotional commitment to the company through teamwork and communication. Organisational change can consequently be understood, as either an opportunity to practice organisational control by encouraging talk that replicates existing organisational meaning formations, or, a chance for organisational participants to talk new organisational realities into existence (McClellan 2014). This assumption posits that organisational change practices are universal in nature, because according to practice theory, human action and discourse are particular within the context of their organisation (Gunder, 2010; Whittington, 2006 and Sherrard 1991). As outlined by Clark et al. (2010), an organisation may also create a transitional identity as one response to organisational change, because it helps people to let go of their former organisational identities and build new ones. These complex processes have been recognised by many change scholars, as the means, by which, organisations use discourse to assist in the change process as the organisation evolves from the old form to the new form. Additionally, these processes seek to reinvigorate practitioners’ interest in the important role organisation participants talk about change plays in change projects (McClellan 2014).

Another planned organisational change model, which has emerged, is that of transformational change, and its process utilises incremental steps to achieve change. Transformational change, according to Burke and Litwin (1992), refers to areas in which alteration is likely to be caused by interaction with environmental forces, both within and without, and will require entirely new behaviour sets from organisational members. Malhotra and Hinings (2015) further this and propose that transformational change occurs in an evolutionary way through a process of continuity and change. This observation reiterates previous studies on this topic (Denis et al. 2007; Morris and Pinnington, 1999; Cooper et al. 1996) that argued that organisational transformations occur through a process of continuity and change and the multiplicity of values and beliefs that impact upon a change process. Inherent in these studies is that speed and rapidity are not a
prerequisite, and that organisations can transform in a gradual and elongated manner (Plowman et al. 2007; Greenwood and Hinings, 1996). However, these studies also acknowledge that change and continuity are two poles of the same process and present a paradox in that they are contradictory yet interrelated elements that are present and operate equally at the same time (Smith and Lewis, 2011, p.382). Smith and Lewis further this observation and critically highlight the learning paradox, which manifests as a tension between the old and the new, a struggle between the comfort of the past and the uncertainty of the future, which is relevant to organisational transformations. Moreover, Smith and Lewis (2011, p.382) proposed a managerial approach to paradox involving *complementary and interwoven strategies of acceptance and resolution*, which are vital to set in motion virtuous circles. However, Malhotra and Hinings (2015) further criticised this model as the key tenet when examining organisational transformation, in that, the organisation must have a clear understanding of where the organisation is coming from and where it is going.

It is notable that a defining element in each of the models is the absence of mutual exclusivity between them, such that overlap occurs at intersections between type, impetus, origin and size/impact at different points along the change continuum (Rosenbaum et al. 2018). Moreover, it is critical that the selected change management model reinforces change and is linked to a successful and sustainable implementation (Holloway, 2015), as failure to effectively understand and manage the model contributes to why change initiatives are branded as nebulous and trivial undertakings. Schech-Storz (2013) furthers this and contends that due to varying factors internal to an organisation’s environment, not all changes are the same; therefore, management needs to use different change models and methodologies depending on the situation. Inherent, therefore, are the challenges that will accompany any organisational change project, which means that the military organisation must address these challenges if it wants to stop the change from failing (Holmberg and Alvinius, 2019). Analysis of these models and their associated methodologies identified an emergent gap in the literature, as these models have not been previously applied to military organisations undergoing technological change, which has major relevance for this research. Additionally, analysis of the literature acknowledges that organisations undergoing change will experience discomfort and/or resistance as they transition from the old way to the new way and understanding how the Irish Defence Forces manages transformative change will add to
the current literature for military organisations. Moreover, each of the models includes unique characteristics that may benefit military organisations, thus highlighting that there no ideal model, but more a realisation of the need to identify the right model for the organisational change being undertaken at a particular time.

Research has shown that there is a range of themes emanating that characterises change failure through a kaleidoscope of causes, including structure and content of change communication (McClellan, 2011; Armenakis and Harris, 2002). Bartunek et al. (2011), acknowledged the role of senior managers and the direction of change from within the organisation, particularly as the tensions between the organisational focus versus the people focus could have potentially negative connotations for the organisation during the change process. Moreover, the role of culture was found to have a significant impact during organisational change projects (Schein, 2010; Damschroder et al. 2009), and the lack of awareness of change agents of the impact of change readiness levels within the organisation was observed to be a contributing factor to change failure (Gondo et al. 2013; Drensky et al. 2012). Furthermore, the literature also identified the limited focus on the centrality of employee engagement in the planning and execution of change (Lewis, 2011; Lewis et al. 2008), and inadequate planning processes identified through a lack of appropriate organisational diagnosis (McFillen et al. 2013). Galli (2018) concurs with these criticisms and observes that while each model provides its own coherent stages, analysis has shown that change will only be successful if communicated and accepted by employees or project team members, and that the individual or team tasked with managing the change has the appropriate support, knowledge and resources.

While this analysis indicates that change models can have a wide range of fundamental characteristics, there must be an overarching cognisance that change can be seen in the context of its phases (Rosenbaum et al. 2018). Research by Burke (2011, p.164) identified that change management literature takes a more applied, practice-oriented way of considering the change process and focusses on analysing common characteristics of successful change efforts so as to derive a change model from them. Kim (2015) argues that this analysis identifies that change models are, therefore, prescriptive in presenting ideas and formulating phases, based less on
empirical investigations and more on conceptualisations of practice experiences and think-through processes.

Recent research by Rosenbaum *et al.* (2018) has additionally been critical of the planned approach by change model type, and alternatively posits that all models are essentially based on the seminal three-stage process as espoused by Lewin (1947), and additionally posited that Lewin’s change model was not a one-dimensional linear process as previously espoused, but a dynamic model that relied on external enablers as shown in Figure 2.2.

![Figure 2.2 – Lewin’s Change Model (Revised)](image)

Source: Adapted and taken from Rosenbaum *et al.* (2018, p. 289)
The model above builds on Lewin’s (1947) famous three-step change model and identifies the linkages between Lewin’s original contribution and ongoing research in organisational change management. Lewin (1947, p. 330) described his model as *unfreezing the present, moving to the new level and freezing group life on the new level*, and while this portrayed the model as one-dimensional, Figure 2.2 above demonstrates that there are other elements involved in this three-stage process. Lewin’s change model identifies external enablers, which identify countervailing forces as part of the force field analysis and understanding the characteristics necessary to influence movement within a change process. Lewin additionally highlights the need for understanding resistance as an element of habits within groups subjected to change, and the role of group decision making, as underpinned by personal and group motivations. Lewin’s additional linkages with action research provides the basis for a more complete picture of change, and underpins a more iterative approach to change. The model highlights the significance of the fundamental principles of Lewin’s change model, when viewed holistically, and provides a criticism of the narrow interpretation his work previously received.

Rosenbaum *et al.* (2018) contend that change models can be further categorised, as represented in Table 2.2, based on the most popular organisational change models currently in use. Galli (2018) concurs with this deduction and critically posits that the basic concept of organisational change models is starting at the current state and realising the need for change, entering the transition phase, implementing the change, and then getting to the desired state.
As outlined by Rosenbaum et al. (2018), Change as a Project refers to the governing approach to change as these models provide specific approaches or steps that change agents and those who initiate change must address in order to maximise the success of the change programme; Change as a response to Resistance utilises a structured approach, meaning they provide an overall framework in which the change can take place, and finally; Change as an Interpretive Process, does not utilise a definitive process and utilises a more conceptual based approach that can also be used by change agents.

Reflecting on the previous model, an additional development in the study of change management models has focussed on developing a new normal approach, and associate model, to change whilst remaining cognisant of the old normal (Worley and Mohrman, 2014, p.215). The old normal refers to the analysis conducted in the sections above, which outlined that within and across
industries, periodic transformational episodes challenges organisations to develop new capabilities, ways of doing work, managing people and organising. Tushman and Romanelli (1994), critically posit that a set of interrelated strategic, power, organisational and cultural commitments became self-reinforcing and change resistant, and when change was required it was typically delivered by external consultants. Such change was implemented by adopting one of the models from Table 2.1 and the implementation of the model could be incremental, gradual, focused and controlled.

The new normal as argued by Worley and Mohrman (2014, p.216) identified that organisations need to move from one fundamental change to another, continuously incorporating new capabilities in response to the complexity of their environments. Their observations (2014, p.216) identified four key tenets that organisations are being asked to do: firstly, drive performance today while changing their business models for tomorrow; secondly, leverage their current advantaged capabilities and build whole new capability sets; thirdly, optimise their current product/service portfolios and offer customised solutions; and finally, minimise their current carbon footprint and adopt sustainable practices by making existing process more efficient by introducing disruptive innovations and fundamentally different ways of operating. To assist in representing these four key tenets, Worley and Mohrman (2014) developed the ‘Engage and Learn Model’ as shown in Figure 2.3.
The alternative *Engage and Learn Model*, Figure 2.3, proposed by Worley and Mohrman (2014) is a descriptive model of changing with a set organisational change routine, the recurring processes that characterise an organisation and that allow an organisation to change itself continuously. The four activities or change routines derived from an understanding of the requirements for organisational effectiveness in a volatile, uncertain and disruptive world, and are no less relevant in a relatively stable environment. The first activity highlights the need for the organisation’s members to be aware of the issues, challenges and history of the organisation. The second activity, posits the need for an increasing appreciation for the importance of design in shaping behaviour that should include flexibility and an acknowledgement of the need to develop capabilities that will differentiate the organisation. The third activity, tailoring, is about targeting specific high-impact interventions that perturb the system and set the conditions for self-organising by configuring the organisation’s unique, valuable and difficult-to-replicate resources to allow the organisation to learn and build on diversity. Finally, monitoring involves inquiring into the impact.
of organisation change and development on desired outcomes, understanding the organisation’s progress in achieving its strategy, and making rapid adjustments based on what is learned. It is notable that unlike the planned organisational change models (Table 2.1) presented earlier, there is no prescribed sequence, or starting point. All these routines are happening at once, therefore, breaking from previous models, and providing a more intuitive model for managing change, thereby providing a transformative approach to the management of change in the Irish Defence Forces. The Engage and Learn Model would contradict the change as a project theme as identified in Table 2.2, as this model recognises that because of the complexity and interdependencies in the system, an important challenge is to catalyse sufficient information exchanges across the system, thereby allowing the independent change activities to adjust to and influence one another. Worley and Mohrman (2014) argue that the centre of the model demonstrates the two continuous individual modes of operating, or motivations that link people throughout the organisation to the various change routines and enable them to help make change happen, engagement and learning.

The Engage and Learn Model additionally argues against the change as a response to resistance theme outlined in Table 2.2 as engagement is a key factor that is linked to all four of the activities and seeks to utilise the change agents in managing and tailoring the selected change activities. Furthermore, the model additionally cautions against the change as an interpretive theme as the learning element seeks to allow each subsequent cycle of engagement activities to be more efficient and effective as people throughout the organisation become proficient at changing. This proposal argues for caution and avoids allowing the people to develop their own concepts.

The overall ideology of the Engage and Learn Model as the new normal for change management is that fundamental change never ends and is better understood as something to be catalysed and steered, due to its heterogeneous nature (Worley and Mohrman, 2014). They further argue that change, therefore, should be viewed as a function of complexity, uncertainty, and learning, and not as a detailed plan. Their research cautions that the old normal, which consisted of the traditional change models as presented in Table 2.2, do not adequately manage change, which is an interacting flow of routines and cycles that are constantly happening all the time, at different speeds and in different parts of the organisation. Recent research by Page and Schoder (2019,
p.33) concurs with the analysis above, and argues that organisations that become stuck in the same old way of doing business will remain resistant to trial and error. Their research simultaneously identified the need for organisations to have a clear vision on where the organisation needs to progress as this will transcend the change process and provide direction to the organisation.

Analysis of the extant literature highlights emergent gaps in the literature, as the models outlined for this research have not previously been applied to military organisations. Examination of the models has demonstrated that while each model has relevance, there is no model that can meet all criteria for managing change, as change by its nature is iterative and complex. Furthermore, the emergence of the Engage and Learn Model provides the Irish Defence Forces with a process that could be utilised in managing change. Critically, this model acknowledges that change is an iterative and complex process and provides a mechanism that can meet the challenges associated with managing organisational change. This model aligns to Creasy’s definition of change management in that its approach acknowledges that change requires a structured process, provides a series of tools for leading the people side of change, and because it is an iterative learning process, it allows the organisation to learn and develop competency while simultaneously managing organisational change. Moreover, the engagement element of this model also promotes the need for proactive communication thus ensuring that change is managed internally and externally. Ulrich (1997) critically posited that organisations not prepared for change would spend time trying to control and react to change, rather than responding to it quickly. The engage and learn model would allow the Irish Defence Forces to learn and evolve during periods of change and provides a valid methodology for managing organisational change. The following section will discuss the role of strategy in determining the need for change within a military organisation.


2.3 Strategy and Its Role in the Change Process

*However beautiful the strategy, you should occasionally look at the results.*

(Churchill, 1941, p.31).

Churchill (1941) with both hindsight and vision urges caution and care when creating strategy. Strategy is essentially about choices, choices about how to achieve aims with the resources available and a sound strategy reconciles ends, ways and means (Dempsey, 2012; Jermy, 2011; Ledwidge, 2011; Owens 2007 and Meinhart, 2006). Strategy as a topic has its origins in the military, as the word itself derives from the Greek for generalship, *strategia*, and has undergone several renaissance periods since 500 BC (Crainer, 1998). Sun Tzu warned that *tactics without strategy is the noise before defeat*, and while the specific details about the exact character of the future remains unknown, history has shown that it has recurring features (Gray, 2015). Strategy is, therefore, about planning and it is a plan that outlines some sort of consciously intended course of action, a guideline or set of guidelines to deal with a situation (Jermy, 2011; Smith, 2006; Crainer, 1998 and Mintzberg, 1987).

Feurer and Chaharbaghi, (1994) identified that there is growing cognisance that in highly dynamic environments, traditional approaches to strategy development often do not lead to the intended results, and that organisations must move towards a more dynamic concept as the underlying conditions change before formulated strategies can be fully implemented. Because strategy is a concept rather than something material, many people have difficulty understanding what it really means (Murray and Sinnreich, 2014; Kane, 2013). Furthermore, irrespective of the numerous proposed definitions and frameworks on strategy, they all have one common theme, which is that they all aim at maximising the performance of an organisation by improving its position in relation to other organisations operating in the same competitive environment (Feurer and Chaharbaghi, 1995).
2.3.1 Definitions of Strategy

Strategy is an eternal and ubiquitous subject, but generally consists of the linking of ways and means to achieve specific ends (Gray, 2010). It is, thus, considered as a theory of action, a rationale for employing the resources and assets at one's disposal effectively in order to deliver particular policy outcomes (Edmunds, 2014). The field of strategic management cannot afford to rely on a single definition of strategy, indeed the word has long been used implicitly in different ways even if it has traditionally been defined formally in only one (Mintzberg, 1987). Such a declaration appears too simplistic and indeed, it is as strategy making is problem solving of the most complex order, because it deals with three of life's great imponderables: people, war and the future (Jermy, 2011, p.6). Elaborating on this, Jermy (2011, p.165) contends that people influence the relevance of strategy and it is pertinent that the best and brightest, with sufficient time to think, are used in creating and delivering strategic guidance. In addition, he also posits that when preparing for war (irrespective of its construct), military organisations are slow to learn from history, and do not understand the errors of the past. He proposes that concepts such as the OODA Loop – observe, orientate, decide, act, created by the US Air Force (Boyd et al. 1995, p.16), would allow future commanders to better prepare the organisation, based on lessons from history. The model aligns itself to the lessons learned process used by most modern western militaries, at the tactical and operational levels (Jermy, 2011, p.125). Finally, Jermy (2011, p.296-299) acknowledges that when looking to the future, it will be a world of incomplete information and the need to be able to respond quickly and effectively when forecasted events do not unfold as planned will require an adaptable and agile strategy, therefore, understanding the role of strategy is necessary.

Therein, lies the conundrum as establishing a sole definition for strategy appears unattainable, however analysis of the literature has shown that there are similarities between both the military and the commercial definitions of strategy. This research will initially look at the military definitions of strategy. Freedman (2013, p.xii), defines strategy as:

*The central political art. It is about getting more out of a situation than the starting balance of power would suggest. It is the art of creating power.*
While this definition breaks away from the original concept of ends, ways and means, Freedman links its ubiquitous nature with power and politics and that power is ultimate ambition of strategy. The introduction of power by Freedman is seen by others as overbearing and not in keeping with the traditional concept which views strategy as a metaphorical bridge between military power and political purpose, which serves the great enabler. Alternatively, Clausewitz (1976, p.177) defines strategy as:

**The use of engagement for the purpose of the war.**

While this definition focuses on the application of warfighting, its meaning remains transferable to the peacetime military that seeks to evolve and develop. Von Clausewitz (1976) highlights the need for good generalship in order to triumph over friction through the application of detailed planning so that the strategic leader could maintain a presence of mind when the unexpected happened. Gray (2015, p.29) takes the Clausewitzian approach further and posits that;

**Military strategy is the direction and use made of force and the threat of force for the purposes of policy as decided by politics.**

This quote clarifies the role of politics in the strategy creation process as it has evolved over time and as argued by Freedman (2013), and illustrated by Heuser (2010, p.3), as the meaning of what today is called strategy has migrated considerably both within and between languages and generally in the direction of politics and policy rather than tactics; or to put it simply, strategy focuses on the strategic ‘big’ picture. Gray (2015) and Royal College of Defence Studies (2012, p.20) further argue that strategy should serve as the bridge between military power and political purpose, it can and should be the great enabler, as it ultimately seeks to address the bigger picture. Moreover, Gray (2015, p.10) also supports the enduring concept that strategy is all about the attempted achievement of the desired political ends, through the choice of suitable strategic ways,
employing largely the military means then available or accessible. Unlike previous definitions Gray further posited that the fundamental triptych of ends, ways and means are underpinned by a fourth element, assumptions, which is always important and remains unchallenged as the greatest source of mischief for entire strategic enterprises (Gray, 2015, p.10).

Figure 2.4 – The Fundamental Architecture of Strategy

Source: Adapted and taken from Gray (2015, p.31)

Figure 2.4 above provides a graphical representation of this triptych of ends, ways and means and demonstrates that each of the core elements is influenced by assumptions and how these assumptions can have an impact across the broad spectrum of strategy development, in this case the military. To provide a contrasting analysis, an examination of the definition of strategy from the business world permits an opportunity to identify the core meaning of strategy, as posited by business scholars. The original definitions were purported in the early 1960s, when strategy finally emerged into the corporate realm and Chandler (1962, p.13) initially defined strategy as:

*The determinator of the basic long-term goals of an enterprise, and the adaption of courses of action and the allocation of resources necessary for carrying out these goals.*
Andrews (1971, p.23) elaborated on the work conducted by Chandler and defined strategy as:

*The pattern of objectives, purposes or goals and major policies and plans for achieving these goals, stated in such a way as to define what business the company is in or is to be in and the kind of company it is or is to be.*

Both of these definitions highlighted the need for businesses to prioritise the development of strategic goals and that such goals would guide the company into the future. In what has become his seminal contribution to business theory, Porter (1996, p.62) conducted additional critical analysis and outlined the need for companies to be capable of outperforming rivals *only if it can establish a difference that it can preserve*. Porter (1996, p.68) defined strategy as:

*Competitive strategy is about being different. It means deliberately choosing a different set of activities to deliver a unique mix of value.*

Porter based this definition on the concept that if there were only one ideal position, there would be no need for strategy, therefore, inferring that strategy was the art of knowing what to do. He further proposed that strategies must be created in terms of decades and not of a single planning cycle, evidenced by his hypothesis that organisational structures, systems and processes needed to be strategy-specific. In addition, Porter also identified that tailoring the organisation to the strategy contributed to the sustainability of the organisation and ensured that continuity would further enhance organisational development and reinforce the organisation’s identity. Critically, while Porter agreed that strategy and operational effectiveness are essential, he argued that the two agendas are different, as operational effectiveness provides incremental improvements, but strategic planning demands continuity and discipline. This critical observation is important as it highlights that Porter’s research understood the need for the organisation to have long-term plans if it was to achieve continuity, while simultaneously remaining competitive. This theme of long-
term planning remains constant in the modern business definition of strategy as posited by Johnson et al. (2017, p.43):

*Strategy is the long-term direction of an organisation.*

This definition has two primary advantages, firstly; the long-term direction can include both deliberate, logical strategy, and more incremental emergent patterns of strategy, secondly; long-term strategies can include strategies that emphasise difference and competition, and strategies that recognise the roles of cooperation and even imitation (Johnson et al. 2017). When reviewed with the initial definitions it is evident that the strategy pursued by the respective organisation must propose a long-term ambition underpinned by key objectives.

More recently, Gray (2015) contends that strategic thinking is obligatory for human beings, both in public and private, as the majority of enterprises, political, social, moral and certainly military, call for the practical application of the fundamental logic that is basically one of ends, ways, and means – resting on some current assumptions best regarded as culturally derived. Table 2.3 provides an analysis of how the various components of strategy are graded and delivered.
<table>
<thead>
<tr>
<th>Ends (political)</th>
<th>Military Points</th>
<th>Corporate Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the purpose of the endeavour</td>
<td>Competitive sustainable advantage</td>
<td></td>
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<table>
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<tr>
<th>Ways (strategic)</th>
<th>Military Points</th>
<th>Corporate Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose and specify how the (political) ends should be secured</td>
<td>Create a strategic direction with key objectives</td>
<td></td>
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<table>
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<tr>
<th>Means (tactical)</th>
<th>Military Points</th>
<th>Corporate Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the tactical agents that must be employed in order to have operational consequences with the necessary strategic value</td>
<td>Management team execute and manage strategic plan via key performance indicators</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assumptions</th>
<th>Military Points</th>
<th>Corporate Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are always likely to be crucially important for action contemplated in the future, since reliable empirical evidence about the consequences of future behaviour is certain to be missing at strategy selection time</td>
<td>Horizon scanning for future opportunities or emergent strategies</td>
<td></td>
</tr>
</tbody>
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Table 2.3 – Military and Corporate Interdependent Points on Strategy based on Gray (p.109, 2015) and Johnson et al. (2017) – Adapted by the author (2019)

The critical analysis of the various definitions, both military and corporate, view strategy as a concept that seeks to provide the respective organisation with a long-term approach. The identification and delivery of supporting activities that will be managed throughout the organisation require proactive communication and leadership. Table 2.3 demonstrates the similarities of strategy both in the military and corporate domains. The traditional concept of ends, ways, and means, supported by assumptions is critical to the military understanding and application of strategy, but remains transferable to the corporate understanding from a conceptual perspective.
Analysis of the various definitions of strategy provides evidence that good strategy must be capable of providing a long-term vision for the organisation, whilst simultaneously ensuring organisational efficiency. Notwithstanding, critical analysis of the definitions highlight the relevance and applicability of Gray’s (2015) definition as he acknowledged the significance of policy and the political domain in creating long-term strategy, something other definitions have overlooked, thus highlighting its relevance for this research. This observation is pertinent for this research as the Irish Defence Forces are subservient to their political leaders and have limited input into national defence policy; therefore, the logical deduction is that the Irish Defence Forces are ‘not masters of their future’. Moreover, the analysis additionally identified that a gap exists in the literature in relation to examining how military organisations construct their assumptions, what factors are used in the decision-making process, and how this affects the creation and development of strategy within military organisations. Further analysis relating to this research identifies, that understanding how military organisations construct their assumptions will be important, as one of the objectives of this research is to establish how the Irish Defence Forces conduct strategic planning, and the influence the Department of Defence have on capability development. Additionally, in seeking to explore if officers within the Irish Defence Forces understand the role of strategy formulation, this research will provide an opportunity to understand the innate and organisational assumptions they rely on.

This research will focus on the military understanding of strategy and its implications for military strategic planners. Having identified a suitable definition, it is now necessary to understand the role and importance of strategy in the military.

2.3.2 Role of Strategy in the Military

Within the military domain, strategic education has the tendency to produce self-referential and reinforcing intellectual environment, thus, providing the misleading context that the creation and development of strategic thinking is a foregone conclusion (Ledwidge, 2011). Military strategic theory, therefore, deals with planning; or rather, it attempts to shed light on the components of war and their interrelationships, stressing those few principles or rules that can be demonstrated (Von
Clausewitz, 1976). Skyttner (2005) furthers this theory when he posits that military activity has constantly been characterised by the need to design, realise, train and thereafter maintain an organisation capable to fight against various kinds of external threats. Gray (2015) further posits that strategy is the overarching theory that interconnects all of the different behaviours and capabilities that a military community command. There is much debate as to what strategy is in the military context and how best to perform the practical process of strategy formulation. To frame the dichotomy, Mintzberg and Lampel (2005, 1999) dissect the various strategic schools of thought and divide them into prescriptive and descriptive categories where the former has more militaristic, analytical and positional origins in the vein of (Sun Tzu and Clausewitz, 2000; Porter, 1980; and Liddell-Hart, 1954). To simplify, Kiechel (2010, p.6) outlines how strategy has gone through three phases over the last sixty years, from position to process to people. Kiechel refers to his research on the change in corporate strategy since the 1960s and highlights that the initial focus was on positioning, and how businesses had to position themselves relative to competitors. During the mid-1980s the focus changed to processes and required companies to change how they functioned and operated before finally moving on to today’s focus which is people. Kiechel (2010, p.6) observed that modern companies now focus on people as they view the people as the key to organisational performance and innovation, as innovation is viewed as the modern requisite for competitive success. Wylie (1989, p.v-vi) surmised this development as noted below:

*Essentially all strategic comment or strategic criticism is an ad-hoc sort of business, having not much more than personal judgement or hunch or emotion or bias or sometimes-even self-interest behind it. The only advantage the professional seems to have over the amateur is a little personal experience and it is seldom that anyone questions whether, or not, the personal experience is relevant. I do not criticise the amateur strategist. On the contrary, I believe deeply that strategy is everyone’s business. Too many lives are at stake for us not to recognise strategy as a legitimate and important public concern. But, what I do decry is that strategy, which so clearly affects the course of society, is such a disorganised, undisciplined intellectual activity. And, I believe that this state of affairs might be improved.*
To elaborate further on Wylie’s insight, Jermy (2011) observes that, teams that create strategy must not be rigidly constrained by decision-making doctrine, processes or structure as creative strategy requires teams of clever people, well-informed and operationally experienced people. The brightest and the best, with sufficient time and space to think and improve the role that strategy can play within an organisation. Strategy is therefore, an organic but coherent framework of ideas, judgements and decisions and when creating a new strategy, the strategic leader or strategist might be fortunate and begin with a blinding glimpse of the big idea, the underpinning strategic concept (Jermy, 2011). In both the military domain, and civilian sphere of business, superior strategy would not of itself guarantee success in operation, but without it the prospects of success would surely be reduced as the number one requirement for success in achieving a policy objective is a sensible, well thought out strategy; without it, failure is inevitable (Jermy, 2011; Ledwidge, 2011).

In order to be effective in today’s strategic arena, senior military leaders and their staffs must understand their nation’s strategic vision, and how its strategy is formulated (Gerras, 2010). Strategies need to be ‘right enough’ to enable us [military organisation] to survive the perils of today, ready and possibly able to cope strategically with the crises of tomorrow (Gray, 2015, p.11). It is, therefore, evident that there must be an understanding of the role of strategy, and why its function is important within the military planning process, particularly when looking to the future. Figure 2.5 below highlights the core components of strategy formulation.
This representation infers that strategy making follows a clear and distinct path, yet, there are many factors that contribute to its creation. This observation further supports Jermy’s (2011) research and reiterates that strategy must face in at least three different directions, thus establishing the politico-military concept encountered by most modern militaries:

1. Upwards toward policy, for whom it is servant,
2. Sideways towards other actors, for whom it may be opponent,
3. Downwards toward the instruments of state power, civil and military, for whom it should be overseer.

One additional element that contributes to proactive strategy is policy, and while this is not a primary objective of this research, it is important to understand its role in the strategy making process. From a military context, policy is the foundation for the use of armed force, and critically, it provides guidance for the strategy that directs the use of that force, particularly when applied to armed conflicts or wars that may occur. Jermy (2011) identified this in his research and highlighted the need for clarity on what is meant by ‘policy’. Luttwak (1987, p.114) proposes that policy is:

A government’s (or an organisation’s) formed position on an issue, situation or problem, including what political objective the government seeks to achieve, what resources it is prepared to commit to the pursuit of that objective and what course of action it intends to follow.

Liddell-Hart (1967, p.335) elaborated on the concept of upwards toward policy as he observed this element of strategy as, the art of distributing and applying military means to fulfil the ends of policy. Gray (2015) argues that politics may not produce a clear, consistent, and action worthy policy, policy may demand too much of military strategy, and strategy can find that its tactical combat power, irrespective of how well it’s organised, is unable to succeed in beating the enemy. This observation aligns with research conducted by Mintzberg and Waters (1985) as their findings observed that strategy that involved central control and direction based on an original plan as unwise when compared to one that was based on learning and adaption.

Mintzberg and Waters (1985, p.260) contend that strategy formation walks on two feet, one deliberate, the other emergent, and it is therefore necessary to ensure that a degree of flexibility is maintained when the environment becomes too unstable or complex to comprehend, or too imposing to defy. This led Mintzberg and Waters to develop the most significant challenge to strategy in their seminal work, which identified the concept of deliberate and emergent strategies and the need for organisations to remain responsive to the need to change. Their research posited that consideration should be given to not seeing strategy as a single product that was handed over
to others to implement, but that it should be treated as a *pattern in a stream of decisions* (Mintzberg and Waters, 1985, p.260). Figure 2.6 below illustrates how this concept functions: if the first definition is labelled *intended strategy* and the second *realised strategy*, then it is possible to distinguish *deliberate strategies*, where intentions that existed previously were realised, from *emergent strategies*, where patterns developed in the absence of intentions, or despite them, which went *unrealised* (Mintzberg and Waters, 1985). The process ultimately reinforces the need for the organisation to be capable of delivering a strategy while simultaneously learning and adapting to changing circumstances as they occur. For this research, the model proposed by Mintzberg and Waters will be used in the context of this research, as it acknowledges that the Irish Defence Forces will have intended strategies, as outlined in the White Paper on Defence 2015, and will also need to remain agile and flexible in order to manage emergent strategies, which will inevitably occur over time. Additionally, analysis indicates similarities between the theory associated with Mintzberg and Waters Model for strategy and the Engage and Learn Model presented for managing change. Both acknowledge the need to remain flexible and adaptable, both require engagement with internal and external stakeholders, both emphasise the need to learn and evolve with emerging change in complex environment, and both identify the need for organisations to have processes that can manage change through learning.
The Royal College of Defence Studies (2012) concur with this observation and argue that strategy is an active, rather than a passive process and it is dynamic and transformational in its execution. Freedman (2013) additionally concurs and simplifies the argument further by critically arguing that because the deliberate strategy depends on the intentions being precise so that there is no doubt about what was desired, there is no flexibility included in order to react to an external force such as politics or technology. Or, as noted by Jermy (2011), to put this concept more simply, it is important to start with a broad sense of direction, build on the things that do work, discard the things that do not and also integrate new ideas from the field.

By contrast, the presence of an emergent strategy demonstrates the consistency in action in the absence of intention and acknowledges that external factors have the potential for unintended actions and associated consequences (Freedman, 2013). While Gray (2015) does not dispute this
observation, he does contribute to Freedman’s research and posits that strategy is inherently always menaced by the potential for poor performance from above and below in the hierarchy of authority. Johnson et al. (2017) have identified this phenomenon in the corporate business world and agree that deliberate and emergent strategies can have both positive and negative connotations for the respective organisation. Furthermore, they suggest that deliberate strategies are shaped by; strategic leadership, strategic planning, or externally imposed strategies, and that emergent strategies are the resultant of; logical incrementalism, political processes or organisational systems. This final observation, and a critical finding for this research, is that, innumerable small decisions taken throughout the organisation, or from an external source, could move it to an unexpected place, without the input of senior management. Such an observation has significant implications for military organisations, as core to the militarily decision-making process is the hierarchical system in delivering any proposed strategy. By not including the inevitability of emergent strategies, Freedman (2013) critically observes, that a military organisation may enter into a state of disarray.

Analysis of the literature has shown that strategy is a valuable and essential process when seeking to provide military organisation with a long-term future. Freedman (2013) urges caution and posits that strategy development requires flexibility and imagination in order to ensure it maintains pace with developing situations and an iterative approach will help the strategist achieve the best results. Gray (2015) also concurs with this observation and argues that it should be obvious, that an army committed to warfare without proper strategic guidance is likely to be at serious risk of finding its efforts and sacrifices unrewarded by military (or strategic) gains, let alone by achieving the overall political purpose. Therefore, change initiatives will also present the same challenges for military strategists. In summation, Gray (2015, p. 116) concludes by stating that, *It is no easy task to manage the necessary fusion in understanding needed to grasp the grand ideas of continuity in change, and change in continuity.* Analysis of the current literature identified that it is insufficient to rely solely on one definition of strategy, as strategy formulation is a complex process. As identified earlier, Gray’s definition of strategy was selected for this research; notwithstanding, further analysis highlights the need to acknowledge that the model proposed by Mintzberg and Waters also remains relevant to this research. Gray underpins his definition by acknowledging
that assumptions transcend the strategic decision-making process, and failure to inculcate this factor into the strategic process would be naïve. Furthermore, and in support of this observation, Mintzberg and Waters have highlighted that realised strategy is a combination of both deliberate and emergent strategies, not omitting that some strategies will not be realised. Central to achieving the realised strategy will be the assumptions used in the decision-making process, thereby highlighting the suitability of Gray’s definition and the Mintzberg and Waters Model. This discovery has not been observed in the extant literature, particularly in the case of literature pertaining to military organisations. This observation becomes more prominent for the Irish Defence Forces when it seeks to adapt to emergent strategy created by internal factors (new technologies), or externally through the creation of new political policy (by the Government and/or the Department of Defence), to which military strategy is a servant.

In summary, there will always be a need for strategy, though the relative significance of the shifting political ends, chosen strategic ways, and available military means and other may alter over time, as the human race is condemned permanently to need, and therefore, to seek governance. This becomes more prevalent as military organisations seek to transform and require leadership in order to guide the organisation through change. The following section introduces the concept of transformation in the military, and after examining this concept, it will additionally explore the role of leadership during organisational transformation.

2.3.3 The Significance of the Civil-Military Relationship

Civil-Military relations, and its associated norms, have been embedded in and underpinned Western political thought and international political order over the past few centuries, and have become increasingly opened to challenge (Roberts, 2011). At present, there are many varied understandings of what civil-military relations is, and how it is applied within the modern political landscape. Civil-military relations are primarily concerned with the interactions among the people of a state, the institutions of that state, and the military of the state (Owens, 2011, p.12).
Over recent decades, there has been an unprecedented, but coinciding trends emerging in the civil-military relations domain that have put the existing Western categories of civil-military relations under strain (Roberts, 2011). To recognise the comprehensive nature of the empirical variety of civil and military relations, Angstrom (2013) identified five ideal types of civil-military relations: civilian supremacy over the military (inherent norms in current literature); military supremacy over the civilians (traditional military dictatorship); civil and military parity (collision of knowledge); intertwining of civil and military (democratic society); and dissolution of civil and military (reflective of Hobbesian state).

Feaver (1996, p.149) furthers this concept and posits that, *the civil-military challenge is to reconcile a military strong enough to do anything the civilians ask them to do with a military subordinate enough to do only what civilians ask them to do*. This observation reinforces the theory purported by Levy (2015, p.76) suggesting that when analysing civil-military relations it is pertinent to note that civil control of the military must be managed and should not be coupled with militarisation. Huntingdon (1957) has previously contended this concern by acknowledging that, the military is more conservative than civilians regarding the propensity to use force, largely due to organisational cautiousness. This reflection was most noticeable in the post-Vietnam era as the most prevalent civil-military relation problem was not keeping the dogs of war on the leash, but rather getting them off it (Desch, 2006, p.578). In order to manage this challenge, Levy (2015, p.78) identified two modes of control that exist when managing civil control of the military by making a distinction between; control of the military and control of militarisation. In this instance, control of the military refers to *the extent to which the citizenry, through civilian state institutions, sets limits on the freedom of action of the military in areas of activity that have political implications* (Levy 2015, p.79).

The analysis above succinctly highlights and introduces the overarching issue with civil-military relations in that it implicitly continues to refer to the Civil-Military Problematique (Feaver, 1996). Feaver (1996) proposed that there were two central and potentially conflicting principles that can be deduced from this civil-military problem. Firstly, the *military must be strong enough to prevail in society’s wars as the sole purpose for having a military in the first place is the need to have*
them fight for the state (Feaver, 1996, p.151), and secondly, just as the military must protect the polity from enemies, so must it conduct its own affairs so as not to destroy the society it is intended to protect (Feaver, 1996, p.152). Millet et al. (1988, p.3) criticise the approach taken by Feaver suggesting that the principles proposed by Feaver are too narrow in their focus and do not reflect the broad context and multiple levels that civil-military relations function within. These being the political, the strategic, the operational and the tactical. Further analysis based on the narrow focus posited by Feaver (1996) strengthens the argument that civil-military relations unavoidably impact on the effectiveness of a state’s military.

For Gosselin (2015), the concept of civil-military relations can be ambiguous because the general term conceals important distinctions between each group of partners in the relationship. Civilians can be politicians or civil servants. Likewise, the term military can comprise many sub-classes therein. The concept becomes more complicated because it conceals a distinction between two forms of relationships (Kirwan, 2020). The first is a vertical relationship between officials, such as that between the military and elected members of government at two different levels of authority where studies ordinarily relate to ‘who shall rule and how’ (Cotey et al. 2002). The second relationship form is essentially horizontal in nature, among equals, with different types of expertise.

Furthermore, the classic civil-military relations studies, undertaken by Huntington (1957) and Janowitz (1960), are based on the US military (Okros, 2015). Huntington (1957) critically argued for clear separation between military and politicians, advocating for a military, which remained a politically neutral arm of government. To Huntington (1957), politicians determine national defence and foreign policy goals, while the military implement their orders. This arrangement ensures that politicians refrain from interfering in purely military matters and the military stay out of politics, other than providing advice in narrow areas of specific military expertise (Okros, 2015, p.49).

Janowitz (1960), however, observed that changes in technology, society, and missions had led to greater permeability between the values of civil-society and those of the military. According to
Cottee *et al.* (2002), the result was an inevitably more active political role for military leaders than that initially suggested by Huntington. While Janowitz (1960) stressed the need for the military to remain subordinate and under the control of political elites, he argued the need for military leadership to understand the social and political context. According to Janowitz (1960) military have a clear role in the provision of advice into political decision-making which affects the military. The Janowitzian (1960) approach reflects the approach to civil-military relations evident in most western liberal democracies today (Okros, 2015).

The work of Huntington (1957) and Janowitz (1960) remains a valuable starting point for the study of civil-military relations. However, the weakness in this body of literature is that it tends to overlook other civil-military problems confronting civil society and society’s defence forces such as the military-bureaucratic interface (Cottee *et al.*, 2002; Bland, 1997).

An additional blurring of responsibilities in the Irish context arises from the Carltona Principle (Lagasse, 2010). The Carltona Principle, an English court case from 1943, formally expressed as a point of law that powers and duties vested in a Minister may be performed, or exercised, by appropriate officials in his/her Department (DoD, 2006; Molot, 1994). The Carltona Principle applies to all government departments. However, the applicability of the Carltona Principle within the Irish Department of Defence has been the source of debate within the international literature (Lagasse, 2010; Bland, 1997). Under the Carltona, Principle, senior civil servants *speak in the name of the minister* therefore having the authority to exercise nearly all the responsibilities of their ministers (Okros, 2015; Lagasse, 2010). Consequently, senior civil servants are now considered *the alter egos of their ministers* (Lagasse, 2010, p.46). This lays the basis for almost unlimited oversight by senior civil servants over the military (Gosselin, 2015). The following section will review the impact that the civil-military relationship has on military effectiveness.

### 2.3.4 The Impact of Civil Control on Military Effectiveness

It is necessary to examine one of the other potentially significant ramifications of civil-military relations and that is its potential impact on military effectiveness (Nielsen, 2005). Poor civil-military relations relationships will have a negative consequence for military effectiveness. As a
field of academic study, military effectiveness was largely overlooked until the mid-1990s and early 2000s, until it became an important factor in determining how well a military performed (Nielsen, 2005). In light of this lack of literature, this research will define military effectiveness as the capacity to create military power from a state’s basic resources in wealth, technology, population size and human capital... varies with the degree to which it is organised to make good use of these material and human resources (Millet et al. 1988, p.3).

Reflecting on this definition, Egnell (2013) proposes civil-military relations can affect military effectiveness in two important ways, either indirectly or directly. Indirectly refers to the arena in which decisions regarding size, culture, equipment and doctrine of the armed forces are made and helps determine the quality of the tools available to the political leadership (Egnell, 2013, p.243), and directly by providing the highest levels in the operational chain of command which influences the effectiveness with which these tools are employed (Egnell, 2013, p.243). To provide context to this assertion, it is necessary to establish guiding principles that can measure military effectiveness. Brooks (2007) posits that a military must exhibit four crucial attributes; the integration of military activity within and across levels; responsiveness to internal constraints and to external environment; high skill, as measured in the motivation and basic competencies of personnel; and, high quality, as indicated by the calibre of a state’s weapons and equipment.

Both Huntingdon (1957) and Janowitz (1960), in their seminal works, acknowledged the potential impact civil-military relations have on military effectiveness. Huntingdon (1957) supported a divided approach, which emphasised objective political control by establishing a clear divide between policymakers and military implementers in order to maximise military professionalism and effectiveness. Janowitz (1960) alternatively introduced an integrated approach and this fundamentally sought to add a political dimension to the military profession in order that the military would be sensitive to the political and social impact of the military establishment on international security affairs. While Huntingdon (1957) proposed that professionalism is an adequate indicator of effectiveness, as it would acknowledge a military organisation fit for purpose, this has been shown to be inaccurate by more contemporary studies (Brooks, 2007),
which identified the *integrated approach* as outlined by Janowitz (1960) as a more suitable and relevant model.

In order to ensure that a military organisation retains its effectiveness, it is critical that both the civil and military elements are working collectively and participate fully in comprehensive dialogue at the apex of decision making to expose flawed reasoning, hidden and contradictory assumptions and alternative views in the analytical process of strategic assessment and planning (Brooks, 2008). Reflecting on the first principle of integration, posited by Brooks, it must be acknowledged that the political system which militaries are based will determine their level of effectiveness and whether they can divorce themselves from that society (Rosen, 1995). Reiter and Stam (1996) argue that militaries from democratic societies tend to operate more effectively, yet militaries from non-democratic societies struggle to be effective due to their highly centralised and rigid command structures (Brooks, 1998). Furthermore, the ability of the civil and military elements to function using shared doctrine additionally impacts on military effectiveness. Prior to World War I, all war planning and military doctrine were left entirely to the military with little input from the civil element (Snyder, 1984). Empirical evidence has shown that military effectiveness increases when civil elements are involved in the creation and adoption of doctrine (Avant, 1994) as stagnation will occur if the military are not forced to change and evolve (Posen, 1984). This observation confirms Brook’s principle of the measurement of basic and core principles when assessing military effectiveness and reiterates the caution that must be taken when assessing civil and military cohesion. When analysing the principle of high quality, a positive civil and military relations will be conducive to the acquisition and delivery of advanced technologies into military capabilities (Biddle and Zirkle, 1996), thus increasing the potential of a military’s effectiveness and the subsequent employment of force (Brooks, 1998).

This research contends that military organisations have the potential to become more effective without any loss of civilian control and it is, therefore, necessary to ensure that both civil and military elements are aware of the challenges implicit in this undertaking. Effective militaries are those that have the ability to *achieve the objectives assigned them or are victorious in war* (Korb 1984, p.42) but *victory is not a characteristic of an organisation but rather a result of*
organisational activity (Millet et al. 1988, p.3). It is, therefore, necessary to ensure that judgements of effectiveness should retain a sense of proportional cost and organisational process (Millet et al. 1988). This observation supports the need for a tangible and suitable comprehensive framework that is capable of accurately measuring military effectiveness (Nielsen, 2005). Analysis of the literature has acknowledged the need for both military and civil elements to understand that military activity occurs at multiple levels: the political, the strategic, the operational and the tactical, and failure to recognise this has potentially significant implications. The analysis additionally observed that military effectiveness is not one constant value but an organic process that has different characteristics at each of these levels (Nielsen, 2005) and must be managed in a manner that is suitable for the relevant environment.

In summary, there is consensus that conflict-laden relations between civil and military leaders will have the potential to impact negatively on a country’s national security (Nielsen, 2005). The definition provided by Levy, with respect to civil control of the military is the most applicable to this research as it aligns with the structures currently in place in the Irish Defence Forces, in that, control of the military refers to the extent to which the citizenry, through civilian state institutions set limits on the Irish Defence Forces. This finding is further reinforced by the Carltona principle in the Irish context, as the civil element essentially become the de facto Minister of Defence in their dealings with the Irish Defence Forces, which impacts on military effectiveness. In relation to military effectiveness, the definition purported by Millet (1988) will be used for this research as it acknowledges that the civil element of the Irish Defence Organisation have an input into the resources provided to the Irish Defence Forces, including technology, which has implications for this research. This analysis has highlighted some of the key principles that must form part of the core nucleus of strong civil and military relations and the potential effects if they are not managed correctly, across all levels, from the tactical to the political. Notwithstanding this observation, it has also been shown that a state’s military will be capable of becoming more effective without any loss of civilian control once military effectiveness is better understood. The following section will examine transformation in the military.
2.4 Transformation in the Military

Military transformation has become one of the permanent activities of the most developed countries since the end of the Cold War (Prezelj et al. 2016). During this period, four related concepts have been used to describe military change; military modernisation, Revolution in Military Affairs (RMA), military reform as part of Security Sector Reform (SSR) and military transformation. This research will be focusing on military transformation as it relates to change which focuses on combinations of operational, organisational and personnel changes that exploit technological innovation (Osinga, 2010, p.14). Kugler (2006, p.288) defines military transformation as;

A process of pursuing major changes to military forces in order to greatly elevate their future combat capabilities for information-age operations.

The key terms of transformation and its principal determinants are: process, change and capability. Mandeles (2007, p.4) highlighted that technology will change the future battlefield and that militaries capable of transforming will survive. Reflecting on this observation it is possible to understand the relevance of Kugler’s contribution, as technology will enable the capability a military force requires for future operations, and central to delivering this capability will be the process used to implement it, and the people to manage it. Kugler’s (2006, p.289) research further indicates that the impact of transformation will be both revolutionary and evolutionary, thus, requiring a military organisation to achieve balance between continuity and change. Hong, et al. (2019) concur with this observation as their research also identified the disruptive and inconvenient nature of change during the transformation process.

Kugler (2006) additionally posited that transformation focuses on major changes and improvements and not just minor ones; that it is a dynamic and on-going process, not static with a fixed end; and that it is a process of creative exploration and experimentation. Prezelj et al. (2016, p.22) and Mierke and Williamson (2017, p.2) concur with this observation and their research identified that transformation takes time implement as it is slow, endless, asymmetric, political and not necessarily completely rational process, that is multi-dimensional. Past, and present, military
transformations can, therefore, be reduced to two main contextual questions: why does a country transform its military, and what are its goals?

In examining why countries seek to transform their militaries, Mandeles (2007, p.3) argues that modern military organisations transform in order to prepare themselves for the *security challenges of the 21st Century*, however, the current nebulous security environment that militaries now operate in provides a complex environment. Prezelj et al. (2016, p.29) recently completed a comparative study of military transformation in 23 North Atlantic Treaty Organisation (NATO) and Partnership for Peace countries (Ireland is a signatory to the PfP), which showed that cyber threats, economic crises, terrorism and armed conflicts had the biggest impact on military transformation. This analysis would align itself with the review of the then, existing security environment, conducted by the Defence Forces during the White Paper process in 2015 (Department of Defence, 2015, p11-20). This document sets out defence policy in Ireland from 2015-2025 and also informs the Defence Forces of potential transformation requirements in other to implement capability developments that have been identified and incorporated (Department of Defence, 2015, p.61-71). Furthermore, NATO’s (2010b) understanding of transformation is based on the recognised need for ever-adaptable military forces, capable of evolving to meet the demands of the changing strategic environment.

Innate in transformation is innovation, and while innovation is not related to the research objectives of this research, it is necessary to acknowledge its influence on why modern military organisations seek to transform. Rosen (1994) describes military innovation in terms of big change, that is, a new way of fighting, or a completely new combat arm. This description is more suitable to this research, as Rosen additionally distinguishes between peacetime, wartime and technological innovation. In his research, Rosen argues that peacetime innovation is a top-down process of military change, led by a visionary leader. This theory is also applied to wartime innovation as realignments in military operations and strategic goals are a matter for higher command. Finally, when examining technological innovation, Rosen (1994) posits that military organisations will focus on risk management, and the cost and potential of the new technology. Farrell (2010, p.569) partly concurs with Rosen’s observations, however, Farrell believes that innovation transcends all
periods of war and peace, and must also be *institutionalised in new doctrine, a new organisational structure and or technology*. Osinga (2010, p.14) concurs with this observation as previous research observed that military transformation encompasses combinations of operational, organisational, and personnel changes that are capable of exploiting technological innovation. Hundley (1999, p.11-17) conducted analysis of successful military revolutions and observed that all projects involved three core components of technology, doctrine and organisation, further supporting Farrell’s assertion. Posen (2016, p.166) further contends that this can be difficult for militaries, as similar to the sentiments raised above, his research identified that most military organisations spend years with no reliable test of their capabilities, referring to the technological, organisational, doctrinal and tactical elements of a military. Reflecting on this literature, Hart (2018, p.1) provides a more critical insight and argues that most countries do not like to transform as *bureaucracies (militaries) prefer stability, because innovative ideas are inherently risky and can create losses if they fail*. These observations are pertinent as they have identified that militaries internal hierarchical structure and bureaucratic nature may be potential barriers to organisational transformation, in that, military organisations may be risk averse to technological transformation due to its disruptive nature and this may have implications for the research aims and objectives of this research.

The second catalyst for military transformation has been emulation of foreign militaries (Prezelj *et al*. 2016). Farrell and Terriff (2010) argue that this practice tends to focus on copying military models of the strongest powers that have been successfully tested in combat situations. Dyson (2008, p.725) observed that military convergence has been steadily increasing in the post-Cold War era, particularly amongst European nations in the areas of objectives, instruments and institutional forums of defence policy, but notes that there has been divergence in temporality, sequence and pace. The NATO (2010a) influence on European militaries is an interesting observation and highlights the level of integration and emulation that exists amongst both NATO and Partnership for Peace (PfP) members, albeit on a scalable basis. These observations align to previous research by Gray (2006a) and Niemeyer (2009) who both identified that the typical goal of military transformation was to improve military effectiveness in order to meet the demands of current and future challenges, thus requiring capabilities that are more modern.
Identifying the goals of a military is a more complex and intricate process as military goals are assigned by the civil element of defence (Norheim-Martinsen, 2016). Huntingdon (1957) and Janowitz (1960) have provided the seminal research on the requirement for civil control of the military, and Huntingdon’s model for the civil-military interface is still being used today. The defined roles of the Defence Forces are provided in the White Paper in Defence (Department of Defence, 2015, p.59), and other military organisations adhere to a similar process. The roles assigned by Government determine the level of transformation a military may be required to undertake, and the security threat assessment will contribute to this process, as demonstrated previously in this section. Notably, research by Fetterly (2007) identified that military transformation requires additional capital and investment in order to acquire the identified capabilities and this presents additional challenges when reflecting on the earlier observation of Hart (2018). Farrell and Terriff (2010) contend that this factor provides a useful indicator of the goals of a military, as the related trajectory of military transformation will highlight whether or not the transformation has been positive or negative. A limitation of this finding is the subjective nature of this analysis by Farrell and Terriff as there may be additional factors affecting the trajectory of military transformation.

Reflecting on these observations, and the recent findings of their studies, Prezelj et al. (2016, p.25) contend that military transformation has been theoretically and empirically perceived as a vitally urgent process in the changing security environment, but caution that less transformation would mean less adaptation and, therefore, would incur a short-sighted approach from a strategic perspective. Previous research by Scott (2009) supports this claim as transformation has traditionally been a difficult process to measure and as identified by Neal (2006) there is a lack of suitable methodologies and metrics for obtaining a complete picture of transformation. The inability to monitor transformation has been compounded by the lack of consensus on the most important dimensions of transformation, which has not been assisted by the lack of agreement in the extant literature. Martinsuz (2003, p.191) reflects on this finding and posits that any determination of dimensions and indicators will be to some extent subjective.
In summary, the ever-changing security climate has made transformation an endless, or, open-ended process, and this always requires military and defence policy to remain adaptable to change (Kugler, 2006). The definition of transformation provided by Kugler (2006) aligns to the focus of this research as it identifies that technological change requires military organisations to evolve and modernise as they seek to respond to internal and external threats. The review of the literature has highlighted that certain aspects of change, in this case, transformation, are assumed to be universal, however, the analysis has demonstrated that the particulars of external and internal contextual factors will have an impact (Jansson, 2013). Augier et al. (2014) postulate that the organisation is a vehicle that must be tuned to achieve superior performance in stable conditions, but more interestingly, they believe in changing, uncertain and critical conditions, leaders can lead the organisation to achieve strategic objectives relating to transformation. The following section will introduce the concept of leadership during transformation.

2.4.1 Leadership during Transformation

Today’s leaders are expected to excel in different ways than their predecessors from the past century, as confronting these challenges requires new models to comprehend and manage their organisations (Surace, 2019). The view that leadership contributes greatly to the success of the implementation of change is central to the literature on change management (Higgs and Rowland, 2010). Marques (2015) posits that there are multiple aspects at the foundation of the changed views such as: shifts in societal values, originated by changes in the work place leading to greater employee awareness, and a subsequent need for involvement as a satisfaction tool. The ability to lead organisational change, and being able to thrive in this environment by becoming visionaries, strategists, role models, team leaders and good communicators; and, the ability to support their employees by responding with openness, support and compassion. This observation reflects the research of Kempster and Parry (2011) and Uhl-Bien et al. (2014) who identified that leadership is a social construct where the role of leaders and followers are developed in a complex web of dynamic relationships, and where influence is not confined to that which supervisors exert over subordinates. Stubbings et al. (2019) contend that leadership has to understand its role in motivating and incentivising the workforce to embrace new ways of working, and to achieve this, leaders must be aware of the overarching strategy of the organisation. Interestingly, Stubbings et
al. (2019, np) additionally posit that when change is being implemented, it is the middle managers (leaders) who assume the primary role of leading the transformation process, as they are on the front-lines and may have good reasons to question the way senior leadership is managing change, even if they do not question the need for change itself. Previous research by Higgs and Rowland (2005) acknowledge that different types of organisational change require different leadership activities, and the literature on change leadership does not differentiate between leading change in planned or emergent processes, particularly during organisational transformation.

Novelli and Taylor (1993) argue that many of the leadership theories previously learnt were based on hierarchical and bureaucratic structures that were more suited to stable and slowly evolving organisations. They additionally contend that research has shown that the proverbial great man or great woman belong in the past as modern organisations require leadership styles that can operate as part of a process, consisting of collaboration and novel thinking to address problems with little or no familiar structure. Marques (2015) concurs with this observation and contends that modern leaders are now required to work with their followers. This development builds on the work of Kennedy (2010) who highlighted the need for leaders to be aware that their strategies need to include effective ways to produce cooperation, high efficiency and participative roles for their employees. The Defence Forces Leadership Doctrine (2016, p.2-1), defines leadership as; influencing people by providing purpose, direction and motivation; developing and evaluating the individual, unit and organisation, while achieving the mission. This definition would align itself to the existing theory and reflects the Defence Forces (2016, p.4-1) organisational values of respect, loyalty, selflessness, physical courage, moral courage and integrity. All leaders within the Defence Forces are, therefore, provided with an understanding of what leadership is, and their role in being a leader, at all levels.

Referring to types of leadership, Russ (2011) surmised the work of Douglas McGregor who identified the Type X and Type Y management styles who sought to refine the previous work of Tannenbaum and Schmidt. The core argument in Theory X and Y is that some leaders (Type X) prefer to be direct, solve problems, and issue orders, with little or no involvement of their employees other than to follow those orders, while other leaders (Type Y) work better in a team
setting, and share responsibilities and functions with followers. This observation is interesting, as military organisations, due to their innate hierarchical structure, would traditionally have adhered to the type X principle of leadership. Kelly and Finkleman (2011) additionally highlight that the modern 21st Century leader adheres more to the Type Y approach and involves collaboration and sharing as part of their strategy for achieving a competitive advantage.

When selecting a leadership style, it is necessary to remain flexible and aware of the various styles and their respective traits and suitability. As this research is examining change management in a military context, this research will focus on transformational leadership, which utilises a central concept of change and the role of leadership in envisioning and implementing the transformation of organisational performance. In addition, the research will also include transactional leadership theory as this concept emphasises the importance of the relationships between the leaders and their followers, which is reflective of the military hierarchical structure. Nadler and Tushman (1989) identified that both transformational and transactional leaderships are complementary during organisational change. Furthermore, research by Whelan-Berry et al. (2003) identified that followers are critical to the success of change initiatives as they are not only the recipients of change, but they also influence the change and can ultimately determine if it is successful or not.

Oreg et al. (2011) conducted research of organisational change that recognised that positive reactions towards change is produced if management is change competent, has a participative, informative approach and perceived as fair. This concurs with the research of Armenakis et al. (2007) whose previous research observed that leaders are the important change agents who facilitate the success of organisational change and play an integral role in influencing the degree to which followers embrace change. Reflecting on the findings of Oreg et al. (2011), there is presently no mechanism available for the Irish Defence Forces to accurately assess internal reactions to change, as earlier analysis of the literature identified that military organisations do not traditionally use change management processes. Therefore, the role of leaders will be important during the change process, as they will contribute to the measurement and mitigation of risk, whilst simultaneously managing any resistance to change.
Transactional leadership is an exchange-based relationship characterised by two factors: contingent reward and management by exception (Bass, 1985). It is only on that basis, will it continue to exist in processes where people use each other’s services (Marques, 2015). Kanungo (2009, p.257) describes a transactional leader as one who is more concerned with the routine maintenance activities of allocating resources, monitoring and directing followers to achieve task and organisational goals. However, while accepting that it may deliver results, Zagoresk et al. (2009) remain critical of this theory as it does not lead to commitment or longitudinal relationships within the organisation, and this can create further issues for the leaders’ involvement in the project as rewards may be viewed as material and incur further ineffectiveness if not managed correctly. Marques (2015) outlines that the transactional style is useful in today’s leadership landscape because it has the potential of contributing effectiveness, which is a central factor when organisations seek to implement change. Due to its focus on performance, it can drive leaders to develop clear strategies and structures for conveying their expectations from employees. Waldman et al. (2001) agree and contend that such clarity of purpose and structure allows for a more coherent management process for assessing and adjusting operational effectiveness.

The transformational leadership model evolved from charismatic leadership, which evolved into transactional leadership, and subsequently progressed into the deeper, caring-based branch of transformational leadership (Bottomley et al. 2014). Bass (1985) characterised it by four factors, or transformational components: idealised influence/charisma, inspirational motivation, intellectual stimulation and individual consideration. Bass (1997, p.133) provides analysis of these components:

- Idealised influence/charisma refers to leaders who display conviction, emphasis trust, take stands on difficult issues and emphasise the importance of purpose, commitment and the ethical consequences of decisions. These leaders are admired as role models who generate pride, loyalty, confidence and alignment around a shared purpose.
- Inspirational motivation allows leaders to articulate an appealing vision of the future, challenge followers with high standards, and provide encouragement and meaning for what needs to be done.
• Intellectual stimulation allows leaders to question old assumptions, traditions and beliefs; stimulate in others new perspectives and ways of doing things, and encourages the expression of ideas and reasons.
• Individualised consideration encourages leaders to deal with others as individuals, to consider their individual needs, abilities and aspirations; and to further their development through advice, teaching and coaching.

Reflecting on the components posited by Bass, Kim and Yoon (2015) contend that the transformational leadership style is useful because it enables leaders to successfully cope with the only constant in contemporary performance, organisational change, while adhering to a three-tier focus; understanding the need for change, creating a vision that enables the change, and implementing the change. This would align with the concept Bass (1987, p.133) was proposing, based on his research, he identified that the four components are intercorrelated, thereby, allowing authentic transformational leaders to motivate followers for transcendental goals that go beyond immediate self-interest, by using the factors individually if necessary. Transformational leaders perform as role models in the process, clarify goals and provide individualise support as well as intellectual stimuli (Podsakoff et al. 1990), and it is this stimulation that inspires employees to be more creative and innovative in the workplace (Kim and Yoon, 2015). This observation is important, as this research aims to examine how change is managed in the Irish Defence Forces during the transformation process, and the role of leaders in identifying the strategy that will guide the change.

Theories on transformational leadership are not clear on how leaders shape group and organisational processes, while there is little attention to task-oriented behaviours and processes such as how leaders clarify their expectations, set goals and monitor performance of their staff (Yukl, 2009). Bass (1987) highlights that transformational leadership can be autocratic and directive or democratic and participative thereby demonstrating its flexible and adaptable characteristics, factors which would be applicable in a military environment. While a direct style is more associated with transactional leadership, which is characterised by two factors, contingent reward and management by exception (Bass, 1985), additional research by Lowe et al. (1996)
observed that this leadership style is more suited to a leader-follower relationship in which corrective actions are an exception. Reviewing both styles, Holten and Brenner (2015, p.12) identified that transformational leadership style had *a positive, long-term effect on followers’ appraisal of change, as the more leaders are visionary change role models, the more followers appraise the change positively during the final stages of change*. Contrarily, their research observed that transactional leadership performed during the initial stage of change had a negative effect on the followers change appraisal. This finding is notable as change is a dynamic process and may be less supported by an exchange relationship based on a *quid pro quo* leadership style. As this research is focusing on organisational change, there will be no focus on transactional leadership as Bass and Riggio (2006) identified that transformational leadership is an appropriate leadership style for dealing with organisational change.

Despite criticisms, transformational leadership remains one of the most widely accepted and supported approaches to leadership (Surace, 2019). In addition, analysis of the literature confirms that transformational leadership may be an effective approach to enhance followers, as this style reveals both long-term and short-term positive effects, directly and indirectly, strategically increasing managers’ transformational potential may well benefit the entire change process (Paulsen et al. 2013). The leadership definition provided by the Irish Defence Forces, which focuses on influencing people by providing purpose, direction and motivation; developing and evaluating the individual, unit and organisation, while achieving the mission, aligns to the research being conducted as it simultaneously reflects the values espoused by the Irish Defence Forces. This research provides a unique opportunity to examine if the ethos of the definition and its associated organisational values are being adhered to, as the respondents for this research will be drawn from within the Irish Defence Forces. The role of the leader will be important during the change process as the transformation occurs. A key requirement for the leader will be to manage the impact of the change on the individuals within the organisation and the impact the change may have on the organisation’s culture. The following section will review the literature on organisational culture.
2.5 Organisational Culture

As observed by Goffee and Jones (1996), change represents the movement away from the present state toward a future state or is generally a response to some significant threat or opportunity arising outside of the organisation. Research by Morgan and Ogbona (2008) on overhauling public service bodies recognised that organisational culture is one of the most influential factors affecting organisational change. For the purposes of this research, the Defence Forces will be considered a public sector organisation as the existing literature is relevant in its application and theoretical concepts. However, it should be acknowledged that the Defence Forces are unique as a public sector organisation, as it does not share all of the characteristics of other public sector workers, for example, they are subject to military law.

Walker (2011) contends that changing the culture in the public service is a significant obstacle that presents complex challenges. Although change has always been, and must always be, an ever-present part of organisational life, many commentators believe that the pace of change and the complexity of issues involved is greater now than ever before (Handy, 1989; Kanter, 1989; Peters, 1989; Freeman, 1988). Schwab (2017) critically asserts that, how to redefine the organisation and keep changing the way it contributes, presents profound challenges to leaders of organisational change management. Suderman (2012) further elaborates on this and postulates that before an organisation’s culture can be changed, the current culture must be understood. Claver et al. (1999) conducted research, which observed that public sector organisations display an inwardly focussed bureaucratic culture, which displays an authoritarian management approach, extreme level of control, and constrained top-down management communication, similar to that of a military organisation.

Further research by O’Donnell and Boyle (2008) builds on this theme as their findings identified organisational culture as being the primary battleground with regards the management of reform or transformation in the public sector. Additionally, their research found that traditional public sector organisational cultures could potentially hinder organisational change. Kotter (2012) concurs with these findings and critically posits that the most significant impediment to creating
change in an organisation is culture, and while the phenomenon of organisational culture has existed for decades, its nebulous and ubiquitous nature requires that organisations understand it and manage it accordingly.

Culture is a long-term, complex phenomenon that generally endures through multiple leaders, and since culture is deeply rooted within the value system of the organisation, it is very difficult for leaders to change it and often requires a long-term engagement policy to successfully change the organisation’s culture (Kelly, 2008). Creating a culture is much more difficult than creating a climate, but is more powerful once established (Meinhart 2006). Baek et al. (2019, p.653) additionally posit that the modern perspective assumes that an organisation, as an independent object in the real world, is built up with systems that operate effectively and efficiently toward the prescribed objectives if designed and managed adequately. To understand culture and its impact on organisational change it is necessary to define it and the following section will review the existing definitions of culture.

2.5.1 Definitions of Culture

While there have been many definitions of culture, organisational culture has been viewed as holistic, historically determined and socially constructed, and as elaborated on by Hofstede et al. (1990), culture involves beliefs and behaviour, existing at various levels and manifests itself in a wide range of features of organisational life. As such, organisational culture refers to a set of shared values, belief, assumptions, and practices that shape and guide members attitudes and behaviour in the organisation (Kotter and Heskett, 2011). Organisational culture has a significant amount of supporting theory and past research has focussed on studying corporate culture and its relationships with performance, cultural change, strategy, and the relationship between organisational culture and industry characteristics (Hofstede et al. 1990).

Hofstede (2011, p.3) identified that the most common use for the term culture was for tribes or ethnic groups (in anthropology), for nations (in political science, sociology and management), and
for organisations (in sociology and management). This observation is important as military forces are national organisations and, therefore, reflect the society within which they operate. With respect to this research, the Defence Forces as a national organisation will be heavily influenced by Irish national culture, in addition to its own innate military culture and Defence Forces values.

As the importance of culture, and specifically organisational culture, has come to receive greater recognition, a number of theories and definitions that attempt to encapsulate the concept have been put forward (Slack and Singh, 2017). Analysis has shown that there is no agreed single definition of the term organisational culture as it relates to the military. Shambach (2004, p.33), posits that organisational culture within the military can be defined as:

*The set of institutional, shared and operating values, beliefs, and assumptions shared within the organisation and validated over time. Moreover, it prescribes activities; defines the ‘do’s and don’ts’ that govern the behaviour of its members.*

This would align with more modern academic definitions of organisational culture as espoused by Katzenbach *et al.* (2016, n.p.) who define culture as:

*The self-sustaining pattern of behaviour that determines how things are done.*

This definition assumes that an organisation has developed to operate within its environment (Farrell, 2018) and would have similarities with the concept as proposed by Shambach particularly as a military’s organisational culture is rooted in the past based on the historical ways and prior decisions of the organisation. These definitions have generally been established based on the seminal works of established scholars such as Hofstede and Schein. Hofstede (2011, p.3) defines the concept of culture as:

*The collective programming of the mind, which distinguishes the members of one group or category of people from another.*
While Hofstede et al. (1990) originally proposed there were seven characteristics referring to culture, more recent research by Hofstede and Minkov (2010) identified that there are six cultural dimensions that identify national culture (Hofstede, 2011), and these are outlined in Table 2.4. While Hofstede’s model was originally designed to help in a determination of the way in which differences between national cultures could affect the effectiveness of a multinational organisation, the factor dimensions he identified have equal utility in an analysis of organisational culture.

<table>
<thead>
<tr>
<th>Cultural Dimension</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Distance</td>
<td>Related to the different solutions to the basic problem of human inequality</td>
</tr>
<tr>
<td>Uncertainty Avoidance</td>
<td>Related to the level of stress in a society in the face of an unknown future</td>
</tr>
<tr>
<td>Individualism vs. Collectivism</td>
<td>Related to the integration of individuals into primary groups</td>
</tr>
<tr>
<td>Masculinity</td>
<td>Related to the division of emotional roles between women and men</td>
</tr>
<tr>
<td>Long-Term Orientation</td>
<td>Related to the choice of choice for people’s efforts: the future or the past and present</td>
</tr>
<tr>
<td>Indulgence vs. Restraint</td>
<td>Related to the gratification versus control of basic human desires related to enjoying life</td>
</tr>
</tbody>
</table>

Table 2.4 – Hofstede’s Model of Cultural Dimensions
(Source: Dimensionalizing Cultures: The Hofstede Model in Context, 2011, p.9-16) Adapted by the Author

Analysis of these characteristics highlights that Hofstede believes that culture does not refer to social structures and behaviour, but, in contrast to mental phenomena such as how individuals within a particular group think about and value the reality in similar ways. Culture, therefore, refers to what stands behind and guides behaviour rather than the behaviour as such (Alvesson and Sveningsson, 2008). Moreover, the dimensions presented above may be used to explain the
different motivations of individuals in organisations and different issues individuals and organisations face internally. To further highlight the impact of culture on the individual and group, Hofstede proposed a ‘Software of the Mind’ triangle, which provided a visual representation of the linkages made. This model is presented in Figure 2.7.

Figure 2.7 – Hofstede, Cultures and Organisations: Software of the Mind
(Source: Hofstede Cultures and Organisations, 2010, p.6) Adapted by the Author

The model provides a holistic view of how both the individual and group are affected by the collective indoctrination within the organisation (Hofstede, 2005). The left hand side of figure 2.7 highlights the individuals’ perspective on culture and how the individual develops their understanding of culture with reference to their personality, the group they belong to, and universally accepted culture. The right hand side of the figure above provides the organisational perspective on how culture develops based on the individual, who inherits and learns the culture. Hofstede (2005, p.3) further posits that culture consists of the unwritten rules of the social game,
it is the collective programming of the mind that distinguishes the members of a group or category of people from others. This may explain the extent to which individuals should rely on norms and rules to avoid risk and the unknown, particularly during change (Alvesson and Sveningsson, 2008).

Reflecting on Hofstede’s analysis, recent research on organisational culture has undertaken a more vibrant path as it considers new focuses, including what it is, how to make sense of it, and what is in it for us (Baek et al. (2019). Kunda (2009) and Bunch (2007) have posited that it is shared assumptions that organisational participants collectively hold and refer to when making their own decisions, or, the goals and values created by an organisation to help guide their decisions. Critically, and similar to the previous definitions, common factors emerge, including shared values and beliefs. Ng and Ng (2014) make a notable distinction between the various definitions and posit that the sociological approach primarily focuses on objective organisational systems and structures, while the humanities approach focuses on intersubjective notions among individuals. These alternative viewpoints provide competing views that organisational culture is a critical variable versus a root metaphor (Smircich, 1983). Cameron and Quinn (2011), therefore, contend that culture emerges from collective behaviours versus it residing in individual’s cognitions and interpretations.

Moreover, Martin (1992) proposed three perspectives on organisational culture, including integration (there is one culture in each organisation), differentiation (there are multiple subcultures), and fragmentation (it is uncertain whether the so-called sub-culture exists). Definitions and theories with a critical variable orientation emphasise culture as something an organisation has which is observable, also referred to more recently as culture as property (Linstead, 2001). Those with a root metaphor orientation emphasise culture, as something an organisation is which is negotiated and not always observable. Reflecting on the analysis of Hofstede’s contribution, Schein (1992, p.10) provides an alternative perspective of culture and presents it as:
The accumulated shared learning of a given group, covering behavioural, emotional, and cognitive elements of the group members’ total psychological functioning. For shared learning to occur, there must be a history of shared experience, which in turn implies some stability of membership in the group. Given such stability and a shared history, the human need for parsimony, consistency and meaning will cause the various shared elements to form into patterns that eventually can be called culture.

This description by Schein (1992) provides a deeper understanding of why organisations are so hard to change and, further to this, it is recognised that organisational culture has been established as having an important role in assuring efforts in organisational change. Berger and Luckman (1966) agree with this concept as their research identified that the social systems that human beings exist in are formed by the same process as that which develops the self, that is to say by the exchange of communication through dialogue. Schein (1992, p.13) defines culture as;

A pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration, and that have worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel as related to those problems.

Schein (1992) proposes a model for understanding organisational culture consisting of three cultural levels. The first and easiest discerned level is that of artefacts, as they represent a physical manifestation of organisational culture. Research by Alvesson and Sveningsson, (2008) furthers this, as they observed that this indicator could be as simple as the ways in which members of the group dress and speak to one another, their participation in ceremonial events and the myths and stories that members of the culture share with one another. Schein (1992, p.22) warns that while the artefact level of the cultural model is easy to observe it can be difficult to decipher and it is especially dangerous to try and infer deeper assumptions from artefacts alone because one’s interpretations will be projections of one’s own feelings and reactions. The next level of culture identified by Schein is that of espoused values. Espoused values represent what the organisation says about itself to others or the way in which organisations may represent their goals and
summarise their own cultures (Schein, 1992). Moeller (2006) argues that espoused values can have negative implications for an organisation. Moeller identified that a system that produces itself implies that it also produces the boundary between itself and its environment, once that boundary is created all operations with the social system occur within the social without any input from the system’s environment. Further critical analysis highlights that actions within the system are not caused by the system’s environment, but are self-organised. This finding implicitly acknowledges that the espoused values can become a self-reinforcing process and can have a negative impact on a military organisation, which due to its nature, is a closed system. Similarly, Schein critically contends that cultural difficulties arise when espoused values are contradictory and inconsistent with observed behaviour.

Figure 2.8 - Schein’s Triangle Model on Organisational Culture

(Source: Coming to a New Awareness of Organizational Culture, 1984, p.4) Adapted by the Author

The foundation of Schein’s model is the presence of underlying basic assumptions. These are the elements of culture that are so ingrained in an organisation that its members take them for granted in the absence of conscious thought. Schein (1992, p.25) contends that when basic assumptions
are strongly held in a group, members will find behaviour that is based on any other premise inconceivable. Vodonick (2018) furthers this point and critically assess the potential negative implications this finding will have for successive generations. Vodonick (2018, p.462) argues that because successive generations will not experience the development of handed down habits that have become institutionalised, *the institutions themselves must be interpreted in various legitimating ways, which must be consistent if they are to carry distinction into the new generations*. A significant utility of the model developed by Schein is its aid in understanding cultural barriers to adaptation, or in the case of this research, change. In organisations where basic assumptions are deep-rooted, deep anxiety can result from the development of mechanisms or viewpoints that contradict those assumptions. In order to pre-empt this, Schein argues that groups will unknowingly distort, deny, project or even falsify what is going on around them to avoid conflict with basic assumptions. This framing of a group viewpoint *influenced by an organisation’s culture can clearly act as a significant impediment to change and integration* (Schein, 1992, p.22). Vallacher (2009) argues that the communicative process that facilitates the emergence of a social system is not static, but dynamic. Communication, therefore, not only brings about the social system but also changes the social system itself, and the changed state of the social system can affect the process of communication, as the espoused values and basic assumptions may be threatened by an alternative narrative (Buzzanell, 1995).

Institutions are, therefore, hard to change and the barriers to social change are thought to be so powerful that fundamental institutional change is thought to result from external shock rather than internal evolution (Sachs, 2000). Bryson (2008) also reflects on this and acknowledges that to understand organisational culture, one must be mindful of the wider culture that has influenced beliefs about organisational culture. Thus, in order to transition to a new cultural equilibrium, the environmental changes must be sufficient to overcome the inertia of established cultural norms and produce a crisis of shared beliefs (Williams, 2007). The process of cultural change is, therefore, more akin to adaption or evolution but adaption does not necessarily rule out change by design (Hutchins, 1996). Vallacher (2009, p.8423) provides some context about the need to recognise the need for change, while maintaining stability, he posits, *despite the ever-changing nature of intrapersonal and interpersonal experience, people’s mental, emotional, and*
behavioural states tend to converge on relatively narrow sets of specific states. Vallacher ultimately recognises that individuals behavioural states converge on patterns, and those patterns may centre on states or patterns of change, but they are patterns that are recognisable. Vodonick (2018) concurs with this analysis and surmises that for change to become acceptable, there must be incremental and sustainable steps that allow a new pattern to be formed, thus allowing change to occur. This observation on how organisational culture can evolve is important and identifies a research gap. The literature has indicated that individuals react positively to incremental change as it allows new behaviours and patterns to be formed. The identification of a link between the model used to manage the change, and the correlation of how individuals embrace that change and accept the new normal further highlights that there is a learning process which must be accounted for during periods of change. For this research, the definition proposed by Schein will be used, as it is applicable to a military organisations such as the Irish Defence Forces, as it acknowledges the need for external adaptation and internal integration, further highlighting that organisational culture is a behaviour that can be modified, thereby allowing change to occur. Being able to understand and observe this phenomenon is fundamental, particularly, when implementing change which may have an impact on the organisational culture of the Irish Defence Forces. The following section will examine organisational culture in the military during a change process.

2.5.2 Organisational Culture in the Military during Change

As culture is the underlying explanation for how people work together, Farrell (2018), posits that culture can provide insights as to why an organisation is successful, or not, when achieving the desired results. Organisational culture does appear to have some influence on attitudes toward organisational change (Williams, 2007). While it is expected that certain types of culture may, or may not, facilitate the change process, Pool (2000), suggests that it is organisational culture that allows an organisation to address the ever-changing problems of adaption to the external and internal integration of organisation resources, personnel and policies to support external adaption. The notion that reality is permanent and unchangeable has become so inculcated in the Western psyche that the phenomenon of change is seen and experienced as something to be avoided or ameliorated (Vodonick, 2018)
The recent decade has witnessed such phenomena, as the unexpected changes in the world economic and political scenario have also heightened the level of uncertainty, and consequently adapting to the impending changes needed to ensure organisational survival (Rashid, et al. 2004). Research conducted by Holmberg and Alvinius (2019) identified that if military organisations hold on to traditional characteristics that are not compatible with the demands posed, they risk failing to achieve their goals and will lose legitimacy both internally and externally. Moreover, their research also identified that previous research by, Hallenberg, (2017), Farrell et al. (2014), and Bergström et al. (2014), on military organisations, placed an emphasis on adaptation of military organisations to various transformation processes and have, therefore neglected to understand why military organisations need to change. Research conducted by Holmberg and Alvinius (2019) additionally focussed on the transformation processes, which implied the need for change upon the military characteristics. The seven transformation processes they identified were further subdivided into three main categories (Holmberg and Alvinius, 2019, p.136-138):

1. Structural - globalisation/internationalisation are considered a structural pressure for change with its origin in power relations between states.
2. Normative - new norms in relation to the use of military force, value changes and normalisation are categorised as normative pressure for change with their origins at the societal, state and inter-state level.
3. Functional - technological development, professionalisation, and social acceleration are categorised as constituting pressures for change that operates mainly at the functional or practical level.

Research by Holmberg and Alvinius (2019) on the Swedish Armed Forces, also militarily non-aligned, highlighted characteristics that are commonly associated with military organisations as they relate to pressures for change, as previous research focussed on identifying different pressures for change which were then problematized in relation to military characteristics and empirical examples. The Swedish Armed Forces (SAF) have undergone major changes during recent decades (Holmberg, 2015), and have experienced the demands and associated challenges of change and transformation (Bergström et al. 2014 and Petersson 2011). Table 2.5 provides an overview of the characteristics as identified by Holmberg and Alvinius.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Explanation</th>
<th>Research by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bureaucratic</td>
<td>Functions through a web of regular formalities, and relations are, in the ideal, impersonal. Western militaries are characterised by specific rules, structure, predictability, rationality, stability, distribution of responsibility, and sphere of authority. Describe as a ‘total organisation’.</td>
<td>Alvinus, 2013</td>
</tr>
<tr>
<td></td>
<td>Goffman, 1961</td>
<td></td>
</tr>
<tr>
<td>Hierarchical</td>
<td>Important tools for bureaucracies to function ideally. Militaries provide a mechanism for discipline and order.</td>
<td>Alvinus, 2013</td>
</tr>
<tr>
<td></td>
<td>Soeters et al. 2006</td>
<td></td>
</tr>
<tr>
<td>Meritocratic</td>
<td>Goes hand-in-hand with, and supports the organisational feature hierarchy as the organisation promotes the individual that is considered to contribute to the goals of the organisation. Peace and wartime functions create a tension during transformation as the meritocratic system may require a change to the criteria of what individual behaviour should be promoted.</td>
<td>Castilla and Benard, 2010</td>
</tr>
<tr>
<td>Narcissism and</td>
<td>Narcissism means that within the organisation there is a culture or habit of perceiving oneself as particularly important and more worthy of attention than other organisations.</td>
<td>Alvinus et al. (2018, 2016)</td>
</tr>
<tr>
<td>Greed</td>
<td>Greed means that the organisation demands more of its members than is the ‘norm’. They also seek control via emotion control and high demands upon accessibility and working hours.</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.5 – Military Organisational Characteristics (Source: Adapted and taken from Holmberg and Alvinus, 2019)
Previous research by Du Gay and Vikkelso (2012) has confirmed that the characteristics outlined above are manifest, assumed and extant in the military organisation. Holmberg and Alvinus (2019) further contend that, as most change is likely to relate to peacetime contexts, military characteristics should be less problematised, but there is uncertainty as to how military organisations will react to change in such circumstances. This is an important observation, as Ireland’s military has never been a war-fighting nation due to Ireland’s national policy of militarily non-aligned; therefore, it has operated continually in a peacetime context for the last 80 years. Reflecting on the characteristics and transformation processes as posited by Homberg and Alvinius (2018) it is possible to further analyse the three categories of transformation processes based on these characteristics and highlight the implications for military organisational culture.

Structural pressure for change – As states become more dependent on increased international cooperation for security and defence, associated policies and doctrines have become Europeanised or internationalised, often against frameworks of regional organisations such as the EU and NATO (Haaland Matláry, 2009, Eriksson 2006). This requirement for standardisation and coordination went straight to the core of the military organisation. Additionally, the use of military forces in overseas operations, such as, peace keeping, and humanitarian interventions required new interaction between military organisations and different states (King, 2011). Such developments would have been challenging for military organisations and the individuals within them (Holmberg and Hallenberg, 2017). Such developments will have an impact on the hierarchy and bureaucratic systems of military organisations and this can challenge the internal meritocratic system as new tasks and experiences need to be assessed and valued within the organisation (Holmberg and Vilnius, 2019). This additional pressure may spur narcissism as parts of the organisation either embrace or resist the new roles and tasks that follow from internationalisation.

Normative pressure for change – Similar to the structural pressure to align to western organisations such as NATO and the EU, the step-up to conducting operations in accordance with international organisations requires militaries to significantly broaden their scope and adapt to new realisations, tasks and fields of operations (King, 2011). These potential challenges to the military organisational characteristics, due to the normative pressure for change, and the narcissistic trait
of the organisation can create difficulties to embrace new norms and result in failure to incorporate them into the military framework (Holmberg and Alvinius, 2019). This has become more evident as military organisations are becoming increasingly subjected to the same norms as the wider society and recent analysis has focussed on the implications this can have for the military (Olsson et al. 2016). Taken collectively, the 21st Century requirements on the military, challenges the exclusivity that the military may have been used to, and these need to be managed and comprehended if they are to maintain their legitimacy (Abrahamsson, 1972). Norheim-Martinsen (2016, p.321) further argues that the total military institution is being challenged as it is no longer as separate from society as it used to be, and for a long time, the norm are becoming blurred due to new tasks. This furthers the research of Gerras and Wong (2013), who highlighted that difficulty will always be encountered when trying engage in a process that attempts to change minds in the military, as changing one’s mind remains a critical, and often times elusive, skill for even the best military strategic leaders. Potential challenges for the military will witness further narcissistic behaviour and greed resulting in failure to comprehend and manage new requirements.

Functional pressure for change – Technical innovation and development heavily influence modern military thinking about strategy and military organisations have continually struggled to manage this adaption (Carvin and Williams, 2015). Buzan and Hansen (2009, p.109) argue that political and civilian strategists have tried to use technology to gain control over the military and this can create additional cultural issues. Aligned to this is the acknowledgement that technological development due to its cost and need for specialisation can further challenge bureaucratic, meritocratic and narcissistic traits. This issue has become more prominent in late 20th and 21st Century militaries, where professionalisation was required in order to manage more complex requirements and technical developments within military organisations (Brante et al. 2015). The potential challenges to military characteristics due to technical change and social acceleration are numerous and complex. Holmberg and Alvinius (2019) argue that the hierarchical structure traditionally associated with military organisations may prove attractive to certain individuals, but this may prove problematic, as these individuals may not adhere to the social and organisational developments occurring around them. Lehrer (2009, p.205), takes this concept further and outlines how military culture impedes the processing of information by individuals, as his research
concluded that military personnel when faced with dissonant information, use their reasoning skills to *twirl the cognitive kaleidoscope until they get the conclusions they want*.

The notion that organisational culture is a fundamental factor that must be understood is crucial if organisational readiness to change is to be recognised (Vodonick, 2018). Gerras and Wong (2013) observed that similar issues exist in the armed forces of the United States of America, as it is normal practice for military personnel to default to previously developed beliefs and positions when faced with changing situations and change initiatives in a bid to avoid change. As identified earlier, Schein’s definition on organisational culture will be used for this research as it is more relevant than the military definition of organisational culture provided by Shambach. Moreover, Schein’s definition acknowledges that individuals will be slow to evolve to new practices and processes due to previously learned behaviours, a characteristic of a military hierarchical structure. The organisational culture within an organisation will have a profound impact on how change is integrated, as the existing cultural dimensions determine whether, when, how, and in what form a new technological innovation will be adopted (Herbig and Dunphy, 1998). Organisational culture is a major determinant of the success or failure of any change initiative and if these change initiatives are developed without considering the culture then negative outcomes will likely result (Lakos and Phipps, 2004). The culture is influenced by the attitudes of the individuals within the organisation, norms in operations and communication as well as shared history, and it, in turn, influences how things are done and how the organisation responds to change or perceived threats (Farkas, 2013). In addition to acknowledging the factors that impact on organisational culture, it is necessary to further contextualise this phenomenon and establish if it is possible to identify a culture which is more attune to implementing and managing change to ensure sustainability and this will be examined in the following section.
2.5.3 Management of Culture during Change

When examining how organisations respond to change initiatives, Shepstone and Currie (2008, p.366) conducted research which identified that *a fundamental and enduring cultural change will only occur if the change process becomes personalised by employees who adapt new patterns and administrators who incorporate the new behaviours into their management.* Darwin *et al.* (2002) further posit that there are two perspectives on culture that should be considered. The first perspective is an understanding that it provides management with opportunities to exploit and develop, with greater or lesser subtlety, vehicles for the oppression of organisational members. The second perspective considers organisational culture as a means by which members themselves come to understand the process of oppression in which they are located. Rashid *et al.* (2004, p.164) additionally highlight that a culture consists of a combination of *practices, expressive symbols or forms, values and beliefs and underlying assumptions that organisational members have about appropriate behaviour.* It is holistic, historically determined and socially constructed. Such an observation would align with the military hierarchical structure, particularly as its culture and values are holistic and historically oriented. Erguin and Tasgit (2013) further demonstrate and state that there is a correlation between the culture of an organisational system and tendency of attitudes towards organisational change and attitudes of acceptance towards organisational change.

Based on the previous research of Hofstede, which identified the leaderships relationship with culture, particularly during the management of change, Cameron and Quinn (1999) expanded the focus on culture, categorised organisational cultures, and suggested an optimum leadership style for each. As the management of change became a critical requirement in organisational development, a greater interest was taken in in the leadership of change and the subsequent management of culture (Yardley and Neal, 2007).

Cameron and Quinn (2011, p.15) conducted research *on the major indicators of organisational effectiveness* to establish a methodology that would allow them to identify what makes organisations effective, the types of cultures that existed, what defined those cultures and how effective leaders could be identified. On completion of their research, Cameron and Quinn (2006) refined their findings and created four distinct clusters, which allowed them to create a framework,
and Figure 2.9 provides an overview of the four types and includes the competing values that are used in implementing them.

**Discretion and Flexibility**

<table>
<thead>
<tr>
<th>Clan: A family with leaders seen as father figures. Teamwork, consensus and common values are stressed. Values are commitment, communication and development.</th>
<th>Adhocracy: Energetic and creative work environment. Leaders are seen as innovators and risk takers. Values are innovative outputs, change and agility.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hierarchy: Formalised and structured work environment. Leaders seen as organiser and coordinator. Values are efficiency, timeless, consistency and uniformity.</td>
<td>Market: Results based organisation focussed on completing tasks with leaders seen as hard drivers and producers. Values are market share, goal achievement and profitability.</td>
</tr>
</tbody>
</table>

**Stability and Control**

Figure 2.9 – Organisational Characterisation (Source: Cameron and Quinn 2006, p.35)

The first dimension differentiates effectiveness criteria that emphasise flexibility, discretion and dynamism from criteria that that emphasise stability, order and control. The second dimension differentiates effectiveness criteria that emphasise an internal orientation, integration, and unity from criteria that emphasise an external orientation, differentiation and rivalry. Yardley and Neal (2007) further elaborate that the four quadrants represent what people value about organisational performance through the lens of what is good, right, and appropriate, thus, allowing them to define
the core values of the organisation. From a leadership perspective, Yardley and Neal (2007), additionally highlight the importance that is placed on managing culture in order to effect the change, therefore, requiring leaders to understand the organisational context, and effect change through changing cultures and behaviours. Augier et al. (2014) affirms the importance of selecting the correct organisational structure by arguing that the strategic potential of the organisation, is thereby, to some extent defined by its structure, irrespective of whether leaders and managers appreciate this fact. In addition, each of the archetypical forms of organisation can be described in terms of the typology of leadership, values, goals and structure. The following analysis is based on Figure 2.9, which was adapted from Cameron and Quinn (2011).

Adhocracy – This structure exhibits the highest degree of flexibility and stakeholder discretion as well as being primarily externally oriented (Vodonick, 2018). In this system, power flows from individual to individual and from task team to task team. This structure has emerged over recent years and best suited for reconfiguration when new opportunities arise. In the social system, as argued by Luhmann and Bednarz (1995), an adhocracy is an organisation that responds quickly to the irritation to the system when its environment changes.

Hierarchy – This form of organisation was initially described by Weber (1947) in a world that was relatively stable and for the purpose of delivering services that were relatively uniform, in a reliable and efficient way. This type of system is the core structure of a western military organisations and suits the military method of organising and delivering tasks in a structured and coherent fashion due to its clear lines of authority (Farrell, 2008). Birkenshaw and Ridderstrale (2015) identified that individuals within this system are motivated by extrinsic rewards and the dissolution of moral authority to management.

Clan – The clan structure uses management as a father figure who is responsible for the well-being of all individuals within the team. Change in this context is seen as a problem, particularly if it impacts on the individuals. This observation is important as the long-term benefit of the individual is prioritised in this structure and the concern for the internal climate of the organisation and its people that defines success (Vodonick, 2018).
Market – This structure is focussed primarily on the environment in terms of the transactional value of all activities and less upon the organisational structure itself within the organisation control and stability that are paramount. Organisations that use such a structure collapse authority to as few levels as possible and the notion of team development is encouraged.

Reviewing this analysis, Cameron and Quinn (2011, p.41) posit that the extent of dominance of the type of culture exhibited by an organisation has implications for organisational success, approaches to organisational quality, leadership roles and management skills. Additionally, organisations, which are on the left hand side of Figure 2.9, would see their culture as dominated by hierarchical structure and policies, as well as a direction towards establishing and achieving market aims. Such an organisation would rather be more active and flexible and more concerned about developing human resources. This may be in response to a dynamic and changing external environment that requires more cross-functional teaming, a diverse talent mix, and assurance to employees that they will be valued in the future environment. Organisations on the right-hand side of Figure 2.9, have the dominant culture profile of a high technology manufacturing organisation weighted in the direction of flexibility and external focus, where effectiveness is viewed as creativity, originality, progressive output and external growth and support.

Critical analysis of the organisational characterisation matrix at Figure 2.9, and the military organisational characteristics, Table 2.5, highlights that both models have a significant amount of similarities and applicability to military organisations. The presence of the hierarchy concept in both, aligns with the common structure utilised by most western militaries, although analysis of the literature has shown, as argued by Holmberg and Alvinius (2019), that military organisations are being expected to evolve and change into more responsive organisations due to social acceleration. Furthermore, a consequence of this critical analysis is that individuals within the military organisation have different worldviews and frames of reference depending on what time they entered the organisation and what strategic culture was in vogue at the time (Prezelj et al. 2016). Therefore, managing change within the military, particularly, current change initiatives will require military management to become more flexible and innovative in how they formulate their governing structure in order to support the organisations characteristics (Farrell and Terriff,
However, in examining organisational culture, Farrell (2018) highlights that general assumptions may be incorrect, and care needs to be taken to ensure that generalisations where applied are not incorrect. The analysis has additionally shown that the societal impact on military organisations does have an impact on the organisational culture, as issues that arise external to the organisation are not always readily accepted, as they challenge the status quo. This observation provides an opportunity for this research to further investigate to what extent military culture affects organisational transformation, by providing a discrete example that examines the impact of generational frames of reference in the Irish Defence Forces, based on the experience of leaders in implementing technological projects both throughout the organisation, and from their lived experiences.

Goffee and Jones (1996) suggest that without an effective culture an organisation lacks values, direction and purpose. They further contend that organisational culture can be an effective way to hold an organisation together when more traditional mechanisms for integration such as hierarchies and control systems are ineffective. Consequently, if organisational culture is indeed, as theory indicates, something that is learned and observed, then the logical inference of this observation is that like other behaviours, it can be modified, even if the process might be difficult. Assuming that the first step in efficient problem solving is correctly diagnosing the problem, the theory of organisational culture focuses much of its practical application on turning this assumption into fact, with the common objective of interpreting and understanding elements of organisational life, so that perceptions, beliefs, and actions can be better understood (Denison and Mishra, 1995). Analysis of organisational culture and its tacit implications for organisational change has demonstrated that culture presents leaders with complex challenges due to its ubiquitous influence. The VUCA climate within which, the change takes place reflects the current norm of the contemporary operating environment, therefore, a relational orientation and willingness to embrace uncertainty is fundamental to success and sustainability during organisational change.

The definition provided by Schein builds on the military oriented definition previously espoused by Shambach (2004) but provides additional clarity on how military organisational culture
develops over time, and highlights that the pattern of basic assumptions is validated and then taught to new members, thus reinforcing the military culture, based on values. Schein’s definition acknowledges the affect that external and internal factors can have on the organisation. The additional contribution of the Schein model on organisational culture further develops the understanding required for managing the cultural barriers to adaptation in an organisation. This is relevant for this research as one of the objectives will focus on organisational change through the introduction of technology.

The consequential impact on an organisations’ culture will be challenging, particularly when the change involves new technological systems, as the implementation of new technologies is an important step in allowing an organisation to remain agile and innovative and fit-for-purpose. The influence of and need for both organisational support and informal support, in the case of this research, the role of organisational culture, reinforces the need for individuals to be guided through a technological implementation process. The following section will examine the role of technology and the contribution it can make to military organisations.

### 2.6 Technology in the Military

The following section will conduct an analysis of the role and importance of technology to military organisations. Becker (2010) highlights that the introduction of new technologies into organisations continues to be a challenge for managers and change practitioners alike, and the requirement to effectively handle such technological change does not appear likely to diminish in the near future. Heuck and Thal (2010) additionally posit that the current environment is nebulous and evolving, and military organisations must be capable of managing the myriad of emerging technologies that complicates future long-range planning and the ability to understand the future environment remains critical. Military organisations have become heavily reliant on technology and as the decades have passed, the reliance on technology has increased, however, this alignment with technology is embedded in military organisations history.
2.6.1 The origins of Technology in the Military

Military history provides a rich literature on war and technology, but its focus has tended to be on the importance of technology in helping militaries to win wars (van Creveld, 1989). Clausewitz missed the importance of technology as a variable in his analysis of war as the technological challenges now facing modern militaries did not exist when he was compiling his seminal contribution, On War (Coker, 2017). Regens et al. (2020) further elaborate and acknowledge that new technologies have the capacity to be truly revolutionary and fundamentally alter the status quo by replacing previous condition, as in those espoused by Clausewitz, and rendering them obsolete. Clausewitz’s omission, therefore, is understandable due to the history of war containing significant periods of technological stagnation, which were punctuated by occasional moments of revolutionary change caused by a variety of forces (MacGregor et al. 2001).

Chin (2019) proposes that there were three key developments that brought technology from its era of stagnation to today’s technological revolution. Firstly, the industrial revolution was the first real era of sustained and rapid technological innovation that affected all aspects of human life, including war. Chin (2019, p.767) argues that Schumpeter’s (1943) economic analysis of capitalism and its relationship to technology challenged the economic orthodoxy that capitalism was not based on price competitiveness but on innovation, via the new creation of the new commodity, the new technology, the new source of supply, the new type of organisation. During this period, the requirements of the military were met from the same scientific and technical knowledge that was driving the manufacturing industry and over time, this cycle changed as the demands from the military for technology eventually shaped the wider context (Zuckerman, 1966). Secondly, state sponsorship of industry continued to drive the technological innovation in defence towards the late nineteenth century under the term command technology (O’Neill, 1983). Thirdly, the most significant change in technological terms came with the advent of nuclear weapons and this was described by Gray (1997, p.22) as the dividing line between modern war and the birth of what he termed the post-modern war. Notably, Cimbala (2012) critically asserted that the advent of the nuclear age did not render Clausewitz’s concept of war obsolete, but it did require it to be adapted, particularly as Burmaoglu and Saritas (2017) postulate that military forces continue to be
organised, equipped and employed to achieve maximum military effectiveness by using new technologies.

The Cold War, 1947-1991, became an additional evolutionary point in the role of technology in the military as Buzan (1987) contended that because nuclear deterrence relied on anticipated weapon performance, it became sensitive to technical innovation, which meant that the state had to respond to technological change by investing in defence research. Laswell (1997) identified this development and his research identified the rise of the ‘peacetime military’ and the need for the military to invest in new technologies in order to remain capable of operating in any future conflict. Gray (1997, p. 22) explained that:

*War is a discourse system, but each type of war has different rules of discourse. In postmodern war, the central role of human bodies in war is being eclipsed rhetorically by the growing importance of machines.*

Chin (2019) concurs and further posits that the Cold War era had a significant impact on western militaries as the appetite for enhanced technological solutions has not waned and continues to drive military performance in the modern and future era. Freedman (1998) further contends that the Gulf War in 1991 witnessed the initial emergence of the *high tech versus low tech* debate that has led on to create the revolution in military affairs that has been caused by the technological advance in computers and communications systems. Chamayou and Lloyd (2015) critique Freedman’s observations, by reflecting on the recent decades of conflict they argue that while the technology paradigm was briefly challenged by the recent conflicts in Iraq, which involved a more labour intensive approach to war as articulated in the principles of counterinsurgency, this has been replaced by less risky, more capital-intensive techniques of war waged with satellites, robots, drones, precision weaponry and special forces. In surmising, Coker (2004) posited that the allure of technology speculated on the possibility of a future *post-human warfare* in which machines replaced humanity on the battlefield. This sentiment reiterates the findings of Gray (2005) who also speculated the potential evolution that technology may undertake in a military context.
Furthermore, research by Burmaoglu and Saritas (2017) continue this theme, as their research identified that military technologies are evolving towards more digitalisation in parallel with the progress towards knowledge-based and learning societies. While this research is not investigating battlefields of the future, it is pertinent to note the role technology has played and continues to play in modern military organisations, so that the role of technology can be better understood. The experience of the past is frequently used to support the decisions that will affect the future and this analysis has demonstrated that technology continues to evolve while simultaneously remaining central to current and future military organisations. As surmised by Blasko (2011), the relationship between defence technology and the military concept is a chicken-egg problem as there is no clear-cut distinction between the two, however, one usually drives the other interchangeably. The future challenges associated with technology in the military are discussed in the following section.

2.6.2 Technology and its Role within the Military

The industrial and digital revolution has had far reaching impacts on practically all aspects of our society, life, firms and employment, and these are expected to intensify over time (Makridakis, 2017, p. 46). One of the most important lessons in the history of military revolution is that organisational dynamics will determine the setting in which technological innovation will either succeed or fail (Evans, 2000). The development of technologies is important for military practice, because it contributes in defining future military capabilities for the military (Fedorchak, 2018).

However, Barwell et al. (2018) urge caution and critically argue that experience suggests that new technologies are often identified by organisations as a solution, with little or no understanding of what the problem is. More recently, Uttley et al. (2019, p.801) counter this argument and contend that, it is precisely because the nature of war is constantly changing, that militaries continually obsess about the future as they suffer from a constant fear of being outdone by technological advantage, or caught unprepared by some new-fangled threat. When reviewing how military organisations seek to integrate new technologies, Thomas (1998) made five conclusions that should be considered when contemplating the introduction of new technological systems; first, developing technologies helped in improving military capabilities, but their subsequent correct
application requires appropriate doctrine. Second, emerging technologies are derived from the private sector and present militaries with challenges, such as security breaches and information espionage. Third, new technologies must be tested. Fourth, while the competitive advantages of a new technology are not long-term and the competitive advantages for militaries are seldom calculated, appropriate doctrine with a long-term evaluation is of particular note; and finally, any emerging technology must be financially sustainable.

Analysis of Thomas’s research omits a key factor, that of the cause-effect correlation. Fedorchak (2018) argues that doctrinal requirements can speed up certain tendencies in technological development, particularly as emerging technologies might force changes in doctrine. While doctrine is not one of the objectives associated with this study, it is pertinent to understand its role in how military strategic leaders view technology, as doctrinal relevance is important, particularly when assessing how capability development is to be enhanced and modernised. Research has shown that while strategic leaders develop experience, this alone is insufficient. Høiback (2013) argues that for the organisation to benefit from new technologies, there must be an appropriate mechanism for conveying existing and potential future knowledge. Doctrine, at the higher level, is how to think, not what to think, although at the lower level it can be more prescriptive (Høiback, 2013). However, whilst doctrine is a repository of experience and trusted methods, it must not lead to dogma, and must constantly be updated to take advantage of new experiences and capabilities (Hegarty, 2018). The Defence Forces utilise doctrine to enable the employment of military force, across all levels, from the strategic, through the operational to the tactical. Doctrine, therefore, is one of the key enablers that military organisations utilise in establishing how they conduct their core business and it is necessary to understand its utility. NATO defines doctrine as, fundamental principles by which military forces guide their actions in support of objectives. It is authoritative but requires judgment in application (NATO, AJP-01, 2017, p.1-1). An academic understanding of the definition of doctrine is the institutional beliefs about what works in war and military operations (Høiback, 2013, p.1).

This observation is critical to understanding the argument purported by Fedorchak and Thomas, particularly if a military organisation wants to identify and implement new technological systems,
which is the primary question being examined in this research. Høiback (2013, p.2) goes further and highlights another mitigating factor, and posits that different countries, driven by different concerns, utilise doctrines in different way. This observation is reflective of how western countries use doctrine, as some have developed complete sets of doctrine covering both joint and single Service doctrine, while others have none, or in the case of NATO members, utilise alliance doctrines (Slensvik, 2015, p.298). Remaining cognisant of the argument posited by Uttley et al., which highlighted military organisations fear of being outdone by technological advantage, this observation with respect to doctrine highlights the need to understand why new technologies are being pursued, and what capability they will deliver. Significantly, examination of Defence Forces publications for this research uncovered a dearth of knowledge with respect to doctrine and there is limited Defence Forces Doctrine publications available. This highlights a significant issue with how strategic planning is conducted in the Defence Forces and will have an influence on this research.

Reflecting on the challenges that exist to military organisations, Jin (2003) observed that the formulation of policy and development of strategy are more commonly incorporating surveys of future technology and long-term technology planning. Fedorchak (2018, p.22) contends with this observation as her research found, that while the terms policy and strategy may be interchangeable in general public discourse, this was not the case in military discourse, although she did note that they were shaped by external factors and are inter-dependent. Fedorchak (2018, p.22) further posits that in military environs, defence policy establishes the ends of military strategy, whilst shaping the structure and capabilities of the respective military force. Alternatively, she additionally contributes that the role of military strategy was to evaluate the use of force in terms of potential advantageous or harmful political consequences and tackling threats. This finding is relevant for this research as military strategy is concerned with directing how defence will develop over time based on the anticipated requirements of the future operating environment, balanced against the reality of finite resources and the need to prioritise (JDP 0-01, p.10). This presents a challenge to military organisations, as they must be able to balance long-term objectives, immediate restraints in resources and short-term contingencies, and requires an ability to look ahead to the future. While analysis has shown that doctrine will contribute to this process, Martin
(1995, p.140) postulates that, foresight can provide a useful mechanism for looking to the future and defines foresight as:

*A process involved in systematically attempting to look into the longer-term future of science, technology and economy, the environment and society with the aim of identifying some emerging generic technologies and the underpinning areas of strategic research likely to yield the greatest economic and social benefits.*

Castillo and Trinh (2019) concur with the sentiments of Martin as their research identified the turbulent environment that now encapsulates strategic planners. They concluded that the VUCA (volatile, uncertain, complex and ambiguous) environment that organisations are operating in presents strategic leaders with significant challenges. Kaivo-oja and Lauraeus (2018) concur with this observation as their research similarly identified the challenges military organisations were facing when planning for the future. Building on the research of Kaivo-oja and Lauraeus (2018, p.38) the concept of VUCA is further examined.

Volatility – refers to the speed, volume and magnitude of change that is not in a predictable pattern. Volatility as turbulence is a phenomenon that is occurring more frequently than in the past, and turbulence refers to technological systems, digitisation and business model innovation. (Lawrence, 2013, Sullivan, 2012)

Uncertainty – highlights the lack of predictability of issues and events, thus, making it harder for leaders to use past issues or experiences as predictors of future outcomes, making forecasting and decision-making challenging. (Lawrence, 2013, Sullivan, 2012)

Complexity – introduces the mitigating factors that are difficult to understand and to plan for, both internal and external to the organisation. (Lawrence, 2013, Sullivan, 2012)

Ambiguity – refers to the lack of clarity surrounding events and organisational leader’s inability to accurately conceptualise threats and opportunities before they become overwhelming. (Lawrence, 2013, Sullivan, 2012)
Reflecting on the VUCA concept, Kaivo-oja and Lauraeus (2018) found that business leaders are now considering the VUCA environment to be the new norm. Interestingly, Johnson and Johnson (1989) observed that leaders who embrace the VUCA concept can employ organismic (adhocratic, relational) rather than mechanistic (bureaucratic, compartmental) structures and processes, rather than relying on hierarchical systems. This critical observation is significant and aligns to the analysis that was conducted by Cameron and Quinn (2006) on organisational characteristics, and reiterates that an organisation seeking to change must identify the most suitable structure. Ramezan (2011) additionally observed that the use of more fluid systems allowed organisations to better prepare for VUCA context related eventualities. More recent analysis by Castillo and Trinh (2019) supports this finding as their research highlighted the relational orientation and willingness to embrace uncertainty are fundamental to success and sustainability.

Military organisations will, therefore, have to embrace this new VUCA environment and will need to establish long-term planning processes that will support their strategic aspirations. Scenario planning has its origins in military strategy and the process was first used within Royal Dutch/Shell when they sought to prepare for shocks in the oil industry (Wack, 1985). Wack (1985, p.141) defined scenarios as, a discipline for rediscovering the original entrepreneurial power of creative foresight in the context of accelerated change, greater complexity and genuine uncertainty. The primary purpose of utilising a scenario-based model was to allow the organisation to develop a culture of organisational learning so that the organisation could manage change. While Burmaoglu and Saritas (2017) support this observation by agreeing that scenarios provide alternative images of the future in an internally consistent way, they advocate that scenarios should go beyond providing future images towards informing policies and strategies for action. The scenario-based process encourages the organisation to develop broader conversations when reviewing and considering new technological systems (Drew, 2006). Table 2.6, adapted by the author from Drew (2006), provides a comparison of scenario-based planning against conventional approaches to strategic planning and discovery-based planning.
<table>
<thead>
<tr>
<th>Scenario planning</th>
<th>Discovery-driven planning</th>
<th>Traditional strategic planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explores medium and longer-term issues</td>
<td>Focuses on testing plausibility of business plans and new venture objectives</td>
<td>Relies on single-line forecasts</td>
</tr>
<tr>
<td>Identifies critical uncertainties and risks for various levels and types of planning</td>
<td>Systematically converts assumptions into knowledge as a strategic venture unfolds</td>
<td>Provides a framework for budgeting and operational planning</td>
</tr>
<tr>
<td>Emphasises strategic thinking and learning</td>
<td>Helps uncover implicit assumptions in business plans</td>
<td>Offers only limited exploration of risk and uncertainty</td>
</tr>
<tr>
<td>Is comprehensive and imaginative in approach</td>
<td>Forces managers to articulate what they don’t know about new ventures</td>
<td>Limits involvement of outsiders and fringe stakeholders</td>
</tr>
<tr>
<td>Involves expert opinion and a broad range of stakeholders</td>
<td>Employs reverse income statement, milestones planning</td>
<td>Rarely drives major organisational change or innovation</td>
</tr>
</tbody>
</table>

Table 2.6 – Comparison of Strategic Planning Approaches

Source: Adapted and taken from (Drew, 2006, p.246)

Analysis of the traditional strategic planning method reflects the processes normally associated with military organisations, as it is linear focussed, limits input from external stakeholders and rarely drives organisational change or innovation (Evans, 2000). The discovery-driven method utilises an emergent approach to planning for change (Christensen et al. 2004). This approach allows the organisation’s leaders to ask what assumptions need to be proven true to demonstrate the viability of a change proposition and develop a plan to learn and test whether these assumptions are true (Drew, 2006). This method helps develop a road map for technological innovation, based on an established set of environmental conditions and assumptions. However, research by Hamel (2000) criticises the discovery-driven method and calls for organisations to become more revolutionary in their approach to developing new business models. Ketchen et al. (2004) also contest the usefulness of the discovery-driven method and urge that strategy should be dramatic and anticipatory, as well as careful and considered. Christensen et al. (2004) argue that industry change can, therefore, be predicted using theories of disruptive innovation together with insights
from competitive strategy. Stopford (2001, p.7) reiterates this critical analysis and states that *strategy today is nothing without passion and vision from the people creating and implementing it. Indeed dreams need to be at front and centre of the strategy-making process*. This argument highlights the need for future leaders to embrace the uncertainty that exists with planning for the future and to plan strategies that are both visionary and aspirational.

Schoemaker (1995, 1993) contends that *scenario-based planning* allowed managers to avoid typical biases and pitfalls during the decision-making process, such as the over-confidence in the reliability of data, under and over-prediction of uncertainties. Additionally, Bazerman and Watkins (2004) furthered this research and observed that scenarios allowed organisations to prepare for *predictable surprises*, particularly those associated with disruptive technologies during periods of change. However, there are potential negatives towards using the *scenario-based approach* to planning and Drew (2006) contends that the process, occasionally puts too little focus on the decision context, and can have an over reliance on soft data, and the process can place a significant demand on resources for research and analysis. Moreover, as posited by Suehiro (2013), there must be cognisance that scenarios are not developed to predict the future, rather they assist decision-makers in exploring different situations that may be looming on the horizon.

Decision-makers will therefore require data and information in order to plan for the future. Where the existing literature regarding the revolution in military affairs (RMA) and history of military technology remained insufficient to identify the characteristics of future warfare, bibliometric analysis was used (Evans, 2000). Norton (2010) defines bibliometrics as the measurement of texts and information. Bibliometrics have been used to understand the past and forecast the future developments by exploring, organising and analysing a large amount of data to identify hidden patterns and trends (Daim and Suntharasaj, 2009). Factors included in this process by Burmaoglu and Saritas (2017, p.158) were; *future military trends towards smaller and distributed military organisation and the need for future integration through technological solutions; the military personnel to be involved in future operations will require different qualifications than the present ones; the requirement for future technological developments becoming anticipatory and*
As one of the objectives for this research was to explore how capability development is advanced within the Defence Forces, it is, therefore, necessary to examine how other military organisations conduct future-oriented planning. As a means of encapsulating this process, modern military organisations have sought to develop conceptual plans, based on empirical data to create their future forces. The Future Force Concept is an evidence-based process that encapsulates national policy, is resource aware, and promotes a common purpose (Hegarty, 2019). Its construct has been informed by lessons learned on operations, training and experimentation and includes other inputs such as standardisation processes used by NATO. In addition to the internal military inputs, external inputs are considered from a broad academic and industry network so that every effort has been made to obtain the largest data-set available, thus, allowing for a more informed decision. By utilising empirical-based evidence, it is possible to conduct long-term horizon scanning, which will cover a 10, 20- and 30-year period. This allows for a more coherent assimilation of what risks and uncertainties exist, and the VUCA model contributes to this process (Hegarty, 2019).

This process is used by a myriad of international military organisations such as the Royal New Zealand Defence Forces, The United Kingdom Armed Forces, the Swedish Defence Forces and the German Bundeswehr. It is notable that each of these military organisations has utilised scenario-based planning in conjunction with conceptual theory to inform their strategic decision-making. To provide context and an overview of how such a concept is utilised by a modern western oriented military, an example of the UK Armed Forces Future Force Concept is provided at Figure 2.10 (UK MOD, 2017).

The figure, while indicative, provides an overview of how the UK Armed Forces conduct long-term planning, thus, allowing them to realistically observe and identify perceived threats that may exist in the future operating environment. The graphic highlights that the strategic defence direction may change, and that resolution of detail will become more opaque as they look further
The process allows them to produce realistic budgets over longer periods as their analysis allows them to establish their force construct, and included factors such as, type of force required (expeditionary or benign), the composition of the forces, level of force interoperability, and the likely characteristics of the future operating environment. All of these efforts are supported by a research and development department, the Development. Concepts and Doctrine Centre, and this department provides empirical evidence detailing potential global strategic trends, which can be used to inform the senior leaders and decision-makers (UK MOD, 2017, p.vi).

Further analysis has highlighted that while this concept as promoted by the UK has been extremely forward oriented there have been issues with its execution. Gilchrist (2018, np) posits that an issue prevalent in the military is where technological equipment is often bought before the full challenge of integrating it is understood or planned for. He further posits that integration is a constant challenge in a perpetually changing technological context and there are many examples of failed attempts at project implementation in the UK Armed Forces. Such criticism highlights the previous caution espoused by Evans (2000) in which he identified that technological superiority means little without organisational effectiveness. Evans further posited that as a general rule, it is those military forces that succeed in integrating a reformed organisation with new doctrine, operational concepts and technology in a coherent strategic framework that seem to succeed.

The definition of scenario planning provided by Wack (1985) augments the work of Martin and provides additional context on the need to embrace uncertainty when applying foresight in an era of accelerated change. The definition posited by Martin (1995) in relation to foresight will be used for this research as it provides a succinct analysis of the core factors that must be considered when trying to identify new technological systems. The definition highlights the importance of conducting longer-term planning and understanding the requirements of the future operating environment. Acknowledging the challenge of managing the expectations of new technological systems against the reality of the VUCA environment requires processes the can cater for the short, medium and long-term future.
Figure 2.10 – The Future Force Concept

(Source: UK MOD, 2017, p. v)
2.7 Summary

This literature review related to pertinent literature of four major themes, which are the focus of this study, specifically, change management, the understanding and creation of strategy pertaining to military organisations, organisational culture and technology in the military. It has been argued that when creating and identifying a long-term strategic plan, military organisations are restricted due to their hierarchical and rigid structures. Analysis of the literature has demonstrated that organisations which can remain flexible and lucid while simultaneously conducting horizon-scanning are best placed to take advantage of opportunities as they arise. Innate within the development of a cogent strategy is the need to align future capability development planning, as this will inform the technological solutions that a modern military organisation requires for transformation.

Analysis of the literature examined the multitude of change models that can be used for managing change. It has been argued that military organisations find change cumbersome and challenging, as their traditional structure does not readily support the flexible construct change requires. Yet, to remain relevant and future-oriented, military organisations must be capable of evolving into effective and efficient organisations. This will require the adoption of a suitable change model in order to provide a coherent process that can be used throughout the organisation.

It has also been argued that role of leadership during organisational change is critical to ensuring a successful outcome. Analysis of the literature has identified that the transformational leadership style as the most suitable approach during organisational change, as individuals most suited to this style were visionary, capable of providing direction and good communicators. Although the analysis of organisational culture exposed the challenges that military organisations face when undertaking organisational change, in general, organisational culture is deemed a positive attribute, and as analysis of the theory has inferred that like other behaviours, culture can be modified, as it is learned and observed, which in aggregate, will benefit a military organisation. The ability to modify behaviour will be pertinent when military organisations seek to inculcate new behaviours.
The latter part of the review focussed on technology and highlighted the positive and negative attributes associated with it. The analysis highlighted the difficulties military organisations have in planning for the future and ensuring that they identify the most suitable technological solution. Additionally, from reviewing the literature, it is apparent that the use of change management processes is an issue for military organisations, particularly during periods of change, and this forms the focus of this study. The following chapter will discuss the research design and methodology used in this study.
Chapter Three:

Research Design and Methodology
Chapter 3 – Research Design and Methodology

3.1 Introduction
As outlined in the introduction, the purpose of this research is to establish if a military organisation can utilise change management procedures and processes as it introduces a modern technological system. In order to provide a more robust research project, this research will focus on two areas. First, it will identify a technological project that was implemented across the Irish Defence Forces, thus allowing an opportunity to examine how each service, branch, and directorate implemented and managed the change. The project selected for this element is the Information and Knowledge Management (IKON) project that commenced in 2012 and concluded in 2016, as it was implemented throughout the organisation and was technologically focussed. Second, the research will examine individuals’ lived experience of technological change in the Irish Defence Forces across each service, branch and directorate, thus providing the basis for a cross case comparison. The primary aim of the research is to examine how the Irish Defence Forces identifies and implements new technological projects, and selecting just one technological system would potentially skew the findings of this research. By incorporating individuals ‘lived experience’, the research aspires to provide senior leaders with an opportunity to outline their experience of how the Irish Defence Forces identifies and introduces new technologies. This approach will also provide a wider organisational perspective and avoid any bias individuals may have for one technological project.

In this chapter, the author will first introduce and discuss the importance of research design and how this contributes to theory building on identification of the most suitable methodology. The chapter then further explains and outlines the chosen qualitative research paradigm and how the primary and secondary research methods were chosen. The justification of their selection will also be included to ensure that both a reasoned and logical approach was utilised.

3.2 Research Design
When choosing a research strategy that will establish the methodologies to be used it is pertinent to consider the question of research design. Such consideration is important, as it
will ultimately drive the course of the research that will assist in the choices to be made. Easterby-Smith et al. (2018, p.14) identified the importance of research design and acknowledged that it is more than the methods by which data are collected and analysed. To obtain an overview of the research design process Saunders et al. (2019), propose the Research Onion, which is graphically represented in Figure 3.1:

![The Research Onion](image)

**Figure 3.1 – The Research Onion (Source: Saunders et al. 2019, p.130)**

Saunders et al. (2019) demonstrate the plethora of research designs and research methodologies that are available to the researcher and it is pertinent to note that at the core of this process is the data collection and data analysis, which are ultimately supported and obtained through the selection of the correct research design.
Easterby-Smith (2018, p.14) further elaborate on this and outline three main reasons why the understanding of philosophical issues surrounding research design must be understood. The first is that the understanding of such issues will greatly aid in clarifying the research design to be used, secondly, such knowledge will assist in determining which research design will work, and why, and finally, it can help the researcher to identify, and where necessary create designs that may be outside his or her past experience.

The role of the researcher is pivotal in the selection of the research design, and Saunders et al. (2019) reflect on this by acknowledging that the decision on which paradigm to use is based both on the research beliefs held by the researcher and on the nature of the research questions. Previously, Burrell and Morgan (2016) further note that all organisation theorists approach their work with a frame of reference consisting of assumptions, whether they are explicitly stated or not and, Miles and Huberman (1994), posit that these assumptions emerge from theory and experience, and, often form the general objectives of the proposed study.

Research design is, therefore, driven by the research questions asked and the evidence needed to answer those questions and as furthered by, de Vaus, (2014, p.9), the function of a research design is to ensure that the evidence obtained enables us to answer the initial question as unambiguously as possible. In a sense, research design is a strategy, a way of answering the desired end, formulated as a research question, with the means, represented by the data available or potentially obtainable. The research design will reflect the researchers’ innate philosophies and the following section will outline the role of ontology, epistemology and the researchers’ personal philosophy.

### 3.3 Personal Research Philosophy

In explaining the methodological approach, it is necessary to reflect upon the author’s basic beliefs and to establish how his positionality has influenced the use of methods selected for this study (Easterby-Smith et al. 2018). According to Guba and Lincoln (1998), inquiry paradigms comprise three inter-related elements of: ontology, epistemology and methodology. Grix (2004, p.59) believes ontology is the starting point of all research, after which one’s epistemological and methodological positions logically follow. Ontology then, is a useful
starting point for interrogating the author’s beliefs as to what constitutes social reality, and how this influences the research process.

Wellington et al. (2005, p.100) posit that ontological assumptions relate to how an individual ... sees social reality, or aspects of the social world, as external, independent, given and objectively real or, instead, as socially constructed, subjectively experienced. Sikes (2004, p.20) explains that there are two ontological positions. The first one is considered as external, independent, given and objectively real while the other position views the social world as socially constructed, subjectively experienced and the result of human thought as expressed through language. Wellington et al. (2005) further suggest that how the researcher understands the social world influences both the research question and methodologies used in the research process. Having reflected upon my ontological position, I identify as a social constructivist believing that knowledge is constructed by the researcher and is affected by the context. It is a belief in multiple truths and a belief that the interaction of the researcher with what is being studied affects the determination of the truth (Lichtman, 2013, p.321). Social constructivists believe that all knowledge is socially constructed, and it is the role of the researcher to try to understand the lived experiences and the world of the participants (Mertens, 2015). Creswell (2007, p.20) posits that social constructivists seek understanding of the world in which they live, and work based upon participants views of a situation. Given that the aim of this research is to understand the lived experiences of senior officers in the Irish Defence Forces, social constructivism is a paradigmatically appropriate for this study.

If ontology relates to how we know about something, then epistemology is about the theory of knowledge (Sikes, 2004). Hofer (2004, p.47) defines it as a philosophical enterprise concerned with the origin, nature, limits, methods and justification of human knowledge. Schommer-Aikins (2002, p.106) espouses that epistemological belief development and change is influenced by experience. This suggests that for a researcher to understand their epistemology, it is necessary to reflect upon their life’s experiences.

Reflecting upon my life, there have been many influences that have shaped me and shaped my view of the world, and these can be categorised as: my family, a military career, and my continuing education. The most significant influence on my early life was the role played by my parents and immediate family where my interests, education, and well-being were nourished and encouraged. The second significant milestone in my epistemic development
commenced in 2000, when I joined the Defence Forces. The process of military training is reductionist in its methodology and primarily functions on the adoption of standardised behaviour and militaristic routine. Innate within this military inculcation is a world view that observes phenomena as black or white; either right or wrong; good or bad; acceptable or not. Military life in its basic format is surrounded by certainties, with a cause and effect logic fitting with the positivist worldview where there are no shades of grey.

As my professional development continued, so too did my personal life and as I matured and progressed my mind-set evolved towards a truer reflection of me. More recent life events such as my marriage to my wife and the birth of my children, and experience derived from my continuing postgraduate education studies has encouraged me to develop my belief system. The comfort and absoluteness of dualistic thinking that was nurtured through my early career and through my science education, now however, proved inadequate for dealing with real-world problems. Postgraduate studies in higher-level education exposed me to a range of literature and social science philosophies that have helped me to better understand both myself and the theory of knowledge. The ontology of a social constructivist leads naturally to an interpretivist epistemology (Creswell, 2007). This sees the researcher *positioning themselves in the research to acknowledge how their interpretation flows from their own personal, cultural, and historical experiences* (Creswell, 2007, p.21). The interpretivist position as described by Lichtman (2013, p.323) is a *philosophical doctrine that emphasises analysing meanings people confer on their actions*. Furthermore, Grix (2004) advocates studying the social world from within, which leads to my positionality as an insider researcher. Kanuha (2000, p.440) defined this as *conducting research with communities or identity groups of which one is a member*. Creswell (2009, p.8) posits that the insider researcher positionality is compatible with a social constructivist philosophy as *social constructivists hold assumptions that individuals seek understanding of the world in which they live and work*. My epistemological position is interpretivist and is informed by my insider-researcher positionality. The following section will introduce the process involved in theory building and its relevance for the researcher.

### 3.4 Theory Building and Theory Testing

Good research designs need to have some link to theory, or as outlined by Lewin (1947, p.33), *there is nothing so practical as a good theory*. Jaccard and Jacoby, (2010, p.28) propose a
definition of theory that is a set of statements about the relationship(s) between two or more concepts or constructs, and this definition will suffice for this research.

There are a number of approaches for constructing theories and Bryman (2012) proposes that the simplest and most common approach is that of induction. The inductive approach to theory building begins with observations from which patterns are discerned and made into a theory. As espoused by de Vaus, (2014), reasoning is employed to answer whether the observation is a particular case of a more general factor, or how the observation fits in to a pattern of a story to make sense out of the observation. These observations are subsequently analysed and aggregated to develop propositions from which inferences are developed and made into a theory. De Vaus (2014) further describes this approach as ex post facto theorizing, given that the theory production follows observations. Examples of approaches that use induction to construct theories include Grounded Theory, used extensively in sociology, and Emergent Theory, used in anthropology (Jaccard and Jacoby, 2010).

However, in the social sciences, Bryman (2012) posits that this ideal process is not always necessary, practical or even possible. One of the significant issues of using an inductive approach is that the theory contribution garnered from research may in fact have a negative impact on the current literature, or, as surmised by Waltz (1979, p.4), the belief that a theoretical explanation can be found through the accumulation of more and more data and cases is an inductivist illusion. Waltz (1979) furthered that theories cannot be constructed through induction alone as theoretical notions can only be invented, not discovered. The current research is focused on building on existing theory and implementing it within the military domain therefore, knowledge, it seems, must precede theory, and yet knowledge can proceed only from knowledge. Waltz (1979), sought to negate this conundrum and proposed that theory building is a creative and intuitive process that began with the creation of theoretical notions. Basically, theory was built like a stone-wall, starting with a theoretical foundation, with successive levels of tones adding to higher levels of knowledge, as noted by Newton (1676), if I have seen further, it is only by standing on the shoulders of giants.
Juxtaposed against induction is deduction, and deduction as an approach begins with a premise or theory, then uses logical argument to show that the conclusion is true if the premise is true (Bryman, 2012). The use of deduction is also reflected in Lakatos’ (1970) description of theory building as a series of both theoretically and empirically progressive problem shifts. Lakatos further described the hard-core set of beliefs as a heuristic, with non-revisable portions of it representing a negative heuristic and revisable, or modifiable beliefs representing a positive heuristic.

Put simply, Eisenhardt et al. (2016) and Lakatos (1970) suggest that new theories are built upon old theories and are viable when they do a better job of predicting facts that a previous theory did, while also predicting the same old facts that old theory got right, with additional evidence to support the new features of the new theory. Kuhn (1970) also shared this viewpoint of this evolutionary process of theory building, while also accommodating revolutionary advances in his conception of paradigms and how new ones were formed. This ultimately refers to the notion that as research centred on the theory progressed, members of the discipline would be required to utilise creative processes to build a new theory that involved a synthesis of theories and concepts outside of the discipline, resulting in a better explanation than its theoretical competitors (Eisenhardt et al. 2016). Two central themes can be deduced from these sections. First, as outlined by Lakatos, Kuhn and others, new theories can be also built horizontally, providing better explanations than theories that preceded it. Second, as acknowledged by Waltz (1979), new theories can be built vertically upon existing theories as old theories act as foundation stones from new theories thus allowing them to climb the ladder of abstraction and provide a higher order of understanding.

In building theory, the researcher must be able to answer the ‘why’ question. Sutton and Staw (1995) propose that strong theory stems from one single, or a small set, of research ideas. Weick (1995) posits what theory is not and argues that most of the products from a theorising process seldom emerge as full-blown theory. Weick contradicts Sutton and Staw, as he believes that theory is a process, and not a product as previously posited, as it is a continuum. In order to understand if a product is a theory or not, Johansson (2007) contends that the context surrounding the product must be known, as this is the process of theorizing. DiMaggio (1995) further builds on Weick’s and Sutton and Staw’s description and proposes three different views.
of what theory should be; theory as prescription, theory as enlightenment, and theory as narrative. DiMaggio (1995, p.396), contends that theory is developed both by the author and the reader as, theory rides on much more than scientific potential, in the short run, we tend to reduce theories to slogans, and in the long run, brilliant expositors can turn muddled theories into canonical masterpieces. DiMaggio (1995) surmises by proposing that theory should not only answer ‘why’ and ‘how’ questions, but ‘what’ questions. Hatch (1997) furthers this and identifies that theory is an explanation, which means it is an attempt to explain something specific, and that this ‘thing’ that the theory should explain is often the phenomenon of interest.

Walsham (1995) argues that the role of theory in research is a key question for any researcher irrespective of what philosophical stance they have. Eisenhardt (1989) identified three distinct uses of theory: first, as a guide to the initial choice of data to be collected, second, as part of the process in the collection and analysis of data, and third, as the product of the research. Notwithstanding, Hatch (1997) discusses the nature of theory from four perspectives, classical, modern, symbolic-interpretive, and post-modern, as each provides an alternative perspective of what theory is. Hatch argues that these perspectives allow researchers to observe that as the development of theory accumulates, based on the various perspectives, previous theories are not necessarily replaced, which provides different views of how theory represents truth.

Johansson (2007) acknowledges this but highlights that a problem with theory testing is that the phenomenon of interest is often not verifiable, as what we are interested in may not be possible to measure. The purpose, therefore, of theory testing is to evaluate the implications of general models against relevant empirical evidence, usually involving as many cases as possible (Pahre, 2005). Johansson (2007) further argues that a theory is something we cannot always observe, and even if researchers had the ability to observe the theoretical concepts and relationships being suggested by the theory, there will always be ambiguity about the observation. This assumption is mostly proposed by the symbolic interpretive perspective, which emphasises that phenomena are matters of social convention, and not natural laws, or, as posited by Hatch (1997, p.6), social scientists work with realities created by social forces that are themselves the subject of study.

Hatch (1997) provides clarity of a theory and highlights that ‘something’ is a theory if it explains something, thereby, supporting the work posited by (Sutton and Staw, 1995). Analysis
of this deduction demonstrates that a theory can inform the researcher on what data to collect and, more importantly, why. Johansson (2007), reflecting on the generation of theory suggests that, if the result explains the initial research question and helps others to understand the answer to the question posed, then theory generation has probably occurred.

3.5 Research Methodology
Quantitative and qualitative research has traditionally been considered as different research paradigms (Kuhn, 1970) in that they both have distinctive belief systems that carry clear philosophical assumptions. Maxwell and Mittapalli (2010) argue that either type of research can be carried out from a range of philosophical stances. Within the social sciences there have been two major paradigms that have dominated, and these are positivist research and constructionist research. When appraising positivism, which is strongly aligned to quantitative research, researchers seek to establish the facts or causes of social phenomena and this results in the science becoming credible and possible as all researchers should observe the same thing as all data is displaying the same reality (Robson, 2011). Easterby-Smith et al. (2008, p.22) concur with this, and postulate that positivist views hold that the social world exists externally, and that its properties should be measured through objective methods, not inferred subjectively through sensation, reflection or intuition.

In contrast, the philosophical underpinnings of qualitative research are various, and social constructionism is a broadly based mainstream qualitative approach with affinities to phenomenology and hermeneutic approaches (Robson, 2011). Burr (2015) refers to the constructionist approach as interpretivist indicating a focus on how the social world is interpreted by those in it, therefore, establishing that meaning does not exist in its own right; it is constructed by human beings as they interact and engage in interpretation. This approach emphasises the world of experience as it is lived, felt and undergone by people acting in social situations (Schwandt, 2015). Researchers that possess this theoretical view consider the task of the researcher as one that requires understanding of the multiple social constructions of meaning and knowledge. Such understanding requires methodologies that allow the researcher to gain insights to this social context, and techniques, such as; interviews and observation are used to achieve multiple perspectives.
3.5.1 Phenomenology

One of the most applicable methodologies that can be used in exploring how human beings make sense of experience is phenomenology. Patton (2015, p.115) posits that to understand such experience one must undertake interviews with people who have directly experienced the phenomenon of interest, that is, they have lived the experience, as opposed to second-hand information. According to Van Manen (1990, p.9-10):

*Phenomenology aims at gaining a deeper understanding of the nature or meaning of our everyday experiences... Anything that presents itself to consciousness is potentially of interest to phenomenology, whether the object is real or imagined, empirically measurable or subjectively felt. Or rather, it is by virtue of being conscious that we are already related to the world. Thus, all we can ever know must present itself to consciousness.*

*Whatever falls outside of consciousness therefore falls outside the bounds of our possible lived experience... a person cannot reflect on lived experience while living through the experience. Reflection on lived experience is always recollective; it is reflection on experience that is already passed or lived through.*

The value, therefore, of phenomenology, is that it prioritises and investigates how the human being experiences the world and that every lived experience can become a topic for phenomenological study. It is ultimately about understanding human behaviour from the actor’s own frame of reference. The phenomenon that is the focus of the study may be an emotion, an experience, a program, an organisation or a culture (Robson, 2011). In order to grasp the meanings of a person’s behaviour, the phenomenologist attempts to see things from that person’s point of view (Bogdan and Taylor, 1975, p.14), or as surmised by Van Manen, (1990, p.10), the essence or nature of an experience has been adequately described in language if the description reawakens or shows us the lived quality and significance of the experience in a fuller and deeper manner.
It is apparent that positivists and phenomenologists approach their research in different ways as both are seeking different answers that require different strategies (Bryman and Bell, 2003). Table 3.1 below provides a comparison between these two methodologies.

<table>
<thead>
<tr>
<th>Positivism</th>
<th>Phenomenology</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Objective knowledge</td>
<td>• Subjective knowledge</td>
</tr>
<tr>
<td>• Produces quantitative data</td>
<td>• Produces qualitative data</td>
</tr>
<tr>
<td>• Science – separates facts from values</td>
<td>• Interpretivist nature</td>
</tr>
<tr>
<td>• Requires large samples</td>
<td>• Requires small samples</td>
</tr>
<tr>
<td>• Deductive</td>
<td>• Inductive</td>
</tr>
<tr>
<td>• Hypothesis based</td>
<td>• Generates theories</td>
</tr>
<tr>
<td>• Scientific data – specific and accurate</td>
<td>• Descriptive data – rich and subjective</td>
</tr>
<tr>
<td>• High reliability</td>
<td>• Low reliability</td>
</tr>
<tr>
<td>• Explained relative to general laws</td>
<td>• Theory is generated from data</td>
</tr>
</tbody>
</table>

Table 3.1 – Features of Positivistic and Phenomenological Paradigms


When conducting qualitative research is pertinent to note that the table above reflects on some of the key tenets within phenomenology and outlines the importance of understanding the meanings of human behaviour and the social-cultural context of social interaction. Qualitative methodologies refer to research methodologies that produce descriptive data; people’s own written or spoken words and observable behaviour, or put simply, qualitative methods allow the researcher to see individuals personally and to see how they view the world (Saunders et al. 2019).

Qualitative research is personal, and the researcher has a significant role to play within it as reflection on how the data was collected will be subsequently interpreted are affected by who the researcher is, what they care about, what’s going on in their lives, how they view the world and how they selected the qualitative methods used in their research (Patton, 2015). There are no explicit paths to follow, and the methods used must be justified, and explained in order to
demonstrate to the reader how the data and information was pulled together. Patton (2015, p.4-5) outlines five diverse examples of how qualitative inquiry contributes to understanding human meaning making:

1. Bodily meaning making – qualitative researchers study meanings. Our bodies serve as a site of meaning making within our culture, they also serve as a site of scholarly investigation.
2. Evaluative meaning making – evaluation involves making judgments about what is meaningful.
3. What objects mean – humans attach meaning to things and qualitative inquiry involves studying the meaning making associated with technology and its impact.
4. Meaning in meaningless – groups are typically defined by their shared meaning making and it can occur that groups can find meaning around a commitment to meaningless.
5. Qualitative interpretation as meaning making – qualitative inquiries study how people and groups construct meaning. Qualitative analysis involves interpreting interviews, observations, and documents, the data of qualitative inquiry, to find substantively meaningful patterns and themes. Moreover, the requirement of interpretations, and that qualitative research relies heavily on interpretative perceptions throughout the planning, data gathering, analysis and write-up of the study.

Patton (2015), has therefore, outlined the contribution that qualitative research makes in illuminating meanings and how humans engage in meaning making, or to put it simply, how humans make sense of the world around them. Qualitative research, therefore, plays a central role in this research and the methods within this methodology will allow the author to conduct meaningful and insightful research. Qualitative methods will allow for the author to develop an understanding of the meanings of human behaviour and the social cultural context of social interaction. As noted by Berg (2010, p.7), qualitative researchers are interested in how people make sense of their surroundings through symbols, rituals, social structures and social roles.

Hayward and Cassell (2019) acknowledge that qualitative research presents many challenges to the researcher, as it is a labour intensive and arduous process. Berg (2010) outlines why such challenges exist as his research found that qualitative research requires greater clarity of
goals during the design phase. Easterby-Smith et al. (2018) view this labour intensity as one of the main disadvantages associated with qualitative research and the possible difficulties with analysis and interpretation of the data. Hayward and Cassell (2019), and Robson (2011) concur with this reasoning and posit that the researcher can be overcome by data overload and that such an occurrence can impact on the quality of the data, the data consistency, questionable confidence in analysing the data and the potential that crucial data could be missed. Gaskell and Bauer (2000) counter against this by demonstrating that qualitative research is now being widely used in within the social science disciplines and also within commercial social research. The following section will examine the concept of Grounded Theory versus Case Studies, as research methods which can be used in qualitative research.

### 3.5.2 Grounded Theory versus Case Studies

The purpose of a case study is to gain an in-depth understanding of the situation and meaning for those involved (Laws and McLeod, 2004). Merriam (1998) further contends that the case study approach has unique strengths for qualitative research, as it can deal with a full variety of evidence, including documents, artefacts, interviews and observations.

The use of a case study approach is determined by four factors: the nature of the research questions; the amount of control the researcher has over the variables under investigation; the desired end product; and the identification of a bounded system as the focus of investigation (Merriam, 1998). Laws and MacLeod (2004) posit that the ‘how’ and ‘why’ questions are the most suitable for a case study because the approach draws attention to what can be specifically learned from the single case. Yin (2003) further posits that case study is the method of choice when the data to be collected about a situation will come from many sources, including people, observation and records, etc. In many organisational settings, the lack of control that can be exercised by the researcher means that it is necessary to adopt a holistic approach to the issue, one that is grounded in the reality of the situation and one that illuminates the meaning what is occurring. The product of research using a case study approach is sometime the case itself, but often the case is used in an instrumental way to investigate a broader phenomenon (Stake, 1995). The most essential element of a case study is the identification of the case itself. This allows a ‘bounded system’ to be identified with certain features occurring within the boundary of the case, and other features outside it (Laws and MacLeod, 2004). Alternatively, Simons
(1980) and Bassey (1999) posit that the case study approach aims to understand what is distinctive of a case defined as specific, a complex functioning thing, or in the case of this research, an organisation.

Merriam (1998, p.9) defines a case study as *an examination of a specific phenomenon, such as a program, an event, a process, an institution, or a social group*. However, Stake (1995, p.436) indicates that a case study is *both a process of inquiry about the case and the product of that inquiry*. Yin (1994, p.13), defined case study in terms of the research process when he stated a case study is *an empirical inquiry that investigates a contemporary phenomenon within the real-life context, especially when the boundaries between phenomenon and context are not clearly evident*. Miles and Huberman (1994, p.25) supported this notion when they claimed a case was a *phenomenon ... occurring in a bounded context*, and Bromley (1986, p.21) also confirmed that a case study must be limited in scope ... *there must be conceptual boundaries and empirical limits to it*. Merriam (1998, p.27) supported this observation and stated that, *if the phenomenon ... is not intrinsically bounded, it is not a case*.

Laws and MacLeod (2004) further highlight that interpretive case studies were also used to develop conceptual categories. The level of abstraction and conceptualisation in interpretive case studies ranged from suggesting relationships among variables to constructing theory, a characteristic that will benefit this research, as the model of analysis was inductive.

Notwithstanding, case study research is criticized as having limitations associated with lack of rigour, bias, not providing a basis for scientific generalisation and being time-consuming because the lack of clear rules increases the possibility of drifting away from the core focus of the study (McMurray *et al.* 2004). In particular, case study research encounters criticism in the methodology literature (Denzin and Lincoln, 2005) due to its lack of objectivity and generalisability. Despite the lack of significant sample size for statistical testing, case studies, as pointed out by Miller and Brewer (2003), rely on analytical generalisation.

Analytical generalisation refers to generalisation to theory, or in this case study an exploratory study. Furthermore, as argued by Silverman (2006), generalisability can be improved by purposive sampling guided by time, resources, and theoretical sampling. The choice of a
grounded theory case framework is consistent with this argument and is also supported by its comprehensiveness as a research strategy that comprises the logic of design, data collection techniques including theoretical sampling, and data analysis (Yin, 2003).

Alternatively, grounded theory is covered in more detail later in this chapter, however, a brief synopsis is provided here in order to highlight the alternative research choices and provide justification as to why some have been discounted for this research. Grounded theory can be defined as the discovery of theory from data systematically obtained from social research, and its aim is to generate or discover a theory (Glaser and Strauss, 1967). Wolcott (1980) contends that grounded theory is an appropriate way to study human behaviour on a sensitive topic. Opie (2007) further elaborated on the definition of grounded theory and highlighted that it is a process of collecting qualitative data and undertaking data analysis to generate categories (a theory) to explain a phenomenon of interest. Creswell (2012) furthered this and viewed grounded theory as a powerful tool when a researcher needs a broad theory or explanation of a phenomenon. Creswell (2012) further highlighted that the emerging theory from this approach is ‘grounded’ in the data, thus providing a more sophisticated explanation than a theory derived from other studies.

Khan (2014) acknowledged that semi-structured interviews and focus groups can be used to obtain data, with an objective to explore the antecedents and factors associated with the phenomenon of the study according to the employees’ perception, which is one of the research aims and objectives of this research. As this research is exploratory in nature, grounded theory permits the exploration of social relationships and the behaviour of groups where there has been little exploration of the contextual factors that affect individuals lives (Crooks, 2001). Glaser (1978) additionally observed that grounded theory allows the researcher to get through the conjecture and preconception to exactly the underlying of what is going on, so that professional can intervene with confidence to help resolve the participants’ main concerns.

In deciding on what methodology to use in this research, the author has reflected on both qualitative and quantitative methodologies, and based on the research question being proposed it was deemed that a qualitative approach was the most applicable in addressing the objectives raised by the research. As quantitative research is not being used in this research, the author decided against using quantitative research tools such as surveys, closed-ended questionnaires,
statistical analysis and correlation. The tools associated with quantitative analysis do not align with the author’s research philosophy, which is interpretivist, as this research will be seeking to understand and analyse the meanings people confer on their actions and will be looking to generate theory. Furthermore, the author selected grounded theory, as the qualitative approach for this research as there is little known about the phenomenon being explored. As outlined by Robson (2011, p.465), qualitative research creates narratives accounts that are full, rich and real, compared with the thin abstractions of numbers. This methodology will utilise the interview process to obtain intricate details about phenomena such as feeling, thought processes and emotions that are difficult to extract via more traditional quantitative methods. Numbers and statistics will not form part of this research as the theoretical perspectives identified to guide this research highlight the use of qualitative paradigms. The following section will outline the data gathering approach that will be used to gather primary data for this research, thus maintaining a qualitative approach.

3.6 Interview Technique Selection
According to Denzin (1989) one of the major qualitative techniques available to researchers is the interview. Saunders et al. (2019), concur with this approach and observe that a large part of the research conducted in the social sciences rely on interview data. Interviews refer to the face-to-face verbal exchanges in which one person, the interviewer, attempts to acquire information from and gain an understanding of another person, the interviewee (Rowley, 2012). Previous critique has focussed on the notion that the interview is not a static event, but an active, dynamic, process where both the interviewer and interviewee are co-constructing meaning. Researcher interviews typically take place because the researcher has uncovered an area where practice and opinion have not been articulated in a systematic way and this is representative of why this research is being conducted (Easterby-Smith et al. 2018).

One of the more evident advantages of using interviews is that whilst the data collection might be more demanding than distributing questionnaires, designing an interview schedule is much easier, and requires much less pre-knowledge than designing a well-constructed questionnaire. Interviews are useful when:
1. The research objectives centre on understanding experiences, opinions, attitudes, values and processes.

2. There is insufficient known about the subject to be able to draft a questionnaire.

3. The potential interviewees might be more receptive to an interview than other data gathering approaches. (Qu and Dumay, 2011).

Given the wide application of interviews in research, there has been an extensive literature on the interview method focusing on a range of topics and issues, including different types of interviews, strengths and limitations of the method, and various techniques and general advice in conducting effective interviews (Qu and Dumay, 2011; Kvale, 2007). When reflecting on interview methods it can be argued that the neopositivist view corresponds more to structured interviews, the romanticist view to unstructured interviews, and the localist perspective to semi-structured interviews, with overlap at the boundaries (Qu and Dumay, 2011).

Structured interviews can be quite similar to questionnaires, except they require the respondent to answer the questions immediately instead of filling out the questionnaire at their convenience (Saunders et al. 2019). This aligns with the neopositivist view that the research interview is a tool to be used as effectively as possible by capable researchers establishing a context free truth about objective reality producing relevant responses, within minimal basis or as surmised by Holstein and Gubrium (1995), the interview process is a pipeline for transmitting knowledge.

Unstructured interviews are based on a limited number of topics or issues, with the emphasis very much being on encouraging the respondent to talk around a theme and the interviewer may adapt their questions and their order in accordance with what the interviewee says (Bryman, 2012). Such a romantic view of the interview process views the interviews as a human encounter, encouraging interviewees to reveal their authentic experiences by establishing rapport, trust and commitment between the interviewer and interviewee (Qu and Dumay, 2011).
The most common type of interview, however, is the semi-structured interview (Rowley, 2012). Rowley further outlines that semi-structured interviews take on a variety of different forms, with varying numbers of questions, and varying degrees of adaption of questions and question order to accommodate the interviewee. By adopting a localist position, there is an understanding that the interviews are reflective of a social context, instead of treating it as a tool for collecting data in isolation. The localist approach ensures that the interview is an empirical phenomenon that needs to be examined because the narratives produced are situated accounts of the phenomenon (Qu and Dumay, 2011). Such concepts reflect research by Kvale (1996, p.42) when he observed that the qualitative research interview is a *construction site of knowledge* which must be understood in terms of five features of post-modern knowledge: a conversation, as narrative, as language, as context and as inter-relational, existing in the relationship between people and the world.

The use of semi-structured interviews is also supported by Sims (1993), who acknowledges that verbal clues may offer important reasons for misinformation and can assist the interviewer in developing secondary questions. Easterby-Smith *et al.* (2018) also observed that semi-structured interviews often give a higher degree of confidentiality as the replies of the interviewees tend to be more personal in nature and the messages hidden within their answers can also be conveyed in their non-verbal clues and facial expressions. Saunders *et al.* (2019), also posit that the use of semi-structured interviews can support exploratory study, as is the aim of this research. One of the primary techniques used in semi-structured interviews is the use of scheduled and unscheduled probes, providing the researcher with the means to draw out more complete narratives from the interviewees, drilling down a topic (Qu and Dumay, 2011).

Researchers must, therefore, be able to manage and conduct the interviews so that the opportunity is present for these observations to be attained. Failure to achieve this could result in a superficial exchange of information, which might have been better, and more cost effectively achieved via a semi-structured questionnaire (Bryman and Bell, 2003). McCracken (1988) espoused the importance of the literature review in preparing for the interview process, as qualitative interviews require detailed analysis of the current literature to highlight areas that require further analysis. The following sections will outline this preparation.
3.7 Role of Literature Review

An understanding of how research can be informed by, and build on, existing knowledge or ideas, and a tentative theory or conceptual framework can be important aids to design (Maxwell, 2005). The literature review is integral to the success of academic research as it is the progressive narrowing of a research topic thus allowing the researcher to become more acquainted with their respective field (Hart, 2018, 1998). A review of existing literature and evidence also helps sensitise the researcher to the key concepts of relevance to their research and helps them to become ‘street-wise’ to the limits, challenges and language of the type of research they aim to conduct (Boeije, 2014; Flick, 2011). The process itself requires the researcher to maintain a constant scepticism throughout, while simultaneously reviewing the work of other authors and academics. The review is a form of qualitative analysis that allows the investigator to become the master, not the captive, of previous scholarship (McCracken, 1988). The researcher should ultimately attain knowledge that provides a perspective on how the subject has developed and become established.

A comprehensive literature review will facilitate the connecting of what is read, to what is already known, critiquing the literature and conceptualising and re-conceptualising prior work into new patterns and themes will assist in identifying the research gaps (Easterby-Smith et al. 2018). By the end of the literature review, the researcher should have a list of topics from which questions must be prepared (McCracken, 1988). These topics will form the core of the interview questions and will be critical in ascertaining what the respondent should ask about and what should be listened for. The following section will outline what factors need to be considered when establishing the questions that will be referenced during the interview process.

3.8 The Interview Guide

The interview questions represent the queries or issues that are to be explored and examined throughout the interview process. The questions used in this research are listed at appendix 1 and form part of the interview guide, which was used to ensure that the same type of information was obtained from all interviewees partaking in this research. Interviews can be conducted either with one-person, individual interviews, or with a group of people, focus groups and it is in this context that the role of the interview guide will play a pertinent role in
this research, as all interviews will be conducted on a one-to-one basis. Data generated via these methods are based on verbal communication and spoken narratives (Ritchie, 2014).

The questions to be used in the interviews can be informed by practice or experience, or by theory or previous research, or, as is common with research in practitioner disciplines, a mix of both (Rowley, 2012; Robson, 2011). They provide an opportunity for detailed investigation of each person’s individual perspective, for an in-depth understanding of the personal context within which the research phenomenon is located, and for very detailed subject coverage (Ritchie, 2014). Bryman and Bell (2003) outline how the interview guide provides the interviewer with the topics or subject areas that can be explored, probed or questioned to elucidate and illuminate that particular subject, allowing for flexibility in conducting the interview. In order to offer structure and formatting to the interview process and to ensure that all relevant topics are covered, Hart (2018) espouses that the interview guide can function as a sort of checklist that he or she can refer to when deciding what to turn to next as the interview proceeds. Minichielle et al. (2008, p.1) advocate the necessity for an interview guide, as the interview is a complex and involved procedure and there is no recipe for effective interviewing and designing appropriate and insightful questions is much more difficult than many researchers realise.

The interview guide will also assist the researcher in imposing a firm yet flexible system of time management to ensure that the length and number of interviews is controlled, as uncontrolled interviews, that protract too much time, could end up in the researcher drowning in a sea of data as all data collected must be analysed (Rowley, 2012). According to McNamara (2009, n.p.), the strength of the general interview guide approach is the ability of the researcher ...to ensure that the same general areas of information are collected from each interviewee; this provides more focus than the conversational approach, but still allows a degree of freedom and adaptability in getting information from the interviewee.

The literature review conducted as part of this study formed the basis from which the interview guide was created. This allowed the author to create an appropriate level of structure for questioning, thus, ensuring that the author includes the more pertinent issues identified from
the literature. This reflects the process espoused by Merriam (2009, p.114), who observed that the interview guide is, *guided by a set of questions and issues to be explored, but neither the exact wording nor the order of questions is predetermined*. Bryman (2012, p.487) furthers this, and proposes, that while the researcher is to some extent tied to their framework, they should *incorporate a degree of flexibility* and not limit themselves to being bound by their questions. This ensures that the researcher can maximise the time spent with the interviewees and elucidate as much data as possible. The following section will outline the processes that need to be referenced when deciding on the potential interviewees for the semi-structured interviews that was conducted as part of this research.

### 3.9 Identification of Interview Candidates and Sample Required

The findings of research depend critically upon the author’s selection of interviewees and how many will be required. It is pertinent, therefore, to ensure that a list of potential interviewees is created and the main factor in this phase will be ascertaining who is in a position to answer the questions posed or who can offer the insights that this research seeks. Silverman (2010) describes this process as purposive sampling, in which respondents are selected based on the groups that the research addresses.

As this research is primarily focused on the Irish Defence Forces, all respondents were required to work, or have worked previously, in a military organisation or the government department associated with managing the military. As the objectives of this research focus on how a military organisation identifies the change required and the potential utility of change management processes and procedures, the respondents will have to be individuals who are in management positions within their respective organisations, both military and civilian. In most modern militaries, the rank of Lieutenant Commander (Lt Cdr) is considered the starting point of the senior Officer corps and for the purpose of this research; all individuals interviewed must be a minimum of Lt Cdr rank. Officers of this rank would be considered decision makers within their organisations and are best suited to answering questions that focus on the management of their organisation. From a Department of Defence perspective, the grade of Assistant Principal Officer is considered the entry level for decision makers in the Irish Civil Service, and this was minimum grade required for this research.
In ascertaining pertinent and rich data Bryman (2012, p.425) proposes five factors that should be referenced when deciding on the size of the interview pool, and these are outlined below:

1. **Saturation** – Bryman (2012) furthering research by Ritchie and Lewis (2003), suggests that within qualitative research the sample size is usually small primarily because phenomena only need to appear once to be part of the analytical map.

2. **Minimum requirements** – refers to the minimum requirements for a sample size in qualitative studies. (Bryman 2012, p.425.), suggests that the minimum number of interviews needs to be between twenty and thirty for an interview-based qualitative study to be published. This concurs with the findings of Mason (2010) whose research reviewed the abstracts of doctoral thesis abstracts relating to interview-based qualitative studies in Great Britain and Ireland. His analysis found that the range was 1 to 95 (the mean was 31 and the median 28).

3. **Style or Theoretical underpinnings of the Study** – Bryman (2012) outlines that researchers need to be aware that there is a view that there are expectations about minimum sample size in order to be able to publish one’s results; on the other hand, there is very little agreement about what that minimum sample size is or should be. What is almost certainly crucial is that the researcher must be prepared to justify the sample size with which he or she has ended up.

4. **Heterogeneity of the Population** – Bryman (2012) proposes that for some research questions, the population may be quite heterogeneous with a good deal of sub-group variability.

5. **Breadth and scope of the research questions** – Bryman (2012) argues that the breadth and scope are not entirely objective attributes of a research focus, so there is likely to be some disagreement about appropriate sample sizes along this dimension.

The framework offered by Bryman is both applicable and amenable to a military setting and this process will align itself appropriately to the semi-structured interview technique that was used to acquire the qualitative data for this research. By adopting the framework outlined by Bryman it is possible, therefore, to ascertain the sample that will be required for this research. As outlined previously, this research is focused on a military organisation and the respondents must be senior officers or senior civil servants within their respective organisation. This qualifying element is critical as the respondents must have managerial responsibility and must
be familiar with the concepts of change management, strategy, leadership and communication as all these items are present in the objectives of this research.

To widen the scope of this research, and obtain additional qualitative data, it was decided to include senior civil servants from the Department of Defence. The author utilised purposive sampling to identify the sample that would be used in this research. Creswell (2007) discusses the importance of selecting the appropriate candidates for interviews. He further asserts that the researcher should utilize one of the various types of sampling strategies such as criterion-based sampling or critical case sampling in order to obtain qualified candidates that will provide the most credible information to the study.

Purposive sampling assumes that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned. Patton (2002, p.230) argues that the logic and power of purposeful sampling lies in selecting information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry, thus the term purposeful sampling. To begin purposive sampling, one must first determine what selection criteria are essential in choosing the people or sites to be studied (Merriam, 2009). Le Compte and Schensul (1999, p.69-70) prefer the term criterion-based selection to the terms purposive or purposeful sampling. In criterion-based selection, the researcher creates a list of the attributes essential to their study and then proceeds to find or locate respondents suitable to the criteria. The criteria one establishes for purposive sampling directly reflects the purpose of the study and guide in the identification of information rich cases.

For this research, the main criteria required for respondents are outlined below:

1. Must be a Senior Officer (OF-3 and above), and civilian equivalent, for a minimum of two years.
2. Must be in a management position.
3. Must have experience of technological system projects.
Table 3 below represents the demographic details of the respondents that were interviewed as part of this research. The table represents the date the interview was conducted, the gender of the interviewees (16.10% female and 83.90% male), their length of service, which indicates their experience level within their respective organisations (median = 24.00 years). The breakdown of the respondents by organisation was as follows: Department of Defence 6.47%, Air Corps 9.67%, Army 32.25%, and Naval Service 51.61%. The percentage of female officers interviewed exceeds the current level of females within the Defence Forces, which is presently at 6.21%. Two of the respondents were from the Department of Defence. This permitted an alternative perspective to be included in the research, thus, allowing for a more comprehensive overview of the research question posed and to ascertain their experience of similar phenomenon. The interviews took place between April and August 2016, and August 2020.
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Table 3.2 – Demographic Details of Candidates

3.10 Access to Candidates
In order to gain access to the candidates, a direct approach was utilised. The initial contact was initiated through the sending of an introductory email/letter to provide institutional legitimisation. In order to maintain a proactive approach, the author conducted follow-up phone calls to ensure that the potential respondents had received the initial email/letter. The phone calls allowed the author to allay any initial concerns raised by the individuals and once confirmation was received that an individual was willing to partake in the research the
interview dates and times were organised. All these meetings were confirmed by email/letter and a week prior to the interview was due to take place the author contacted the interviewees to ensure that their schedules had not changed and that the interview would go ahead on the agreed date and time. The author also contacted the interviewees the day prior to the interview to confirm all previous arrangements. The author made extensive efforts to facilitate the schedules of the interviewees and where interviews had to be rearranged; the author rescheduled these interviews as required. Saunders et al. (2019, p.445), highlight the need for the researcher to establish and maintain personal contact as potential interviewees may feel that it is not appropriate to discuss/provide sensitive and confidential data to someone they have never met.

Qu and Dumay (2011) outline the importance of ensuring that the researcher fully utilises the opportunity to conduct an interview with a willing interviewee and stresses that such an opportunity should not be taken lightly, and careful planning should be in place prior to the commencement of the interview. Ahrens and Dent (1998) further this concept and note that once access has been granted, the task of conducting interviews with busy managers, for whom time is at a premium, is nontrivial. Timing is, therefore, of significant importance and it is critical that the author be cognisant of this.

Hart (2018) advises that it is unwise to arrange appointments shortly before lunch or at the end of the day unless the interview can be completed with certainty. Hart’s research experience highlights that interviewee’s tolerance and impatience can be problematic and such arrangements are risky if the respondent is late for the interview. Prompt and efficient time keeping is also a prerequisite for the interviewer as arriving ‘just in time’ or late for an interview is unsatisfactory, particularly when the interviewee’s time is limited. The interviewer needs to plan for such occasions, and it is pertinent to ensure that sufficient lead in time between the interviewers’ arrival and the interview itself. Hart (2018) recommends arriving about a quarter of an hour before the interview and this allows time for gleaning valuable information at the reception. The author adopted this approach for the interviews.
The remaining and one of the most critical elements of the access stage is that of location. Creswell (2007) suggests the participants may be willing to openly and honestly share information or their story and it might be easier to conduct the interviews with participants in a comfortable environment where the participants do not feel restricted or uncomfortable to share information. Hart (2018) suggests that a suitable interview venue would be a quiet office and where possible all distractions, such as, phones, email and potential interruptions are minimised or removed. In relation to the interviews conducted for this research, the author allowed the interviewee to select the location. In total, 19 of the interviews were carried out at the Irish Naval Service, Naval Base in Haulbowline, Co. Cork, and 12 of the interviews were conducted at the Defence Forces Head Quarters, Station Road, Newbridge, Co. Kildare. All the interviews ranged in length from 25 minutes to 65 minutes.

The following section will outline the procedures that were used in conducting the semi-structured interviews.

3.11 Interview Format and Structure

Before initiating the interview process, it was necessary to conduct a pilot interview to ensure that the list of questions contained within the interview guide are both logical and relevant to the research process. The interview protocol for this research is located at Appendix 1. Merriam (2009) acknowledges that pilot interviews serve two main purposes. Firstly, they are crucial for trying out the research questions, thus, ensuring that the researcher can quickly learn which questions are confusing and need rewording, which questions yield useless data, and which questions, suggested by the respondents, the researcher should have thought to include in the first place. Secondly, they offer the interviewer an opportunity to get some practice in interviewing respondents. The use of the pilot interviews is invaluable and will greatly assist in contributing towards the finalising of the interview format. There were two pilot interviews conducted at the commencement of the data-gathering phase. On reflection, the interview guide was amended based on analysis of the pilot interviews, and the interview guide is available at appendix 1.
As suggested by Kvale and Brinkmann (2017) an interview is a conversation, and it is very important to remember this both during the interview and later during the analysis of the data. To assist in starting the interview process, Rowley (2012) suggests using the introductions as a means of relaxing both parties and this then should be followed by a brief introduction as to why this interview is taking place with a brief explanation of why the research is being conducted.

The nature of the semi-structured interviews will be exploratory, as it will be necessary to ascertain both the facts and trends that should emerge from the respondents’ answers. There will be some variables, therefore, that could potentially affect the results of the interviews, such as the respondents’ knowledge of the change management processes, techniques, their behaviour, attitudes, organisation knowledge and exposure to previous change management projects (Easterby-Smith et al. 2018). Utilising an ethnographic approach to questioning allows researchers to learn about the interviewee’s organisational culture from different individuals’ points of view, thus, bringing into the open an often-hidden environment (Qu and Dumay, 2011). The localist approach, as espoused by Creswell (2007), allows the use of the semi-structured interviews to emphasise the need to approach the world from the interviewee’s perspective.

Le Compte and Schensul (1999, p.141) suggest that the quality of an interview can be maintained by paying careful attention to the following three principles: maintaining the flow of the interviewee’s story, maintaining a positive relationship with the interviewee, and avoiding interviewer bias. Failure to follow such principles could potentially ruin the data set being collected through the interview process and the author must take care to ensure that data is collected for the categories and relationships that have been identified as important in the literature review. Ahrens and Dent (1998, p. 26) further this by surmising that:

*The process of interviewing managers itself calls for sensitivity and interpersonal skills. Interviewees must be put at ease so that they can speak freely, as it were ‘off the record’, notwithstanding that the researcher is taking notes and openly tape-recording the conversation. Rather like a therapist, the researcher has to have the capacity to listen,*
to understand and to tolerate pregnant pauses without discomfort, for these serve to precipitate further elaboration by the interviewee. At the same time, he or she has, to intervene to bring the interviewee into direct contact with issues that area being skirted around or avoided.

What this essentially means, is that, what the researcher does not capture in the moment will be lost forever and McCracken (1988) furthers this thought and acknowledges that the interview is a challenging occasion because mistakes are both easy to make and impossible to rectify.

It is, therefore, necessary to ensure that the interview is run efficiently and effectively, and that the interviewer maintains a degree of structure. In this research, that was achieved by following the interview guide as this had the list of questions used during the interview and will have already been tested in a pilot interview, as previously outlined. Although there were some deviations from the interview question sequence this was done to follow up on potential leads during the interviews and to facilitate broken discussion as it occurred. The author attempted to cover all of the research questions as outlined in the interview guide, but, believed that on occasion, there was a requirement to remain perceptive and sensitive to the events being discussed, thus, ensuring that lines of inquiry could be changed or adapted during the interview.

This, again, reinforces why the author sought to select semi-structured interviews for the data gathering phase as this method allowed the author to remain flexible, accessible and intelligible and more important, capable of disclosing important and often hidden facets of human and organisational behaviour (Qu and Dumay, 2011).

3.12 Digitally Recording Interviews

The most common process used in recording qualitative interviews is to use a tape recorder, or in modern research, a digital Dictaphone. Patton (1990) goes as far as describing tape records as indispensable to the qualitative researcher and reflects in the fact that tape recorders do not tune out of conversations, change what has been said because of interpretation or record more
slowly than what is being said. Bryman (2012) furthers this method of recording interviews and purports the advantages of modern digital recording equipment, as they have a superior sound quality, is easier to transcribe interviews and minimises the risk of mistakes due to mishearing. This does not absolve the researcher from listening attentively to what’s being said by the interviewee but allows the researcher a greater freedom to listen more acutely, thus gaining valuable insights into what is being discussed. Barthes (1985, p.3) reflecting on this commented on precisely what is at stake in the interview situation:

_We talk, a tape recording is made, diligent secretaries listen to our words to refine, transcribe, and punctuate them, producing a first draft that we can tidy up afresh before it goes on to publication, the book, eternity. Haven’t we just gone through the ‘toilette of the dead’? We have embalmed our speech like a mummy, to preserve it forever. Because we really must last a bit longer than our voices; we must, through the comedy of writing, inscribe ourselves somewhere. This inscription, what does it cost us? What do we lose? What do we win?_

Barthes alerts researchers to the value associated with recoded interviews, and the invaluable data source they can provide during the analysis phase. Modern digital devices can additionally detect changes in the pitch and tone of the respondents’ voice, thus, assisting the researcher in identifying key moments in the data analysis phase. Rapley (2004) further recognises that if the researcher loses, or let’s go of the idea, that they can access the intimate interior of a person through the interview, or perhaps, gain other ways of thinking about what might be precious and valuable in what interviews produce or contain. In other words, the researcher should see the interview as a place where social forms are staged rather than a resource to understand the nature of society beyond.

Ideally, verbatim transcription of recorded interviews provides the best database for analysis (Merriam, 2009). All the interviews conducted in this research were digitally recorded. This allowed the interviewer to engage more holistically with the interviewee as it reduced the burden of intensive writing at the time of interview. The author agrees with Riley (1996), who notes that, by comparison with note-taking, which requires a considerable of on-the-spot selection, and which undermines the reliability of the data collected, tape-recording ensures that the interviewer will have complete transcripts for the subsequent analysis.
3.13 The Interviewer – Respondent Relationship

Due to the military having a hierarchical system it is pertinent to ensure that the interviewer imposes the correct level of formality and informality with all interviewees. McCracken (1988) reflects on the necessity of the interviewer to dial up or dial down the formality – informality balance according to the demands of special contexts. As outlined by Mellon and Bogdan (1990), the intention is to build trust and inform the interviewee about the purpose of the interview in order to get the interviewee talking freely. Hayward and Cassell (2019) reaffirm this requirement and urge caution, as the researcher must remain conscious of the impact they have through the manner in which they set up and manage the interactions with the respondents, and the influence researchers have on the data that is derived from the process. Dexter (1970, p.24) states that there are three variables in every interview situation that determine the nature of the interaction: the personality and skill of the interviewer, the attitudes and orientation of the interviewee, and the definition of both (and often by significant others) of the situation. It should, therefore, be further noted that key informants are able, to some extent, to adopt the stance of the investigator, thus becoming a valuable guide in unfamiliar territory and that not all good respondents can be considered key informants in the sense that anthropologists use the term.

Merriam and Tisdell (2015) furthers this, and when describing what makes a good respondent she outlines that anthropologists and sociologists speak of a good respondent as an ‘informant’, or to put it more simply, one who understands the culture of their organisation but is also able to reflect on it and articulate for the researcher what is going on. Bryman (2012) furthers this and acknowledges that good respondents are those whom can express thoughts, feelings, and opinions – that is, offer a perspective on the topic being studied.

In this research, the author considered it prudent to adhere to the guidelines outlined above in order to ensure that the correct balance of formality and informality was maintained. When outlining the internal procedures and processes associated with their respective organisations, respondents tended to speak more formally and as the interview progressed and personal experiences were discussed, respondents spoke more informally.
Seidman (1991, p.77) suggests that while being highly sensitive to these issues and taking them into account throughout the study, interviewing requires interviewers to have enough distance to enable them to ask real questions and to explore, not to share, assumptions. The interviewer-respondent interaction is therefore a complex phenomenon as both parties bring biases, predispositions, attitudes, and physical characteristics that affect the interaction and the data elicited. Merriam (2009) posits that a skilled interviewer accounts for these factors in order to evaluate the data being obtained and by taking a stance that is non-judgmental, sensitive, and respectful of the respondent is but a beginning point in the process.

3.14 Controlling the Interview

As with all research, time is a valuable entity and it is imperative that the interview process reflects this. The interviewer must at all times remain in control of the interview and avoid situations whereby, long winded answers, irrelevant narratives and getting side-tracked in the interview itself are introduced. Such occurrences can have a detrimental impact on the quality of the data being provided by the interviewee as time is a precious resource and additional time will be wasted in the transcribing of the narrative due to a lack of control. Saunders, et al. (2019, p.402), highlight the need for the interviewer to shape the interview by ensuring all elements of the interview are explained to the interviewee, and that, the opening moves to demonstrate credibility and friendliness, and gain the interviewee’s confidence.

Patton (1990, p.130), outlines a process that the interviewer can use to maintain control in the interview by: knowing what it is that he or she wants to find out, asking the right questions to get the information needed, and giving appropriate verbal and non-verbal feedback. Rowley (2012) outlines the importance of the interviewer having prompts prepared under each question to help keep the interview moving and the interviewee’s engagement with the process positive. In their roles as informants, the interviewees, are providing something like expert testimony, while the soliciting of their opinions brings them slightly closer to the role of respondent, although with the connotation of anonymity that is frequently taken to denote the status of respondent (Platt, 1981). The interviewer must, therefore, remain cognisant of this and ensure that specifying and direct questions are used to develop more precise descriptions from general statements (Kvale, 1996). As outlined by Berg (2010), the primary responsibility of the interviewer is knowing what kind of data one is looking for and directing the interview in order
to collect that data. The author used the interview guide that was created for this research as the primary reference guide for controlling the interviews conducted as part of this study and this ensured that the data required was retrieved.

Caution must be utilised during the interview process as there is a danger of simplifying and idealising the interview situation, based on the assumption that interviewees are moral truth tellers, acting in the service of science and producing data needed to reveal their experiences (feelings, values) and/or the facts of the organisation under study (Alvesson, 2003, p.14). An appropriate level of feedback must be given to the interviewees during the interview process, as this will ensure that control is maintained and that the timing of the interview is at a comfortable pace. Saunders et al. (2019), espouse that the interviewer must maintain an active listening posture and provide feedback through the timely use of semi-verbal sounds, nods or body language. These prompts must not be overused as the interviewee may inadvertently become unfocussed during an answer and the use of such prompts could potentially have a negative impact on the data gathering process. Rowley (2012) outlines the need of the interviewer to interject when such an incident occurs and ensure that the physical cues are ceased or that an alternative line of questioning is introduced. Silence is also a significant factor that can appear during interviews, and Qu and Dumay (2011) posit that silence can offer the interviewee time to reflect and gather energy for more disclosure and that in qualitative research, interviewers must learn to tolerate such silence.

During the interviews used in this study, the author had to interject on occasion and use the cues as outlined above. Such instances occurred when interviewees became overly talkative and there was a danger that the interview would not adequately cover all of the topics included within the interview guide. The author made use of Kvale’s (1996, p.133-135) typologies of interview questions to encourage interviewee participation. Additionally, Kvale (1996, p.133) recommends that researchers use non-directive questions to probe responses. These questions took the form of, for example, *Can you give me a more detailed description of what happened?* or, *Can you explain what you mean?* All the interviewees who took part in this study were very forthcoming and enthusiastic about contributing towards the research and provided rich and detailed narratives.
3.15  Researcher Bias and Ethical Considerations

Within the interview process, Saunders et al. (2019), advise that it is pertinent that the interviewer does not create an air of bias during the interview. Hannabuss (1996) outlines the concerns that such an event would bring when he advocates that the flow of the interviewee’s story can be inadvertently disrupted by the interviewer. It is critical therefore that, where possible, the redirecting of the narrative or interrupting it, rushing to complete the interviewee’s sentences, prematurely terminating the narrative, failing to clarify terms or asking questions the interviewee does not understand, is avoided, or the interview may be stalled. Such an approach could be detrimental to the interviewer – respondent relationship. Qu and Dumay (2011), posit that the localist perspective seeks to gain parity between both the interviewer and interviewee with both being involved in the production of situated accounts through complex interpersonal interaction. Qu and Dumay further raise the concern, that the disclosure of the research intent could also be viewed as the researcher creating a bias, as prior knowledge about the research might create demand characteristics, altering the interviewee’s responses and lack of disclosure before the interview may cause the interviewee to remain on a defensive footing throughout the interview.

Saunders et al. (2019), highlight that the establishment of trust between both the interviewer and interviewee is critical to the success of the interview. It is crucial that the interviewer is aware that they may inadvertently impose their own reference frame on the interviewees, both when the interview questions are asked, and when the answers are interpreted (Easterby-Smith et al. 2018). The interviewer must ‘walk a fine line’ between asking questions that are sufficiently open-ended, thus, allowing the interviewee to provide an answer that is data rich, or more structured questions that may induce a negative response from the interviewee.

During the interview process, the interviewer enters into a relationship with the interviewee, implying certain obligations thereby placing a responsibility on the interviewer to manage the power differential judiciously so as to no exploit it for personal gain or to unduly influence the responses of the interviewee (Qu and Dumay, 2011). The author utilised the interview guide throughout the interviews conducted in this research and believes that this assisted in reducing any potential for interview bias. A further step taken by the author to reduce bias involved the application of a process espoused by Punch (1986), in that each interviewee was provided with
a copy of their interview transcript, therefore, allowing them the opportunity to review and, if required, make minor amendments if necessary.

With greater social emphasis on human rights and the protection of personal information, it is necessary to consider ethical issues when it comes to the practice of conducting qualitative research interviews. Punch (1986, p.35) further outlines that ethical issues embody general principles related largely to the dignity and privacy of individuals, the avoidance of harm and the confidentiality of research findings. Berg (1998) agrees with this concept and posits that ethical issues occur in every aspect of research projects and researchers have obligations to their profession, colleagues, employers and especially the interviewee.

The author ensured that all the contributors to this research were informed that at no stage would any quotes be attributable to an individual and that each interviewee would be assigned an alphanumeric code that would be linked with their respective transcript. These steps were taken to ensure the confidentiality of the interviewees and each interviewee was reminded of these processes, both in the initial emails, and in the interview guide that accompanied this research. Such steps were necessary, as outlined by Kvale (1996), to ensure that the interviewee was aware that they had freely volunteered and were not coerced into participating in this research and were aware of the intended outcomes. By following the procedures and routine as detailed in the interview guide, the author ensured that each interviewee received the same pre- and post-briefs with respect to confidentiality. The author also believes that it is possible to develop an interview technique that combines an informal conversational approach with the formal interview guide, thus, minimising the potential for bias while simultaneously conducting ethical interviews.

### 3.16 Insider Researcher

As the author is an officer in the Irish Defence Forces, there is a need to understand the risks that are associated with being an insider researcher. Adler and Adler (1987) refer to insider research as research completed by members of organisational systems and communities in and on their own organisations, in contrast to organisational research that is conducted by researchers who temporarily join the organisation for the purposes and duration of the research.
While there have been earlier definitions provided, many of these have been overly simplistic or vague in their context. Greene (2014, p.1) defines insider research as *that which is conducted within a social group, organisation or culture of which the researcher is also a member.* Insider research is traditionally seen as problematic, and indeed, frequently is disqualified because it is perceived not to confirm to standards of intellectual rigour because insider researchers have a personal stake and substantive emotional investment in the setting (Alvesson, 2003; Anderson and Herr, 1999).

Brannick and Coghlan (2007) further posit that insider researchers are native to the setting and have insights from the lived experience and rather being considered a benefit, insiders are perceived to be too close and do not achieve the distance and objectivity deemed necessary for valid research. By maintaining a reflexive approach, the author ensured that the interviews were stimulating by challenging the interpretations the respondents proposed, thus allowing for the phenomena to be opened up by exploring more than one set of meanings and being comfortable with the ambiguity in the phenomena and the lines of inquiry favoured. This ensured that the gap between epistemological concerns and method were bridged. Hayward and Cassell (2019, p.366) posit, that *where the researcher has a separate ‘insider’ role in the research organisation, critical distance is a potential area of conflict.* While Easterby-Smith *et al.* (2018) highlight the knowledge that the researcher’s personal background affects what the researcher can see; experience can act as a sensitizer and as a filter for the researcher. Brannick and Coghlan (2007) contend that insider researchers, through a process of reflexive awareness, are able to articulate tacit knowledge that has become deeply segmented because of socialisation in an organisational system, and reframe it as theoretical knowledge, and that because the insider is close to something or know it well, they are best placed to research it. Furthermore, Zuber-Skerrit and Perry (2002) argue that it is now increasingly common for individuals who are participating in academic programs, particularly on a part-time basis in conjunction with full-time employment (which applies to this research), to select their own organisational setting as the site for research.

Researchers’ epistemological and ontological perspective determines what they consider as a valid, legitimate contribution to theory irrespective of whether academia called it development,
confirmation, validation, creation, building, or generation (Peter and Olsen, 1993). Amerson and Chenail (2011) concur with this observation and acknowledge that it would be impossible to remove all bias because one is a human being and that all a researcher can do is to mitigate bias as best as one can. Tietze (2012, p.54) furthers this, and posits, that the closeness and distance in scenarios, where the researcher is an employee, may bring a socio-political, historical, and generational background to their research projects. The hermeneutic tradition argues that there is no objective or single knowable external reality and that the researcher is an integral part of the research process, not separate from it (Brannick and Coghlan, 2007). Tietze further states that, work by scholars such as Becker (1967), and Berger and Luckman (1966) had contributed to the dismantling of impartiality and objective neutrality as the only basis for investigating the social world. Building on this, Hayward and Cassell (2019) propose that the insider researcher can provide a unique insight into their organisational world, which can support the research project, thus, providing a partiality that can be critically analysed. Putnam et al. (1993) posit that theory is simply a way of abbreviating, of organising, and of trying to make sense of experience rather than something to be constructed, deconstructed, tested, confirmed, disconfirmed, honoured, or otherwise used to direct a study. Brannick and Coghlan (2007) critically highlight that thick description and narrative representation yield better insights than does research driven by theory and political implications; therefore, researchers are merely the interpreters between the community they describe and the audience to which they report their findings. Furthermore, Coghlan and Brannick (2019) identify the role the organisational system plays in having a stake in the research and reflect on how either or both system and researcher may or may not have a commitment to self-learning from the research conducted.

While the researcher is aware of the employer-employee relationship, every effort has been made to negate any potential negative influence on the direction of the research. Reflecting on the research of Unluer (2012), the researcher has ensured that there has been no loss of objectivity, and a conscious effort was made to ensure that any innate assumptions were disregarded due to the researcher’s prior knowledge of the Defence Forces. While it is impossible to remove all bias because one is a human being, mitigation can be provided through the use of an interview protocol, member checking, data saturation, and other strategies to mitigate the use of one personal lens during the data collection phase of this research (Torrance,
Fusch et al. (2017) further posit that the researcher, as a lens, must observe and interact with members of a culture, in order to understand the culture and phenomenon being observed, and then has the challenge of embracing and disseminating the researchers’ interpretations to those outside the organisation being studied. Amerson (2011) further contends that threats to construct validity are demonstrated by researcher bias and relying on a single measurement instrument, therefore, an insider researcher must understand and mitigate for this by selecting the data collection method that is appropriate for the study design. Brannick and Coghlan (2007) contest that insider research, in whatever research approach it is undertaken, is not only valid and useful, but also provides important knowledge about what organisations are really like, which traditional approaches may not be able to uncover. Therefore, insider research is not problematic and is respectable research in whatever paradigm it is undertaken. Reliability, validity and triangulation are other theories that can be used in rigorously managing the research being conducted and they are examined in the following section.

3.17 Reliability, Validity and Triangulation

When conducting research it is imperative to acknowledge that for it to have any effect on either the practice or the theory of a field, research studies must be rigorously conducted; they need to present insights and conclusions that ring true to readers, practitioners, and other researchers (Merriam, 2015). Lincoln and Guba (2000, p.178) underscore this point by asking whether a study’s findings are sufficiently authentic . . . that I may trust myself in acting on their implications? More to the point, would I feel sufficiently secure about these findings to construct social policy or legislation based on them?

Irrespective of the type of research, reliability and validity are concerns that can be approached through careful attention to a study’s conceptualization and the way the data is collected, analysed, and interpreted, and the way in which the findings are presented. Firestone (1987, p.19) explores how the quantitative and qualitative paradigms employ different rhetoric to persuade consumers of their trustworthiness, the quantitative study must convince the reader that procedures have been followed faithfully because very little concrete description of what anyone does is provided and the qualitative study provides the reader with a depiction in enough detail to show that the author’s conclusion makes sense.
Qualitative research also has strategies for establishing the authenticity and trustworthiness of a study, strategies based on worldviews and questions congruent with the philosophical assumptions underlying this perspective. Merriam (2009) outlines that many writers on the topic argue that qualitative research, which is based on different assumptions about reality, and a different worldview, should consider validity and reliability from a perspective congruent with the philosophical assumptions underlying the paradigm. This may even result in naming the concepts themselves differently, as Lincoln and Guba (1985) did. Credibility, transferability, dependability and conformability, substitutes for internal validity, external validity, reliability, and objectivity have become widely adopted in qualitative research. More recent writing from postmodern, post-structural, constructivist, and critical perspectives (Cho and Trent, 2006; Richardson and St. Pierre, 2005) call for the careful thinking through of totally different conceptualizations of validity and reliability.

Furthermore, with the wide variety of types of qualitative research, there are bound to be differences in criteria for validity and reliability. As Stake (2005, p.455) notes, knowledge gained in an investigation ... faces hazardous passage from writing to reading. The writer seeks ways of safeguarding the trip. Qualitative researchers need to respond to the concerns of outsiders, many of who may be unfamiliar with or blatantly challenging of the credibility of qualitative research.

Validity, then, must be assessed in terms of something other than reality itself, which can never be grasped (Merriam, 2009). Validity is, therefore, a goal rather than a product: it is never something that can be proven or taken for granted. Validity is also relative: It has be assessed in relationship to the purposes and circumstances of the research, rather than being a context independent property of methods or conclusions (Maxwell, 2005, p.105). Saunders et al. (2019) refine this concept and posit that validity refers to the measures used, the accuracy of the analysis of the results and the generalisability of the findings. They also propose that validity refers to both internal validity and external validity.

Internal validity refers to the extent the findings can be attributed to the intervention being researched as opposed to the flaws in the research design (Saunders et al. 2019). What is being
investigated are people’s constructions of reality — how they understand the world. Just as there will be multiple accounts of eyewitnesses to a crime, so too, there will be multiple constructions of how people have experienced a particular phenomenon, how they have made meaning of their lives, or how they have come to understand certain processes (Merriam, 2015). Furthermore, external validity refers to the research question, and seeks to establish if the research’s findings be generalised to other relevant contexts, or in the case of this research, other military organisations.

Reliability refers to the extent to which research findings can be replicated or as outlined by Saunders et al. (2019), if the study is repeated, will it yield the same results and maintain a level of consistency. Merriam (2009) further acknowledges that reliability is problematic in the social sciences simply because human behaviour is never static, as similar to validity, reliability can be assessed both internally and externally.

Internal reliability refers to ensuring consistency in a research project, and infers that where possible, by using more than one researcher within a research project to conduct interviews and analysis of the data, thus, being able to evaluate the extent to which they agree about the data and its analysis (Saunders et al. 2019). Saunders et al. (2019) also propose that external reliability in a research design assumes that there is a single reality and that studying it repeatedly will yield the same results. Qualitative research, however, is not conducted so that the laws of human behaviour can be isolated, as researchers seek to describe and explain the world as those in the world experience it. Since there are many interpretations of what is happening, there is no benchmark by which to take repeated measures and establish reliability in the traditional sense (Merriam and Tisdell, 2015). Traditionally, reliability is the extent to which research findings can be replicated. Wolcott (2005) outlines that reliability is problematic in the social sciences, simply because human behaviour is never static, nor is what many experiences necessarily more reliable than what one-person experiences.

When viewed together, the connection between reliability and validity from a traditional perspective rests on the assumption that a study is more valid if repeated observations in the
same study or replications of the entire study produce the same results (Lincoln and Guba, 1985). Merriam and Tisdell (2015, p.251) reflect on this proposition and surmises that,

...because what is being studied in the social world is assumed to be in flux, multifaceted, and highly contextual, because information gathered is a function of who gives it and how skilled the researcher is at getting it, and because the emergent design of a qualitative study precludes a priori controls, achieving reliability in the traditional sense is not only fanciful but impossible.

Such a claim, however, does not discredit the results of the original, or subsequent, studies as several interpretations of the same data can be made, and all stand until directly contradicted by new evidence (Easterby-Smith et al. 2008). Lincoln and Guba (1985) outline four strategies that a qualitative researcher can use to ensure consistency and dependability, or reliability, and these are; triangulation, peer examination, investigator’s position, and the audit trail. Triangulation involves the use of multiple methods of data collection as well as other forms of triangulation, which can lead to dependability or consistency, as well as internal validity. Peer examination, as a strategy, provides a check that the investigator is plausibly interpreting the data, that is, someone else can be asked whether the emerging results appear to be consistent with the data collected. Investigators position provides a statement of the investigators experience, assumptions, biases at the commencement of the study (Merriam, 1995). This enables the reader to better understand how the data might have been interpreted in the manner in which it was collected. Audit trail operates on the same premise as when an auditor verifies the accounts of a business. The investigator must be able to provide details on where the data was collected, how categories were derived, and how decisions were made throughout the study Merriam et al. (2015).

One purpose of any study is to advance theory through either filling a gap, or confirming already existing evidence (Fusch et al. 2018). To ensure validity and reliability, the researcher can utilise triangulation, as this method adds depth and credibility to data collected during qualitative research (Fusch and Ness, 2015). A qualitative researcher seeks to define and interpret unclear phenomena through nonnumerical methods of measurement the focus on meaning and insight (Kakabadse and Steane, 2010). Additionally, exploratory research designs are conducted to clarify ambiguity and discover multiple realities, as well as ideas for later
research (Kurt et al. 2011). Therefore, triangulation is an important concept regarding data analysis for an empirical study (Fusch et al. 2018).

Denzin (1978, 1970) identified four types of triangulation: data triangulation, investigator triangulation, theory triangulation and methodological triangulation, that qualitative researchers can use to enhance the objectivity, truth and validity of social research. As this research will utilise primary data from semi-structured interviews, and secondary data from extant literature, the methodological triangulation approach is most suited to this research. This approach aligns to research that uses data from multiple sources within one design. Denzin (1978, 1970) contends that data collection methods such as interviews in a qualitative research or ethnography would be within method triangulation. Fusch et al. (2018) warn that the challenge for the researcher is remaining aware that inherent flaws within one method remain present and can affect the data. Denzin (2009), therefore, argues that the ideal application is between method triangulation in order to account for flaws and deficiencies, as the methodological approach takes the best of both to overcome the weakness of each.

The importance of triangulation cannot be underestimated to ensure reliability and validity of the data and results. This occurs when the data is truthful and accurate, when the inferences have a reasonable probability for actually occurring and can be tied back to the conceptual framework of the study, and the ability by the study’s conclusions to be transferred to other studies regardless of populations, settings or times (Astrup and Halldorsson, 2013). Denzin (2009) argues that no single method, theory, or observer can capture all that is relevant or important.

The author utilised the strategy of triangulation and peer examination, or peer review, in this research to ensure that consistency and reliability was achieved and maintained (Anney, 2015). This strategy is commonly used within the academic domain and must be conducted by a colleague either familiar with the research or one new to the topic. There are advantages to both, but either way, a thorough peer examination would involve asking a colleague to scan some of the raw data and assess whether the findings are plausible based on the data (Bryman, 2012). For this research, a colleague, or, disinterested peer, was used to review the primary
and secondary themes identified during the coding process (Lincoln and Guba, 1985). This peer-led feedback permitted an opportunity to improve the quality of the research findings. This ensured that the author remained unbiased, and that the themes identified were accurate and reflective of what was observed and represented by the respondents’ comments. As outlined earlier in this chapter, the epistemology position on phenomenological research is concerned with understanding human behaviour from the actor’s own frame of reference by examining how the world is experienced (Easterby-Smith et al. 2018). The issue of generalisability of the research needs to be examined and the following section will introduce this concept.

3.18 Generalisability

Within qualitative research, generalisability is considered a major criterion for evaluating the quality of a study (Polit and Beck, 2008). The objective of qualitative studies is to provide a rich, contextualised understanding of human experience through the intensive study of the phenomenon under investigation. Polit and Beck (2010) further posit that external validity, the degree to which inferences from a study can be generalised, has been an established valued standard, yet generalisability has been a complex and illusive issue even in studies that are considered to yield high-quality evidence (Shadish, et al. 2002). Lincoln and Guba (1985, p.110) previously commented that the only generalisation is: there is no generalisation. Vogt (2005, p.131) further defines generalisability as the extent to which you can come to conclusions about one thing [often a population] based on the information about another [often a sample]. Guenther and Falk (2019) contend that the simplicity of this definition disguises a contested understanding among research methodologies, which tend to split along binarised qualitative/quantitative lines. Polit and Beck (2010) critically further this observation and posit that qualitative researchers challenge the possibility of generalisability in any type of research, by it quantitative or qualitative. This is primarily based on the assertion that generalisation requires extrapolation that can never be fully justified because findings are always embedded within a context. Misco (2007) takes an opposite stance and argues that qualitative research is well suited for revealing higher-level concepts and theories that are not unique to a participant or setting. In this view, the rich, highly detailed, and potentially insightful nature of qualitative findings make them especially suitable for extrapolation.
Firestone (1993) developed three models of generalisability that can be used as a framework for considering generalisability in quantitative and qualitative studies. The first model, statistical generalisation, extrapolates based on a sample from a population and is the classical model underpinning most quantitative studies. The second model, analytic generalisation, has relevance in both quantitative and qualitative research and strives to generalise from particulars to broader constructs or theory. Analytic generalisation is most often linked with qualitative research, although it is implicitly embedded in within theory driven quantitative research as well. In an idealised model of analytic generalisation, qualitative researchers develop conceptualisations of processes and human experiences through in-depth scrutiny and higher-order abstraction. Aryes et al. (2003) contend that qualitative researchers distinguish between information that is applicable to all (or many) study participants, in contrast to aspects of the experience that are unique to particular participants. Firestone (1993) identifies that generalising to a theory or conceptualisation is a matter of identifying evidence that supports that conceptualisation. Polit and Beck (2010) highlight that through rigorous inductive analysis, combined with the use of confirmatory strategies that address the credibility of the conclusions, qualitative researchers can arrive at insightful, inductive generalisations regarding the phenomenon being explored.

The third model, case-to-case translation, involves the use of findings from an inquiry to a completely different group of people or setting, is more widely referred to as transferability (Lincoln and Guba, 1985). This model requires the researcher to provide detailed descriptions that allow readers to make inferences about extrapolating the findings to other settings. Polit and Beck (2010) highlight that the main work of transferability is done by the readers and consumers of the research, as they ultimately transfer the results. Lincoln and Guba (1985) similarly used this approach and developed the term fittingness to assess the degree of congruence or similarity between two contexts. When reviewing the strategies to support transferability, analysis highlights the need for thick description (Lincoln and Guba, 1985). Thick description refers to rich, through descriptive information about the research setting, study participants, and observed transactions and processes. As Firestone (1990) noted, thick description is not restricted to prose, as the name implies, but involves all forms of critical information, including demographic information, that helps readers to understand the study’s context and participants.
A more recent view held by researchers, both quantitative and qualitative, is there are two main strategies for generalisation in social research, internal generalisation and external generalisation (Maxwell, 2020). Internal generalisation refers to generalising within the setting, group, or population studied to persons, events and activities that are not directly represented in the data (Maxwell, 2020). This approach is most relevant to studies using case studies and of a specific group, situation, or institution (Yin, 2018). External generalisation, in contrast, refers to generalisation beyond the persons; setting, case or time specifically studied to other persons, setting, cases or times (Maxwell, 2020). Maxwell further states that the key difference between internal and external generalisation is that deliberate sampling may be an appropriate strategy for internal generalisation but is not possible for external generalisation, which requires a quite different approach.

Internal generalisation is even more challenging for qualitative researchers because random sampling is rarely possible, and even if it were possible, the sample sizes are usually too small to allow for meaningful statistical inferences. Lincoln and Guba (1985, p.216-217) initial presentations of transferability explicitly applied this to other contexts, and contrasted transferability with the quantitative concept of external validity. However, the task of internal generalisation from the specific individuals, events, or activities on which data are collected to the group, institution or case that the author identifies as being studied, is now seen by many qualitative researchers as essential (Eisenhardt, 2009). This issue is not well addressed by the concept of transferability since the researcher is clearly better placed to deal with internal generalisation than is the typical reader of the study. A major contribution to internal generalisation in qualitative research from Miles and Huberman (1994, 1984, p.36), who argue that sampling broadly conceptualised is a key issue for all research, as knowing, then, that one cannot study everyone everywhere doing everything, even within a single case, how does one limit the parameters of the study? Miles and Huberman (1984, p.41) further argued that you are not only sampling people, but also settings, events and processes. It is important to line up these parameters with the research questions as well, and to consider whether your choices are doing a representative, time-efficient job of answering them. Maxwell (2020) critically argues that in order to make claims about the internal generalisability of their findings, qualitative researchers need to address these issues – are the people, settings, activities and times on which they have actually collected data adequately representative of the larger population or case that they are studying?
For external generalisability, Donmoyer (2008, p372) contends that qualitative researchers have redefined the generalisability question in more common sense terms; *in that, will the knowledge of a single or limited number of cases be useful to people who operate in other, potentially different situations.* Maxwell (2020) concurs and argues that this statement explicitly employs the concept of transferability, which implies that the results of a study can be transferred to other contexts and situations beyond those directly studied, but that assessing this is primarily the responsibility of the readers or potential user of the results. Lincoln and Guba (1985, p.297) posit *that transferability inferences cannot be made by an investigator who knows only the sending context.* Misco (2007) used the term *reader generalisability* for this type of generalisation. Furthermore, Lincoln and Guba (1985) and Schofield (1990) identified some of the properties that a qualitative study must possess in order for such transferability to be possible, and Schwandt (1997, p.58) urged the investigator to provide sufficient details... so that readers can engage in reasonable but modest speculation about whether the findings are applicable to other cases.

In summary, for internal generalisation, the concept of sampling in a broad sense that is not limited to statistical methods is important for making claims that one’s results are generalizable to the actual setting, group, or population one is studying. However, for external generalisation, the concept of transferability implies that one needs to provide enough information about meanings, contexts and processes operating in one’s study setting, or population, that the reader can adequately judge the likelihood that one’s findings would apply to a different specific setting, group or population. For this research, it is acknowledged that the findings of the research may be transferable to other organisations. As stated in the previous section, the researcher is aware of the need for ensuring credibility and transferability of the research findings and the concepts of reliability, validity and triangulation will assist in this process. The following section will outline the process used for preparing the data for analysis.

### 3.19 Data Preparation for Analysis

This process serves two primary purposes, the first being the post-interview procedure of ensuring all tape-recordings are intact and ready for transcribing, and the second, is the organising of the data for analysis. On completion of the interviews, it was critical to check that the data recorded on the tape-recorder was of the required quality and had recorded properly. The author checked the tape-recorder on completion of each interview and ensured
that the recordings were audible and subsequently backed-up. Patton (1990) outlines the importance of the period just after the interview, as it is during this time of reflection and elaboration that the researcher can utilise a quality management approach to guarantee that the data gathered will be useful, reliable and valid. McLellan et al. (2003), and Bryman and Bell (2003) outline the importance of transcribing all of the data gathered in the interview process as they allow for both detailed and selective analysis in the data analysis phase, or later in replications or independent analyses of the data.

All the interviews conducted in this research were transcribed verbatim immediately, or shortly, after the interview occurred. This ensured that for ease of readability, transcripts were formatted identically and supported either manual or computer-assisted coding. As this research is focussed on establishing if a military organisation could utilise change management procedures and processes when introducing a technological project, a significant degree of analysis would be required. McLellan et al. (2003, p.67) posit that if an analysis focuses on providing an in-depth description of the knowledge, attitudes, values, beliefs, or experiences of an individual, a group of individuals, or groups of individuals, a greater number and possibly lengthier units of text need to be included in the transcript.

This type of analysis will assist researchers in identifying patterns and salient themes within the data. Such an approach will also allow for the demonstration of variations in how social phenomena are framed, articulated, and experienced as well as the relationships within and between elements of such phenomena (McLellan et al. 2003). Such an approach will be beneficial to this research as the author can now conduct both detailed analysis or carry out an exploration of general themes and patterns with less text. Primarily, it must be remembered that the research question being answered is the ultimate driver of what should be included. The first step in making the data analysis task manageable is to avoid the tendency to approach the preparation of each transcript as a stand-alone word processing product (McLellan, et al. 2003). Rather, each transcript should be approached as an element that shares standardised features with other elements within a qualitative database (MacQueen and Milstein, 1999).
In terms of data management, Miles and Huberman (1994, p.45) indicate that decisions should ensure: high-quality accessible data, the documentation of just what analysis have been carried out, and the retention of data and associated analyses after the study is complete. Schwandt (2014, p.66-67) defines data management in qualitative research as ‘a designed structure for systematising, categorising, and filing material to make them efficiently retrievable and duplicable’. The data gathered was filed systematically in a database in an appropriate format immediately after conducting the interviews. All digital files were formatted and labelled systematically to ensure that individual or grouped fragments could be easily identified and retrieved (Easterby-Smith et al. 2018). As confidentiality of the data is a primary responsibility of the researcher (Pinch, 2000), for this research the author utilised notebooks, which contained field notes from the interviews, and paper copies of the interview transcripts for data analysis, and these were stored in a secure filing cabinet. Furthermore, all digital files were stored electronically in digital folders on the author’s laptop and on an external hard-drive, and this included digital copies of transcripts and associated data analysis, all individually tabulated. Such precautions were paramount as data protection has become a dominant issue and the implication for the ownership of data can raise complex issues around confidentiality, anonymity and consent (Parry and Mauthner, 2004).

Reflecting on data management, Yin (2003, p.34) outlines the need for the researcher to have several tactics for dealing with data validity and highlights the need to create reliable chains of evidence. Stake (1995, p.107) concurs with Yin’s approach, and highlights the need for a transparent audit trail to be created to ensure that accuracy is achieved through the utilisation of good protocols which depend on more than just good intuition and good intention. Merriam (1998, p.199) additionally posits that the reader is provided with a depiction in enough detail to show that the author’s conclusion makes sense. The principle intent, therefore, of creating a chain of evidence is to further support the research in achieving and maintaining a high level of validity and reliability, in that, an external observer should be able to follow the derivation of any evidence from initial research question to the ultimate conclusions of the research (Yin, 2009).

Appendix 2 provides an overview of the chain of evidence used in this research. On completion of the research aims and objectives, a research protocol was developed, and this included the
interview guide, which was used for semi-structured interviews. Reflecting on Merriam’s (2015) approach to validating data, the data and analysis generated from each database were cross-checked using peer evaluation and triangulation to ensure that what was being observed related to the phenomena being researched and research questions. Each phase of the chain is dependent with the earlier phase and this ensures that evidentiary process can be followed in either direction, thus allowing the reader to move from one part of the study to another, with clear cross-referencing methodological procedures and to the resulting evidence (Yin, 2009). While the chain of evidence created for this research aspires to reflect the ethos of Yin’s theory, there is cognisance that no approach in qualitative research is perfect, therefore, by combining different elements of each approach the most suitable and applicable design for this research was created (Yazan, 2015).

As this research will utilise a qualitative methodology, it is necessary to ensure that a quantitative structure is not put on the data as the application of numbers and quantitative statements will detract from the narrative nature of the data. This research, as previously stated, is seeking to establish if a particular methodology can be applied within a military organisation context and as such, it is pertinent to select the correct methods to analyse the qualitative data.

Easterby-Smith et al. (2018) outline two methods of natural language analysis and these are content analysis and grounded analysis. Easterby-Smith et al. (2018) further elaborate on this and outline that, when applying content analysis, the researcher interrogates the data for constructs and ideas that have been decided in advance and their distribution is analysed statistically.

Downe-Wambolt (1992, p.314) define content analysis as a research method that provides systematic and objective means to make valid inferences from verbal, visual, or written data in order to describe and quantify specific phenomenon. This definition highlights that content analysis is more than a counting process, and that it seeks to link the results to their context or to the environment in which they were produced. The primary process of this process is to reduce the volume of text collected, identifies and groups categories together and seeks some understanding of it (Bengtsson, 2016). Patton (2002) further states that the researcher must
attempt to stay true to the text, and to achieve trustworthiness during the analysis. When conducting content analysis, five main issues must be considered in the planning process: the aim, the sample and unit of analysis, the choice of data collection method, the choice of analysis method and the practical implications (Bengtsson, 2016).

The aim determines how the study will be structured and sets the boundaries of the research, as studies, which are too broad risk touching upon too many aspects and may preclude the researcher reaching the desired depth of the studies phenomenon (Silverman, 2001). The sample and units of analysis refers to the sample size, which should be determined on the basis of the informational needs so that the research question can be answered with sufficient confidence (Krippendorff, 2019). Furthermore, the researcher should be guided by the aim to be achieved, and each unit of analysis implies a different focus for the study. Patton (2002) contends that the key issue in making this decision is to decide what the researcher is seeking to elucidate by the study. The choice of data collection method is important and the researcher can apply content analysis to all types of written texts no matter where the material comes from (Bengtsson, 2016). The choice of analysis method is also important when using content analysis, and there are two options available to the researcher. Content analysis is unique in that it has both a quantitative and qualitative methodology and it can be used in an inductive or deductive way (Krippendorff, 2019). In addition, the researcher must decide whether the analysis is to be a manifest analysis or a latent analysis (Bengtsson, 2016). Manifest analysis allows the researcher to describe what the respondents actually say, stays very close to the text, uses the words the respondents used, and describes the visible and obvious in the text (Berg, 2018). In contrast, latent analysis is extended to an interpretive level in which the researcher seeks to find the underlying meaning of the text; what the text is talking about (Berg, 2018). Finally, the practical implications of the research must also be considered, and the researcher must remain cognisant of the ethical aspects that must be taken in order to protect the respondents. The respondents must be guaranteed confidentiality and informed that their participation is voluntary and that they can withdraw their data from the study at any time (Bengtsson, 2016). As this research is qualitative in nature, the content analysis will present the data in words and themes, which will make it possible to draw some interpretation of the results. The author utilised a manifest analysis approach as the intent was to describe what the respondents observed during the semi-structured interviews and contemporaneous notes will be used to supplement this analysis. Appendix 3 provides examples from two questions of the
content analysis conducted during this research and highlights some of the categories and sub-categories that were established. The content analysis was an iterative process and took several attempts to narrow down the codes so that each section could be understood in relation to the context. This is covered in greater detail in the section on coding the data for analysis.

While this research was primarily constructivist in nature, there were certain categories identified in advance of the data analysis. For example, one of the research sub-questions sought to examine how senior leaders communicate and lead during periods of change. During the literature review, it was identified that military personnel, particularly senior leaders, will have undergone leadership and communication training throughout their career. Analysis of the interview transcripts used an indexing scheme to identify the frequency with which the respondents referred to leadership and communication. This approach sought to analyse the emerging factors or concepts and their relevance to the research question (Easterby-Smith et al. 2018). On further analysis of these categories, further associated sub-categories emerged. For example, when reviewing the responses on leadership, the respondents provided additional information and elaborated on the need for ‘change leaders’ or ‘project champions’ to be identified in advance of commencing change projects. Furthermore, the respondents also linked leadership to transformation and its associated leadership style, thus highlighting an emerging factor, which became extremely useful when cross-referencing the findings of content analysis with the results of the themes used for the coding of the data.

Alternatively, when applying grounded analysis, the researcher lets the data speak for itself and allows for a more holistic analysis with no a priori definitional codes. McLellan et al. (2003) concur with this approach but acknowledge that the researcher should aim to conduct a degree of coding as the data is collected as this will ensure that established themes and patterns will emerge from the independent transcripts. Due to the nature of the research being undertaken in this study, the author deemed grounded theory as the primary qualitative analysis method to use and used content analysis to support the research findings.
3.20 Grounded Theory

Grounded theory is a general, qualitative research strategy that consists of systematic, inductive and comparative methods of data collection and analysis for the purpose of building theory from data (Glaser and Strauss 2010, Corbin and Strauss 2008, Bryant and Charmaz 2007 and Charmaz 2006). Corbin and Strauss (2008, p.23) posit that:

A grounded theory is one that is inductively derived from the study of the phenomenon it represents. That is, it is discovered, developed, and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon.

Gill and Johnson (2002) believed explanations of social phenomena were worthless unless grounded in observation and experience. As Bryant and Charmaz noted (2007), there is some ambiguity associated with the term grounded theory, as it has come to mean both method and the result of method. However, the meaning can normally be construed through context. In terms of the practical application of grounded theory, Douglas (2006) believes the process of theory generation, whilst grounded in a substantive inquiry, has the capacity to generate further research and tentative explanations at higher levels of understanding. Goulding (1998) agrees, stating that grounded theory, if applied in its true sense, has scope and potential for the study of behaviour and experiences given its emphasis on context, theoretical emergence and the social construction of realities.

While the goal of grounded theory is to develop theory out of concepts derived from data, grounded theorists often start their studies with sensitizing concepts, that is, general, extant concepts from the literature that serve as a point of departure from which to initially categorize and analyse the data (Easterby-Smith et al. 2018). Sensitizing concepts provide a vantage point from which to develop ideas about processes defined in the data. In the course of developing a grounded theory, sensitizing concepts may either be maintained or abandoned, depending upon the data (Charmaz, 2006). Jones (1985, p.75) agrees with this outlines that:

Rather than forcing data within logico-deductively derived assumptions and categories, research should be used to generate grounded theory, which ‘fits’ and ‘works’ because it is derived from the concepts and categories used by social actors themselves to interpret and organise their worlds.
Concepts are generated from the data in grounded theory through a multi-level process of analysis and integration and lower-level concepts are developed through a process of data analysis and coding (Bowdish, 2013). Charmaz (2006) outlines that in the initial coding, constant comparisons are made between data that help to redefine and focus concepts and distinguish when new ones are necessary. These initial codes often consist of both the sensitizing concepts and the new concepts that emerge from the data. Charmaz (2014) also notes that sensitizing concepts are not always used, and some grounded theorists avoid their use until the end of the research process on the basis that they may bias the study towards a status quo answer to the research problem.

Analysis of the literature identified two potentially suitable qualitative data analysis models, which could be used for this research. The first model, Eisenhardt’s model for data analysis (1989) can be used for qualitative data analysis within change management research. An alternative model, which is applicable in this type of research, is the qualitative data analysis model espoused by Easterby-Smith et al. (2018). This model is also based on grounded theory, can be used in change management research and consists of seven main stages and these are outlined below:

1. Familiarisation: An exploratory stage in the analysis process, this involved repeated listening to the recorded interviews and interrogation of the transcripts. This enabled some first thoughts to be established and thematic areas to be identified. When a thematic area was identified, data relating to that area was collated into a new word document, and the familiarisation process repeated.

2. Reflection: A process of evaluation and critique was used to evaluate the data in light of the literature review in Chapter Two. As part of this research, this stage was conducted simultaneously with stage one, and involved considering whether the data appeared to be adding to, supporting or contradicting existing literature. This stage in the process is iterative because of the volume and range of hypotheses, explanations or solutions which are still very much at the instinctive. During this research, there were occasions where the data implicitly contradicted, or only partially contradicted or supported, existing research. To ensure accuracy, these instances had to be revaluated, thereby extending the length of time this process took.
3. Conceptualisation: During this stage, it is proposed that a set of concepts or variables are usually present which appear to be important for understanding what is going on with, or emerging from, the data. As part of this research, different coloured pens were used to identify the various concepts or themes, and where themes were previously missed, they were captured, and a colour associated.

4. Cataloguing concepts: Having established that the concepts do seem to occur in people’s explanations, they can be then transferred to a reference system. In this study, the author established concepts, and recorded them electronically on a Microsoft Word document. This ensured similar concepts or themes were grouped together, thus, ensuring a more coherent level of analysis to be completed.

5. Re-coding: At this stage of the analysis, all references to particular themes and concepts are known and have been catalogued. This permitted the researcher to revisit the interview transcripts and compare what was actually said in order to redefine and recode the concepts. In this study, this involved linking themes identified as important into an overall theory, requiring the linking of data with arguments in Chapter Two. This was achieved by using *laddering*, a technique which allowed the researcher to review the data, both up and down, thus gaining a more significant insight into the them or concept under review Easterby-Smith, *et al.* (2018, p.188).

6. Linking: At this stage of the analysis, the analytical framework and explanations should have become clear, with patterns emerging between concepts and themes that are related being identified. There should be a more transparent hypothesis based on the data analysis. In this research, this meant linking all the variables which were identified as important into a more holistic theory. This process was iterative and involved linking the empirical data with the general models identified in Chapter Two.

7. Re-evaluation: In this stage, and considering the comments of others, the researcher may deem it necessary to undertake additional work in some areas. This allows the researcher to revaluate whether some of the themes and concepts previously identified are in reality important, as they may not positively contribute to the study. In this study, this revaluation process resulted in the amalgamation of some thematic areas, particularly, those relating to the role of communication. Although the importance of communication was elaborated in the extant literature, the respondents focused on communication as it related to leadership roles, and themes relating to the role of communication and leadership were amalgamated.

Easterby-Smith *et al.* (2018, p. 243-244)
Bryman (2012, p.575) identified that grounded theory provides the researcher with the most influential general strategy for conducting qualitative data analysis. Reflecting on the model proposed above, research conducted by Bamford (2008) utilised the Eisenhardt Model of data analysis and the resultant conclusion found that this model was not as suitable as the Easterby-Smith et al. (2008) model of data analysis. The lists above outline the main attributes of each model and it should be noted that, while both models are quite similar, the Eisenhardt Model is applicable to the whole research process and is not conducive to providing more accurate analysis when coding and conceptualising the data. As this research is based on the utilisation of change management processes and procedures within a military organisation, the author considered it prudent to use the Easterby-Smith et al. (2018) model for the data analysis.

The process of data collection is controlled by the emerging theory whether, substantive or formal, and grounded theory can utilise a wide range of data sources for the development of theory and as outlined earlier in this chapter, this research used semi-structured interviews as the main data-gathering source. While Corbin and Strauss (2008) outline a myriad of potential sources, it is pertinent to note, that these sources can be used in combination or on their own. As categories emerge from the examination of the data by researchers who study it without firm preconceptions dictating relevance’s in concepts and hypotheses before-hand (Glaser and Strauss, 1967, p.45). Patton (1990, p158) suggests that:

*The cardinal principle of qualitative analysis is that casual and theoretical statements be clearly emergent from and grounded in field observations. The theory emerges from the data; it is not imposed on the data.*

Charmaz (2006, p.126) furthers this suggestion and posits that the end result of the process is an interpretive theory that qualitatively emphasises understanding rather than explanation, giving priority to showing patterns and connections rather than explanation and prediction, as is the case in quantitative theories that seek to explain and predict.

Critical to ensuring that the data collected is transparent and usable, there is a need to remain cognisant of the role of the researcher. As an insider researcher there will be natural advantages as the author will have knowledge of the organisation and an understanding of the complexity
of what goes on in the organisation. Woods et al. (2016, p.387) posit that qualitative research is driven by the researcher’s judgement rather than technical decisions, and define reflexivity as the researcher’s self-awareness and understanding of what they bring to the research act: their capabilities, knowledge, experience, values, hopes, fears, as well as their epistemological and ontological assumptions. Qualitative research, therefore, is morally loaded in that; the reader must trust that the findings provide truths. Reflexivity focuses on the role the researcher has in knowledge production and acknowledges that it must be an iterative process throughout the research. While some have been critical of its use because of its diffuseness and multiple meanings (Lynch, 2000), others have been appropriately concerned that the term continues to have an important resonance but that users of the term should not lose total contact with the real world of research practice (Pels, 2000). Bryman and Cassell (2006) reflect that the term is used in a basic and all-purpose way to refer to a sensitivity to the significance of the researcher for the research process, so that the researcher is seen as implicated in the data that is generated by their involvement in data collection and interpretation.

Salzman (2002) concurs and highlights the need for the researcher to be aware of their own influence and contribution to shaping their research and the consequent analysis and interpretation of findings. Hayward and Cassell (2019) outline the need for a reflexive stance as this enables the researcher to account for their own interests in the research process. Weick (2002) further contends that researchers must focus upon a range of aspects of the research and must ensure that all voices receive an opportunity to express their viewpoint. Tietze (2012) posits that internal researchers need to reflect on their role and recognise how this may affect the way the research is designed and conducted. Tietze additionally argues that the process of analysing, interpreting, and theorising about the research data may have a negative impact on how the researcher views their organisation. Reflexivity, therefore, involves being aware of the ‘bounded’ character of qualitative research and communicating the character and detail of the bounding. Hardy et al. (2001) stress the importance of taking the wider research environment into account when considering issues of reflexivity, but in the research interview, the interviewer and interviewee are likely to be members of the same, or at least adjacent organisations, therefore, excluding research networks is unlikely to be an option. Woods et al. (2016) advise that leaving a trail that others can follow and challenge is epistemologically important and highlights the moral imperative for reflexive researchers to communicate openly, ethically and truthfully about their research journey.
As a social constructivist, believing that knowledge is constructed by the researcher, and is affected by the context, the researcher deduced that adopting a grounded theory approach was the most suitable decision for this research. By seeking to understand the world within which this research was conducted, in the case of this research, the Defence Forces, the researcher further contends as a social constructivist that grounded theory is paradigmatically appropriate for this research. Moreover, the interpretivist nature of being an insider researcher will contribute to allow the development of theory that can be used by others seeking to understand how the Irish Defence Forces behaves and evolves.

To enable the development of a grounded theory approach, Easterby-Smith *et al.* (2008, p.194) and Corbin and Strauss (2015) suggest three phases of coding: open, axial, and selective. Open coding is what one does at the beginning of data analysis (breaking down, examining, comparing, conceptualizing and categorizing the data); it is tagging any unit of data that might be relevant to the study. Axial coding is the process of relating categories and properties to each other, refining the category scheme. In selective coding, a core category, propositions, or hypotheses are developed. Bryman (2012, p.568) proposes other grounded theory phases of coding include theoretical saturation, where the same results are found during the data collection phase, and constant comparison, in which information from the data collected is compared to emerging categories. The techniques as outlined above assisted in the data analysis and the procedure used in coding the data is outlined in the next section.

3.21 Coding of the Data for Analysis

One of the most prominent methods for conveying credibility on the grounded theory approach, as emphasised by Glaser and Strauss (1967), is to use a codified procedure for analysing data, which allows readers to understand how the analyst obtained his or her theory from the data. Creswell (2007, p.150) places a significant emphasis on the importance of conducting good quality analysis of the qualitative data gathered and notes that *one enters with data of text or images... and exits with an account or narrative. In between, the researcher touches on several facets of analysis and circles around and around.* Failure to include a codified procedure within the data analysis will result in the transition from data to theory being difficult and will have a negative impact on what the researcher is trying to achieve.
The codifying process can be viewed as a spiral path that leads the researcher through a plethora of data analysis that can be both a confusing and daunting process (Rowley, 2012). Miles and Huberman (1994, p.150) further suggest that because of this spiral process, *the data analysis is not off-the-shelf; rather it is custom built, revised and choreographed* Patton (1990, p.434) further suggested that *qualitative evaluation inquiry draws on both critical and creative thinking, both the science and art of analysis.* Being cognisant of such theory, it is pertinent to note that the coding process allows the researcher a variety of approaches to and ways of organising the qualitative data. Strauss and Corbin (1990, p.13) outline five procedures that should be used by the researcher in the coding procedure, and these are; build rather than test theory, provide researchers with analytical tools for handling masses of raw data, help analysts to consider alternative meanings of phenomena, be systematic and creative simultaneously, and identify, develop and relate the concepts that are the building blocks of theory.

These, again, reflect the thoughts of Miles and Huberman, in that each coding procedure is unique to the research being conducted but there should be some core elements contained within. Saunders *et al.* (2019), and Bryman and Bell (2003) view coding as the key process in grounded theory as it allows the researcher to establish a mechanism that links the data to the ideas already held by the researcher. Coding, therefore, is the process that allows the researcher to identify and extract meaningful data that will allow him or her to set the scene for interpreting and drawing conclusions. Miles and Huberman (1994, p.56) describe codes as:

*Tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study. Codes usually are attached to chunks of varying size, words, phrases, sentences or whole paragraphs, connected or unconnected to a specific setting. They take the form of a straightforward category label or a more complex one (e.g. metaphor).*

Coding in this research comprised indexing of the interview transcripts, reducing the data to concepts and categories, and where necessary, examining the data for the formulation of new questions and levels of interpretation. This process allowed the author to reflect on the data and conduct further analysis in a methodological and systematic manner that lead to further questions about the data. Saunders *et al.* (2019) observe that the creation of concepts and
categories is at the heart of grounded theory, and the key process of coding is designed to guide their generation. An example of the coding process used in this research is provided below.

‘Technology in the Defence Forces, for example,’ was identified as a theme. This theme emerged from the data on completion of the review of all interview data and subsequent categorisation. This research theme, intended to examine how the Defence Forces identifies, assesses, and procures technological systems, and how the organisation implements this process. Coding the data in line with the theme was a data reduction task. Due to its nature, qualitative interview data relating to one theme does not reside in one concise location, therefore, identifying preliminary codes from the whole data set was a deliberate process. Further categorisation of the data by the author, with reference to technology in the Defence Forces, permitted a more detailed analysis of what each interview was about in terms of general thematic content. The use of a wide category provided an opportunity to identify additional themes, and portions of data that referred to technology in the Defence Forces. This finding aligned with Charmaz (2006), who suggests that it is important in initial coding to recognise that, although codes will reflect the perspectives of research participants, when the qualitative researcher makes sense of the codes, they may end up viewing their social world somewhat differently from them.

Initially, using the technology in the Defence Forces as a predetermined code, or, category, permitted a number of sub-categories to be identified and generated from analysing the interview transcripts. The interviewees’ responses allowed more detailed codes to be identified, for example, codes such as, ‘budgeting’, ‘risk assessment’, ‘training requirements’ and ‘generational issues’, and these were highlighted with an assigned colour. The more detailed sub-categories overlapped with one another, and there were instances where the same sub-category was applied in a single interview, and the section had more than one code attached to it. Coffey and Atkinson (1996, p.37) observed this finding in previous research and noted that, in conversational talk, when we segment the data by attaching codes, topics run into one another and there may be multiple issues to concern the researcher with simultaneously. Hawker et al. (2007) identified this observation in research they conducted previously on a military organisation and highlighted the need to create new categories when necessary. Once the author had decided on the codes to be used for the data analysis, it was necessary to decide
on the level of generality or detail to be used about what the respondents have said, and to summarise similarities and differences. Weaver and Atkinson (1995) suggest including codes of different degrees of generality, so that the data retrieval could be undertaken at different levels. The author followed this suggestion and used codes of varying degrees of generality in order to provide links between identified sections of data, and the categories that were used in order to conceptualise those sections.

The description above outlines how useful codes are to the researcher, and if used in an appropriate manner, will allow the researcher to quickly locate, and identify trends within the data, with reference to the objectives of the research. Strauss (2010) suggests, that in the course of coding, the researcher takes a topic, or, according to Strauss, a ‘phenomenon’, and attempts to identify its dimensions, its consequences, and its relationships with other phenomena. Coding, therefore, is an essential tool that can be used by the researcher. Their ability to allow the researcher to retrieve large and small segments of data aligned to the same codes is of significant benefit. In relation to this research, the coding process allowed the author to index the interview transcripts, reduce the data to equivalent categories and where necessary, expand and tease out the data in order to formulate new questions and levels of interpretation. Such flexible processes allowed the author to review and understand the data in a different way, thus, allowing for the data to be further reduced in an analytical manner. The process used for linking the data in this research, after cataloguing, coding, and recoding, was part of the seven stages of the grounded theory method outlined in the previous section. At all times, it was pertinent that the author remained creative and open when managing the data (Saunders et al. 2019), thus, ensuring that new theories and frameworks could be created as they developed.

In this study, all interviews were recorded on a Dictaphone, and transcribed shortly following each interview. The researcher examined each transcript, and after a period of reflection, re-examined them again. This allowed for notes to be made on comparisons and contrasts between the respondents’ answers to the interview guide and allowed for a number of themes and categories to be identified. These are outlined and analysed in Chapter Four and full transcripts of each interview are available from the researcher.
3.22 Analysis of Data

According to Easterby-Smith et al. (2018), and Qu and Dumay (2011), the analysis of qualitative research is not a trivial enterprise. The process of data collection and analysis is recursive and dynamic, and analysis becomes more intensive as the study progresses (Merriam, 2009). Not surprisingly, Gherardi and Turner (1999, p. 105) warn that by its very nature, qualitative research can become very messy and convoluted, thus, making it a time intensive process. However, it is agreed amongst qualitative researchers (Gherardi and Turner, 1999; Denzin and Lincoln, 1998) that the time taken to collect and analyse data qualitatively is necessary if the finer details and unique features of events such as organisational change, and how employees use voice to respond to it, are to be investigated and understood. McCracken (1988) suggests that the exact manner in which the investigator will travel the path from data to observations, conclusions and scholarly assertion cannot be fully specified and the author would have to concur with such sentiment. The challenge for the research is to make sense of significant amounts of data, reduce the volume of information, identify the patterns and construct a framework for communicating the essence of what the data revealed (Patton, 2015).

Analysis of the data can be completed manually using thematic coding, or, electronically, using a computer-assisted qualitative data analysis software (CAQDAS) packages, such as ATLAS.ti, MAXqda, NVivo and N6. While researchers have begun to use computer packages, there continues to be debate about the way CAQDAS software structures the data, and where there are modest amounts of data it may be still worth considering manual methods (Easterby-Smith et al. 2018). The dataset for this research comprised 31 transcripts, with an average of 12 pages of text per transcript, derived from audio recordings of the semi-structured interviews conducted for this research.

Woods et al. (2016, p.385) posit, that when deciding whether to use CAQDAS, researchers must understand how doing so may influence research practices and outputs, as utilising such programs may require researchers to adapt their research and analytical practices. Research by Zamawe (2015, p.15) confirms this observation, as his research concluded that, unlike statistical software, the main function of CAQDAS is not necessarily to analyse data, but rather to aid the analysis process, which the researcher must always remain in control of. McLafferty and Farley (2006), additionally highlight that, while it has been argued elsewhere that
CAQDAS [NVivo for their research] do not take over the analysis process from the researcher, there is still a possibility that the NVivo structure could determine rules for specific procedures. Therefore, the main concern is that implicit assumptions of the software architecture will interfere with the qualitative research process and will result in the loss of shades of meaning and interpretation that qualitative data bring (Easterby-Smith et al. 2008).

Easterby-Smith et al. (2018, p. 267) additionally outline their concerns with using CAQDAS for analysing qualitative data. Firstly, they advise that the success and the strength of the analysis always depend on the judgement of the researcher, as computers cannot substitute for this. Secondly, they advise that researchers will be required to undertake training on how to use CAQDAS packages, as learning about such a package is not the same as using it. Thirdly, they urge caution against assuming that just because a suitable CAQDAS package has been found, researchers should be aware that these packages affect how researchers relate to their data, and how they process and frame them. Luker (2010) concurs with this observation and outlines that she generates many additional sub-codes when coding on a computer, and this alters the way she creates and reflects on the data. Additionally, while code-based programs facilitate the retrieval of coded segments or quotations, they can also decontextualize what has been coded, thus presenting the researcher with a dilemma. Easterby-Smith, et al. (2018) also caution that analysis requires more than just identifying themes, and that researchers should aspire to provide accurate and credible analysis.

Saldaña (2016) argues that CAQDAS do have advantages and can be indispensable on large scale research projects, and permit large groups of researchers to share their data. Hoover and Koerber (2011, p74-75) additionally acknowledge that CAQDAS programs such as NVivo, can provide the researcher with benefits. Their research identified increased efficiency in their data analysis; multiplicity, in that, researchers can consolidate multiple types of data into one convenient location; and, transparency, which is achieved by researchers adhering to established procedures. However, similar to other research, they clearly urge caution about the need for the researcher to conduct the intellectual work, and that continuous interpretive introspection is required to ensure that data remains credible.
For the purposes of this research, based on the analysis above, and the modest amount of data collected, the author opted not to use a CAQDAS package, and used traditional manual coding methods for analysing the data. Remaining cognisant of the literature on CAQDAS programs, the author believed that by interrogating the data set manually, there would be an additional depth provided to the research.

3.23 Conclusion

This chapter outlined the review of the methodology that was used in completing research for this study. Furthermore, the choice of research methods was explained, with support from existing research on the area. The research will be rooted in a phenomenological, grounded theory approach. Data will be gathered through semi-structured interviews and the author believes that the particular strengths of interviewing, however, far out-weigh any weaknesses, especially in the use of immediate follow-up questions, and the yield of rich sources of data on people’s experiences, opinions and understanding of their respective organisation. The scope of the research was identified, and the issues of validity and transparency were addressed. The following chapter will present the findings and analysis from the primary research conducted as part of this study.
Chapter Four:

Findings and Analysis
Chapter 4 – Research Findings and Analysis

4.1 Introduction

The main findings from the interviews are presented thematically in this chapter. As outlined in Chapter Three, the thirty-one interviewees work in the Irish Defence Forces or Department of Defence. As the objectives of this research explore the use of change management in the Irish Defence Forces, the respondents are in management positions within their respective organisations. All respondents at the minimum, held the rank of OF-3 or higher, and civilian equivalent, as this is considered the starting point of the senior Officer corps as Officers of this rank would be considered decision-makers within the Irish Defence Forces. Table 4.1 outlines the NATO designation for Officer Ranks and the associated Defence Forces rank titles.

<table>
<thead>
<tr>
<th>Naval Rank</th>
<th>Army/Aer Corps Rank</th>
<th>NATO Designation</th>
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<tbody>
<tr>
<td>Lieutenant Commander</td>
<td>Commandant</td>
<td>OF-3</td>
</tr>
<tr>
<td>Commander</td>
<td>Lieutenant Colonel</td>
<td>OF-4</td>
</tr>
<tr>
<td>Captain</td>
<td>Colonel</td>
<td>OF-5</td>
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<tr>
<td>Commodore</td>
<td>Brigadier General</td>
<td>OF-6</td>
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<tr>
<td>Rear Admiral</td>
<td>Major General</td>
<td>OF-7</td>
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<tr>
<td>Vice Admiral</td>
<td>Lieutenant General</td>
<td>OF-8</td>
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Table 4.1 – Officer Ranks and NATO Designation

The NATO designation will be used to simplify the process of referencing the various levels of military ranks, as this will indicate which cohort an officer belongs to. This is a standardised process used by NATO and non-NATO countries to signify the rank and experience of an officer. As outlined in Chapter Three, the identity of all interviewees has been protected. In addition, the author considered it prudent to add an additional layer of anonymity as there are a limited amount of senior management positions within the Irish Defence Forces and Department of Defence, and in order to ensure the respondents could ‘speak freely’ during the interviews they were each assigned a reference for coding and analysis purposes, i.e.
Interviewee 1, etc. (Cassell et al. 2019). A full transcript of each interview and the associated coding is available from the author. At the outset of this research, there were a number of objectives identified in order to advance the understanding of the application of change management within the Irish Defence Forces when introducing technology-based projects. This study aims to address these objectives and the data presented in the following sections attempts to answer the research questions posed in Chapter One.

4.2 Technology in the Irish Defence Forces

As noted in Chapter Two, technology continues to be a driving force of change in business and, indeed in society at large, and the introduction of new technologies in the workplace continues to be a challenge for managers and change practitioners alike, and the requirement to effectively handle such changes does not appear likely to diminish any time in the near future (Becker, 2010; Olson, 1999). This concept was furthered by Schaller (1997) who acknowledged that the rate of exponential advance in computer power, which Moore’s Law claims has so far doubled every eighteen months, makes revolutionary change in military operations virtually inevitable, particularly when identifying future technological systems. Respondents were asked to outline how they believed the Irish Defence Forces had evolved over the last five to ten years with respect to technology. Out of the 31 respondents, 28 believed that the Irish Defence Forces had made significant advances with technology as outlined below:

*The Defence Forces is very technologically-based anyway and I think it has done a fair job at keeping pace with technological advancements with the respect of it being a military.* (Interviewee 24).

*From a technological perspective I think we have probably made an awful lot of advances very quickly in a lot of areas. How prepared we were for it, I’m not so sure, but I suppose in fairness to the NS, it’s never been afraid to take on new projects.* (Interviewee 25).

This positive trend was also observed from the Department of Defence and as noted by one respondent:
There have been substantial incremental changes in relation to technology in the organisation over the last 5-10 years. A lot of it is nested in the overall civil service change, so things like e-PQ’s, e-cabinet, e-FOI’s and e-submissions, and a lot of this is driven centrally in terms of how we do our business, and it’s about the vision of the one civil service into the future that’s driving that technological change (Interviewee 30).

The sample of quotations above reflect the common consensus among the current literature and aligns with the opinions of the 28 respondents who believed that their organisations have evolved due to technology with the common ethos. It should be noted that the respondents from the Irish Defence Forces and Department of Defence did acknowledge that they were coming from a relatively low starting base over the ten-year period. The mannerisms and reactions of the respondents would align to this observation and reflect the general findings of the literature that most militaries have evolved through the introduction of technology, particularly in the last decade as the technology sector has undergone significant growth as outlined previously by Schaller (1997). Respondents said they were constantly trying to raise the awareness of technology within the Irish Defence Forces, and in some cases, it was proving difficult as the civil-military (civ-mil) relationship between the military and the Department of Defence (DoD) does provide significant challenges and this will be further elaborated on in section 4.10.

While these frustrations were minor and more reflective, there were some negative findings in relation to how the Irish Defence Forces had evolved over the last five to ten years with respect to technology as not all of the respondents shared this positive outlook and there was a minority of respondents who did not believe the Irish Defence Forces had evolved exponentially during the last five to ten years and their sentiments are included below:

Looking at the technology, we do have teams who look at how we can utilise it and introduce it but from my own view I think it’s very piecemeal and is slow to keep up (Interviewee 23).
I think that organisation has grudgingly evolved over the last 5-10 years. I don’t think that it has done anything spontaneously as its been dragged in to every technology kicking and screaming (Interviewee 27)

Although the quotations above represented a minority, it was to be expected that not all respondents believed that the Irish Defence Forces had evolved due to technology. As noted by Drew (2006) the rapid advance in new technologies, globalisation of Research and Development (R&D) networks, and more open approaches to product development may present disruptive forms of innovation that many organisations may find difficult to handle. Eleven of the respondents expressed significant frustration in relation to how the Irish Defence Forces dealt with technology. One particular individual referred to his own area and stated:

If a system has been proven to be reliable and we do have redundancy then it has to be weighed up as to whether you chase the technology to upgrade or whether you stick with what you have... It might be conservative but I stick with what’s reliable because you get no thanks for changing something and taking a chance (Interviewee 18).

The comments by the respondent above, which is representative of 11 respondents’ beliefs, refers to the approach taken within the Irish Defence Forces, and is not reflective of an evolving organisation, as the organisation is actively not seeking to engage with new potential technological solutions. This belief replicates the work of Jermy (2011) as he reflects on this potential conundrum and raises a valid and notable issue that must be addressed and developed when examining whether, or not, a military is capable of not only implementing advantageous technological systems, but if it’s also capable of deploying and managing such systems. Furthermore, another respondent, in the current study, also raised the management of technology as issue:

We are almost going backward in that we have gone from being strict about preventative planned maintenance routines in the 80s to reactive maintenance, which is where we are now. In my opinion, we’re not good at owning technology (Interviewee 23).
It was interesting to note, however, that of all 31 respondents it was primarily the engineering officers who believed the Irish Defence Forces had not evolved with technology. Engineering officers constitute 25% of the respondents and play a significant role in the identification and procurement of new technological systems within the Irish Defence Forces. One additional finding was that this cohort of the respondents, the engineers, believed that while the Irish Defence Forces may have progressed technologically, there was a significant issue in relation to how the organisation maintained and managed the technological systems once they were implemented. This finding highlights similarities with the findings of Jermy (2011) who observed that military organisations must determine if they are capable of not only implementing advantageous technological systems, but if they are also capable of deploying and managing such systems. The identification and subsequent procurement of new technological systems is a complex process and contains a myriad of inputs that will determine what the final system will be. These findings suggest that there may be issues with the processes that are used by the Irish Defence Forces when identifying technological systems and, therefore, these sub-elements require further investigation, and this will be covered in the following section.

4.3 Challenges When Introducing Technology in the Irish Defence Forces

The following section will reflect on the challenges faced by military organisations as they seek to introduce new technologies. During the interviews, it became evident from the respondents’ answers that there were additional factors present during the planning process when identifying new technological systems. As suggested in the previous section, the respondents did outline their belief that the Irish Defence Forces were not capable of fully implementing new systems within the organisation as the change process did not plan for the utilisation, maintenance, and management of the systems once they had been procured. The following sub-sections will focus on the more prominent factors that were raised by the respondents.

4.3.1 Budgetary Provision for New Technologies

During the interviews, it became apparent that the provision of adequate funding is critical for allowing the Irish Defence Forces to procure technological solutions that will enable them to
meet the threats of today and the unknowns of tomorrow. As outlined by Echevarria (2009), strategy and technology interface today as much as they have in the past, but the science and technology community has developed the capability to respond more rapidly to short-term requirements. This observation highlights the complexity of attempting to predict which of the emerging technologies, or combination of them, holds the most potential. Therein lies the dichotomy that all modern militaries must counter as they seek to identify and plan for technologies that will allow them to operate in a changing and evolving domain. The ability to ensure that the Irish Defence Forces is adequately funded was raised by 19 of the respondents and a selection of their comments are outlined below:

*I’d say money anyway for a start and it’s not just the initial cost of the technology but it’s also the cost of the support afterwards* (Interviewee 22).

*However, every time their proposals meet the challenge of the cost constraints that are placed on our budgets here and that is unfortunately the reality of what faces them when they try implementing these projects here in Ireland* (Interviewee 16).

*The White Paper on Defence, 2015, lists a lot of capability requirements that we have to have or that we are striving to achieve in the next 10 years, but is the government will and civil service really there to fund those technological requirements* (Interviewee 17).

This notable concern in relation to the apparent lack of funding is significant, in relation to funding, it should be noted that the Irish Defence Forces will spend approximately 0.38% of national Gross Domestic Product (GDP) on defence related expenditure in 2020. Ireland’s investment in defence is low relative to international comparison and as with other areas of government expenditure has been reduced very considerably in the period since 2008. The White Paper on Defence (2000) identified a ratio of 70% to 30% as being the appropriate pay to non-pay ratio for defence expenditure. This means that 70% of the defence budget covers pay and pensions-related expenditure and the remaining 30% covers capital replacement programmes, such as: new ships, and the day-to-day costs of running the Irish Defence Forces. In 2015, the pay to non-pay ratio was 73:27 and the 27% non-pay element provided for all of
the standing costs of the Irish Defence Forces, the on-going costs of operations and the renewal and maintenance of military equipment (White Paper, 2015). These ratios are important to note, as the future ambition is to maintain the stability of the pay element while simultaneously increasing the non-pay element. Interestingly, one of the respondents from the Department of Defence noted the following:

In terms of investment and funding, most of the investment in the past 20 years has been funded from own [DoD] resources, in particular, sales of barracks and the reinvestment of those funds, and more recently the reinvestment of pay savings. Being allowed, to retain the pay savings and invest them in capital was a significant win for the DoD with DPER as, in the normal course, pay savings would normally have to be surrendered to the Exchequer. You could probably say that it is some recognition of the underfunding of defence, but it does not address the broader questions (Interviewee 31).

The above observation is notable and outlines the perspective of central government from a funding perspective, as it highlights that defence is underfunded, which will have implications for capability development. Ireland, as outlined above, spends approximately 0.38% of GDP on defence, the lowest in the EU, and this places a limitation on the level of interoperability and capability planning that can be achieved. Four respondents made reference to the current system of budgetary planning and allocation and one respondent, in particular, outlined his concerns and frustration:

The system as it is now, in terms of one-year budgeting cycles, is dysfunctional if we’re looking at long term planning (Interviewee 21).

The concept of not applying long-term planning is not sustainable in today’s modern military domain and the respondent above outlined how the short-term approach was having a detrimental impact on long-term procurement plans and priorities within the Irish Defence Forces:

There was funding left over at the end of the year and suddenly you’re racing around in October and November time to get specifications together to go out to order and also ensure that it’s delivered before the 16th December because the money has become
You’re ordering equipment based on money available rather than on your organisational priorities (Interviewee 21).

This point was agreed with by both civil servant members who were interviewed as part of this research as they both referred to budgetary provision. When discussing the need to spend the entire allocation in one year one respondent noted:

Personally, I think it’s a bit of a disaster and while this may sound awful, I’d nearly prefer to hand the money back, which we don’t (Interviewee 31).

This observation highlights the earlier finding, in that, funding is essentially spent on a short-term basis and a value for money approach appears to be omitted, particularly when viewed against other international military organisations who utilise future force concepts in order to ensure capital funding is budgeted for over a ten-year period (Hegarty, 2018). This approach allows international military organisations such as the New Zealand Defence Forces and the British Armed Forces to develop capability plans thus ensuring that surplus budgetary provision is utilised to enhance the systems being procured. This observation did not align with the current literature and has implications for this research.

As part of the White Paper on Defence (2015) the development of more integrated civil-military working practices includes consideration of a central procurement cell within the Defence Organisation. While innovative approaches to procurement have a role to play, the practical position is that defence is under-resourced, as outlined below:

We need to have greater congruence between the civil and military side in terms of the whole procurement aspects, the contractual side, the expertise required to ensure best value for money (Interviewee 1).

This observation aligned to the opinions posited by the civilian Department of Defence respondents who noted that:
One thing I will say is that there is no one in the DoD thinks that defence is overfunded. The major challenge is trying to get money out of the centre to fund defence and to retain money within the budget. The Department of Public Expenditure and Reform (DPER) certainly hold the purse strings, and if anything, what we have seen, and what members of the Defence Forces do not see is an increasing centralisation of power within DPER in terms of sanction (Interviewee 31).

When it comes to funding, and this is not often understood. It is DPERs responsibility to manage and control the funding, and this puts a very finite sum of money on what we have to develop with technology and with capability (Interviewee 30).

These findings have an impact for this research, as this research sought to examine the impact the Department of Defence has on capability development within the Irish Defence Forces. The Department of Defence is funded by Central Government, and both civil servants highlighted the role of the Department of Public Expenditure and Reform (DPER) in assigning budgets to the Irish Defence Forces and acknowledged that the control of DPER has increased in recent years. As noted by one respondent:

The extent of control has increased and there is an extent to which I think they have been disingenuous with the DoD in their behaviour and approach (Interviewee31).

This observation clearly highlights the difficulties the Department of Defence have in securing funds for the Irish Defence Forces and the increased role of DPER has been to the detriment of the Irish Defence Forces. Analysis of the literature has shown that military organisations should plan and budget for the force they require, yet the findings of this research indicate that long-term defence planning, including a budgetary provision, is not common practice in the Irish Defence Forces. Nineteen respondents raised this as an issue, which suggests it is very pertinent for the Irish Defence Forces, and answers one of the research questions which sought to examine the impact the Department of Defence have on capability development within the Irish Defence Forces.
Of further interest to this research will be a further investigation of the civ-mil relationship and this will be analysed in section 4.10, as the civilian element of the Irish Department of Defence has a significant impact on the allocation of funding for the Irish Defence Forces, as the Secretary General is the accounting officer. Martin (1995) suggests that foresight will become more significant as organisations’ budgets are cut and corporate objectives demand more for less, and technologists will be required to deploy new technological solutions to achieve these targets, thereby, reducing costs and increasing productivity.

The impact of the civ-mil relationship, while preliminary, suggests that the mechanism used for the provision of funding for technological projects in the Defence Forces is not sufficient as it is centrally controlled and is not linked to any established capability development plan. Interestingly, the recent publication of the White Paper Update 2019 (Department of Defence, 2019) has posited that while other defence-related funding sources, such as the European Defence Fund, at an EU level will be explored, the current national funding model for the Irish Defence Forces will not change, which will impact on future capability development. As outlined earlier, the respondents have stressed their beliefs that technological projects are not fully supported throughout their lifecycle within the Irish Defence Forces and this has an adverse consequence as the technology is not fully supported, maintained, or utilised, once implemented. This finding has important implications for the development of the training that is required in order to optimise the use of new technological systems as training courses for both operators and technicians does induce a financial liability for the organisation. The respondents in this study have provided their interpretation of how they observe the impact this lack of support has particularly on new technological systems. The following section will provide an analysis of how the respondents believe this lack of funding impacts on the training requirements associated with the introduction of new technological systems.

4.3.2 Training Requirements when Introducing Technology

When introducing new technologies, there will be a necessity to ensure that adequate training is provided to the personnel the change will impact on. As noted by Becker (2010) if organisations are to achieve full value from innovations such as new technology, they need to focus on the human element and the impact of innovations on the employees who will be impacted by the change. During the course of the interviews nine of the respondents raised
training as one of the areas that needed to be addressed when implementing new technological systems within the Irish Defence Forces:

*The biggest factor is in training people on these new technological systems* (Interviewee 2).

*When you are looking at some large-scale technological projects you really need to take people out of their job and train them into that specific technology* (Interviewee 12).

Respondents have clearly identified the need for training to form part of the inculcation process and training on the technological system is necessary in order to ensure it is fully implemented within the organisation. The respondents’ sentiments reflect the research of Becker (2010) who identified that technological change projects often involve the implementation of systems, infrastructure, services, and technology that have not previously existed in an organisation. Such a process is necessary as the new technological systems bring with them alterations to organisational practices and structures and are often considered radical change for the organisation. With that radical change, comes the need for training and preparing the organisation's personnel for the imminent change. Moreover, Becker (2005) outlined the process that an organisation needs to undergo when introducing new technologies as he espoused that being able to sustain these changes requires an organisation to relinquish old ways prior to, or at least, at the same time as, learning the new practices and procedures, a process referred to as unlearning. The Irish Defence Forces have always struggled with this concept and respondents conveyed this on several occasions during the interviews, with many referring to past examples of where the Irish Defence Forces had similar issues.

It was, therefore, relevant to note that of the nine respondents who outlined training as a primary concern, six of them believed that while training was a core element of getting a new technology inculcated within the Irish Defence Forces there were significant flaws with how the Irish Defence Forces managed and implemented the training element as outlined below:
There’s a perception when a new piece of technology comes out first and if the initial installation and initial training doesn’t go well, there’s a perception that the technology isn’t valuable, that it isn’t useful and that it isn’t an improvement and people will rile against it (Interviewee 28).

So, we introduce the equipment without first identifying or putting in place the training or establishing the system that is required to back-up the technology or new piece of equipment (Interviewee 11).

The respondents’ observations highlight a critical flaw in the implementation process and their understanding of what is considered an ‘accepted normal outcome’ associated within the Irish Defence Forces offer a clear contradiction of the research previously conducted by Becker (2010, 2005). This finding has important implications for developing an overview of how the Irish Defence Forces introduces new technological systems and acknowledges that military organisations do not adapt at all levels and that there is minimal ‘new learning’ when implementing new technologies. The present study suggests that within the Irish Defence Forces, there is an apparent gap between the introduction of new technological systems and how these systems are inculcated within the Defence Forces. Of the 28 respondents, who raised this issue, 18 of them had a noticeable change to their body language and tone of voice during this part of the interview and the frustration they conveyed was perceptible and quite often the respondents referred to the lack of awareness shown by senior command to the complexities involved when introducing new technological systems:

I think sometimes that the hierarchy in the navy don’t realise how big a change some technologies make … they’re not a simple introduction (Interviewee 12).

This organisation is going from paper to digital navigation and we have yet to put in the full cross board system required to support that change (Interviewee 11).

These sentiments contest the findings of Worley and Mohrman (2014) who emphasise that in organisations there must a cognisance on the part of the leadership of the importance of
managing learning during the times of technological change. The respondents have demonstrably shown that there is a breakdown of this particular leadership at senior command levels within the Irish Defence Forces and the respondents further contend that senior command is undermining their efforts in implementing the training processes necessary in organisations introducing new technologies. Moreover, of the nine respondents who raised these issues surrounding training, there were eight of them below the rank of OF-4. This finding is important, as it is the middle ranking officers, OF-3, who are identifying the breakdown that is occurring and the individuals above this rank are not cognisant of the issues being experienced within the training domain. Within the Irish Defence Forces, it is officers of OF-3 rank or lower that are responsible for the delivery of training, and, as such, are best placed to provide an accurate assessment of the current environment, strengthening the validity of this finding. Organisations often do plan for training, coaching, and general guidance, however, it is also critical that direct line supervisors communicate their commitment to the change in informal ways to encourage unlearning (Becker, 2010). This reasoning is further supported by Akgün et al. (2003) who also acknowledged the role played by unlearning in this process as the changes do not occur as the technological system ‘goes live’, rather changes in beliefs, norms and values occur over a significant period of time. As noted by one respondent:

*You then end up with this trickle down affect and a dilution of training occurs and people lose confidence in the equipment and the equipment doesn’t get used* (Interviewee 28).

The responses above again reinforce the apparent training issues being experienced within the Irish Defence Forces and the consistency with which the respondents refer to these incidents is concerning. The examples above provide sufficient context and highlight that the Irish Defence Forces does have an issue in relation to how personnel are trained when introducing new technological systems. Becker (2010) urges caution when dealing with the training element of the change process as there is minimal that can be done to alter previous experiences, however, acknowledging the ‘sins of the past’ may prove effective to managing this change. It is also necessary that the employees within the organisation do not view the change project as yet another passing ‘management fad’ as such a juxtaposition will have negative impact and there will be less emphasis on relinquishing past practices.
While the changes in beliefs, norms and values may occur over a period of time, it is critical when introducing new technologies there are suitable and coherent mechanisms in place so that the training is inculcated within the organisation. The strong indication emanating from the results of the respondents’ responses signifies a continued contradiction of the current literature on the part of the Irish Defence Forces when it comes to providing training on new technological systems. When introducing new technologies, it is therefore, imperative that senior command remains cognisant of their responsibilities and provides the necessary support and resources required when implementing new technologies. Failure to include a transparent and structured training process during the introduction and implementation of new technological systems will potentially expose the organisation to risk. Risk, by its nature, can occur through a variety of reasons and some of these will be examined in the following section.

4.3.3 Levels of Risk when Introducing Technology

During the interview process, there were a number of considerations raised around the risk factor when implementing new technologies. Sixteen respondents who spoke negatively about their organisations’ approach to risk management, and the mind-set that was used in assessing risk from a management perspective when introducing new technologies. As outlined in Chapter Two, there has been an increasing trend toward focussing on core competencies and using collaborative alliances to develop competitive advantage within the technological domain. Jin (2003) further posited that the formulation of policy and the development of strategy are more commonly incorporating surveys of future technology and long-term technology foresight. While section 4.4 will refer to strategic planning, it is necessary to acknowledge its presence during the implementation phase as it features in the assessment of risk. Sixteen of the respondents believed that their organisation did not display any vision or foresight when assessing a technologies relevance to the Irish Defence Forces:

_I don’t think that we plan out technologies or identify what we need them for and you often end up with lots of people speaking about the same system but are working independently within the Communication and Information Systems (CIS) corps itself. You end up running the risk of improperly introducing technologies_ (Interviewee 27).
Technology is developing so quickly that there may be a fear at senior management level particularly where they're not used to the technology or there is a fear there that the technology is going to bring about a security breach (Interviewee 25).

The biggest challenge is that the organisation does not reward risk and it’s a public sector wide thing in that it rewards absence of mistakes (Interviewee 23).

Some parts of higher command have a closed mind-set and I’m not saying it’s applicable to all senior officers. I think that as a nation and a culture, Irish people tend to look at the here and now instead of looking at the fore-planning and development into the future (Interviewee 9).

The respondents, as outlined above, expressed their beliefs and frustrations with how the Irish Defence Forces introduce new technological systems. The respondents refer to various examples of past technological projects and outline the lack of analysis that is completed and the level of risk that the Irish Defence Forces is subsequently exposed to. This lack of planning, or foresight, is negative and contradicts the current literature. Foresight is considered to be a process that systematically attempts to look towards the long-term future, with a particular focus on science, technology and the economy and society. Such a holistic view should allow for the identification of emerging generic technologies and assist in underpinning the areas that are of strategic importance to the organisation, thus yielding the greatest benefits. Interestingly, one of the civil servants commented on the Irish Defence Forces perceived aversion to risk and noted:

Given your trade I couldn’t say that you are risk averse. The unfortunate thing in your system, given the rapid rotation through appointments is that, if you get something wrong, it is unfortunate, but it can follow you around forever, and you don’t get an opportunity to fix it (Interviewee 31).

While the individual acknowledges the risk inherent in being in the military, he openly acknowledges that the internal promotion systems of the Irish Defence Forces encourages
individuals to adopt a safer, or non-risk approach, to technology projects. Of the respondents who raised this issue, 75% of them were generally OF-3 rank, and all of them had been involved in a technologically-related project in the last two to three years, and had experienced these issues first-hand. In developing the strategies that will support the implementation of these technologies, there were further issues identified in how senior management and junior management engaged in this task. This ambiguity must be acknowledged by the organisation and there must be cognisance that the information technology being introduced aligns itself the military organisations’ overall strategic plan. It is difficult to execute strategies without technology, and military organisations should not implement a new technology without a strategy behind it. Ten of the respondents articulated their frustration with the impact the hierarchical system of the military has on the decisions that are made around new technologies. One respondent noted:

If the new information challenges senior command perception it is immediately dismissed out of hand so as a result that very much limits change. We move from the knowledge base to the rank base and that seems to put the brake on the discussion and the willingness to say that someone who is subordinate to you might actually know more about something and I’ve experienced that myself on countless occasions (Interviewee 19).

In relation to the point raised above, it is noteworthy that all officers at the rank of OF-3 and above must complete a Command and Staff Course (C&S) as part of their professional military training. As part of this training, which prepares senior officer for higher command appointments at home and overseas, the officers complete modules on strategic planning and are introduced to the Military Decision Making Process (MDMP) and this module instructs individuals on the importance of long-term campaign planning and how to manage the various elements of the process, such as mission analysis and course of action development. One of the respondents made particular reference to this issue and outlined that:

The reason I mention this is that a lot of people have completed this Command and Staff Course (C&S) training yet I haven’t seen those methodologies used elsewhere in the organisation for the roll out of new projects or new technological systems and I saw this first hand at sea. We always seem to do things in an ad hoc fashion and instead of
looking at an actual plan and the information, they’ve learned on the C&S they abandon all processes and wing it (Interviewee 20).

The two points raised above are contrary to the theory espoused by Sterling (2003) who suggests that as no importance is given to establishing coherent strategic planning for the introduction of technological systems, then the hierarchical nature of the military contributes to this impasse. At present, the Irish Defence Forces do not have any technological strategists who are well informed about developments in the business environment as multiple sources of expert advice and analysis have the potential to prevent oversights and to develop critical thinking. This recognised omission further demonstrates the frustration that middle ranking Officers have in trying to get new technological projects initiated, or implemented, within military organisations. Such irritation is more confusing when the senior command element of the Irish Defence Forces have received formal training in such methodologies as the Military Decision Making Process (MDMP), and how to utilise such planning processes in both operational and routine tasking’s. This observation critically highlights a potential contributory factor that must be understood in determining the leadership style that is best suited to managing technological change.

The evident lack of long-term strategic planning, supported by an observed inability to conduct such a process is cause for alarm and would offer a plausible explanation as to why the Irish Defence Forces persistently fail to adequately assess the level of risk when introducing new technological systems. Based on the respondent’s examples, which indicated the Irish Defence Forces to be risk adverse, it would appear contradictory that change projects are introduced with little or no planning. Additionally, the outcome, irrespective of how it materialises, would appear irrelevant as failure to adhere to any change management structure will inevitably induce significant risk. The additional recognition of the lack of technological experts is also alarming and reiterates the complex issues that military organisations experience during change projects.

It is, therefore, necessary to elucidate from the respondents what additional factors are contributing towards this lack of clarity and lack of planning for risk when identifying new
technological systems. The respondents made reference to two primary factors during the interviews that they believed were contributing to the current lack planning within the wider Irish Defence Forces when it comes to the assessment of risk when introducing new technological systems. The two areas that were identified are: the generation gap, which exists between older and younger personnel within the Irish Defence Forces, and mind referencing, which refers to a mental frame of reference developed over time within the military. Both of these factors will be discussed in the following sections.

4.3.3.1 Impact of the Generation Gap when implementing Technology

This section of the research focuses on the existence of a generational gap when implementing new technological systems to a military organisation. It should be noted that the age range between the candidates ranged from the youngest, 33 years old, and the oldest, 58 years old. Sixteen of the respondents made reference to this factor that they believe currently exists within their chain of command. The case for technological transformation in the military became evident from 1991 onwards and primarily rests on the phenomenon of the information revolution. This transformation became more pertinent after significant developments in technological systems such as modern computers, electronic information management systems, global positioning systems (GPS) and electronic miniaturisation, as they became the core function of the military technological transformation. Jermy (2011) reflects on this concept, and suggests that the last two decades have seen a significant development in technological solutions and it is pertinent to note that there has been an impact on the generations that evolved during that time period. Sixteen respondents believed that the age profile of junior (below the rank of OF-3) and senior officers does have an impact as to how risk averse they may be, and this is outlined below:

I think some of the older guys are going to find it very hard to accept this and they think it is a lazy way out and they don’t trust it, whereas the younger guys, it’s all they’ve known and in a way it’s what they’ve grown up with (Interviewee 12).

You do have the dinosaurs as well and people who can’t see the relevance and tune out, whereas others have a distrust of it or that they may be found out, so they take a step back (Interviewee 26).
Yeah, the generation gap is huge, and I think that it transcends the organisation (Interviewee 25).

The sentiments expressed above offer a summation of the many responses that reflected on the issue of the generation gap in military organisations. To provide additional analysis on this inability to learn, Clark (2016) contends that there is evidence to suggest that military development is heavily influenced by the impact of generational experience and this can have negative consequences as militaries seek to transform. First, referred to as the ‘superpower generation’; these officers were commissioned in the 1980s and now hold many of the senior leadership positions within the Irish Defence Forces. These individuals remain heavily influenced by the experience of operations they conducted along the Northern Irish border during the Troubles and also by peacekeeping operations in Lebanon, and due to their length of service remain resistant to change. Second, the long war generation; those officers who entered the Irish Defence Forces during the 1990s and 2000s and served in more modern peacekeeping missions such as Liberia, Chad and the East Timor and will soon hold prominent positions within the organisation, and would additionally have been heavily influenced by military doctrine which focussed on counter-insurgency over the last decade. Finally, the ‘nascent generation’ are those recently commissioned into the Irish Defence Force, who will be the future leaders of the organisation in 2030–2040, and it is critical that they have a diverse and broad experience within which they can develop and learn, and important that they avoid the mind-set of continuity and evolve to become the revolutionary generation of the Irish Defence Forces. Additionally, Thomas (1998) observed that information technology optimised for ‘ease of use’ and ‘effective utilisation’ will be very different from current technology as it is primarily focussed on enhancing established capability. The findings above indicate that this observation by Thomas would be reflective of the approach taken by younger officers when introducing new technological systems, in that, they introduce systems to refine or improve systems or processes currently in place and seek to advance the efficiency of the organisation. Within the military hierarchical system, the ultimate decision makers, which are those officers of OF-5 rank and above, appear to function in a manner, which contradicts the findings of this research. One respondent surmised the attitude of senior management to the introduction of new technologies, when he noted:
You now have a situation where the Director (OF-5) has decided that you can’t have emails on your phone and this means that Officers in the organisation cannot access in any shape or form their emails from outside and there are plenty of cases and incidents like that (Interviewee 27).

During the interview process, some of the more senior and experienced respondents did try to offer clarity in relation to why they believed there were issues with how the various generations viewed technological change and why there may be issues around communicating change. One respondent noted:

> My point on that is that I am completely wedded to an understanding that if I don’t understand the language of the millennials and they don’t understand the language of the wrinklies then we’re going to have a loss in communications. Our diversity strategy is aimed at overcoming some of the constraints we would have from the fact that we have different generations within the organisation (Interviewee 1).

The need to advocate positive messages about the new technological system throughout the organisation is critical and by communicating success stories, and by making explicit, the outcomes of the new technological system in comparison to previous systems, organisational leaders would not only create the opportunity for ‘small wins’ but would also reinforce the need for change. Communication will be covered as a separate theme of this chapter, but its presence throughout the change process must be acknowledged, and in this particular example, communication has the potential to be divisive amongst generations during the introduction of a technological system.

Of the 16 respondents who acknowledged the presence of a generational gap, four respondents also elaborated that some of the senior officers within their organisations had sought to welcome new technological systems and that efforts had been made to utilise them, as noted below:
I wouldn’t say that actually [referring to the generation gap] because again you have people at the higher echelons who have accepted that technological change is good (Interviewee 19).

I don’t think anyone consciously looks to block the introduction of new technology as we do see the benefit of it (Interviewee 2).

I think for the most part, my vintage while we don’t understand technology, we embrace it and we recognise it for the strategic enabler that it is (Interviewee 6).

The suggestion that a small cohort of the more senior officers within the Irish Defence Forces are willing to accept technological change and acknowledge its benefits is notable, and highlights that there is an awareness of the positive contribution technology can provide. However, notwithstanding this minority viewpoint, the overall majority of the respondents believed that the impact of the generational gap on change initiatives was negative based on the respondents’ lessons learned and past experiences. These results are in agreement with those of Ledwidge (2011), who elaborated on the evident impact that the generational gap is having within militaries and subsequently on their use and acceptance of technology, and over half of the respondents concur with this theory.

An initial objective of this research was to determine how senior management within the Irish Defence Forces adapt to the change management processes utilised during the introduction of new technological systems. The results of this study indicate that the respondents believe that there is a generation gap present within the Irish Defence Forces, and were strongly supported by 16 of the respondents, while the other 16 respondents didn’t provide an opinion. These results highlight the impact that the senior elements of command can have on the identification and subsequent implementation of new technological systems. Moreover, the respondents also noted that they believed this generational gap inadvertently led to the application of ‘mind referencing’ by these older officers and this will be reviewed in the following section.
4.3.3.2 The Role of Frames of Reference and its Impact on Change in the Irish Defence Forces

This sub-theme emerged during the interview process and was referred to by the respondents primarily during the follow-up questions. These questions occurred after the respondents had provided a response and was content to elaborate and provide additional information. During the course of the data collection, follow-up questions provided a rich source of additional data that more accurately reflected the issues being experienced by the respondents, confirming the findings of Qu and Dumay (2011) who posited that additional lines of enquiry could emerge during the interview process.

The issue of change within the military is an on-going dichotomy as difficulty will always be encountered when trying to engage in a process that attempts to change minds in the military. New change initiatives should be planned for, as changing one’s mind remains a critical, and often times elusive, skill for even the best military strategic leaders. During the interview process, six of the respondents, both national and international, alluded to the use of mind referencing by senior officers when elaborating on the generational gap in greater detail. As espoused by Schiff and Schiff (1975) an individual’s frame of reference is the structure of associated (conditioned) responses (neural pathways), which integrates the various ego states in response to specific stimuli. Frames of reference, particularly in the military, is essentially the mind’s ability to have a set of frames of reference that it uses in making decisions and these are the complex knowledge structures developed through personal and professional experiences that influence and often limit the way military personnel approach issues. During the interview process, the following observations were noted as the respondents provided feedback on whether, they thought their organisations’ leaders used frames of reference during change projects and offered some explanation as to how the respondents believed they developed:

As people become more senior they like to rely upon what they know and they like to rely on what has worked for them in the past and they might not be as receptive to new ideas as younger people (Interviewee 16).
To these individuals they view the world as being static and whenever you have discussions with them, they will tell you how it used to be, how it was when they were a Junior Officer (Interviewee 23).

The respondents above are reflecting on their belief of the presence of preconceived frames of reference in the Irish Defence Forces. Traditionally, military officers would be required to complete an ‘expected career path’ that included both command and operational experiences. This accepted norm clearly confirms the work of Burton (2008) who posits that the reason why it is so difficult for military personnel to change their minds is because their patterned experiences, routines, and perspectives that have been developed early within their careers trap them and become their frames of reference. Frames of reference provide the set of criteria, or stated values, that are referred to when making measurements or judgments. Frames of reference are deeper than mere viewpoints since they often involve ideals, or standards, and as one respondent noted:

*This is reflective of how stagnant we are with respect to processes and the primary example of that is that a lot of our key decision makers and senior officers are still trying to do things like they did it when they were a cadet 30 or 40 years ago, so therefore, if your processes don’t change, why would you change your technology?* (Interviewee 23).

This sentiment provides a succinct presentation of the principle belief being conveyed by other respondents who agreed with the presence of mind frames of reference in the Irish Defence Forces and British armed forces. Moreover, Lehrer (2009, p.205), takes this concept further and outlines how military culture impedes the processing of information, as he concluded that military personnel when faced with dissonant information, use their reasoning skills to *twirl the cognitive kaleidoscope until they get the conclusions they want*. This argument was further supported during the interviews as noted below:

*They have gotten so far in their career and have a broad range of knowledge and if you were to pick that apart and say ‘how about we try this new way’, you’d be told that they’ve done it this way for the last 20 years and it worked fine so why are we changing it now* (Interviewee 16).
The suggestion made above would indicate that in order to expand these frames of reference, respondents believe that changing one’s mind requires a revaluation of one’s frames of reference when confronted with new information. Traditionally, within the military, strategic education naturally has the tendency to produce a self-referential and reinforcing intellectual environment, thus providing the misleading context that the creation and development of strategic thinking is a foregone conclusion. Unfortunately, shattering or unlearning frames of reference is an action that is easy to espouse, yet, incredibly difficult to execute, particularly within a military organisation. Organisations that have used the unlearning process have used it to refer to either individuals undergoing a process of releasing old ways and embracing new behaviours, ideas or actions. One respondent, in particular made reference to this and noted that:

*The personnel in the military because of the hierarchical system do have the ‘old school’ way of thinking and openly tell you that because they had to do something a certain way you will have to do it as well irrespective of whether or not it makes any sense* (Interviewee 13).

Moreover, this example shows how the more senior decision makers think within a military organisation and would contravene the work of Becker (2005) who advocated that personnel within the organisation should be able to let go of previously held and developed methods and approaches that were used to accommodate the changing environment and circumstances. While not all of the respondents referred to the concept of mind frames of reference, it is pertinent to acknowledge that 13 of the respondents who did, expressed a significant level of confusion, as they did not understand why their senior management were unable to embrace a more modern outlook or frame of reference and relinquish previously established frames of reference. As outlined previously, all senior officers have completed a Command and Staff Course, and 21 of the respondents interviewed for this research have also completed either their own national or an international Command and Staff Course. The respondents did acknowledge this, and as noted below:

*But knowing what I do now about the course you do have to ask yourself, what were our senior officers doing when they were on theirs? Those templates are easily transferable and offer alternatives when trying to identify a solution and it remains a mystery as to why older generations have not done so* (Interviewee 20).
I think some guys prefer to discuss issues and make decisions over coffee and do it verbally and not put anything in writing and I think that’s a generational thing and it’s more applicable at the higher levels of the organisation (Interviewee 22).

The quotations above articulate the importance that the respondents placed on the content and credibility of their respective course and the associated processes that are taught during it. The purpose of this course is to prepare senior officers for positions above the rank of OF-3, thus, providing them with methodologies that can be used when making more demanding decisions. This raises a question as to whether the current path to command is suitable for the development of the individual thought process, in that the individual is not simply making decisions based on previous examples, thus, potentially neglecting potential opportunities. Palmer and Dunford (1997) elaborate on this and posit that such an outlook promotes the democratising effects of technology on change, suggesting that new technology applications have a decentralising force on information and organisational politics. While the term democratising could be taken as an anathema to the hierarchical nature of a military organisation, it is meant solely as a mechanism to initiate a more creative and holistic process when deciding on what technologies to pursue and implement. Respondents furthered these points and observed that:

*Just because we’ve done something a particular way for the last 10-15 years, and it may have been right then, but it doesn’t mean that it’s right now, and it’s that mentality that we need during change* (Interviewee 19).

*Many years ago a Non-Commissioned Officer (NCO) once told me that, there’s the right way, your way and the navy way, and if you buy into that it doesn’t matter if it makes sense or not or you think it’s right, this is the way we’re doing it and there is no debate, and we’re going to keep on doing it this way* (Interviewee 23).

The strong indication emanating from the above sentiments and the representative quotations is that the respondents view the current system as one which acts contrary to the development of their respective organisations and is by its nature, pessimistic. The military mentality of
‘what worked in the past’ as being a good enough concept to maintain a negative frame of reference further enforces that no alternative concepts are considered in the Irish Defence Forces until an urgent threat presents itself. The results of this research are consistent with the thoughts of Clark (2016) and Garvin and Roberto (2005), in that, despite the best efforts of the military to try to improve how change is managed there has been no long-lasting evident divergence from previously established customs and traditions. Moreover, the findings of this research have further demonstrated that the Irish Defence Forces have not evolved to a level where they willingly conduct the unlearning process by changing organisational beliefs, norms and values during the introduction of new technological systems. The following quotation provides an example of this belief:

Acceptance is still an issue and I still see individuals who don’t switch on their computer as they feel that they don’t need it. I can count on one hand the number of emails I’ve had from support command from the rank of commander and up over the last 12 months (Interviewee 22).

The analysis of this research indicates that the senior decision makers within military organisations still defer to previously established frames of reference before making decisions and in most cases, when faced with the requirement to use technology they generally avoid it where possible. Moreover, as posited by Smith (2006), when providing a holistic concept, there is no point in acquiring technology if it is not used to the advantage of the organisation and that adaption, where required, is universally implemented. In the scenario where there are valid reasons to query the adaption of a new technology, then the senior command elements within the organisation should question whether, or not, it is necessary to burden the organisation with the new technology, and military organisations have a poor track record in learning this lesson as evidenced in this research. This finding was supported by the observations of one of the civilian respondents who observed that:

I’m just not sure they’re [Defence Forces] joining up the dots in terms of getting ahead of the curve on future capability and capability requirements... The question I would pose is, if you’re using the tried and trusted technology, what is your trajectory in terms of where you’re going to end up in the face of new challenges and demands given the extensive life-cycle of military platforms and technology (Interviewee 31).
The individual highlighted that projects are not being aligned to organisational goals and the Irish Defence Forces are not considering the holistic view of the technology and how they intend utilising it. Therefore, decisions are being made on historic frames of reference, as opposed to a future oriented mind-set where senior officers within the Irish Defence Forces identify where the technology will be utilised. The findings of this research have demonstrated that the higher levels of command still provide an internal barrier when trying to introduce technology within a military organisation. The results of this research further indicate that while the Irish Defence Forces may have embraced technology, and the innate capability it encompasses, the Irish Defence Forces as an entity has not embraced the methodologies and supporting tenets that must accompany such technological change. In addition, a note of caution must be raised as the sample size from the international sphere was small and therefore, while the UK respondents did express sentiments similar to those expressed by the Irish respondents, these findings may not be applicable to all international militaries. The role of strategic planning, therefore, cannot be eschewed, and the following section will examine the role played by strategic planning within military organisations when identifying and introducing new technological systems.

4.4 The Use of Strategic Planning when Identifying New Technologies for the Irish Defence Forces

As noted in Chapter Two, strategy and strategic planning continue to be fundamental to a military’s ability to remain pertinent in today’s modern and evolving times. During the interview process, the respondents were asked if their organisation utilised a strategic planning process when identifying new technological systems. As outlined by Jermy (2011), strategy making is problem-solving of the most complex order, because it deals with three of life’s great imponderables: people, war and the future. Reflecting on this particular opinion and, particularly, in light of this research being conducted within the scope of military organisations, it is appropriate when identifying or introducing new technological systems that it is done so with a strategic viewpoint in mind and that the long-term interest of the organisation is maintained at all times. Furthermore, as proposed by Feurer and Chaharbaghi (1995), irrespective of the numerous proposed definitions and frameworks on strategy, they all have one thing in common, which is that they all aim at maximising the performance of an organisation by improving its position in relation to other organisations operating in the same
competitive environment. This section will focus on the role played by the strategic planning process within military organisations.

### 4.4.1 Use of Strategic Planning Process when Identifying New Technological Systems

This section will focus on how the Irish Defence Forces utilised strategic planning processes when identifying and introducing new technological systems. The respondents were divisive when responding to this part of the interview, with 14 respondents stating that their organisations did not utilise strategic planning processes, ten respondents stating that their organisations did use strategic planning processes and seven respondents who were unaware as to whether their organisations did, or did not, use strategic planning processes. There is much debate in relation to what strategy is, and how to best, perform the practical process of strategy formation within military organisations. Authors including Dempsey (2012) and Ledwidge (2011) espouse that strategy is essentially about choices, choices about how to achieve aims with the resources available and a sound strategy reconciles ends, ways and means. Militaries are, therefore, similar in how they plan for large-scale operations and technological development, in that, they all propose to use a strategic planning process in order to determine the tactics they will use or in the case of this research, the technological system they will procure. Gray (2015) within this context highlights that it is relevant to note that military organisations are embedded in an environment that has an external and independent existence. Modern academic literature and military doctrine offer minimal thinking to support the individuals who must formulate strategy in a modern and evolving world (Fedorchank, 2018). This lack of literature upon which to reference, or to seek guidance from presents a challenging and arduous task, in that, how do military organisations initiate, create and manage strategic plans when the level of research to date, as posited by Jermy (2011), has indicated that minimal thinking exists on this subject. Many military organisations, including the Irish Defence Forces, would contest this observation as military organisations traditionally see themselves as the creator and instigator of the act of strategic planning.

It is interesting, therefore, to note that 14, or 45%, of the respondents believe their organisation does not utilise a strategic planning process when procuring technological systems. The examples provided by the respondents were quite direct, and in many cases, the respondents displayed an evident aura of frustration with how their organisations functioned at the strategic
level. The following examples offer a broader viewpoint of the respondents’ organisations approach to strategic planning:

No, not that I’d be aware of and I know we have a strategic plan, we have a planning process and we try to have capability development planning but to a point it is defunct (Interviewee 26).

Well I did look at the strategic planning process for my MBA and I haven’t seen too much of it being used around the Defence Forces. New technology in my opinion, and this may sound cynical, it almost happens by chance. I’m not sure that the planning process is done to any great detail to be frankly honest and I think that while we can try to sugar coat it and say that we are doing it there’s an awful amount of it that’s hit and miss. (Interviewee 10)

I think that we lack a strategic level of planning from the point of view of making the decisions as to what direction the Defence Forces needs to go from a high level (Interviewee 8).

The beliefs espoused above are not aligned to the modern relevant literature associated with militaries and how they plan their respective strategies. In order to be effective in today’s strategic arena, senior military leaders and their staffs must understand the nation’s strategic vision and how strategy is formulated. This concept does not appear to be present with the Irish Defence Forces, based on the respondents’ beliefs. It is additionally significant that while 14 of the respondents believed there was no strategic planning being conducted within their organisation, a further ten respondents were unable to provide a direct answer to why they were uncertain. Of those ten respondents, the respondents noted the lack of tangible and coherent strategic planning within their organisation. There was one respondent who further emphasised this particular vein and who was completely irritated with the lack of strategic planning and observed that:
The balanced scorecard project was the only evidence I’ve seen of it and even that failed. The rest to be fair is done on the back of a cigarette box; very short-term and very short-sighted I’d say (Interviewee 22).

It is important that the respondent above understands and is aware of what a strategic plan should be and how it should be inculcated within the organisation. The example above highlights the approach taken at higher levels within the respondent’s organisation and offers an interesting viewpoint as to how readily organisations strategic planners will dismiss and avoid all previously learned methodical processes in order to plan a project. In comparison, when reviewing the beliefs of the respondents who believed that their organisations utilised a strategic planning process there was an obvious variance and slight concurrence with the responses above, as demonstrated below:

* I would say it is largely very individual focussed in that if you have people that have a strategic vision, and then the project has a strategic utilisation (Interviewee 6).

* Yeah, I think it does and there is a certain amount of planning that goes in to it depending on the department (Interviewee 16).

* I would like to think it does and you would assume that a military organisation in particular would have a fairly detailed strategic planning process for it (Interviewee 25).

The above representative quotations serve to highlight two significant factors. Firstly, two of the respondents above have concurred with the previous finding in that their organisation does not take a holistic view of the strategic planning process. In addition, two other respondents refer to their beliefs that any strategic planning is either individual-led or department-led, referring to the directorates located within the Irish Defence Forces. At no stage do they refer to the organisation having an overarching strategic plan, or strategic planning process that is adhered to by all personnel and would contradict the current literature. Secondly, the respondents also highlighted an additional significant factor in that, of those who believed that
their organisation did use a strategic planning process, 87% of them were not able to provide a definitive affirmative response. Moreover, it was apparent that during the interviews, these respondents mentally appeared unsure when providing their replies in relation to what constituted a coherent strategic planning process. As observed by Von Clausewitz (1976), everything in strategy is very simple, but that does not mean that everything is very easy. The inability to obtain a clear and concise delineation requires additional comparison with the respondents who were unable to provide a direct answer and a selection of quotations are presented below:

*In as much as the strategic planning branch has a function to have an oversight and join the organisational change requirements with technological change requirements, the branch/directorate is there and it is looking at how we can leverage off technology to make us more efficient and effective in terms of how we access technology. I do think that it could be improved however.* (Interviewee 1)

*Sometimes yes, and sometimes no. Sometimes it is planned and weighed out properly but other times it seems to be railroaded through* (Interviewee 12).

*It is hard to say whether they actually do use a strategic planning process to implement new technologies* (Interviewee 13).

The above sentiments are again aligned with the common trend that has been discerned throughout this element of the research, in that, the respondents are still unsure about what department within the Irish Defence Forces is ultimately responsible for the initiation, creation and subsequent management of strategy. Interestingly, from the civilian respondents, there was a view that strategic planning was conducted within the Irish Defence Forces, as noted below:

*The effort that has been made over the last number of years is to certainly introduce a strategic level of planning into the system in terms of capabilities, platform replacement, and so on and so forth. Whereas, what was happening, and what has happened to a large degree was, one, who is the Chief of Staff as they dictate a lot of*
the capability and procurement, and where the money goes, or the DCOS’s, who shouts the loudest, and who has projects ready to go and that they can get into the system (Interviewee 31).

This observation compounds the overarching trend discovered during this research as the Irish Defence Forces do not adhere to a strategic planning process when identifying new technologies, which is a key research question for this research. It is interesting to note that the Department of Defence consider that it is the Chief of Staff, or the individual who shouts loudest, who dictates a lot of the strategic planning within the Irish Defence Forces, which would not align with the current literature on military strategic planning. These responses would indicate an organisation that does not appear to have any coherent and long-term strategic planning process established. As noted earlier in this analysis, only eight respondents actually held a partial belief that their organisation did utilise strategic planning processes when introducing new technologies, yet 24 respondents (75%), of the overall respondents, either believed there was no strategic planning within their organisation, or were not sure as to what strategic planning process their organisation utilised. Interestingly, group cohesion can only exist when all personnel within an organisation are aware of the overarching vision and strategy of the organisation and the findings of this research would suggest that cohesion within the Irish Defence Forces has been replaced with discordance and dissension.

There is much debate in relation to what strategy is and how to best perform the practical process of strategy formation. The apparent lack of transparent strategic planning raises cause for concern as a military without strategy has the potential to become isolated and defunct. Meinhart (2006) alluded to the theory that the military ultimately utilise strategic planning as a system that is more valued to make the needed evolutionary changes over time in the aspiration that the resultant strategy can lead to revolutionary results.

As suggested in the quotations above, the respondents have indicated that the Irish Defence Forces do not take long-term views on how its organisational strategy should develop and that in most cases, strategy, if any, is generally short-term and short-sighted. This finding would refute the work of Johnson et al. (2008) who identified strategy as the direction and scope of
an organisation over the long-term, which achieves advantage in a changing environment through its configuration of resources and competences with the aim of fulfilling stakeholder expectations. Moreover, the findings concur with the definition of strategy espoused by Gray (2015) and that the innate assumptions within the Irish Defence Forces, which this research established are based on frames of reference, are the core drivers of strategic planning within the Irish Defence Forces, arguably having a negative impact on the long-term direction of the organisation.

Indeed, the concept of a military organisation not having a long-term strategic planning process is contrary to the ‘accepted norm’ within the military domain and from an organisational perspective could be potentially damaging to a military organisation. The review conducted in chapter two demonstrated that there might be a tendency to differentiate strategy from planning. Planning is largely cause and effect whereas; strategy is a process, a constant adaption to shifting conditions and circumstances in an environment where chance, uncertainty and ambiguity dominate. Strategy, also simultaneously acknowledges that organisations must be proactive not predictive, seeking to influence and shape the on-going future, rather than trying to set an end. Reflecting on this concept, and reviewing the responses there would still appear to be a lack of awareness of the fact that strategy is a holistic process, and this is conveyed below:

No, when you look at our strategic planning it is totally operations focussed and its’ only understanding of technology is not an understanding of technology, it is more a case of, ‘I have these operational goals and I must have a technology to do it”, and it doesn’t really go beyond that (Interviewee 23).

The comments above would not align with the theory as noted in chapter two and the respondent below provided an additional example:

No, as it’s been very much an ad hoc, and in some cases a reactionary approach and there doesn’t seem to be a central point driving it (Interviewee 19).
Indeed, the suggestion that the Irish Defence Forces does not understand, nor acknowledge, the relevance of having a long-term strategic planning process reiterates the general negative consensus being demonstrated by the respondents. Analysis of the responses obtained highlights that the Irish Defence Forces utilise a variety of mechanisms in an attempt to plan, or mitigate, for new technological systems in the absence of a more long-term orientated process. Vreÿ (2001) posited that strategic theorists who have to address the future strategic environment belong to either materialistic, focus on the role of technology in changing warfare, or historic, ponders the timeless concept of strategy, schools of thought. This research has demonstrated that the generational gap elaborated on by the respondents observes this division and acknowledges that the younger generation is more materialistic in their view of new technological systems and that the older generation are historic in how they believe new technology can benefit the organisation. Throughout the analysis, it is evident that individuals who find themselves sitting in the ‘hot seat’, as one respondent called it, are making many of the strategic decisions for their organisations and 12 respondents provided examples of where they have witnessed or experienced this phenomenon. Many of the technologies that do get identified are being driven from the bottom up or as noted by another respondent, by those at the coalface, and the general consensus from interviewing the respondents is that no technological change would happen without these key individuals. Examples are outlined below:

*I think that it is pushed from the bottom up and approved from the top down as opposed to having somebody who is at a very strategic level and is looking at all this new technology, the evolution of technology and then deciding that this is the direction the organisation needs to go* (Interviewee 8).

*At best it is identifying something that we think we might need, buy it and see if it fits* (Interviewee 11).

The responses above are reinforcing the belief held by the respondents, in that, it is individuals assuming the roles of ‘would be strategist’ that are driving the technological change being experienced by the Irish Defence Forces and within this process the senior command level is providing the ‘green light’ to ensure some element of corporate governance is maintained. Moreover, the respondents are also highlighting that when a command decision needs to be
made in relation to the procurement of technological systems, an *ad hoc* approach is utilised and the system is procured as the Irish Defence Forces ‘might need it’. These findings again do not align with the current literature (Gray, 2015) and reflect a lack of strategic planning from both an initial phase to a holistic phase, particularly, when introducing new technological systems (Christensen *et al.* 2004).

In contrast, seven respondents believed that a “higher authority” forced some of the new technological systems implemented by their organisation on them, and they had no input into how these systems were designed or implemented:

*The Information and Knowledge Online (IKON) system is a prime example of a technology that was strangely evolved within the Defence Forces. At no time was I aware of any overall strategy and it was more a case of someone reacting to seeing something and then deciding that the Defence Forces as a whole was going to get whether it needed it or not* (Interviewee 27).

Anything we do now as the Defence Forces has to be organisation-wide and has to go through all three elements of the Defence Forces. The IKON and Electronic Asset Management (EAM) system were designed to be used by the army in barracks and we’ve had an awful time getting them operational on ships (Interviewee 29).

These respondents appear to be essentially suggesting that the Irish Defence Forces has a track record of implementing new technological systems that have not formed part of any overarching strategic plan for the organisation, as a holistic entity. The IKON system was implemented by the Irish Defence Forces Communications and Information Services Crops throughout the organisation. Interestingly, this project was based on four key strategic objectives: firstly, to enhance information exploitation and information superiority with the Defence Forces; secondly, to support the development of a knowledge-centric organisation by the identification and preservation of information and knowledge; thirdly, to recognise the contribution of Defence Forces personnel towards creating a knowledge-centric organisation; and fourthly, to contribute to increase situational awareness in the Defence Forces by improving information flow in the organisation using industry proven technologies (Byrne,
Analysis of this project identified a key failing, as senior management openly admitted that it missed a fundamental issue, and that was the volume of people that do not have access to a computer in the Irish Defence Forces. Byrne (2019, p.54) additionally highlighted that there was a lack of strategic planning prior to the commencement of the IKON project as feedback from senior management indicated that ...we don’t think we managed the management of it ... it was stuck on to the CIS (function). Information and Knowledge Management isn’t CIS.

Strategy creation, therefore, must be capable of catering for both the needs of the organisations’ stakeholders and the needs of the organisation itself. While it is recognised that strategy, and its creation, are viewed as an organic, but coherent framework of ideas, judgements and decisions. There must be cognisance, that when creating a new strategy, the strategic leader or strategist might be fortunate and begin with a blinding glimpse of the big idea, the underpinning strategic concept. There is a clear contradiction in the context that Jermy (2011) referred to with his theory and there must be cognisance that the literature refers to project identification in the initial stages that may subsequently evolve into a full-scale project that has been identified through the organisation’s strategic plan. The respondent in the example above is referring to projects that have been approved or implemented and only completed to a state that remains in flux. Reflecting on Mintzberg and Waters (1985) model of deliberate and emergent strategies, there must be an acceptance that new strategies may emerge over time, however, such strategies require an organisation to remain responsive to the need to change, and that such strategies must be realised. The analysis conducted during this research indicates that the Irish Defence Forces do not realise strategies as evidenced by the responses, and by failing to acknowledge the inevitability of emergent strategies, the Irish Defence Forces may enter into a state of disarray when implementing new technological projects.

In summation, this section has demonstrated that military organisations need to have a strategic planning process in place in order to ensure that when new technological systems are being procured, it is done so with a purpose of helping the organisation realise its overall strategic vision. Another element of assisting in this process is the utilisation of capability planning when seeking to identify the most suitable technological systems. The following section will
discuss the responses with respect to capability development within their respective organisations.

4.4.2 Capability Development and its Role in Identifying New Technologies

As outlined earlier, participants were asked whether they believed that their organisations used a strategic planning process when introducing and identifying new technological systems. In a continuation of this exploration, it became apparent during the interviews that the participants believed that there were additional areas of concern that existed under the auspice of strategy and these will now be further elaborated on in the following sections.

First, strategy is not a set of theories that stands on its own and is often a catalyst that works in collaboration with a multitude of factors that each contribute towards the overarching strategy. Capability development is one of these factors and is a relatively new concept within the Irish Defence Forces, however it is not a process that is currently used during the compilation of previous strategic planning. Military capability development covers the entire spectrum of planning, designing, acquisition, management and application of military capability. It is very complex and concerns many issues, such as politics, finance, environment, management, research and development, project management, engineering, and human resources. Capabilities, due to their inherent purpose will endure, therefore, all capability management is in perpetuity, and therefore, while the ‘through life’ is redundant the capability can be retained. This provides a reminder that decision-making needs to take a long-term perspective (DCDC, 2014). The strategic plan of any organisation must take a long-term view, and capability planning must form part of this process.

Within a military perspective, determining capabilities requires development within current roles as well as negotiating effective ways to develop these capabilities, thus, ensuring that the process is meaningful and worthwhile. The context for these negotiations will be covered in the next section, which provides a more detailed analysis of the participants’ responses about the civ-mil relationship that exists within their respective organisations. Understanding capability development within the Irish Defence Forces forms part of the research aims and objectives of this research and was raised by 60% of the respondents as they believe it is part
of the strategic planning process that must be used when identifying new technological systems. This section will focus on the role that capability development plays as the participants’ organisations plan in their long-term strategy plans.

Thus, the generation, deployment, sustainment and enhancement of military capability represent a common thread for the international defence community. With the increasing focus on defence transformation, there needs to be a coherent and mutually understandable representation of capability. This long-term perspective, which includes managing the components of capability on a whole life basis, requires a fundamental shift of mind-set in military capability development. Because organisations are not able to predict the future to any degree of certainty, cost-effective management of what will be future legacy capability components demands that organisations make adaptability a major driver in the planning and designing stages. Capabilities must be designed to co-evolve with their environment and the evolution must be supported over a prolonged period.

During the interview process, 19 of the respondents made specific reference to their organisations’ awareness of the role that capability development takes, when developing long-term strategy. While these viewpoints were varied, the general consensus was that capability development is an integral element that military organisations must review as they seek to identify new technologies and the examples below outline how the participants’ organisations addressed capability:

*The organisation should be looking at capability development so therefore you’re looking at specifically what capabilities you’re looking to improve on within the organisation, not just now but short-term, long-term and horizon scanning* (Interviewee 21)

*We try to have capability development planning but to a point it’s defunct* (Interviewee 26).

*I think we have a gap at the capability development process* (Interviewee 4).
The respondents’ beliefs arguably reinforce the importance of the role played by capability development in the strategic planning process and this acknowledgement is significant. A military organisation is only as effective today as its current capabilities allow it to be. Therefore, any capability that is recognised as worthy of inclusion should offer an affordable life cycle cost that can be carried by the organisation and more importantly, the capability must be adaptable for the future challenges that may present themselves. During the interview process, the participants who discussed capability development displayed a level of uncertainty when discussing how the Irish Defence Forces approached capability development and this was particularly prominent in the Irish Defence Forces participants. While the participants understood what capability is, and how it should be applied and planned for, it was evident that a divide exists internally within their organisations, as the concept of capability development needs to be fully understood throughout the organisation and how it is to be utilised. The quotations below demonstrate some of the respondents’ viewpoint:

*The bottom up has to fully understand that the capability you desire is directly linked and they have to show demonstrably the strategic end that it is fulfilling or where it is contributing to meeting that strategic objective* (Interviewee 4).

*There isn’t a clear direction in terms of exactly what equipment we need to deliver on capability* (Interviewee 26).

As outlined previously, strategy is an integral part in establishing the long-term vision for the organisation. In order to identify the correct technological system, there must be a supporting capability development plan, and this plan must be articulated and promoted by the senior elements of military command within the Irish Defence Forces. The creation of an overarching vision and establishment of adequate policy and the provision or realistic and applicable training doctrine is also required for the credible development of capability within a military organisation. As acknowledged by one participant:

*Unless you can fully exploit that potential, through the people, through the training, you don’t gain that operational capability* (Interviewee 21).
This representative finding reflects the current literature and emphasises the need for military organisations to be able to work cohesively and collaboratively in optimising how they develop their capability and strategy requirements in an ever-changing and highly volatile international domain. This finding concurs with the work of Feurer and Chaharbaghi, (1994) who identified that there is growing cognisance that in highly dynamic environments, traditional approaches to strategy development often do not lead to the intended results, and organisations must move towards a more dynamic concept as the underlying conditions change before formulated strategies can be fully implemented.

The processes of identifying defence capability needs, establishing priorities, and examining options for meeting those needs, managing an on-going investment program, and doing so within financial guidance and with high levels of accountability are of necessity complex, rigorous, time-consuming and resource intensive. The technological environment is one that changes rapidly and when seeking to introduce technology into a military organisation, it is critical that there is a capability team monitoring this convoluted area. When considering what defence technologies to invest in, Martel (2001) suggests three categories, technologies that are mature; those that are promising but will not improve capabilities for another decade or so, and not; those that show promise but will not be mature for decades. The respondents in this research acknowledged that the Irish Defence Forces does not utilise such a process and one respondent reflected on this concept when providing a response, as outlined below:

*What you’re looking at is that there is a cell who’s responsible for looking at the long-term plans in the Defence Forces, looking at what’s happening around Europe, looking at the potential future operation that the Defence Forces may find themselves in, and therefore, the list of future capabilities come out of that and out of that follows our equipment, our training and our doctrine and it’s all geared towards a capability* (Interviewee 21).

Indeed, this response suggests the creation of a dedicated capability department whose primary function would be to conduct ‘horizon scanning’, by examining how other military organisations are preparing for the future. The knowledge gained from understanding how, and why, other militaries have selected technological systems could potentially benefit the Irish Defence Forces as it identifies new technological systems for integration with existing systems.
The ‘System of Systems’ methodology is now widely accepted in the United States of America (USA) military and has become commonplace in most other modern militaries. This process ultimately seeks to identify and implement new technological systems, based on the overarching strategy of the United States of America (USA) military, and ensures that all systems are capable of full integration, something that is currently problematic within the Irish Defence Forces at present. This finding would further align with Manuri et al. (2011) who acknowledge that modern military forces should seek to transition from threat-based strategy to capability-based approach and as such require innovative and creative methods to allow them attain and maintain the tactical superiority. Caution, however, must be raised when utilising this approach for capability development due to the complexities of trying to integrate various independent systems into a system-of-systems approach as system integration, system interoperability, and the dynamic nature of operations make such a process challenging.

Significantly, the recent publication of the White Paper on Defence Update (Department of Defence, 2019, p.78) substantiates the findings discussed in this section as it observed that one of the strongest conclusions coming through the White Paper [2015] projects review, as a whole was the need to build a stronger and more integrated approach to capability planning and delivery. The review further identified the need to develop a process to embed this capability [planning] into the strategic management function of the Defence Organisation [both civil and military]. Remarkably, the White Paper Update (Department of Defence, 2019, p.43) additionally posited that while the capability development plan was a key initiative, more time is required for it to be completed as the outcome provides the framework for a number of other key projects that need to be progressed. This observation is noteworthy as, the project on developing a Irish Defence Forces capability development plan commenced in 2015 (Department of Defence, 2015) and has not progressed in the preceding five year period, which is detrimental to the long-term strategic capability planning process, as identified in this research.

In summation, this section outlined the role capability development plays within modern military organisations. The findings have identified that while the respondents are aware of what capability development is and what benefits it contributes towards a military organisation, there is an evident acknowledgement that the Irish Defence Forces need to address this current
deficit. The belief at present is that the Irish Defence Forces do not currently possess the ability and resources to conduct capability planning and the apparent lack of a coherent overarching strategy, as previously discussed, contributes significantly to this void.

As part of the capability planning process, other international militaries utilise a system of standards to ensure that they have similar capabilities and are capable of achieving interoperability with other nations and the traditional approaches currently being used within the Irish Defence Forces are not reflective of a dynamic modern military organisation. The next section will focus on the process that these modern military organisations reference when seeking to identify or improve military capability development in alignment to other international military forces.

**4.4.3 Use of North Atlantic Treaty Organisation (NATO)/Partnership for Peace (PfP)/European Union (EU) Standards when identifying new Technologies for the Irish Defence Forces**

When identifying future capability requirements within the military domain, it is important to reflect on how other military organisations supplement their strategic planning with in-depth capability planning and development, and what standards they use when doing so. However, just implementing systems does not provide a military organisation with the capability it may require in order to function or provide interoperability with other like-minded military organisations. The literature reviewed for this research outlined the increasing need for all military organisations to innovate and remain agile is widely recognised, and the implementation of new technologies is often seen as an important step in building a sustainable future (Becker, 2010). One of the primary objectives of this research was to determine how the Irish Defence Forces identifies new technologies to meet capability requirements. Innate in this requirement is the need to remain interoperable with other partner nations, and what impact, if any; this has on strategic planning and capability development during the organisational transformation process.

As outlined in the White Paper on Defence (2015) the Irish Defence Forces, has aspired to establish and introduce a benchmark system against which to monitor its capability
progression. The White Paper (2015) seeks to use the NATO Standardisation Agreements (STANAG) system as its benchmark against which to base its current and future capability planning and the STANAG system is essentially the military version of the industrial/commercial norm, which is the International Organisation for Standardisation (ISO). Given the significant emphasis being placed on this system of standardising military capability, the author considered it prudent to examine whether the respondents believed that the NATO/PfP/EU and their associated standards had an influence on their organisation’s strategic planning and on the identification of new technological systems.

Analysis of the respondents’ feedback indicates that 21 of the respondents believe that the Irish Defence Forces can benefit from the use of STANAG’s in the Irish Defence Force’s capability planning, when identifying new technological solutions. From these 21 respondents, nine of them were aware that the Irish Defence Forces was now committed to using STANAG’s in future capability planning, and surprisingly, 12 were not aware of the policy change within the Irish Defence Forces, but acknowledged that there are significant benefits to using STANAG’s when procuring new technological systems. Focusing on the policy change within the Irish Defence Forces the following responses reflect the feedback revealed in the research from the nine respondents:

This is an area that we are now only beginning to dip our toe in so while before we would’ve looked at equipment purchases in terms of our own specific needs at that moment in time, we’re now looking at greater integration with NATO (Interviewee 21).

It is certainly policy that we would conform with NATO standards where possible and we’re really in the early days of that (Interviewee 3).

Well we get given goals by the complex organisations like NATO/PfP or the EU or the UN, we get given headline goals which we then strive to achieve in terms of our own capability and in terms of our interoperability with those agencies (Interviewee 14).

They probably have more of an impact on our capability development rather than on
our strategic planning (Interviewee 30).

Recognition of the advantages of the NATO STANAG’s was evident from both the civil and military responses and reinforces the benefits these standards can contribute towards the Irish Defence Forces. Moreover, it was evident that from the full cohort of respondents, only 30% of the respondents were aware that there had been a significant policy shift within the Irish Defence Forces and that the integration of STANAG’s was now Defence Forces policy. This finding is notable and emphasises the lack of communication that currently exists within the Irish Defence Forces, particularly when delineating the organisation’s medium to long-term strategic policy. The other 12 respondents who were not aware of the policy shift but understood what STANG’s were outlined the positive contribution STANAG’s could make to the Irish Defence Forces as it seeks to progress:

*In order to do that [capability] we must have our standards, and our standardisation must be measured against the best practice and what is often referred to as the best standard is the NATO/PfP standard* (Interviewee 7).

The observations from these 12 respondents indicates that the use of NATO STANAG’s could potentially have a positive impact on the Irish Defence Forces capability planning ability, particularly when looking at the strategic needs of the organisation. An associated potential issue associated with NATO STANAG’s was evident in the responses and a note of caution was raised in an acknowledgement that the STANAG system should only be used where it benefits the Irish Defence Forces and as noted by the respondents below:

*Now, I’m not saying we should be held hostage to NATO or the EU but it’s certainly a good place to start in the context of getting the standards* (Interviewee 1).

*We certainly look to NATO in terms of standards, and on the EU side we look at what does the EU require of member states in terms of capability going forward and what is the likely nature of operations in an EU context* (interviewee 31).

While it is natural that doubts should exist and resistance to change is expected, there must be
an acknowledgement that the evolution to new standards and processes will bring challenges. Of the 31 respondents, only one respondent provided an example of where the STANAG system has had a positive impact already, and outlined how the inculcation of certain STANAG’s within a Irish Defence Forces technological project has been very beneficial:

I suppose at my level where I project managed the Recognised Maritime Picture (RMP) it is important and it’s significant because as the former Defence Forces co-ordinator for that project it is a system that had to be able to work with our partners overseas such as the Defence Forces and the Finnish Army, so that the coalition of forces could work together and use the same technology (Interviewee 15).

The assertion that these standards can have a positive impact is of interest and reiterates the potential positive contribution they can make to capability planning and the subsequent feedback from the end-user perspective. From the 12 respondents, five of them referred to the need ‘not reinvent the wheel’ particularly if other countries have already developed systems that can be used and shared by many military organisations. This finding would further support the conclusions of Chapman (2003) who posited that in the digital information age, artificial obstacles to sharing information must be overcome so that technological systems can ‘talk’ to each other. Achieving this fundamental transfer of data, both through data collection and processing, will allow for a higher level of integration and coordination among Irish Defence Forces assets. By acquiring technological systems that have already been proven, and are compatible with NATO STANAG’s, should ensure that there would be a lifecycle cost saving for the organisation. Such options would be beneficial when seeking technological systems that offer similar capability but are more economically attainable and simultaneously meet with the STANAG standards, thus ensuring interoperability. This was succinctly observed by one of the civil servant respondents who agreed that:

The use of NATO standards supports the interoperability requirements, so therefore we can slot in and plug in to the systems and the capabilities of EU partners. If we say we are deploying X, and it’s the NATO standard, then everyone knows what the NATO standard looks like and how it fits in to other structures. Being part of the EU and PfP has allowed defence to mature and has been very beneficial for the DF and the DoD (Interviewee 31).
In summation, it is, necessary to ensure that the implementation of NATO STANAG’s and their associated standards is completed in a universal and structured way and that the Irish Defence Forces has articulated its strategy and vision holistically. One of the research objectives of this research was to explore how capability development is advanced within the Irish Defence Forces. Prezelj et al. (2016) contend that military transformation has been theoretically and empirically perceived as a vitally urgent process in the changing security environment. Farrell and Terriff (2010) contend that transformation provides a useful indicator of the goals of a military, as the related trajectory of military transformation will highlight whether or not the transformation has been positive or negative, particularly when identifying suitable technological solutions. The findings of the analysis above indicate that there is a positive contribution to be gained by implementing the NATO STANAG system and that the Irish Defence Forces will potentially benefit from its inculcation.

In addition, there needs to be a detailed implementation plan created and enforced to ensure that the process used is holistic and applicable. Further analysis should be conducted in order to ensure that the experiences and lessons learned by other international military organisations are inculcated within the decision-making process to ensure that the STANAG being implemented does not have an adverse impact on the Irish Defence Forces. The following section will further investigate the role played by innovation in the Irish Defence Forces when implementing new technological systems.

4.5 Innovation in the Irish Defence Forces when Implementing New Technologies

One of the themes to emerge from this research was the impact that innovation can have during the introduction of new technological systems in the Irish Defence Forces. As discussed previously, technology is becoming more important to military organisations that want to become more modern and evolve to reflect the advancements made in technology. Part of that process requires that military organisations engage with innovation as they seek to identify new technological systems that can be inculcated within their organisations either to improve current systems, or to introduce new systems, that will lead to further efficiencies. In recent years, there has been an increasing interest in the role played by innovation within public sector organisations, and the Irish Defence Forces is not exempt from this development. Since the financial crisis of 2008, public service bodies, of which the Irish Defence Forces is one, must
provide more effective and efficient means of managing their funding. The Organisation for Economic Co-operation and Development (OECD, 2005) posit that modern organisations must be capable of implementing new organisational practices within the businesses practices, workplace organisation and with their external relations. The focus should be on continuous improvement that benefits both the organisation and in the case of public sector services, society.

To date, there are few studies that have investigated the link between innovation and its contribution within the confines of military organisations, such as the Irish Defence Forces. This indicates a need to understand the various perceptions of innovation that exist among military personnel, particularly, when the cohort being studied, are the middle to high-level managers, within their respective military organisations. The following section will provide analysis of the data pertaining to innovation and the role it plays when introducing new technological systems.

4.5.1 The Role of Innovation in the Irish Defence Forces

Recently, there has been renewed interest in innovation and the role it can play within an organisation and while much of the extant literature has focussed primarily on civilian organisations there is little data, which focuses on innovation within military organisations (Kollars, 2017). Within the commercial setting, innovation is viewed as a mechanism that ultimately allowed the organisation to introduce a new idea or process that permitted the organisation to evolve and better perform. Up to now, a number of studies (Oster, 2010; Borins, 2002) have indicated that this trend was applicable in the commercial setting as a ‘norm’ but there is minimal research as to how innovation is utilised within the military context. This research, therefore, seeks to determine the role that innovation fulfils within the Irish Defence Forces when identifying new technologies to enhance capability development, and how the respondents themselves viewed innovation and its application.

During the interview process, it became apparent that all of the respondents understood what innovation was and that it had many different facets as to how it could be interpreted. All 31 respondents spoke positively about the Irish Defence Forces willingness to engage with
innovation and acknowledged their awareness as to what innovation can offer. As the respondents elaborated on their respective answers and their narratives progressed beyond their initial level of understanding, there was a notable change in how the respondents spoke about the Irish Defence Forces. As respondents spoke in more detail about their organisations, there was a range of responses elicited and the primary focus was on the hierarchical nature of military organisations. Of the 31 respondents, 21 admitted that while the Irish Defence Forces was in favour of promoting innovation, the concept quickly became consumed by the autocratic nature of the military environment and in most cases the innovation project would become immersed in the ‘red-tape’ nature of military management. The respondents focussed on the established hierarchical system that exists within the Irish Defence Forces and the level of conservatism that military organisations innately possess. Research by Price (2014) confirmed that the military establishment has consistently demonstrated a reluctance to embrace innovative methods. The respondents further believed that this innate conservatism was adverse to the presence of risk, that is an accepted element associated with innovative technologies, or processes, and that this conservative approach was seen as an acceptable reason to minimise or in some cases prohibit an innovative proposal. The comment below illustrates this observation:

*I think that the Defence Forces is a mature policy area and I think that in any mature hierarchical policy area there is always a reluctance to undertake risk and our organisation is still reluctant to take chances* (Interviewee 21).

This belief was raised by 16 of the 21 respondents who referenced the military hierarchical structure and the main reasons provided for this reluctance to embrace innovation was the aversion to risk and the conservative nature of military organisations, particularly by those in the higher echelons of management. Such an observation would contradict the research of Nguyen Thi (2010) as technological innovation is usually seen as encompassing both product and process innovation which means that an organisation may have to evolve and change as it introduces new technological systems. One respondent, in particular, noted that there was confusion within the Irish Defence Forces as many of the senior officers resisting innovation did not understand what innovation actually was, and in most cases, applied the incorrect understanding as their baseline starting point. Such a finding would align itself with the concept of ‘mind referencing’ that was previously discussed and highlights that the majority of
the older generation of officers are reluctant to embrace new ideas and concepts and in many instances resist innovation, and as one respondent noted:

I’d say we’re fairly accepting but just like any organisation you still have your dinosaurs that don’t want to change as they don’t see the benefit or they don’t link it to the purpose of what we’re trying to do (Interviewee 26).

This statement reflects the general consensus of the respondents’ beliefs, and again outlines the challenges faced when seeking to innovate in the Irish Defence Forces. It is interesting to note that the instigators of change were considered to be the middle management level of officers, namely those of OF-3 rank and that most of the resistors were of the higher ranks, OF-4 and OF-5. This noticeable trend was further supported during the analysis of the transcripts, as those of Commander/Captain rank outlined that they believed the main innovators within their organisation were the middle management level. As one respondent said:

I think at middle management level people have a willingness to open up and whether it’s implementing a new Standard Operating Procedure (SOP) or changing SOPs, however, again I would think that there is a generational issue there in that there’s a cohort who do not want to deviate from laid down standing orders or SOP’s (Interviewee 13).

These sentiments are reflective of the majority of the 31 respondents and outlined that there were two primary approaches taken within their organisations when introducing innovation. The first was that the innovation introduced from the top-down was mainly forced on the organisation and innovation that was introduced from the bottom-up was personality driven. Another example of a top-down project provided by 50% of the respondents was the introduction of the Information and Knowledge Online (IKON) to the Irish Defence Forces in 2014, and this was covered previously in this research. Of the respondents who used this project as an example of a failed innovative project referred to the process used by senior military management, as outlined by one respondent below:

I think there’s a case that if somebody decides they want to buy something then they go and buy it and it isn’t rolled out properly in that there is no training and when training is done it’s not implemented correctly and so again going back to IKON, most people
don’t know how to use it, they don’t know how to share files on it, they don’t know how
to stop files from being shared automatically and it means that the technology hasn’t
been bought in to (Interviewee 27).

The representative quotation above succinctly surmises the general comments of the respondents who referred to this example. This finding would align itself with the findings of Hinks et al. (2007) who outlined that within the military domain there will be two main types of innovative processes that can exist, the first being sustaining innovation and the second being disrupting innovation. Such a project would have been introduced as a sustaining innovation, in that, it was meant to provide a new and more accessible method for the sharing and storing of data and information and would replace the system previously in use. The IKON system was implemented in order to make information sharing more effective and efficient, but the responses provided in this research have demonstrably shown that the IKON system was a disruptive innovation that has profoundly changed how the Irish Defence Forces shares and stores its data. Disruptive innovations are difficult to coordinate and can be slow, non-linear and disorganised. This approach will inflict a substantial and profound change on the organisation and the outcome of such a process is generally negative. Such a result has been evident in the Irish Defence Forces and the conservative nature of the military hierarchical structure does not align itself well to such disruption, or as posited by one respondent:

So is it that the technology is wrong, or is it the attitude of the people in the units or is it that it works for certain areas of the Defence Forces and it doesn’t work for others? So, I think that’s a problem (Interviewee 25).

Interestingly, this observation was further elaborated on by one of the civilian respondents, who noted that:

However, I still think we are investing in the better mousetrap, and I’m not sure that we are getting beyond that space or getting a paradigm shift in thinking. I’m not saying we’re not; I just don’t get the sense looking, at some extent, from the outside. I don’t have any expertise in the technologies or the effects of networking them. Therefore, I’m simply saying to people, this is what I’m reading, this is what I’m looking at, and
The respondent highlighted that the Irish Defence Forces do embrace innovation, however, he did not get the impression, based on organisational performance, that the Irish Defence Forces were selecting the correct systems. Furthermore, the respondent also queried if identified technologies were achieving a paradigm shift once the technologies were introduced, or were they simply maintaining a status quo. These findings are interesting and acknowledge the issues that exist within a military organisation and reflects the poor level of communication that can exist between higher and lower elements of military command. It is, therefore, relevant to note that Hinks et al. (2007) also acknowledge that while the technological change may be perceived as beneficial to the organisation, the initial advantages can be short-lived, in particular, how mutual uptake of novel technology, or practices, can simply lead to new plateaus of stalemate. Recent research by Byrne (2019, p.65-67), which conducted an organisational review of the IKON project identified three key findings; first, that there was now an evident capability gap as there has been no leadership provided in the last year; second, the system has still not reached all members of the Defence Forces on one information platform; and third, that middle tier leadership and championing across the organisation [Defence Forces] has been lacking. Byrne’s research also identified that a disconnect exists between how senior management and the greater organisation view the success of the implementation, as senior management were involved in the projects inception and understood what was expected of the system. This finding highlights the importance of proactive communication and the need for change agents being identified to manage the implementation of new technological systems. These observations further support the findings of this research and highlight the narrative being proposed by the respondents’ as to the challenges the Irish Defence Forces encounter when implementing new technological systems. The introduction of new technological systems should introduce proactive and innovative ideas and/or processes that enable the organisation to evolve and improve, thus having a positive impact not only on the organisation, but also on the personnel impacted on by this new technology.

Another example that was provided in relation to the technologies the Naval Service, was the Naval Service Fishery Lirguard System, which is used to support its fishery operations. The
Lirguard system was introduced to provide an electronic system that would allow all records of fishery boarding’s and the fishing vessels associated details to be stored on one central technological system and could be accessed on all ships and in Ireland’s Fishery Monitoring Centre (FMC). As part of this solution, all ships were provided with an electronic handheld device, an IPAQ, and the purpose of this was to allow the user to update the IPAQ by synchronising it with the Lirguard system before the boarding. The main purpose of trialling this system was an attempt to identify technological systems the Naval Service could use to assist in conducting boarding procedures. The primary reason for introducing such a system was to assist in making fishery boarding’s more efficient and, less time consuming, and the results of this project are noted below:

After almost 13 or 14 years further down the road and we’re no further on than we were back then and if anything we’ve gone backwards because boarding’s are now taking us longer to do because we’re trying to incorporate technology but we don’t have the full technological backup. So it’s frustrating when you’re in a position here the end goal was to make it a more streamlined process and everyone talks about all the things that are going to happen and what you’ll be able to do, in that you’ll be able to bring your notebook with you and download the required data from the trawler and then when you return to the ship you’ll be able to upload all of the data and that this will make everything so much quicker for everyone, and now a boarding is taking in excess of 3 hours whereas it could be taking a lot less because the workload has been duplicated (Interviewee 25).

While this observation is succinct, the proposition above again highlights the inadequacies that exist when trying to implement innovative technologies and processes within the Irish Defence Forces and reflects the challenges that exist with implementing an innovative solution that affects both the organisation and the technology itself. Fishery protection consumes 90% of the Naval Service operational output and it is, therefore, necessary to ensure that the IT systems and processes supporting it are innovative and user-friendly. As previously identified, innovation concerns all parts of the organisation, thus, including all types of innovation; innovation is therefore often divided into technological innovation (TI) and organisational innovation (OI). When ultimately seeking to utilise innovation within the military, it is critical to acknowledge that military innovation and functional optimisation depend crucially on
people, behaviours, management sills, the sharing of knowledge and feedback/intelligence, and on the reliability, repeatability and consistency of applications in diverse local circumstances.

The examples above reflect on technological projects that were introduced within the Irish Defence Forces, and yet the same issues that have been identified, continue to occur. Technologies that are being introduced as sustaining technologies, and are expected to improve processes, are inadvertently becoming disruptive technologies that introduce additional challenges into the Irish Defence Forces. A possible explanation for these results may be the lack of adequate training and strategic planning when the Irish Defence Forces seeks to identify and then subsequently implement a new technological system. The findings of this research have observed that the Irish Defence Forces, do not adopt complementary organisational practices when incorporating technological innovation, thus, dismissing the importance of technological innovation as a driver of organisational changes within the organisation.

In contrast, 11 respondents believed that the Irish Defence Forces was accepting of innovation when implementing new technologies. The general consensus among these 11 respondents was that their organisation always actively sought ways to improve how their organisation operated and believed that the introduction of such technologies was positive, as outlined below:

*I think that it is moving very slowly to the realisation of the advantages to the fact that innovation in itself can deliver operational effectiveness, it can improve the delivery of our outputs, and it can help people to adapt and to respond not only at the strategic level but also at the operational level and the tactical level when it’s required* (Interviewee 4).

By improving the manner in which their organisation operates, there was a belief that the introduction of new technological solutions would help them progress as an organisation, and that everyone within the organisation would benefit. There was an acknowledgement by the respondents that the introduction of technological systems depended greatly on who was leading the innovation. This finding confirms the analysis that was completed previously in this chapter, in that; the Irish Defence Forces does not appear to have systematic mechanisms for managing technological projects in a successful manner. The respondents in this research
have indicated that the success of a project within the Irish Defence Forces, is reliant on individuals who are tasked with the implementation of technological projects. One, interviewee referred to this phenomenon, frequently relying on the individual to provide the solution to the organisational issue and that without such individuals there would be no progress, as stated below:

*It’s often left to an individual to champion an idea as opposed to the organisation itself coming up with an idea and then finding an individual to champion it* (Interviewee 16).

This respondent credited the progress of her organisation with this approach and outlined her belief that 100% of the projects completed within her organisation would not have commenced without a champion or subject matter expert to lead them. In a study conducted by Dovey (2009) he demonstrated that innovation is, therefore, a collaborative process and to attain achievement the stakeholders must freely engage with the organisation, freely discussing ideas and then collectively realising those ideas in high-value services/products and ways of working. The findings of this research would not align to this theory, and as demonstrated above, the approach used within the Irish Defence Forces is one that is reliant on the intentions of motivated and knowledgeable individuals who seek to improve their organisation through the implementation of new technologies where necessary. Moreover, the hierarchical nature of the military does not allow for the open and free approach as posited by Dovey and the conservative and risk adverse nature of the military is not conducive to the creation of organisation wide innovation. One of the more senior respondents put this observation into perspective and commented that:

*There is a sea change there that is required to get that in to our heads that technology is the way forward and you also have to convince me that it is as reliable as a pencil, a dividers and a paper chart, that it’ll never break* (Interviewee 6).

The acknowledgement that, the more senior ranking individuals automatically default back to previously established experiences further strengthens the analysis of the impact on the frames of reference that was conducted earlier. The analysis of the responses indicates that the innate action of older senior officers is to automatically link the new technological system with a physical entity that they are knowledgeable about. Such a process is not conducive to
organisational learning and understanding what a new technological solution can achieve and in effect is similar to comparing Microsoft Word to an old-fashioned typewriter. While the typewriter has a proven capacity to produce a letter, so too does the technological system, while simultaneously allowing the operator to be more efficient and more effective and offers a plethora of additional processing options. Even when trying to promote the positives that can be attributed to technological systems, there is still a requirement to prove that the system is as good as what it is replacing and the default position is to refer back to the original system, irrespective of how out-dated it is. The fear of failure and the aversion to risk is omnipresent in the respondents’ responses. When reflecting on the issues senior military command has when dealing with risk and innovation, the following was noted:

> Until we reach a point where there is an acceptance that those who innovate and take on large risks, some of the risks may not come off, but we still applaud the individual for taking the risk and deciding to have a go and we will remain a risk averse organisation until that happens (Interviewee 25).

> There is a certain element of, don’t take a chance because it may not work out. It’s something we’re looking at from a senior management perspective, in that, we want to be able to give people permission to make mistakes, particularly in the innovation piece. If you come up with an idea and we decide to run with it, and it doesn’t work out, the fact that you ran with it is the positive, not the fact that it went wrong. And if you can pick up the pieces after it went wrong and make it work, then that a positive on the double (Interviewee 31).

These observations highlight the aversion to risk that currently resides within the Irish Defence Forces, and the maintenance of the status quo is considered preferable than to assuming the challenges presented by introducing new technological solutions that may be disruptive. The findings of this research suggest that failure to promote this open and free mentality to technology will have negative consequences for the Irish Defence Forces and will stymie the innovative approach, as individuals will not be prepared to put themselves forward. Innovation requires the intentional reframing of the concepts of risk and failure, and it is necessary to promote to all employees the importance of innovation in order to develop institutional learning systems that can be used to capture ideas for future discussion and development.
In summation, while 11 of the respondents indicated a belief that the Irish Defence Forces was open to innovation the analysis of their responses would suggest that this is not substantiated. This finding may be due to the innate ability of the Irish Defence Forces to adhere to proven and tested processes, or the individuals who were interviewed were not exposed to innovative processes or technologies. The following section will analyse the role of change management in the Irish Defence Forces, as it forms a core element of the transformation process used when implementing new technological systems.

4.6 Change Management in the Irish Defence Forces

Change in organisations has evolved over time from being a topic of casual interest to one of major importance and it has been the focus of much research over the past few decades, (Kotter, 2007; McNish, 2001). In light of this ubiquitous evolution, it is becoming increasingly difficult to ignore the existence of change within the military environment. As discussed previously, technology is becoming central to the evolution of military organisations that want to evolve and stay abreast of the advancements made in technology. Holt and Vardman (2013) acknowledged that in today’s turbulent business environment, on-going and successful change and innovation are necessary for organisations to survive, be effective and sustain a competitive advantage. Section 4.5 further outlined the necessity for military organisations engage with innovation as they seek to identify new technological systems that can be inculcated within their organisations to either improve current systems, or to introduce new systems, that will lead to further efficiencies. Recent developments in the field of change management have led to a renewed interest in the role change plays within society in general but more importantly for the basis of this research, the role change management plays in military organisations. Burns (2004) states that in order to survive, organisations must develop the ability to change continuously in a fundamental manner.

This section will be further divided into five separate sub-sections and the analysis of the research findings will focus initially on what change management means for military personnel in the Irish Defence Forces. Secondly, how change is managed within the Irish Defence Forces. Thirdly, identify if the Irish Defence Forces organisational culture can support change management initiatives. Fourthly, establish whether the Irish Defence Forces can benefit from change management practices, and procedures. Finally, investigate if the structures within the
Irish Defence Forces can adopt civilian change management practices. Cohen et al. (2006) contend that most modern militaries have struggled with this challenge and have failed on occasion to anticipate, learn and adapt to changes in their nature of work. Investigating change management, with a particular focus on its use during the introduction of technological systems, is a current concern within the military domain as military organisations are continually required to implement and adapt new technological systems.

While some research has been carried out on change management within the military, Farrell (2008) and Garden (2002), there have been few empirical investigations into the role played by change management during the introduction of new technological systems within military organisations. A systemic understanding of how change management contributes to military organisations during change projects is still lacking and much uncertainty still exists about the relationship between military organisations and how they manage change. This indicates a need to understand the various perceptions of change management, and its application, which exist among military personnel, particularly, when the cohort are the middle to high-level managers, within the Irish Defence Forces. One of the primary objectives of this research is to investigate whether the Irish Defence Forces can utilise change management practices and processes when they introduce new technological systems and what meaning it has for its personnel. The following sub-sections provide an analysis of the respondents’ views on how the Irish Defence Forces utilise change management practices when introducing new technological systems.

4.6.1 Change Management and its Meaning for Irish Defence Forces Leaders

The first part of this research in the area of change management focussed on establishing how middle to senior managers within the Irish Defence Forces view change management and what change management means to them. Change is a necessary mechanism in today’s modern and turbulent world, and all organisations, irrespective of their origin, will experience change on a frequent and routine basis, due to its ubiquitous nature (Shaw, 2006). Moreover, Chenhall et al. (2007), posit that military organisations fall under the remit of the public sector and since the economic collapse in 2007/2008, there has been significant pressures forced upon such organisations. Military organisations now operate in a society that demands that its public organisations are modern and flexible and can function in an environment where they are
expected to do more with less. As demonstrated by his model on factors forcing change, technology can serve as one of the catalysts that require change to take place within an organisation (Tiernan et al. 2006).

Military leaders, therefore, need to understand what change is and must know how to manage it effectively, as noted by Cohen et al. (2006). Most modern militaries have struggled with this challenge and have failed on occasion to anticipate, learn and adapt to changes in their nature of work. Barbaroux (2011) additionally acknowledges the difficulties associated with this, and posits that knowing and understanding change is where most individuals fail to recognise the difference, as change can be both complex and simple and the awareness of this disparity fluctuates. All 31 respondents, displayed awareness and an understanding of what change was:

*Change management to me means the management of the people towards change* (Interviewee 7).

*To me change management is not just change for the sake of change, it’s where we look at the potential change or modification to technology process, and procedure or doctrine and we look at both the risks to it but also the advantages that may come out of it* (Interviewee 19).

*Change management to me means literally what it says, there’s a change and it needs to be managed and it’s important that you manage it and keep on top of what it is you are trying to achieve* (Interviewee 4).

*For me it’s about improving the capacity of the organisation to deliver what government requires of us, and adopting systems, networks and technologies to do that. Whether that’s increasing our linkages into other parts of government, etc., in terms of networks (people and technology), because that’s how change is delivered, through people* (Interviewee 31).
The respondents from both organisations focussed primarily on the people aspect of the change process. The respondents displayed an awareness of the associated factors that are required during change management, such as, having a coherent plan in place, positively communicating all elements of the plan, motivating personnel and ensuring that the process is evaluated on a constant basis to ensure that changes are made as required. The respondents also conveyed their understanding of that having an organised and methodical approach would greatly assist in ensuring that the change project would be successfully implemented. Interestingly, the respondents also realised the necessity for the change management process to be commenced before the change project was introduced and that the process should be pre-planned and not reactive.

This observation is interesting, as the senior officers selected for this research are essentially the key decision makers within their organisations or are involved in the decision-making process at the upper echelons of their organisations. The findings of this research would indicate that the present level of understanding regarding the application of change management within the Irish Defence Forces is good, particularly, at this level of management within the Defence Forces organisation.

4.6.2 How Change is Managed within the Irish Defence Forces

This section will focus on how the respondents believed that the Irish Defence Forces managed change. The introduction of change requires military organisations to adopt a strategic outlook and, as such, a nation designs its military force structure to perform tasks that fit its concept of national strategy (Barbaroux 2011). Irrespective of the mechanism that initiates the change, there is still a requirement to manage the change. Managing change is a necessity in today’s modern and evolving world and failure to utilise an efficient and effective change management system has the potential to have precarious consequences Holmberg and Alvinius (2019). The management of change within a military organisation should be a relatively straightforward process as the innate nature and structure of a military organisation is one of order and a hierarchical structure. Traditionally, the hierarchical structure of a military organisation is rigid and offers stability to the organisation, as it is a familiar system. The introduction of new technological systems has the potential to impact on these structures and given the highly volatile, hypercompetitive environments such as those created during the introduction of a
technological system; it is pertinent to ensure that the change is managed well. The responses provided have indicated that the respondents believe that change within the Irish Defence Forces is either, not managed well, can be negatively influenced by key personalities within the organisation, can be forced upon the organisation, or is influenced by the lack of interoperability or cohesiveness within the Irish Defence Forces. The following sections will focus on the respondents’ beliefs on how change is managed within the Irish Defence Forces.

4.6.2.1 Influence of Individuals on how Change is managed within the Irish Defence Forces

Analysis of the respondents’ feedback indicated that 28 respondents, believed that the Irish Defence Forces did not manage change well and based on the responses provided, there were four areas identified by the respondents; how change is managed in the Irish Defence Forces, the influence of personalities on managing change, how change is managed when it is forced on the Irish Defence Forces, and the lack of jointness when managing change, and these will be discussed in the analysis below.

The most prominent issue to emerge from the research into how change is managed from the responses was the general awareness and frustration that the introduction of change was generally not well managed. Fourteen of the respondents referred to this, and were quite critical of their organisations’ attitude towards the introduction of change and how it was managed. A military organisation that seeks to modernise and develop its capabilities towards the future must utilise modern change management processes and procedures. While every organisation’s change initiative will be unique, it is critical that the change management system used to manage this change is both reflective of the organisation’s needs and applicable to how the organisation functions. The 28 respondents who believed that change was not managed well focussed much of their attention around this core nucleus of what processes were used when managing the change.

*I think it’s done by the local Officers In Charge (OIC’s) and the Lt Cdr’s on the ground are deciding that if I don’t decide for the NS that I have to change all of the High Frequency (HF) systems there will be no HF systems in three years’ time. So you probably have the managers who are too low down in the chain often dictating where*
the organisation goes technologically wise so I think it’s done at that level (Interviewee 27).

Badly is the short answer. Change is implemented on a short-term individual basis to the point where as an organisation, we continuously reinvent the wheel, we continuously go back to procedures that we had decades ago and it becomes a cycle depending on the perception of individuals in key appointments at any given time (Interviewee 11).

I would say that the six week patrol cycle came in and was introduced very well but then we went to an operational profile of driving the ships exceptionally hard with very little down time during the patrol and that was managed an appalling manner (Interviewee 10).

I think it’s managed quite poorly to be honest because our own internal communication is flawed and is not conducive to supporting change projects (Interviewee 20).

The comments above contend that change is not managed well and that change projects are reliant on individuals attempting to develop and use a process for the duration of the project. The findings of this research would indicate that the senior leaders within the Irish Defence Forces rely on their own innate instincts and abilities when it comes to managing change. The example provided supports this claim and demonstrates that individuals will act on their own initiative, while under the assumption that they are doing the right thing.

As outlined by Barbaroux (2011), change takes time to implement and military organisations need to remain cognisant that such time lags are a necessary part of the process. This was referred to by 28 individuals during the interviews and focussed on the reality that change initiatives can take between five to ten years to take effect and that the current status quo is in effect, the change initiatives that were introduced in over five years ago. It was also recognised by Barbaroux (2011) that military organisations need to have proper and effective change
management systems in order to plan and implement change projects in a controlled manner. The need to have systems that are suitable to the organisation is pertinent. As evidenced by the observations above, and the following observations, change when it is being implemented does not adhere to any formalised process:

*I think that change management is done on an ad hoc basis and it’s not structured because we don’t know what it is and we don’t have a procedure for it and like everything in a military organisation, if you don’t have a procedure it’s generally not done* (Interviewee 5).

*I don’t think it’s managed and at a higher operational and strategic level, I don’t think we manage change effectively as there’s an unwillingness to engage in the process* (Interviewee 13).

*How I see people managing change is that they look at their annual report* (Interviewee 22).

The representative responses, which reflects 90.3% of respondents’ responses, reflects the overarching belief that change management is not managed well within the Irish Defence Forces. The general consensus reflected on the respondents’ beliefs that the management of change was not prominent on the organisational agenda. The respondents also believed that because of the hierarchical nature of the Irish Defence Forces; change could be just forced through, irrespective of the organisational strategic objectives and change processes of the organisation. This finding would contradict the research of Kelly (2008) and Barbaroux (2011) who advocated for the adherence to systematic processes that can offer a blueprint that allows a military organisation to holistically and methodically manage change. The lack of systematic change management processes within the Irish Defence Forces is important for this research and would not reflect the current literature.

One of the key objectives of this research was to determine how the change management process is implemented within the Irish Defence Forces. The findings of this research would
suggest that the Irish Defence Forces currently lack a systemic change management process and this is acknowledged by 09.3% of the respondents. During the follow-up questions, none of the respondents were able to articulate why a designated change management process had not been implemented, but all agreed that a suitable process would assist them during change projects.

The results of this research have demonstrated a shared belief amongst the respondents that the Irish Defence Forces are overly reliant on individuals who have a good track record of implementing change projects. The respondents further believed that this success is unsustainable due to the lack of a systemic or established change management process. In some instances, the success of the projects is down to the individuals tasked with overseeing them and due to the success of these individuals, there is an element of luck being present within the Irish Defence Forces, and this was observed during the interviews and as elaborated below:

What you see are people getting tasked with projects and there doesn’t seem to be an awful amount of time given to it and people are expected to come up with solutions and changes and manage different things that are being implemented without an awful amount of time (Interviewee 25).

It depends very much in terms of the ‘buy-in’ and I think it’s ‘a la carte’ as to how it’s managed. I think it all depends on the individual who’s driving the change initiative and it changes again in terms of the higher echelons of the organisation, but all depending on the initiative (Interviewee 26).

In order to ensure that the Irish Defence Forces can properly develop and indoctrinate coherent change management practices and strategies within their organisation, these processes must become part of a systematic change management process and the organisational culture must embrace and nurture that requirement. To adequately inculcate change management practices within the organisation, there must be enough time given during the project management phase and personnel should be supported when introducing change. This research has used examples
of new technologies that were introduced into the Irish Defence Forces and has discussed the
issues these technological projects have induced and as noted by one respondent:

If you take a technological change such as IKON, you came in one morning and it was
there on your desk. Personally, I was never told about or given a briefing that IKON
was the future and the vision that was surrounding it and where the organisation was
going with this and what it was for (Interviewee 3).

The change process that was used to introduce a new technological system was clearly not
communicated within the Irish Defence Forces and evidently, as outlined by the respondents,
did not utilise any recognised change management process. Technological systems necessitate
time, and planning, in order to implement them and without the adequate resources, their
implementation will be challenging. The findings of this research would contradict the findings
of Parry et al. (2014), who acknowledged that the correct change model, incorporating
antecedents, critical success factors and outcomes of change initiatives can provide the basis
for processual studies of organisation change projects.

Change is the only thing that remains constant in organisations, therefore, if change is a
constant, then organisations should have plans and processes in place to deal with this change
(Cohen et al. 2006). This research has demonstrated the need for a modern military
organisation to remain capable of delivering successful change projects while simultaneously
maintaining its organisational operational output. This is both applicable and relevant to the
Irish Defence Forces as failure to provide adequate time and resources in order to implement
and then inculcate a new technological system could have potentially significant negative
consequences for both the project and the organisation. The basic principles of change
management create a potential framework that can be used by modern military organisations
and it is the responsibility of the organisation to develop and utilise a model that is both
reflective and aligned to the organisation structures and culture. The following section will
focus on the second area in this theme that emerged from this the research and will concentrate
on the impact that personalities can have on how change is managed.
Influence of Personalities on Managing Change

This section will focus on the role played by personalities during change projects. Nine respondents believed that the impact ‘key individuals’ have on how change is managed within the Irish Defence Forces is a significant issue, and one of the impeding limits placed on the organisation. The role played by the traditional hierarchical nature of the military can have a profound impact on how change is managed and implemented within military organisations. The hierarchical system is based on rank and seniority and individuals within that system can frequently place a significant amount of focus on their perception of what their rank means. As previously noted, this research focused on senior officers, and their responses still placed an emphasis on the role that rank plays when identifying, initiating, and managing projects and this finding was present within the Irish Defence Forces.

The responses provided highlighted that the individuals who are tasked with managing change projects determine the success of them within the Irish Defence Forces. While the reasons for initiating the projects may vary, the respondents believe that it is the credibility or ‘drive’ of the individual to complete the project that will have the ultimate deciding factor. The respondents did highlight that they believed that many of projects that were commenced were not to the benefit of the Irish Defence Forces and, in some instances, were introduced without any reference or alignment towards the organisations overarching strategic aims. Change projects should be introduced, based on a need or an objective, which has been carefully identified and is aligned with the organisations strategic planning. The following comment illustrates how projects are being initiated within the Irish Defence Forces and offers an insight into the process used:

*In terms of an analysis cell [analytics section], that analysis cell doesn’t exist in the Defence Forces to prioritise what we’re looking to achieve so therefore you end up with this analysis being left at the individual level and it’s up to the individuals to drive change* (Interviewee 21).

This point on the role the individual again highlights that many of the change projects and the subsequent management of them are being led by individuals, and not the organisation. Such an observation raises concerns about the process being used and would contradict the research
of Burnes et al. (2009) who acknowledged that, in recent years, organisational change is a complex process that is impacted by a variety of contingencies, including internal, organisation-specific factors and various aspects of the organisational environment, and that there is no ‘one-best way’ to manage organisational change. Another respondent also furthered this observation and noted that:

Yes, my personal experience is that sometimes people with the best intentions and the best motivations can come up with creative or innovative management changes that they haven’t fully processed and maybe have had not had enough oversight on them and sometimes they have gotten to a point of no return with no out and then the consequences are then borne by the organisation as a whole (Interviewee 4).

This statement is particularly relevant as it highlights the issues that can develop when allowing individuals to operate completely unsupervised and without proper and adequate guidance and was referred to by all nine of the respondents. Surace (2019) critically argues that today’s leaders are expected to excel in different ways than their predecessors from the past century, as confronting these challenges (management of change) requires new models to comprehend and manage their organisations. Where individuals have the ability to introduce change that has not been comprehensively developed or approved by command will only lead to issues during the implementation process. The respondent above also provided an additional example, which again reiterates the negative impact of individuals acting under their own guidance, as outlined below:

Sometimes change can be the tail wagging the dog in our organisation and that is an area that does give me cause for concern and I’ve seen it in the Naval Service, in the Aer Corps where individuals who think that they have all the picture like to force change and change in this regard is not in the innovative or creative or in the correct manner and sometimes that is allowed to happen and it may not be in the best interests of the organisation because it’s not aligned to the strategic objectives (Interviewee 4).

Evidence from this research would suggest that there is a problem with how the strategic objectives of the Irish Defence Forces are being articulated, particularly, if such projects are not enhancing the spectrum of those strategic objectives as espoused by the organisation.
Stubbings et al. (2019) contend that leadership has to understand its role in motivating and incentivising the workforce to embrace new ways of working, and to achieve this, leaders must be aware of the overarching strategy of the organisation. The confusion instigated due to the actions of uninformed individuals following conflicting agendas can result in an organisation questioning its readiness for the introduction of change. As outlined by Holt and Vardaman (2013), the readiness for change is a complex multidimensional construct including individual and structural factors that occur at differing levels and the readiness for change requires the willingness, capability and mindfulness to change. The analysis of this factor in relation to the Irish Defence Forces would indicate that the lack of an overarching strategic plan and change management process continues to present challenges.

The lack of coherent strategy and a holistic vision as discussed earlier in the research has been highlighted again and the inability of military management within the Irish Defence Forces to learn from this lack of strategic planning is concerning. The findings from this research has identified that the Irish Defence Forces have demonstrated the ability to learn from past mistakes and this understanding must now evolve to a level that allows the senior management to be capable of assessing and managing the risks that exist during technological change projects. If the fear of failure remains within the organisation, and the stigma associated with admitting defeat is not eradicated, then the risk will continue to exist.

Respondents also raised their concerns in relation to how individuals within the Irish Defence Forces implemented change projects in a bid to improve or enhance their own career prospects. The use of power that comes with senior rank can often be abused within the military setting, and because someone has the rank they do not necessarily have the expertise or competence to match and as explained by the following respondents:

*Most change that is introduced, is introduced by individuals, for personal gain within the organisation* (Interviewee 11).

*How I see people managing change is that they look at their annual report* (Interviewee 22).
Five respondents referred to the belief that change within the context of the organisation should never be about the individual and while it is pertinent to have change agents and change champions, it is critical that they are working towards the strategic objectives of the organisation and not their own agenda. Moreover, the respondents further believed that, if an individual puts forward a change project for inclusion in the annual project plan and it is not in the strategic plan, then it should not be commenced until more adequate planning has been completed. Stability indicates structure, and a cohesive strategic and planning system, whereas instability will be present in organisations where individuals are operating under their own agenda and with no reference to the strategic objectives of the organisation. Change should not be incited as a means of improving an individual’s performance but should be about the organisation and improving how the organisation functions and operates. When personality and alternative motives are used then there will be negative results. Similarly, where individuals in the military use their rank as the justification for change then the negative results can have unintended consequences. For example, one respondent noted:

_We assume that because somebody is a certain rank and a certain position or appointment, that naturally means that they will have the skill-set to implement change and manage it effectively without fall out and I think that’s why your 70% of change initiatives in the military fail. We have ample legacy issues here today and it all comes down to the fact that change wasn’t managed well_ (Interviewee 26).

This representative quotation of nine respondents, as portrayed above, outlines the negative consequences the traditional hierarchical military system can have when trying to implement technological change. This factor, when coupled with the other issues, such as establishing frames of reference, as covered previously, and a lack of strategic planning, demonstrates why the Irish Defence Forces struggle with technological change projects. The most common failure amongst modern militaries is that they invest significant capital in technological change projects and failure to realise the potential of this investment, as they do not reflect on how their operational requirements will be met. This succinct finding, in relation to how the Irish Defence Forces fail to prepare for change, adequately surmises the difficulties experienced by the respondents, in that, no technological change project should be commenced unless it has been aligned to the strategic direction of the organisation. The following section will look at
the third factor to emerge and will analyse how military organisations manage change that is forced upon them.

4.6.2.3 How Change is Managed when it is Forced on the Irish Defence Forces

This section will focus on how change, which is forced on the Irish Defence Forces, is managed. During the analysis of the responses it emerged that six of the respondents believed that change was sometimes forced on the Irish Defence Forces and that the organisation had to react and deal with this change. Military organisations can be slow to evolve and as acknowledged by Chinn and Dowdy (2014) in some cases military organisations can at times, up to 75% of the time, not have the right capabilities present to manage the change. When examining how the respondents believed change was managed within their organisations, they focussed on change that was either, forced on the organisation from either an external or internal source, and referred to the significant consequences such changes could have on the change management process.

Change that is forced from external agencies, such as government strategy can be arduous to mitigate against, but nevertheless must still be managed. For example, the Naval Service, as the maritime component of the Irish Defence Forces must abide by regulations and standards that are mandatory for ships at sea and these have a significant impact on how the Naval Service procures equipment and technology as some changes cannot be immediately planned for. Even with these mandatory changes, there can still be reluctance to change, as observed by one respondent:

*It’s driven externally and is continuously reactive as we don’t change to improve ourselves and we only change in an attempt to keep things as similar as to what they have always been partly because, when people come in as cadets there’s a very strong enculturation at a very young age and they believe that this is the way that it should be and that this is how a navy should be* (Interviewee 23).

As presented in the opinion of this particular respondent, while change in legislation can present opportunities for the organisation there can be a reluctance to let go of past processes
or equipment and the change can be resisted. The role played by individuals’ frames of reference remains omnipresent in the Irish Defence Forces and individuals who have undergone organisational indoctrination are less likely to let go of previously established processes or proven equipment. This would support the literature proposed by Schein (1992) which observed that when basic assumptions are strongly held in a group, members will find behaviour that is based on an any other premise inconceivable.

The respondents also referred to change projects that were enforced on the organisation from internal sources. It has been acknowledged that military organisations tend to be an easy option for enforcing change onto, and when looking at change in the military it is important to acknowledge that unlike most commercial organisations military organisations are hierarchical, and must be, for a variety of reasons. A primary objective of this research was to determine how the change management process is implemented within the Irish Defence Forces, and this reflection by Garden (2002) would induce that military organisations are therefore more open to change and should be more capable of reacting to it due to their unique and traditional structure. One respondent furthered this, and noted that:

*Obviously because we are a military, we don’t really have the opportunity to not buy in to the change either, as a lot of the time the change is driven down from command and you have to accept this* (Interviewee 25).

This finding demonstrates that militaries, due to their hierarchical system, can still force change upon the organisation even when such change is not wanted or required. This respondent also further stated that:

*I wouldn’t be 100% convinced that we’re a progressive organisation in terms of change management but I would think that we are a very progressive organisation in terms of change because we have embraced change over the years and when we change we adapt very quickly, but I think that’s more the people and the organisation and how we are adaptable because of the very nature of our job. I don’t know would I 100% attribute it to effective change management* (Interviewee 25).
Moreover, an additional five respondents also agreed with this concept and placed significant emphasis on the level of education military personnel have regarding change management and how to correctly implement change. This research has shown that the Irish Defence Forces need to learn to deal with change through the adaption and application of change management practices and processes irrespective of how the change has been instigated. Due to its hierarchical and unique nature, the Irish Defence Forces has traditionally been viewed as being non-resistant when change is being forced upon it. The following section will look at the fourth factor in this theme, which will analyse the role of jointness, which refers to all three services within the Irish Defence Forces, when managing change and how jointness impacts on military organisations.

4.6.2.4 The Lack of Jointness during Change

The three components that constitute the Irish Defence Forces are often required to work holistically in order to be able to provide a robust and tested system that allows the Irish Defence Forces to remain operational. This ability of being able to combine different forces such as the Army and the Naval Service, or the Army and Air Corps, demonstrates how militaries must be capable of conducting joint operational taskings, thus, ensuring that each element has the ability to seamlessly transition from single agency operations, to multi-agency operations. The Irish Defence Forces, therefore, has its own internal structures that must function as one in order to ensure that the Irish Defence Forces is both outward and inward looking, thus enabling it to be capable of managing both internal and external change projects.

This requirement presents many different challenges for the Irish Defence Forces and four of the respondents believed that the lack of jointness currently being experienced within the organisation has a negative impact on change is managed within wider Irish Defence Forces. Jointness, is a neologism that military organisations use to describe cross service cooperation in all stages of the military processes, from overarching strategic planning to joint operations. When organisations experience change, they must be capable of both managing their own needs and the needs of the greater organisation, and this is particularly applicable within the military domain, and in particular, the Irish Defence Forces. As noted by the respondents:
There are certain areas that we don’t like changing because quite often, change management isn’t discussed between the three services and sometimes something comes through like an amendment to a Defence Force Regulation (DFR) and we immediately realise that it’s not going to work within the Naval Service, for example (Interviewee 2).

As outlined in the objectives for this research, it is necessary to determine how the change management process is implemented within the Irish Defence Forces. Historically, the Irish Defence Forces does not have a positive track record when managing change, as alluded to by many of the respondents, and that has been particularly evident when implementing technological systems that are to be used by all elements within the Irish Defence Forces. Organisations introduce new technological systems to improve internal processes either in one element, or in all elements, of their organisation, and, as such, any new technology should therefore lead to improved efficiencies. The new technological systems can have both a positive and negative impact depending on where it is being implemented and at times can cause conflict between the three elements of the Irish Defence Forces. The findings of this research would contradict the current theory that identified that the real challenge for organisations that seek to reconfigure themselves in order to survive and further develop is to reconcile these contradictory forces. Heuck and Thal (2010) contend that the current environment is nebulous and evolving, and military organisations must be capable of managing the myriad of emerging technologies that complicates future long-range planning and the ability to understand the future environment remains critical. Organisations must be able to manage how they transform themselves, how they increase flexibility and, at the same time, maintain reliability during change periods as change does not just happen; it is interactive and iterative by nature. This management requires a joint approach and necessitates the buy-in from all elements within the Irish Defence Forces, something which is lacking at present.

Moreover, the findings of this research also highlighted that the Naval Service itself does not have a very proactive environment of promoting jointness internally within all of its commands and this can be a significant obstacle when trying to identify new technological systems that could help the organisation to change and develop. One of this cohort of respondents outlined that:
We’re (the Naval Service) an organisation of a nervous disposition nearly in that we’re fearful of everyone else, we’re fearful of all the external agencies we engage with, we’re fearful of the Defence Forces as a whole, we’re fearful of the army and there’s an unwillingness to engage (Interviewee 13).

The respondent’s belief that there is an element of fear within the Naval Service and the palpable impact it has on how the Naval Service operates with other element of the Irish Defence Forces is notable. Jointness is aimed primarily at satisfying the requirements for increasing efficiency and economising the military budget and the fear referred to in this example is directed at the competition that now exists for resources between the Naval Service, the Army and the Aer Corps. The innate need to protect the interests of one organisation will have an impact on its ability to integrate and cooperate with the other two, thus, having a negative impact on jointness and greater interoperability. Just as the civil-military relationship is important, so too is the military to military relationship. The respondents outlined how their organisation must be capable of operating as single entities, yet simultaneously capable of operating as part of the greater unit and ensuring that new technological systems procured on behalf of the whole organisation are capable of being implemented holistically throughout the organisation. The role of proactive and positive strategy in this domain is critical and needs to reflect the direction of the organisation. Technological systems offer military organisations the capability to conduct and complete joint operations on the same systems and failure to plan in accordance to these principles will only result in failure.

Previous examples used in this research highlighted the negative issues the respondents associated with technological systems that were previously introduced by the Irish Defence Forces. While these systems were introduced as organisation-wide solutions, this research has identified that they were Army focussed. Of the respondents, 13 perceived these change processes as just another project that was pushed down by the Army that other services has to deal with the repercussions of systems that were not fit for purpose. Reflecting on this issue and the mentality espoused within the Naval Service, one of these respondents noted:

There’s apathy and certainly the older generation, they have a huge dislike towards the army and I don’t think that this negative attitude helps in any way. We certainly need
to stop fighting amongst ourselves within the three services and we’re not really open to jointness (Interviewee 20).

This representative quotation focussed on the perceived poor relationship that exists between the three elements of the Irish Defence Forces and that these internal relationships can cause a significant amount of the issues that impact on the level of jointness experienced within the Defence Forces. One of the civilian respondents remarked on this and stated:

*And I keep on coming back to this point, I think it’s well communicated within the individual services, I’m just not sure we are seeing the full benefit of technologies in terms of looking right across the system - the services and the corps - and saying, how do we ensure a comprehensive approach to inform future actions by ensuring we are all operating together through technology* (Interviewee 31).

This observation providers an external, yet pertinent viewpoint, of how technological projects are integrated into the Irish Defence Forces and highlights that there are internal issues when utilising systems across the various services, corps and formations. The findings of this research reinforce that the Irish Defence Forces does not operate in a holistic and reconciliatory manner as espoused by Castel *et al.* (2010) and Barbaroux (2011), and that this lack of jointness does have an adverse impact on each element of the Army, Naval Service and Air Corps, and on the Irish Defence Forces as an entity. Moreover, it can, therefore, be deduced from this research that the Irish Defence Forces contravenes this ethos and is not functioning as a joint and interoperable entity. Modern military organisations need to realise that one of the biggest challenges facing them is ‘staying ahead of change’ and ‘that the principle challenges faced by military leaders was that of adapting to and managing change’.

In summation, the findings of this research indicate that over 90.3% of the respondents did not believe that the Irish Defence Forces managed change well during the introduction of new technological systems. The respondents provided several examples of change projects within their organisations that involved technological systems and the consensus is that such change projects were repeatedly not managed well. A possible explanation for this finding may be the
lack of knowledge of change management processes within the Irish Defence Forces that was observed during the interview process and was discussed previously in this section.

Moreover, respondents also referred to the negative impact that the hierarchical model can have during technological change projects as individuals in positions of authority can have a negative impact on the implementation of projects and this again reinforces findings from earlier in this chapter. The hierarchical system is ubiquitously associated with military organisations such as the Irish Defence Forces and is a mechanism that is deeply rooted in traditional military culture. The respondents’ referral to this structure, particularly when discussing their organisation’s inability to manage change is noteworthy and offers a new perspective on this field of study. Such observations clearly demonstrate that the cultural orientation of a military does play a significant role in the change process and the following section will analyse the respondents’ beliefs on whether, or not, the culture of the Irish Defence Forces can support change management initiatives. The findings are discussed in the following section.

4.6.3 Can the Culture of the Irish Defence Forces support Change Management Initiatives?

Military organisations have traditionally maintained a rigid and historic reference to their internal customs and traditions, thus, establishing their own unique organisational culture. During technological change projects, there will be an element of change management required depending on the scale of the project and the type of technological system being introduced. In order to ascertain how an organisation’s culture will react to that change it is pertinent to understand how those within the organisation view their organisational culture relative to the change process, and whether, they believe that their organisational culture is capable of supporting technological change management initiatives.

Change represents a move away from a present state toward a future state and is generally a response to some to significant threat or opportunity arising from outside the organisation (Galli, 2018). Rashid and Rahman, (2004) further this concept and posit that the pace of this change is what will determine how an organisation’s culture reacts as the complexity of issues
involved is greater than ever before. The organisation’s culture will have a significant impact on this pace of change and how the organisation as an entity implements the change. One of the objectives of this research was to determine how the change management process is implemented within the Irish Defence Forces during a technological change and what impact it had on the Irish Defence Forces organisational culture. From the analysis of this research, it was observed that 16 respondents believed that the current structures within the Irish Defence Forces were not suitable and 12 respondents believed that the Irish Defence Forces structures were suitable for change management processes and cultural change. A total of three respondents did not know whether the organisation’s structures were suitable for change management processes and cultural change.

The respondents who stated that the Irish Defence Forces structures were suitable for change management processes and cultural change believed that their current hierarchical structure was suitable for operating a military and, as such, should be retained. The military hierarchical model is viewed as an advantageous system that militaries can use when introducing change as it can consult up and down the chain of command in order to inform those being affected by the change. This traditional hierarchical structure that has been developed over time and this finding would be consistent with the findings of Cole et al. (2014), who identified that workplace culture is most directly influenced by its organisational context and the physical environment within which it sits.

Once respondents expounded their responses there was a noticeable split in the overall tone of the answers that were provided. Of the 12 respondents who believed that the Irish Defence Forces structures were suitable for change management processes and cultural change, eight of the respondents further elaborated the requirement for caveats to be placed. There were suggestions that while the militaries structures were adequate there was additional measures required in order to fully prepare their organisation for cultural change. As noted by one of these respondents:

*In general, I think that we’re reasonably well set up but I do think that certain areas could be improved* (Interviewee 2).
Most definitely, it’s no different to anything else and at times we think that in the Defence Forces that we fall outside the literature and the examples that you find in the literature don’t apply and look at organisational change theories and think that’s business and nothing to do with the Defence Forces. When in actual fact, all the issues you see in organisational change theory out of previous examples and it’s all applicable to the Defence Forces (Interviewee 21)

I think that the structures are suitable. I think that most military organisations are structured in such a way that change can occur (Interviewee 2).

The respondents who placed caveats on their responses generally agreed that more improvements were required and key individuals in certain key appointments were omitting the importance of cohesive ‘joined up thinking’. This phenomenon was observed in the civil element, as noted by one of the respondents:

I would say it’s a continuous journey as I think that the structures are there to manage it, but I think we’re continuously learning. I accept that nothing is ever perfect, and it would be remiss of any organisation to self-congratulate itself, that it’s done well (Interviewee 30).

The observed caveats were in some cases divergent, but the overall trend espoused by them was that the Irish Defence Forces needed to do more in preparing their structures for the cultural change that will occur during the introduction of new technological systems. Two of the respondents alluded to the knowledge gap that exists on change management within their respective organisations and noted that people are not properly educated on change processes. As elaborated on by one respondent:

I think that the structures are suitable. I think that the main problem is that we don’t educate our people well enough in the way that change management needs to be implemented or the process of change managed (Interviewee 8).
The lack of the respondents’ knowledge of change management practices and processes was highlighted previously during this research. Other respondents focussed on the negative impact the hierarchical structure can have on military organisations. As noted by Liddell-Hart (1954, p.v), *the only thing harder than getting a new idea into a military mind is to get an old one out*, and the innate requirement for military personnel to default to previously established psychological, sociological, and cultural dynamics which can play a significant role in resisting cultural change. This is particularly notable when the change project being introduced is aimed at the cultural element of the organisation and will require a shift from previously held beliefs and established systems. It must, therefore, be acknowledged that the resistance to cultural change that will be experienced during the change process is part of the process and must be understood and managed.

During cultural change, resistance to change can often be assigned to the individual and this resistance must be overcome if the change initiative is to be successful. Thundiyil, et al. (2015) further espoused that failure to manage this resistance will impact on employee factors such as positive affectivity, negative affectivity, psychological capital, openness to change, tolerance for ambiguity, and these change beliefs were all moderate to strong predictors of change outcomes. This can ultimately lead to cynicism and two respondents acknowledged this. The study and application of resistance to change goes beyond the scope of this research but its presence during the change process must be acknowledged and it also has a substantial role in the cultural change that may be needed as part of the change. Two of the respondents made reference to resistance and outlined the issues they had with it. For example, one respondent outlined that:

*The culture of the organisation is changing radically, and you point to the fact that we’re a military organisation that has a hierarchical structure but within that you rely on goodwill. A person can practice presenteeism and can just rock up every day and they’re technically at work but might do nothing* (Interviewee 18).

This finding refers to the ‘buy-in’, or goodwill that is required when implementing change and without the support of the ‘organisation’s individuals’ that the change affects, and then the process can potentially fail. While the structures should be capable of supporting the change
and the processes surrounding it, the issue can ultimately rest on the support provided by the personnel affected and the strategic leadership provided by the management. All individuals within the organisation may not experience this resistance but as observed by Oreg, et al, (2011), resistance is linked to the content of an initiative, finding resistance only among individuals who disagreed with the proposed change, regardless of their level of participation or information access. As highlighted by Schein (1992), organisational culture refers to a set of shared values, belief, assumptions and practices that shape and guide members attitudes and behaviour in the organisation, and any change process that is introduced will have an impact on this established culture. It is organisational culture that allows an organisation to address the ever-changing problems of adaption to the external and internal integration of organisation resources, personnel and policies to support external adaption, thus, ensuring that the organisation remains viable and reflective of general societal advancements and developments. These observations based on the respondents’ narratives confirm the association between resistance to change and the impact it can have on the organisation’s culture and reflect the recent findings of Hosback (2019). Due to the respondents’ needs to have caveats applied to their responses, there is a further requirement to analyse the other responses in order to ascertain if the hierarchical structure of the Irish Defence Forces is not conducive to supporting change management processes and cultural change.

As noted in the introduction to this theme, three respondents were of the belief that they did not know whether their organisations current structures were suitable for change management processes and cultural change. These three respondents did provide clarity with their responses and elaborated on their beliefs that their organisations’ structures were slow to change. Moreover, it was important to note that all three respondents made reference to personalities within their organisations and their associated impact. The findings on personalities were previously covered in this research but the impact it can have is again notable. A common view amongst these respondents was that the structure of the Irish Defence Forces would play a significant role during the change. In a similar vein to the points raised above, one of these respondents provided an articulate proposition that may be applicable to modern militaries in that:

There’s evidence there that demonstrates that in any large organisation or corporation that has existed, they tend to have the structure that was in vogue when they were
established or when they came to maturity or maybe after 100 years they had a reorganisation and they implemented whatever was in vogue then (Interviewee 23).

This respondent further argued that while theories may exist, the structure used is irrelevant if those in the position of power do not understand how the system is supposed to be operated. It is clear from the research findings that rank plays a pivotal role within the military domain as it has been referred to on numerous occasions, but it is the negative tone associated with how this rank is used is the cause for concern. It may, therefore, be argued that while the historic imprint of military structure weighs heavily on a military organisation’s culture, the structure itself is only as good as those who seek to utilise and manage it. It can be seen, therefore, that these three respondents are more aligned with the 16 respondents who believe that the Irish Defence Forces current structures are not suitable for change management processes and cultural change.

From the responses, it was observed that 16 respondents believed that their organisations’ structures were not suitable for change management processes and cultural change. The general consensus from the 16 respondents was that the hierarchical structure was not suitable and this would contradict the opinion of Farrell (2008) who noted that a military organisation, by its nature, would always have a hierarchical structure, which contravenes modern business practice of establishing flat organisations, whereby the many levels of middle managers are not needed. The responses, which were varied, will be examined during this section and respondents provided ample examples of why they believed that the military hierarchical structure was not suitable for supporting change management initiatives. One respondent from the Department of Defence noted that:

*I do think that because of the silo-based system due to the service-based system, because people look at the technology within their own piece, I think there’s probably been a lack of cross-cutting thinking by people coming from different services.* (Interviewee 31).

It is noticeable that in this response there is still an underlying acceptance that the current structures within the Irish Defence Forces are not organised to support change initiatives and
promote a silo mind-set. By creating a ‘stovepipe’, or niche, that relies on the hoarding of resources and knowledge creates a significant amount of issues that can be detrimental to the organisation. A stovepipe is a metaphor for the assimilation of intelligence and information, and this is then used to further singular goals or objectives and the data would not be shared. One interviewee noted that:

They make it difficult because of the hierarchical structure we have, and the fact that stovepipes exist doesn’t help as this stops the sharing and dissemination of information. I think we have can have a lot of individuals who can be problematic when they choose to be, and this can cause a lot of unnecessary tension and conflict (Interviewee 20).

Respondents referred to examples that demonstrated how change is resisted due to the nature of hierarchical structure and believed their organisations’ to be oppressed as the structure caused more ‘roadblocks’ and as elaborated on by one respondent:

We need a cultural change in order to be able to manage the change and it’ll be difficult because again, to try and get a cultural change from within an organisation, from within a culture, is always going to be difficult because it’s comfortable. We’re not set up to have the influence and someone coming in at the middle management level with new experience and a new outlook, just because we take everyone in at the bottom and feed them through (Interviewee 19).

The representative example above reflects on the current training process meaning that individuals are taken into the Irish Defence Forces and indoctrinated into the organisation at a relatively young age. As the individuals progress through the organisation, they experience and hold on to the cultural experience they have developed over time, and as outlined by Gerras and Wong (2013), this has a strong presence with military organisations, particularly during the change process. This finding in addition to the fact that the Irish Defence Forces do not traditionally induct people into the middle management levels has the potential to hamper and slow change initiatives. Reflecting on the theory proposed by Vadi and Vedina (2007), change from one archetype to another involves designing new organisational structures and systems, learning new behaviours, and interpreting phenomena in new ways. It can be arduous to learn new systems and behaviours when an individual has been trained to operate and function in a
set routine within a fixed and rigid hierarchical structure. Moreover, the Engage and Learn model posited by Worley and Mohrman (2014) may provide a mechanism through which the Irish Defence Forces can prepare for and manage organisational change. As culture is a learned behaviour, the Engage and Learn model is centred on a core function based on learning, therefore, in order to modify the behaviour a process of unlearning and learning must take place.

In a similar vein to the points above, respondents also referred to their beliefs that the role played by the annual reporting system within the Irish Defence Forces can be a significant contributing factor towards the perceived drivers of change. Four of the sixteen respondents referenced this issue and outlined their concerns in relation to why personnel are too busy focussing on what is coming next instead of dealing with the situation at hand and this observation is surmised as follows:

*The whole annual reporting system is poor and it’s like a governmental cycle in that the implementation of technology becomes a one year process and no one is going to bring in a project that is going to take 5-7 years to implement because they will be gone from there before then and they won’t get the benefit in their report* (Interviewee 27).

This quotation outlines the need for Irish officers to gain a certain level of experience before they can be promoted to the next rank and also accentuates the need for them to rotate through various positions. This need to rotate and continuously move has a detrimental impact on the organisation and more importantly, on the introduction of technology as such projects predominantly require more time to plan and implement. Many personnel take an annual viewpoint and this will dictate their longevity within a role as opposed to being involved in the planning, initiating and implementing a project over a prolonged period. This observation again indicates the strong presence played by military cultures, and the over-bearing negative impact they have as personnel will adhere to ‘ticking boxes’ as opposed to ‘completing projects’ as the cultural view is that such ‘box ticking’ is more beneficial to the individual’s career. This observation highlights factors that are responsible for not allowing the organisational culture of the Irish Defence Forces to develop to a level where change management initiatives can be supported throughout the organisation.
In addition to the issue of annual reports, respondents made reference to a champion/solo-run approach that exists within the Irish Defence Forces. In total, 16 respondents referred to this phenomenon and outlined why they believed that this issue was so pertinent and why they believed it had an impact on the organisational culture during change initiatives. Not all of the respondents were able to articulate the difference between a ‘solo run’ and a ‘project champion’ and it became apparent during the interview process that the term ‘project champion’ was more applicable to the phenomenon they were describing. The respondents deemed a solo run to be a project being implemented by an individual for their own gain, and without any reference to an overarching organisational strategy, or the organisational culture.

Whereas, a project champion is an individual who promotes the project and seeks to lead the group in the direction as assigned by higher command and positively promotes the project throughout the organisation. As outlined previously during this analysis, respondents referred to the lack of strategic planning within the Irish Defence Forces and alluded that individuals initiated the vast majority of change projects. This response would indicate that the change projects are not initiated by a higher overarching strategic plan and in most cases were initiated as the ‘project champion’ was a subject matter expert of a particular field, and had the relevant knowledge to commence the project. The respondents did agree that the term ‘solo-run’ was incorrect and the following quotation is reflective of the consensus that:

*If you were to take the Defence Forces, I don’t think that we are open to solo-runs an awful lot because with 9,500 military personnel it’s hard to get a solo-run and push that through at an operational or strategic level within the entire Defence Forces* (Interviewee 13).

Solo-runs are potentially damaging for organisations as individuals can initiate or implement projects that are not in keeping with the overall strategic plan of the organisation, and holistically are viewed as having a negative impact on the culture of the organisation. Project champions, however, can play a pivotal role as they are generally individuals who have a particular skill-set or knowledge base that can be used in identifying projects or technological systems that are aligned to the strategic goals of the Irish Defence Forces and can have a positive impact on the cultural development of the organisation. As noted by one respondent:
If people spent more time in terms of looking at how they can best institutionalise best practice and better ways of doing things, than protecting the old work practices, and perhaps, that’s the way we do business because that’s the way we always done it, if they put their energy in to the positive rather than the constraining. I would see those individuals more as champions and they should be supported, as without them we would not evolve (Interviewee 1).

The overall belief held by the respondents was that it was individuals introduced change initiatives and the following quotations reflect this:

I think that for the foreseeable future we are going to need champions who are interested in a project and will drive it home and identify people to get that message out (Interviewee 20).

Solo-runs are definitely used in this organisation by some people and as long as it’s not being used for careerism and for opportunistic reasons, then you do need people to take on projects and to run with them (Interviewee 10).

The division between the term solo-run and project champion can be seen in the second quotation above and is representative of this misunderstanding. The respondents above do acknowledge that without informed individuals, there is a strong possibility that change projects would not happen within the Irish Defence Forces and that the organisational culture would not evolve. Moreover, the respondents also acknowledged that the individual who assumed this role must be the ‘right fit’ for the project and this is commented on below:

A lot of that has to do with the credibility of the person and the standing of the person within the organisation and people have faith in them and acknowledge that if they are doing it right then the project will be a success (Interviewee 5).

The reference by the respondents to the role played by a ‘project champion’ is noteworthy and highlights that core role played by motivated and knowledgeable individuals within military organisations. Moreover, it can be posited that this action is a form of change facilitation, as
the ‘project champion’ is the systemic force spurring change in the direction targeted by strategic objectives, as espoused by Latta (2011). In this case the ‘project champion’, due to the Irish Defence Forces not having a strategic plan in place, is identifying the strategic objectives and implementing the proposed solution that will enhance the capability of the organisation.

The role of capability development was raised by a total of 11 respondents who believed that the Irish Defence Forces needed to have a central project office, or capability cell, managing the various change projects going on within the organisation. This observation was focussed on the negative impact the current organisational cultural ethos was having when change projects were being introduced. This highlighted the need for the current hierarchical structure to be developed in a flatter and more agile system that could best meet the needs of the Irish Defence Forces. Responses indicate that the interviewees believed that the strict adherence to cultural systems that are not functioning was becoming problematic and one respondent noted that:

*It’s a case of some are better than others as there is no change management office. There is no overall control and it tends to be left to the various elements within the Defence Forces. I do think that some sections of the organisation are more open to change than others and I think that can be cultural, or it can be personality driven* (Interviewee 3).

This example again highlights the lack of strategic planning that encompasses the respondents’ organisation and is reflective of the observations found earlier in this analysis. The culture of military organisations has been found to be hard to change and the review of the current literature in chapter two has shown that there is limited literature available on the impact of technological change on organisational culture within the military.

The findings of this research would suggest that the respondents believed the Irish Defence Forces was not suitable for supporting cultural change. It was interesting to note that of the 12 respondents who were unsure about cultural change, eight placed caveats on the examples they provided and this would suggest that military organisations need to be studied more in an
attempt to understand how their culture evolves during the introduction of new technological systems. This research additionally demonstrated that there is an apparent issue with the current structures of the Irish Defence Forces, and would contradict the observations of Garden (2002) who argued that the hierarchical military organisation provides an advantage to military organisations, particularly, when an organisation is looking at change as it can consult up and down the chain of command, with information moving up and down the organisation rapidly to the people who will be affected.

Moreover, the recent decade has witnessed such phenomena, as the unexpected changes in the world economic and political scenario have also heightened the level of uncertainty, and consequently adapting to the impending changes needed to ensure organisational survival and organisations have had to manage these arduous circumstances. The analysis conducted previously has indicated that the Irish Defence Forces do not prepare well for the introduction of new technological systems and the respondents further elaborated on this observation, when discussing why they believed the Irish Defence Forces structures were not suitable for change management processes. The results of this study indicate the Irish Defence Forces require additional effort in preparing the organisation for technological change management initiatives, in order to successfully manage and develop the internal organisational culture and embrace a more holistic approach.

In conclusion, there were a number of inter-related issues analysed in this section and they offered differing views on the suitability of the Irish Defence Forces structures for change management initiatives and cultural change. The research has demonstrated that the Irish Defence Forces organisational culture must overcome a significant amount of internal obstacles as there is a disparity between the observations of this research and the theory as outlined in chapter two. Extension of the questioning observed that there was a demonstrably negative trend towards the structures currently used by the Irish Defence Forces, and even when a positive response was provided, the respondents insisted on inserting caveats, thus, querying the suitability of these structures if they are subject to terms and conditions and are not universally suitable to change management processes and cultural change. The organisational culture within an organisation, will have a profound impact on how change is integrated, as the existing cultural dimensions determine whether, when, how, and in what form, a new
technological innovation will be adopted as the findings of this research have indicated that the Irish Defence Forces do not have an organisational culture that supports change management initiatives. The following section will focus on establishing if the respondents believed that change management processes would provide benefits to the Defence Forces during organisational change.

4.6.4 Can the Irish Defence Forces benefit from Change Management Processes?

The previous section explored whether the respondents believed that the Irish Defence Forces’ culture could support change management initiatives and this section sought to ascertain if the organisation could benefit from change management processes and procedures. When asked whether, or not, the Irish Defence Forces organisations can benefit from change management practices and procedures 28 of the respondents positively believed that their organisations would benefit and only respondents provided negative responses. Of this cohort, 23 of the respondents made specific reference to the need for the Irish Defence Forces to embrace and instil change management processes within their organisations. The main reasoning provided focussed on the inherent need for the Irish Defence Forces to be capable of evolving as new technological systems are introduced and that the organisation must be capable of implementing the planned strategic change over a long-term period. The following quotations provide an overview of this general consensus:

If we were better at change management and we had the proper processes it would benefit the organisation and it would need to be part of the culture of the organisation. If we did that then I would definitely see them as something that would be of huge benefit to the organisation (Interviewee 22).

I do, I think it’s either that or you’re going to go stale. You have to keep evolving and evolution requires change and change requires management (Interviewee 15).

Moreover, there was recognition amongst the respondents that the introduction of change management processes and procedures will take time and that an incremental approach is what is required, as noted below:
One always needs to remain positive and it’s not going to happen overnight, it’s incremental and if everybody takes a step towards the change then that will be progress and change will slowly happen (Interviewee 20).

This observation was echoed by one of the civilian respondents who noted:

We do try to follow a change management process in that, we follow a process and bring in outside help when we need it, but generally it’s about the fact that your trying to provide the information to influence people in order to get the organisation to the place where it is going (Interviewee 30).

The apparent importance of the need to embrace change management processes and procedures and the awareness of both military and civilian respondents that such change requires time would reflect the research of Kelly (2008). Kelly outlined the importance of ensuring everyone in the organisation is aware of their role and responsibility for supporting short-term internal change and long term enduring cultural change to prevent negative impact on morale and organisational effectiveness.

However, contrary to the general observation that military organisations would benefit from change management processes and procedures, nine of the respondents did make reference to some anomalies that exist within the Irish Defence Forces when dealing with change management. Five of these nine respondents made particular reference to their belief that the Irish Defence Forces are not traditionally good change managers. As noted by two respondents below:

I think that as an organisation we have proven our ability to change and to change dramatically, in that, we were very quick to adapt to new circumstances and if you look at our developments operationally, capability wise, we are doing a lot more but then that has a flip side where the change has been positive in terms of our abilities but then it may be negative in terms of the impact on peoples day-to-day workload and the impact on peoples’ lives in terms of what you’re expected to produce now because of the changes being brought in to the organisation (Interviewee 25).
We have changed a huge amount during my time in the Defence Forces and the thing that I would say is that we are not good change managers, as we don’t have enough knowledge in the area of how to change procedures and processes properly (Interviewee 8).

These sentiments reinforce the contention that the Irish Defence Forces experience difficulties with the management of change, and the need for the introduction of change management processes and procedures would further reinforce this belief. Change would appear to be introduced, and based on evidence provided by the respondents, is subsequently not managed. The lack of a dedicated department, or dedicated change agents, to introduce and manage change is apparent and the lack of a provision for change management training has again been purported by the respondents. Ambos and Birkinshaw (2010) outline how organisational change is a complex, dialectical process, where the motor of change develops and is developed by the process itself, and where the old and new intertwine, cumulatively building an innovative dynamic that is not necessarily linear, because it can evolve in both progressive and retrogressive ways. This contrasting view would again highlight how the hierarchical structure used within the Irish Defence Forces is problematic when introducing and managing change as the traditional hierarchical structure does not readily support change management processes.

This observation was further reinforced by the responses of four interviewees who focussed on the Irish Defence Forces inability to accept and manage change. The respondents provided examples of how the Irish Defence Forces seeks to maintain the status quo and will strongly resist any attempts to progress the organisation. The following quotations refer:

During my earlier career, any sort of innovation or change was stifled pretty quickly unless you knew someone who would help you to get it through (Interviewee 2).

It’s no different to anything else and at times we think in the Defence Forces that we fall outside the literature and the examples that you find in the literature don’t apply and we look at organisational change theories and think that’s business and that’s
nothing to do with the Defence Forces. When in actual fact, all the issues you see in organisational change theory comes out of previous examples and is directly applicable to the Defence Forces (Interviewee 21).

The propositions offered above again reinforce the belief that the respondents view the Irish Defence Forces as an institution that does not require the inculcation of change management processes and procedures, as they believe that such processes are more applicable to non-military organisations. Interestingly, as previously noted, the Department of Defence openly acknowledge the role that change management processes can provide, and where necessary, will bring in an external provider to assist in the change being implemented, arguably highlighting a progressive mind-set. Analysis of the findings of this research highlight that the Irish Defence Forces do not follow such an approach. This finding would again support the need for a progressive organisational culture and additionally contradict the current literature on how change should be managed by organisations and would not align itself to research by Castel et al. (2010) and Barbaroux (2011). Their research observed that the real challenge for organisations that seek to reconfigure themselves in order to survive and further develop is to reconcile these contradictory forces, for example, how organisations manage to transform themselves, increase flexibility and, at the same time maintain reliability during change periods as change does not just happen. It is interactive by nature.

While the above sections demonstrate that 28 of the respondents believe that the Irish Defence Forces would benefit from change management processes and procedures, there were three respondents who did not agree. The respondents mainly focussed on the Irish Defence Forces refusal to understand or implement the change processes, in that, any individuals who have training or knowledge of change management are not utilised. As outlined by one respondent:

We have spent a significant amount of time on a personal level providing individuals and indeed facilitating individuals on an organisational level of educating our people about change management and HR management and all of these various business and external type principles and yet that is never fed back in to the organisation. It doesn’t get fed back in and we don’t have the ability to implement what is learned either in academia or in the commercial world. Therefore, I don’t see change management practices, what I see is a lot of change (Interviewee 11).
This proposition again highlights an interesting observation that will be covered in the following section but it is noteworthy that the Irish Defence Forces do not appear to put into practice the knowledge their personnel gain from completing courses and associated research. The respondents were frustrated that the Irish Defence Forces would educate people to lead them through change, yet, the results demonstrate that the organisation continues to experience issues when introducing change projects and have not adequately introduced change management processes and procedures. Contrary to this viewpoint, one of the other respondents offered an opposing viewpoint on the response above and observed that:

*My knowledge base would be around strategic planning as the military is the father of that particular area but change management is a discipline that can be oversold, the academic application as it is just comes up against the realities of our structures and our budgeting and our personnel management and our rights across the board that makes it difficult to implement change management templates* (Interviewee 14).

The contrasting viewpoints are interesting and offer a significant juxtaposition in how the respondents view change management and how the Irish Defence Forces can utilise it. Murphy (2002) outlined the need for managers and leaders within the military to be capable of maintaining their perspective as articulated in their organisations’ vision and mission statements as they move their organisation from one state of order to a future state of order. Moreover, it can be argued that if the Irish Defence Forces is to progress from one state to another, it must be capable of making that evolution. If the organisation does not change, it cannot make that transition, thus, ensuring that the organisation remains in stasis.

The respondents additionally referred to past experience of change initiatives within the Irish Defence Forces, and reflected on the issues that arose due to change processes not being in place:

*We can introduce processes and I’ve done that myself for refit management and people don’t believe in them, won’t do them, will take the first opportunity to let it die. So more important than a process is the acceptance that it is necessary and if you don’t have that then there’s no point in having the process because if people don’t think it’s necessary then they’re not going to implement the process* (Interviewee 23).
This example reiterates the need for change initiatives to be inculcated within the organisational culture as outlined in the previous section, and additionally provides a stark context of how the Irish Defence Forces as an entity arguably resists any form of change that does not comply with previously established processes. This respondent further asserted that the culture of the Irish Defence Forces does not have a positive record of accomplishment of implementing change processes, once a process has been identified and such an assertion conflicts with the cultural research of Harding and Pooley (2007). This current research has demonstrated that the Irish Defence Forces are not good change managers and that the organisation would benefit from the introduction of effective change management practices and processes.

While the general consensus amongst the respondents is that the Irish Defence Forces will benefit from the introduction of change management processes and procedures, there was one additional undercurrent issue that was referred to on numerous occasions by 18 of the respondents, including the civil servants. The respondents interestingly raised their Irish Defence Forces personnel rotation policy, as an issue that contributes the lack of proper change management, being used in their organisations and outlined the lack of planning that is present when deciding on project teams of change projects. Military organisations traditionally rotate their staff on an on-going basis, and it generally happens in two-year blocks or over shorter periods if deemed necessary. In addition, personnel in the military traditionally serve in staff appointments, followed by command appointments. The cyclical process ultimately stops people from being kept in one appointment for too long and where appropriate, subject matter experts are placed into specific roles that require defined skill sets.

During the interviews, the respondents referred to the negative impact that the Irish Defence Forces rotation policy can have on the implementation of change projects and their subsequent inculcation within the organisation. Respondents highlighted that projects, which are greater in duration than two years, will struggle to retain their project team, and one noted that:

*It is very difficult to try and implement change if that change is going to be greater than a two year period or even a yearlong period because by the time that one gets their feet under the table in the appointment and have identified something that needs to be changed and therefore gets it started and if it isn’t finished by the time that they go back*
to sea in a year or a year and half’s time then that project could be in jeopardy (Interviewee 8).

This sentiment was echoed by 15 of the interviewees and the responses garnered were expressed with frustration and annoyance. The respondents believed that the approach being taken, particularly when dealing with the delivery of technological projects, was not strategic and did not serve the best interests of the Defence Forces. This viewpoint was acknowledged by one of the civil servants who stated:

I think that the short period of time that military personnel spend in appointments is an issue, I mean, I would say to most people on the civil side coming in to a job at the equivalent of OF-4/5 level, it requires about 6 months for you to get your feet under the desk. That’s fine if you know you’re going to be there for a period, and we would have a policy on the civilian side of rotating people every 4-5 years (Interviewee 31).

While the research in chapter two has shown that change can occur in many forms, such as planned change, change through letting it happen, and emerging change, this analysis contends that organisations must have suitable processes and procedures in place in order to deal with change and the respondents concurred with this concept. While the selection of a change model is subject to the type of change being implemented there must be an overarching model to support it. Burnes (2011) purports that change models are required to be capable of assessing the success or failure of a project against reliable performance indicators and identify the key relevant characteristics that impact on the project’s success. The suitability of the Engage and Learn Model arguably has resonance in the particular case of military organisations as it is an iterative model that does not necessitate a specific starting point, rather it is a an adaptable model that can evolve to meet the particular project being implemented. Furthermore, assuming the Irish Defence Forces could adapt a learning cultural mind-set, the Engage and Learn model would assist in managing the disruption caused by current staff rotation policy. The findings of this research have raised concerns with respect to the continuous rotation of personnel through key appointments and have recognised the detrimental impact this has on the success of change projects.
The suggestion on the part of the 18 interviewees, which represents 58% of the respondents, on the Irish Defence Forces lack of a coherent rotation policy, is clearly contributing to the on-going concerns being exhibited by the respondents. In addition to having no evident strategy, it is pertinent that when personnel do rotate through a project that there is no apparent succession or change management plan in place. The need for such a mechanism was raised by ten of the respondents, and as suggested by one respondent:

Two things that we do very badly here is handovers and the creation of only one Subject Matter Expert (SME) in a particular area (Interviewee 20).

When projects are being implemented, and an individual is moving on, there needs to be a handover process to ensure that none of the vital information relating to the project is lost. Such a process would be part of a coherent and detailed change management process and the evidence provided by the respondents in this research would suggest that this is not done within the Defence Forces. Organisations may make use of handovers as a means to manage the change process, thus, ensuring the project continues and is fully implemented irrespective of the time duration of the project, as would characteristically be the case for technological change projects. Another respondent raised concerns with this process and expressed irritation in relation to why the delivery of projects was not a priority and quoted:

In the Defence Forces we have an operational only focus and we have ignored much of the administrative requirement to ensure longevity of how change is properly implemented (Interviewee 11).

This strongly represented assertion about the lack of commitment towards completing projects again reinforces the lack of change management processes and procedures within the Defence Forces and the negative impact it has. While it could be argued that this frustration is only held at junior levels within the Defence Forces, one respondent, at the higher levels of military command, stated that more needs to be done in keeping senior project managers, or change agents, in situ for longer periods and surmised that:
The Defence Forces senior management level does recognise that personnel at this level should be in their positions for a minimum duration of time to exploit and maximise the continuity and we have to move away from this mind-set of ticking boxes in various appointments, which is very dominant in the Army (Interviewee 4).

This respondent further elaborated on this response and provided a recent example of such a situation:

An example would be the Virtual Desktop Architecture (VDA) Project that was launched and will commence shortly, the main player in this project, Director of Communications and Information Services is being sent overseas and will not be there to oversee and implement the project he was involved in which doesn’t make any sense (Interviewee 4).

This example again highlights the lack of change management processes and procedures within the Defence Forces and demonstrates the negative impact of having no coherent system in place. Alternatively, the civilian approach to staff rotation is notably different, as stated by one of the respondents:

Four years in a job is not actually that long and previously people would have spent longer in appointments. Part of the reason for that rotation policy was because of decentralisation, in that, we lost so many people and the corporate knowledge we had to move people, to get people around the system so we could rebuild and deepen the corporate knowledge base. So, for the first couple of years in Newbridge, we had lots of people for whom the lens through which they saw defence was the branch they happened to be in, whether that was about property branch, executive branch or contracts, because that’s all they knew. So, we developed a policy of rotating people in order to expand the scope of their knowledge and understanding about defence, defence policy, defence administration and the Defence Forces (Interview 31).

The response above highlights how the civil element of the Department of Defence has realised the importance of having key staff complete long-term rotations in order to develop and
enhance their organisational understanding. This approach, based on lessons learned is notable, and highlights an organisation that utilises a learning organisational culture, an approach not used by the Irish Defence Forces. Other military respondents referred to the negative ethos and each respondent was able to provide context and substance about how the Irish Defence Forces failed to manage the key players involved in critical projects and in addition, how they failed to plan ahead and allow individuals sufficient time to complete projects. Several authors, such as (Vodonick, 2018; Smollan, 2012 and Burnes, 1990) have elaborated on the need of the organisation to involve those affected by the organisational change in the planning and execution of it. Indeed, the responses provided in this research would strongly indicate that the Irish Defence Forces would benefit from inculcating change management processes and procedures.

One of the objectives of this research was to establish if the Irish Defence Forces could benefit from change management practices and procedures and the responses provided in this analysis have acknowledged that the Irish Defence Forces could potentially benefit from the application of change management processes and procedures. The analysis conducted has acknowledged that 90% of the respondents believe that the Irish Defence Forces can benefit from change management practices and processes but that it is the subsequent implementation of these processes that is proving problematic. The respondents’ highlighted that the Irish Defence Forces are not good managers of change and that this observation contradicts the perceived notion that military organisations can manage change successfully.

Another objective of this research was to identify the importance of proactive and inclusive leadership to ensure that change is managed effectively during the transformation process. This analysis has shown that there is an overlap between the leadership capability of the Irish Defence Forces, and whether or not change management practices and processes can benefit military organisations. Moreover, the respondents referred to the evident lack of coherent staff rotation policies within the Irish Defence Forces, which highlights a leadership issue, and the negative impact that is apparent is an issue that could be resolved at the leadership level. Analysis has shown that organisational structures must continually evolve in response to the changing nature of work and communication technologies, and the challenges these developments bring and the findings of this research have observed that the Irish Defence
Forces have not evolved at a sufficient rate. In addition to this, it is necessary to ascertain if the Irish Defence Forces can successfully adapt civilian change management practices when implementing projects, and this will be explored in the next section.

4.6.5 Can the Irish Defence Forces Structures Adapt Civilian Change Management Practices for the Management of Change?

In order to fully capture the respondents transcending views on how the Irish Defence Forces could benefit from change management processes and procedures, it was also considered practical to explore whether the respondents believed that their organisation could benefit from the adaption of civilian change management practices. From the analysis, it was ascertained that 30 of the respondents believed that the Irish Defence Forces could benefit from adapting civilian change management practices and there was only one respondent who responded in the negative. This respondent provided two primary reasons for offering this opinion and the first element referred to the belief that most civilian change practices actually come from the military and are converted by civilian consultants to make them more applicable to the commercial setting and then repackaged and sold back to the military. The respondent also made particular reference to the Irish Defence Forces lack of control of core requirements, as outlined below:

*The reason why I believe that we in the Defence Forces can’t implement it is because we don’t control the vital elements, such as, budgets, policy or people and because the Department of Defence control our budget and policies and the army control our people and budgets, we only manipulate the budgets that are allocated to us and that’s not good enough for strategic change management* (Interviewee 11).

While this sentiment was offered in isolation, it does reflect other similar sentiments that have been raised throughout this research and as such merits inclusion in this analysis. It remains arguable that these opinions are representative of other issues that may exist within the wider Irish Defence Forces. Consequently, there may be scope for further study focussing on the strategic management of the Irish Defence Forces particularly, as this management of funding and resources has such a significant impact on the strategic planning and strategic change of the organisation.
From the 30 respondents who believed that their organisations would benefit from the adaption of civilian change management practices, there was a notable division between the respondents, in that, 15 of the respondents believed that the Irish Defence Forces would fully benefit from the introduction of civilian change management practices. The remaining 15 respondents believed that while the Irish Defence Forces would benefit from the adaption of civilian change management practices, they also believed that the Irish Defence Forces hierarchical structure could be a significant obstacle that had to be overcome as part of the process.

Of the 15 respondents who believed that the Irish Defence Forces could adapt civilian change management practices, there was a significant focus on how these practices could benefit the organisation. All 15 respondents understood and acknowledged the positive attributes of having a change management system in place and as noted by one respondent:

> Just because it’s a framework or it’s a type of lens to do something, it doesn’t mean that you rigidly have to stick by it and you can adjust any framework to meet your requirements and your end state (Interviewee 29).

The realisation that these civilian change management practices could be advantageous and would allow a framework to be introduced and managed was considered as a positive process and would allow the Irish Defence Forces to function in line with ‘best practice’. This sentiment would align itself to the current literature, in that any change must be transformational and incrementally managed. As posited by Wright (2002), in relation to organisational change, he observed that the transformation process is seen as the process of change that develops new operational concepts, experimenting to determine which ones work and which do not, and implementing those that do. Another respondent who acknowledged this concept further commented:

> Civilian practices are often related to private industry and when private industry wants to bring in the best way to adapt change management practices, whether it’s to save money or increase efficiency, we can learn a lot from that and we should be looking at what’s often referred to as best practice (Interviewee 15).
Perceiving the application of civilian change management practices as a process to assist the organisation in moving forward and evolving was strongly featured in the respondents’ responses. For the Irish Defence Forces to remain competitive and responsive to the surrounding environment it needs to evolve, and a respondent, quoted below, noted this:

*I mean, no matter what happens we are going to have to change and we have to realise that we’re going to evolve, so to evolve, you have to manage that evolution and you have to manage that change and the best way to do that is through a structured process* (Interviewee 5).

This response is indicative of the consensus being conveyed by the 15 respondents and the examples provided contend that by having an appropriate process in place would allow for the more efficient introduction of new technological systems. Moreover, this observation has demonstrated that leaders who offered potentially transformational ideas worked together to send a single coherent message about the nature and direction of the change needed. Eight of the respondents outlined their beliefs that the senior Irish Defence Forces management would not be aligned to implementing civilian change management practices. The following quotation outlines one respondent’s experience of change management processes:

*A previous Flag Officer Commanding Naval Service didn’t use a change management process to implement the balanced scorecard and he certainly didn’t educate people into it and he didn’t have the guiding coalition to say that this is it, this is how we focus it and he didn’t inculcate it into our organisation* (Interviewee 13).

This example was further elaborated on during the interview, and the respondent referred to a previous change project within the Naval Service, but a review of the processes used in introducing this previous project demonstrated that the system was not properly implemented through a systematic process. In a similar vein, another respondent further elaborated on this observation, and outlined why she believed change processes are not being inculcated into the Irish Defence Forces:

*I mean if you compare us to a civilian organisation, depending on what they’re looking at, there’s a lot more time allocated to planning and in my experience of civilian change management processes outside is that you would have specific people who are*
specifically tasked to bring in a change project and that’s their sole tasking. Whereas what we end up doing is we put people in charge of a change management process but they’re also expected to do all of the tasking’s of their daily routine job as well (Interviewee 25).

In the two examples above, it is evident that the senior leadership of the Irish Defence Forces are not engaging in the application of change processes to assist during the transformation process. The assertion by the 15 respondents generally focussed on this lack of cohesion that exists within the Irish Defence Forces, and acknowledges that personnel are expected to continue to work at their normal daily task while simultaneously delivering change projects. Two respondents made particular reference to the apparent lack of willingness of their organisations’ senior management to engage with these change management practices and stated:

*I think that militaries can adopt those practices to projects but I’m not sure that the military wants to* (Interviewee 22).

*There’s nothing to say that we can’t do it, I just don’t believe that we have the leadership that wants to. I think it is more leadership than structural* (Interviewee 23).

The examples above again highlight that the respondents are aware of the apparent advantages that civilian change management practices have the ability to provide yet, they do not believe that their senior management is willing to support such change.

In summation, one of the primary purposes for this aspect of investigation was to determine if the Irish Defence Forces could successfully adapt civilian change management practices. The evidence would suggest that Irish Defence Forces are not currently capable of adapting or supporting civilian change management practices. Moreover, the respondents were also of the belief that this apparent divergence from civilian change management practices is having an adverse impact on how change is managed within the Irish Defence Forces. The analysis provided above demonstrably shows that the respondents are aware of the merits of such
practices, but, remain resolute in their belief that the Irish Defence Forces need to inculcate such practices. The role of the organisation’s leadership has been referred to in this section and the following section will explore the leadership qualities that are important when embracing and managing change within military organisations.

4.7 What Leadership Qualities are Important when Managing Change in the Irish Defence Forces?

Due to the impact change can have on an organisation, it was necessary to ask the respondents about the leadership qualities that they believed were important when managing change. The purpose of this line of questioning was to establish what leadership traits the respondents looked for in their change agents particularly during the introduction of new technological projects. As outlined in chapter two, the existing literature demonstrates that different forms of leadership have a great influence on the commitment levels of followers. The responses were overwhelmingly similar and the more pertinent attributes identified three key attributes and these were: credibility and influence; ability to have a vision and, the ability to question oneself during the change process.

The first attribute, credibility and influence, was raised by 11 of the respondents and all respondents focussed on the necessity of the change agent to have credibility in the particular area of the change and also to be able to influence people during the change process. The examples provided by both the military and civilian respondents were quite similar and the quotations below offer a succinct representation of the general consensus:

*I think that there are two very important ones and the first is personal credibility as the person bringing in the change has to be credible and people have to see them as someone who is doing the hard yards and as someone they can have faith in and that they can see that what is being done is for the good of the organisation and not for the good of themselves* (Interviewee 5).
I truly believe that leadership is about influence and to be able to do this you have to be authentic and it's about understanding and in all of those things being able to shape the environment for the right change to come about at the right time (Interviewee 4).

Leadership is probably the key quality, visibility is also important, as would integrity and clarity (Interviewee 30).

The apparent importance that has been placed on credibility and the ability of the change agent to influence people within the Irish Defence Forces is notable and again reinforces the key relationship that the change agent must have with the organisation. Higgs and Rowland (2010) share this understanding and view that leadership contributes greatly to the success of the implementation of change is central to the literature on change management. This additionally suggests that the qualifications of the change agent are important and that having previous experience in successfully implementing similar projects would be beneficial for the change process. The role of credibility is not to be underestimated and congruently, it can be argued that bad leaders are those who do not engage with reality and ignore the emergence of new technologies that should dictate a change in the organisations’ strategy. This importance of having a credible leader, as perceived by the respondents, is noteworthy and again highlights the belief, which good leaders should be capable of designing and managing a collaborative process, decision-making and conflict resolution to which all the stakeholders subscribe. Marques (2015) concurs with this observation and contends that modern leaders are now required to work with their followers. This process will allow for an inclusive environment to exist within the Irish Defence Forces, as both the personnel and the leader have established a trusting and transparent system with which to implement change.

The second attribute raised by the respondents was that of the leader having a vision that can be communicated throughout the Irish Defence Forces and is consistent with the overarching strategy for the organisation. The respondents concurred with the current literature of what a visionary leader should be and a selection of this consensus is presented below:

You should have a good awareness of the environment and the culture within which you are introducing the change (Interviewee 19).
Clarity of vision would be one and knowing and identifying why the change is being done (Interviewee 3).

Having the ability to have a strategic vision so you’re not just looking at the now but that you’re looking at the organisation in five years hence or ten years hence depending on how far in to the future that your organisation is willing to allow you or the department is willing to allow you (Interviewee 6).

Capacity to persuade and influence followers, to support teams and to listen. A real interest in the impact of the change on the organisation and empathy and emotional intelligence are also important (Interviewee 31).

The observations above further support the theory of transformational leaders as outlined in chapter two and acknowledge that leaders who display visionary attributes are transformational in nature. Transformational leaders utilise strategy and a coherent vision as part of their process in changing their follower’s mind-set so that the followers are aligned more to the leader’s vision. By realising the need for change, the leader creates the vision that will be used when initiating the change and how the change will be implemented. Transformational leadership forms part of this study and it is pertinent to note that visionary leaders are transformational, as their intent from the outset is to transform the organisation and help it evolve. The development of strategy is key, and this has been highlighted previously in this chapter, but now the focus has changed to the leadership element of this strategy development. The leadership function must be focussing on what needs to be done and the respondents have elaborated on this theme, as demonstrated in the quotations above. Moreover, leadership is the ability to get people to acknowledge that there is a problem and that the collective is ignoring reality and potentially missing an opportunity to evolve and change.

Regarding the third attribute, leaders having the ability to question themselves during the change process, the respondents again raised the role played by mind referencing as they
outlined the ability of their organisation’s leaders to question their actions and motives during the implementation of new technological projects. The quotations below are representative of the six respondents who raised this issue:

> With reference to my organisation, I think we have it in some areas but not as much as it should be, no. I’ve touched on this a few times during the interview and I think, as a rule, that in the military we’re not great at the later stages of change management so from that perspective, while the tenacity is there to push the change and drive it in, I’m not sure that the acceptance that the project hasn’t worked, I’m not sure that we’re very good at that side of things and I think that’s why we don’t go back to learn and review where things went wrong (Interviewee 16).

> The ability to admit you're going in the wrong direction early and to be mature enough to review the process and adjust to get back on track (Interviewee 29).

The respondents elaborated that their belief was that senior leaders within the Defence Forces do not easily admit when projects are not performing as well as they should. This observation raises a notion of significance around the role played by senior officers or key individuals during change initiatives. In particular, the respondents outlined their concerns that projects, which should have been terminated, are left to meander and wane as they continuously experience difficulties. This highlights the willingness of senior military leaders to initiate projects in the same manner that they have always done and they expect their experience from one project to carry them through to the next. The unwillingness to adapt may result in poor performance in the new technological context and projects may struggle to be completed or in the worst case, may fail completely.

This development builds on the work of Kennedy (2010) who highlighted the need for leaders to be aware that their strategies need to include effective ways to produce cooperation, high efficiency and participative roles for their employees. It is critical to the success of proper change management that senior leaders must work on strengthening their own abilities so that they can personally develop during the change process by focussing on three primary self-developmental processes, those being intrapersonal, interpersonal and cognitive. Failure to
engage in this process will have detrimental consequences for the Irish Defence Forces as leaders who do not have a good level of self-awareness will not be capable of recognising that their mind-set and behaviour is reinforcing the existing system rather than challenging it.

Leadership plays an important role when managing change and the findings of this research would indicate that within the Irish Defence Forces, leaders need to be provided with the opportunities and necessary training to make the transition from a traditional hierarchical military background to a more transformational style. The respondents have indicated that the leadership element of the change process is frequently ignored and that this has a detrimental impact on the introduction of change projects. During the interviews, the respondents frequently linked leadership with communication and identified communication as an essential part of the leadership skillset. The following section will examine how change management initiatives are communicated within military organisations.

4.8 How are Change Management Initiatives Communicated within the Irish Defence Forces?

One of the primary objectives of this research was to identify if the Irish Defence Forces were aware of the importance of proactive and inclusive communication during change projects. It was, therefore, considered essential to investigate how the respondents viewed how change management initiatives are communicated within their organisation. Given the proposed importance of communication in change management projects, it was necessary to explore the respondents’ beliefs on the role played by communication when the Irish Defence Forces are undergoing organisational change. Analysis of the responses indicated that the respondents were split between three different beliefs. There were 24 respondents who believed that the Irish Defence Forces were ‘not good’ at communicating change management initiatives, four of the respondents believed that their organisation had ‘no issues’ in communicating change management initiatives and, finally, there were three respondents who believed that their organisations attempts at communicating change management initiatives were ‘hit and miss’.

Looking initially at the respondents who believed that the Irish Defence Forces had ‘no issues’, there was a primary focus that their organisation used the traditional military system of
communicating with personnel, in that it was up to the unit Officer Commanding’s (OC) to inform the troops of what was going on, as stated below:

*I would basically say that change management is all about the OC of units making it clear to their individual unit commanders, OIC’s or head NCO’s that they expect a certain amount of initiative and change within their organisation during their term of office and other than that I don’t think there’s a whole lot more communication about it* (Interviewee 8).

The other three respondents who concurred with this belief also focused on the traditional briefing systems that have existed within the Irish Defence Forces, but also acknowledged that the traditional methods could be supplemented with new technological systems, such as, the IKON. For example, one respondent noted:

*So the old ways [personnel briefings] are good and they don’t necessarily have to be replaced but you can augment them with technology* (Interviewee 2).

While the respondents acknowledged that technology could be used to supplement the traditional methods, there was also concern raised in relation to how reliable technological systems could be. These four respondents again reiterated the lack of reliability that exists with the current technological systems. The evidence, as presented by the respondents, would raise concerns on how change initiatives are communicated within the Irish Defence Forces as the findings to date would refute the previous research as outlined above. The other three respondents who believed that their organisations approach to the communication of change management initiatives was ‘hit and miss’, believed it is the project change agent who determines the success of the communication used. In projects that were successful, these respondents believed that the message had been communicated and that everyone within the organisation was aware of the projected change. The respondents made reference to this and stated:

*Technology is ultimately binary and it’s not the technology that changes people, it is the people selling the technology that changes the mind-set and gets the change across the line* (Interviewee 5).
This opinion reflects on the role that the change agent has in communicating the change throughout the Irish Defence Forces. It is important to acknowledge that communication plays a key role in allowing the organisation to achieve a readiness for change. One of the primary objectives of communication during a change process, is to prevent or reduce resistance to change, and thereby lay the foundation of an effective implementation and this will assist in reducing people’s uncertainty of their future situation, and thereby create readiness for change.

The other 24 respondents, which represent 77% of the overall number of respondents, did not believe that the Irish Defence Forces were good at communicating change management initiatives. This majority placed a significant emphasis on their belief that the organisations do not seek the full ‘buy-in’ of their staff and that this lack of inclusion is detrimental to the communication of technological change management initiatives. All 24 respondents were acutely aware of the role played by communication during change projects and understood its importance in the creation and maintenance of positive two-way communication, from the upper to lower levels and vice versa. The respondents offered a varying range of reasons as to why the Irish Defence Forces did not attain buy-in from their personnel and the following quotations offer a sample of this trend:

*Without that consultative process you will end up trying to force something upon people who won’t have any buy-in to it, so the communication is essential and we’re not very good at communicating internally. In addition to that, because we don’t implement change in a systematic way, it, change itself, is subject to change and that just confuses people* (Interviewee 11).

*Personally, I don’t think we’re good at communicating within the Defence Forces. I don’t think we have a good understanding of how to do it properly and it does present significant issues at times* (Interviewee 26).

*I definitely think communication is something the Defence Forces needs to work on if I’m honest. I have seen it repeatedly that situations such as changes in patrol plans and changes in the organisation, particularly in the recent past, have been poor* (Interviewee 15).
The quotations above, which are a reflective representation of 17 of the respondents’ beliefs, suggest that the primary issue with communications stems from the upper echelons of the civilian management and military chain of command not being capable of establishing a positive and proactive communication network. This finding is in contrast with the observations of Canary et al. (2013) who identified communication as being central to any change process or project. The military involves communicating downward through leaders and units, upward through the chain of command, and outward through coalition partners, interagency elements and the press. The examples demonstrate that this is not the case within the Irish Defence Forces and the respective services within it. While conflict during change was not a specific area of focus for this research it must be stated that respondents were frustrated by the lack of communication that existed within the Irish Defence Forces and this was readily visible during the interview process. This frustration can be observed in the statements below, which provide a succinct summation of how the respondents feel that change is introduced within the Irish Defence Forces:

*When it comes to change I think we’re slow to say why it’s being done and more often than not you always feel like the project is just landed on you and the lack of communication plays a significant role in this* (Interviewee 20).

*At this stage you just turn up on a Monday morning and you’re not really surprised if something has changed and it’s considered normal and the approach is to just get on with the change and it’s normally from the top down* (Interviewee 22).

One of the civilian respondents provided an additional perspective on the lack of communication during significant organisational change projects and stated that:

*I suppose, the change that has been communicated probably most has been about Defence Forces re-organisation and the associated elements. I would think that it was probably communicated badly. We didn’t build an understandable narrative about benefits or perhaps engage those affected by the changes as much as we might have* (Interviewee 31).
The re-organisation of the Irish Defence Forces in 2012 is viewed internally as a failed project and the observation above is notable and highlights the effect of poor communication from the highest management level within the Department of Defence. It is unusual that changes are being implemented without any discourse; at any level and in some cases, it has become an accepted norm that new systems are introduced without any form of strategy being communicated. This would contradict the research of Conway and Monks (2008) who identified and linked leader communication to higher commitment to change. The responses provided above clearly contradict this and provide an evidence-based assessment of what is actually being experienced at the operational level within the Irish Defence Forces.

Moreover, seven of the respondents further believed that this lack of communication was down to the role, or lack of, that technology plays within their respective organisations which would further support the comments of the four respondents who believed that there were ‘no issues’ with communication within their organisation. The respondents referred to their beliefs that the Irish Defence Forces does not use technology holistically, and in a manner that provides for clear communications and that the Irish Defence Forces are technology adverse. The respondents provided varied examples and some of these are noted below:

*I just think we’ve been poor at it and I think that sometimes this is one of the disadvantages with technology because we use emails and we blast them out and we’ve gotten to a stage where people scan the emails as opposed to reading them. We think that everyone has access to IKON and therefore know everything that’s going on and we have forgotten the basics such as talking to one another and to our troops* (Interviewee 4).

*We operate on the assumption that everyone has access to a PC and large numbers in this organisation do not have this access. This lack of a system has a negative knock on to most things and the rumour machine benefits from this and has a detrimental affect* (Interviewee 3).
While the examples above reflect on the breakdown of communication from senior leaders to junior leaders, it also acknowledges that the technology is not used for basic communication, and one other respondent made specific reference to the strategic level and stated that:

*If I look on the Information and Knowledge Online (IKON) page for Naval Headquarters (NHQ) I’d be expecting to see the important strategic documents but there’s absolutely no communications so I just don’t see it and even though we have meetings about meetings, when you step back and look at the organisation as a whole, there is no positive communication* (Interviewee 10).

This finding again, as highlighted earlier in this section further elaborates on the lack of a clear strategic communication plan within the Irish Defence Forces and the on-going failure to recognise this failing would contest the current literature. The evidence provided by the respondents clearly outlines that this is not the case within the Irish Defence Forces and in instances where there has been minor successes they have not been maintained. Talking about this issue one respondent, in particular, noted that:

*To be frank and honest we are good at once off routines and we are not good at processes, we’re not good at putting them in place within the Defence Forces and we’re not good at maintaining them. We struggle to get the basic information out at times and yet we have the basic means to do this and this again reinforces the issues we have with processes* (Interviewee 3).

The above response again reinforces the issues that are being experienced when utilising communication processes within the Irish Defence Forces. For a military organisation, that is reliant on the hierarchical process and requires processes in order to function, it is alarming that the Irish Defence Forces has no established or proven communication process of reaching all personnel within the organisation. It is concerning that the Irish Defence Forces place a significant reliance on the IKON system, particularly as only 30% of the organisation can access it. The need for a holistic system that can access all levels of the Irish Defence Forces is mandatory when communicating strategic and routine messages from the higher echelons of the organisation to the lower echelons of the organisation in a coherent and structured format. These findings indicate that the Irish Defence Forces need to develop structured methods and
processes for communicating change when implementing organisational change. The observations above clearly indicate that the respondents do not understand why technological change initiatives are being introduced, or implemented, and as noted by one of these respondents:

*We need to increase our level of briefings and open days where the technology is showcased and people can put hands on the system and see what it’s all about and I think that would lift the projects profile and give people a chance to engage with it. But as I said earlier, we can get very curious about someone’s agenda and we will look to see what agenda the person is chasing instead of just accepting that it’s something we could all benefit from.* (Interviewee 20)

When an organisational change initiative is presented to employees, they immediately try to make sense of it and understand the potential effects for themselves, their colleagues and department, and for the organisation as whole. It is imperative for individuals and organisations to track and to stay responsive to the organisational environment. Moreover, it is important to ensure the right amount of support and challenge is present in the change effort and finally, to provide focus on experimentation and the embedding of learning for sustainable change.

In summary, respondents outlined a number of areas, which shape their beliefs in relation to how change management initiatives are communicated within the Irish Defence Forces. A finding of this section concerns the indication by almost three quarters of the respondents that the Irish Defence Forces are not good at communicating during change initiatives within their organisations. The components of poor communication practices that were identified carries significance for the Irish Defence Forces. The emphasis placed on the lack of engagement at the senior echelons of command within the Irish Defence Forces and the inability to successfully communicate change initiatives, indicates to a failing communication system. In particular, the suggestion, by individuals, of such a wide variety of components that combine to form a poor network of communication is arguably reflective of the complexities of military organisations and their unique hierarchical framework. The following section will explore if new technologies enable an opportunity for training and education within the Irish Defence Forces.
4.9 Do New Technologies Enable an Opportunity for Training and Education within the Irish Defence Forces?

Change, by its nature, should provide military organisations with new, and more capable systems, or processes, once the change initiative has been fully implemented within the organisation. The new capability should allow the organisation to be transformed and, in addition should provide the individuals within the organisation with new opportunities. The participants were asked if the introduction of new technologies enabled new opportunities for training and education. As espoused by Chenhall, et al. (2007), militaries continue to face the political pressure to improve efficiency, to identify the resources associated with different levels of readiness and to become more accountable for the use of public resources. Consequently, military organisations must now ensure that when they invest in new technological systems that they can realise a return on that investment. It is, therefore, hypothesised that if new technologies are successfully implemented within a military organisation then there should be a positive transformation internally, as any technology being implemented should add to already existing capabilities.

All 31 respondents were united in their belief that the introduction of new technological systems should enable an opportunity for training and education within the Irish Defence Forces. The respondents primarily focussed on the technology being the enabler that allowed for greater development of training and education. The respondents were unanimous in this consensus, and the following quotations area reflective of this trend:

*Most certainly they do. It is the duty of the Defence Forces in the same way that it is the duty of all elements of the public service or those charged with responsibility for people and that is that you must facilitate the self-actualisation of your people* (Interviewee 7).

*Absolutely, and it gives people something more to strive towards as they can get new qualifications* (Interviewee 9).

*Yes they do and we’re working hard on this area at the moment. We are moving to a*
three-year planning process for our training requirements and I think a lot of this has been enabled through technology (Interviewee 4)

The positive trend focussed on how new technological systems will allow personnel to develop and enhance their qualifications, while the Irish Defence Forces ultimately benefits, by having well trained staff. Moreover, the respondents reflected on the positive contribution that can be made from new technological systems and also highlighted a range of areas during the interviews. The more significant areas to be raised were online training and simulation, and the context in which they were discussed focussed on the new technology providing sustainability for the development of training and education.

Of the respondents, 15 of them referred to the advantages that can be obtained from utilising technological systems for online learning within the Irish Defence Forces. As observed by two of those respondents:

Yes they do because there are a lot more online courses available and there are people doing their leaving certificate while they’re at sea and that’s due to the availability of online courses and technology has been the enabler for this (Interviewee 15).

I think that the only way to really embrace technology is through web based or the internal IKON because that’s where you can instruct training (Interviewee 29).

This observation recognises the necessity of the Irish Defence Forces to develop and embrace new technological systems. The respondents’ belief that the inculcation of new technological systems will enhance the organisation indicates that the respondents are aware of the need for the organisation to be sustainable. In addition to this observation, there was an acknowledgement that the new generation of individuals entering the Irish Defence Forces are more comfortable and competent with technological systems. As noted by one of this cohort of respondents:
There is a new phrase on the block and it’s called a ‘tech native’ and this is defined as an individual who is now in the work force and who was born with technology in their hands. These ‘tech natives’, firstly, do not understand instinctively the processes under which their bosses from a previous generation would have worked with, and still seek to work under, and they will not accept them as the answer for the future (Interviewee 7).

This reflection again highlights the necessity of senior leaders within the Irish Defence Forces to be capable of embracing and learning new systems so that an open and transparent process is used when trying to identify new technologies that will enhance the capability of the organisation, thus ensuring the organisation remains sustainable and current. Change, is considered a ubiquitous notion, that can frustrate organisations and it has to be carefully managed because it is something made to happen to or within an organisation. Senior leaders need to be aware of this as technology continues to advance, there will be continuous pressure to ensure that the Irish Defence Forces procure the systems that will allow them to develop and evolve.

Moreover, it should be noted that technology also has additional applications within the training environment, and four of the respondents made reference to the role that simulation can play particularly in a military context. The respondents outlined the positive contribution that can be made by inculcating simulation training within the Irish Defence Forces and responses to this include:

*Simulation in the air and maritime domain will be significant as it saves cost on actual usage of resource to deliver on training output and yet it gets the same if not a higher level of understanding on the part of the student* (Interviewee 4).

*We have seen with technologies such as simulation that there are huge advantages and while there’s no substitute for the real life experience there is significant merit in using these technologies to give people a good grounding as they start out* (Interviewee 22).
The respondents were reflecting on the role that simulation has played within the Irish Defence Forces, and the cost saving initiatives this form of technology has provided, particularly for the Naval Service and Air Corps. This observation would concur with the findings of Nielsen (2010) who highlighted the role that the training centres would eventually come to play in improving the USA Armed Forces war-fighting ability, and this was particularly evident in the wake of the war against Iraq in 1991. Further to this theory, it was observed that the individuals who had exposure to simulation technologies performed better than those who conducted training in traditional military training environments as the simulation training was described as ‘being tougher than anything the troops ran into in Iraq’. The advantages offered by technology are evident and the return on investment for the Irish Defence Forces can be significant once the resource is carefully managed and maintained.

The findings of this section recognise that the introduction of new technological systems have the potential to enable a new opportunity for training and education within the Irish Defence Forces and all 31 of the respondents agreed with this. The analysis above has shown that new technologies should not be introduced if they are not going to enable the Irish Defence Forces to progress and develop as technologies would not be conducive to organisational development and organisational sustainability. Military organisations are therefore cautioned to ensure that any new technological system being introduced can be inculcated within the organisation and that the impact of the technology is positive both in terms of the development of the individuals and the organisation.

4.10 The Civilian and Military Relationship

As outlined in the preceding sections, respondents were asked to discuss how the Irish Defence Forces conducts its strategic planning when seeking to identify new technological systems. As part of this research, it was sought to determine if the respondents understood the role and process of strategy formulation during the change process, particularly when identifying new capabilities. An emerging theme in the previous sections has made reference to the civil-military relationship and the impact it has on the development of strategy within the Irish Defence Forces and also, the impact this relationship has on the provision of resources when conducting capability development planning. The role of the civilian element of the defence process should not be underestimated, particularly with respect to the Irish Defence Forces as
the role of accounting officer rests with the Secretary General of the Department of Defence. This integral role has a significant influence in the capability planning process. This structure presents unique challenges to the Irish Defence Forces as capability development can potentially be hampered by civilian personnel who do not have the required knowledge and expertise within the military domain, and in some cases can have a negative impact on the planned technological systems.

Traditionally, the input of the civilian element of the defence organisation has been an endlessly debated subject and both the military and the civilian sides have their own beliefs as to how this process should function. Identifying the goals of a military is a more complex and intricate process as military goals are assigned by the civil element of defence (Norheim-Martinsen, 2016). Huntingdon (1957) and Janowitz (1960) have provided the seminal research on the requirement for civil control of the military, and Huntingdon’s model for the civil-military interface is still in use today. The military organisation of a country is essentially tasked by the political system in what they can, and cannot do, and as such it is the responsibility of the political system to ensure adequate funding and resources are provided to reflect the operational capability the state’s military force must have.

Moreover, the Defence Forces is a unique force in that it is that Army personnel who fill 90% of the Defence Forces Headquarters (DFHQ) positions, and this structure has been in place since 1924. This archaic structure, presents significant challenges as core decision-making appointments, relating to capability development, are being staffed by personnel who may not fully understand the intricacies of developing capability in the Naval Service and Air Corps. Army personnel fill all of the key high-level appointments within DFHQ, such as the Director of Finance, Director of Strategic Planning Branch, Director of Human Resources and Director of Defence Force Training, appointments that have a significant influence as to where resources and capability development will be targeted. History, and tradition, hold a particular significance within the Irish Defence Forces and this anomaly was noted by eight of the respondents, and one respondent noted:

*There is a dysfunction with DFHQ, in that, DFHQ is essentially a land component HQ, so the NS is the maritime component in the Defence Forces and therefore it’s not necessarily about influencing DFHQ, it’s about the maritime component command*
bringing its requirements to the table of which DFHQ should merely be the hand of process as opposed to any professional judgement upon that (Interviewee 7).

Although a simple statement, the proposition as outlined above contravenes the normal military practice for a ‘joint’ headquarters but, nevertheless, it is one additional factor that must be accounted for in the management relationship that exists between the military and civilian elements of the Department of Defence. Ten respondents made specific reference to the convoluted civil-military relationship that exists and acknowledged that it does have a contribution when identifying and procuring new technological systems. While the findings varied, there was an evident frustration when the respondents discussed how change initiatives are communicated between the civilian and military components, as outlined below:

*So that means that you talk to your naval superiors in naval jargon, then if you have to go to the Higher Level Planning and Procurement Group (HLPPG), you have to convince the civil service and the army, you’re talking in management or army jargon and then if you have to bring it to the civil service you have to bring it to a national strategic business case* (Interviewee 6).

Communication, and its role in the change process was previously discussed, but its presence in the civ-mil relationship is critical, as failure to have an established and coherent communication process will cause significant confusion and an adverse impact on technological projects. The contention by the respondents that military personnel within the Irish Defence Forces, are not able to speak an analogous language is concerning, and the representative quotation above demonstrates the challenges that can be experienced as individuals attempt to communicate change projects to higher levels within the Irish Defence Forces. The barriers created due to this lack of inclusive communication and a joint approach, was additionally referred to by another respondent, who noted that:

*The Department of Defence would see capability development as the equipment delivery plan while the Defence Forces would see capability development as something much wider than just purchasing equipment* (Interviewee 21).
Interestingly, the civil side of the Defence Organisation view this differently:

_The civil side looks for an evidence based decision-making process, which outlines why we need something and why we’re looking for it, etc. From the military perspective, generally they know where they need to be and how they intend on getting there, so I think it’s fair to say that our starting positions are slightly different_ (Interviewee 30).

This finding is interesting for this research as it is apparent that the military and civil sides view capability development in completely different terms. While the quotations provide a narrow perspective, it reinforces the contention that there is an evident breakdown in fundamental communication and understanding between the civilian and military sides of the Defence Organisation, and this has a significant impact, as alluded to by other respondents. As previously discussed in the earlier sections, there is a myriad of elements that support the creation of strategy and these strengthen a military organisation’s capability development. These observations are acknowledged and further elaborated on by another respondent who furthers this point and notes that:

_We see it in particular with the Department of Defence and although they are trying to adapt to the demands that are being made on them. They’re an enormously conservative organisation with a long time developing certain points of view in relation to this expenditure of public money and we often complain about them but that is one of the elements that prevent us from implementing and bringing on new technologies_ (Interviewee 14).

The contention that the civilian element within the Department of Defence are conservative in their approach to capability development would further support the earlier findings. Moreover, one of the civil respondents provided an additional perspective on this and posited:

_And that goes to the whole question of, what is the role of the civil element, and what is the role of the military, and how does each interface and why is the department having any role, and any say at all in platforms, etc._ (Interviewee 31).
This candid statement further highlights that there is confusion at the higher decision-making level of the organisation, and there is doubt over the roles each element should play. While the military may contend that the civil side of the Defence Organisation are not qualified to provide guidance on strategic capability development, there would also appear to be an absence of strategic capability planning on the military side of the Defence Organisation, thus highlighting the relevance of this unexpected finding for the Irish Defence Forces. Capability planning exists to prepare military organisations for current and future operations and to enhance military effectiveness. As outlined in the analysis of the extent literature, both Huntingdon (1957) and Janowitz (1960), in their seminal works, acknowledged the potential impact civil-military relations have on military effectiveness. While Huntingdon (1957) supported a divided approach, which emphasised objective political control by establishing a clear divide between policymakers and military implementers in order to maximise military professionalism and effectiveness. This perspective would reflect the current structure or status quo that exists between the Irish Defence Forces and the Department of Defence. Janowitz (1960) alternatively introduced the integrated approach and this fundamentally sought to add a political dimension to the military profession so that the military would be sensitive to the political and social impact of the military establishment on international security affairs.

In addition to this observation, another respondent reflected on the importance of ensuring that both the civil and military elements are aware as to the purpose of the capability development process and the necessary requirement to have sufficient funding available:

*And on the civ-mil side, we need to have greater congruence between the civil and military side, the expertise required to ensure best value for money, that the development of the contract itself doesn’t leave us a hostage to fortune in terms of the small print* (Interviewee 1).

The need to have greater congruence or integration of both the military and civilian elements becomes evident when the contract process is outlined, and created, and this finding outlines, reflecting on the extent literature highlights the need for the military organisation to have a clear and concise strategy that is understood by all and is reflective of the civil-military requirements. While Huntingdon (1957) proposed that professionalism is an adequate indicator of effectiveness, as it would acknowledge a military organisation *fit for purpose, this*
has been shown to be inaccurate by more contemporary studies, which identified the *integrated approach* as outlined by Janowitz (1960) as a more suitable and relevant model. This observation would further support the findings of this research, in that, the current structure and processes used by both sides in the Defence Organisation are inadequate and have a significant impact on the effectiveness of the Irish Defence Forces.

Reflecting on military effectiveness, the findings of this research align with the current literature as Posen (1984) acknowledged that empirical evidence has shown that military effectiveness increases when civil elements are involved in the creation and adoption of doctrine, as stagnation will occur if the military are not forced to change and evolve. The findings of this research which identified the risk averse nature of the Irish Defence Forces to new technologies, reinforced by out-dated generational perspectives demonstrates that the Irish Defence Forces are not an effective organisation. Furthermore, in order to enhance organisation performance, the analysis additionally observed that military effectiveness is not one constant value but an organic process that has different characteristics at each of these levels (Nielsen, 2005) and must be managed in a manner that is suitable for the relevant environment. This highlights the inefficiency of the current rotational policy used by the Irish Defence Forces, as the failure to ensure longevity of tenure in key strategic appointments is having a negative impact on the long-term future of the Irish Defence Forces.

The findings of this research have identified that the Defence Organisation relationship is conflict laden. Failure to address the current issues will have the potential to negatively impact on the organisational effectiveness of the Irish Defence Forces as the absence of clearly identified strategy, supported by suitable change management processes is absent. The roles assigned by Government determine the level of transformation a military may be required to undertake, and the security threat assessment will contribute to this process, as demonstrated previously in this section. Notably, research by Fetterly (2007) identified that military transformation requires additional capital and investment in order to acquire the identified capabilities and this presents additional challenges when reflecting on the earlier observation of Hart (2018).
However, the lack of control on the budgetary process by either the Irish Defence Forces or the Department of Defence is concerning as military ambition in Ireland is effectively controlled by the Department of Public Expenditure and Reform. Reflecting on this finding, the realisation that the military elements are the experts on military warfare and technological capability requirements must be synonymous to the civil requirement for long-term budgetary planning and considered expenditure on large-scale technological projects. This point is particularly applicable in the Irish context, as the earlier analysis has shown that the Department of Defence have opposing views on capability development to the Irish Defence Forces, and it may be the case that these variations on basic understandings that could be reason for tension within the Defence Organisation.

The complexity of detailed strategic planning for future technologies and their associated change is not one that can be taken lightly as militaries now operate in an age where technological systems are pivotal in how a military organisation such as the Irish Defence Forces trains, operates, and when necessary, fights. Indeed, the development and sustainment of the civilian and military relationship is one that must continue to evolve and efforts are required by both parties to ensure that an analogous language is established and that a shared strategic vision and supporting capability development plan is developed and communicated. The analysis has demonstrably shown that the Irish Defence Forces need to acknowledge and accept the apparent shortcoming the organisation has in this regard. Failure to acknowledge the impact this conflict-laden relationship is having on the military effectiveness of the Irish Defence Forces will have a potential detrimental impact on the strategic change process and will have negative connotations for future planned technological change. Notwithstanding, the findings of this research indicate that the Irish Defence Forces will be capable of becoming more effective without any loss of civilian control once military effectiveness is better understood across the Defence Organisation.

4.11 Conclusion

The findings of this study have identified that the Irish Defence Forces are positively inclined towards technology and acknowledge the positive contribution it delivers. Analysis has highlighted that the Irish Defence Forces does not fully inculcate technological systems, and this prohibits the organisation from evolving. A core causation for this issue was identified by
the respondents, as they argued that new technological systems are not supported by suitable training processes and that this practice had been considered an ‘accepted norm’ within the Irish Defence Forces. By failing to holistically inculcate new technological systems, there can be no new learning, therefore, the Irish Defence Forces cannot evolve. This finding calls for further research.

Of further significance is the identification of the benefits change management processes can provide to the Irish Defence Forces. At present, there is a dearth of knowledge relating to change management in the Irish Defence Forces, particularly around the area of technology. The findings of this research have shown that a small military organisation, such as the Irish Defence Forces, can enhance its effectiveness and efficiency by implementing suitable change management processes and by having an integrated civil-military relationship. This finding is significant and adds to the literature in the field, particularly for nations with smaller military forces. Moreover, this finding additionally highlights the need for further research into larger military organisations in order to ascertain if the findings observed in this research may be applicable in those cases, thereby, further adding to existing literature, where future research exploring this extended dimension is required.

The findings also identified the critical role that leaders play in the organisational change process. A significant finding relating to this research highlighted the suitability of a qualified transformational leader to assume the role of ‘change agent’ during the implementation of technological projects. The respondents raised two key issues relating to leadership during organisational change projects in the Irish Defence Forces. Firstly, that the project leaders are not provided with sufficient time to fully implement a project due to the rotational policies utilised by the Irish Defence Forces. This finding warrants further research in other military organisations and this observation may have connotations for change leaders in other public sector organisations, as they too may have issues with staff rotating through key appointments. Secondly, the respondents highlighted that the Irish Defence Forces do not employ or inculcate proactive communication procedures when undergoing organisational change. This finding will add to the current dearth of knowledge that exists for communication in military organisations, and calls for further research.
Of further significance is the finding that organisational culture creates a multitude of issues for the Irish Defence Forces. Due to the hierarchical system within the Irish Defence Forces, this research highlighted the negative impact the generational gap has when identifying and subsequently implementing technological solutions. Additionally, another related observation to this finding was the ‘frames of reference’, each of the generations within the respondent cohort referred to when providing contextual explanations to their answers during the data gathering stage. This finding is important as it highlights a cultural issue that has not been researched previously, particularly in an Irish context, and it may warrant research in other public sector organisations, such as the An Garda Síochána, The Prison Service and the Civil Service, as they too would have a similar organisational structure to the Irish Defence Forces. This finding presents an additional factor that prevents the Irish Defence Forces from evolving, adding to the literature in the field, and exploring this added dimension is required.

Finally, another key finding of this research, which is linked to the other findings, was the role that capability development planning can contribute to the Irish Defence Forces. The respondents openly expressed their frustration and disappointment with the continuous cycle of implementing ‘pet-projects’ projects that had not been planned for, and had no benefit for the organisation, as they were not aligned to an overarching strategic capability development plan. This finding has received little attention in the literature, or in the Irish Defence Forces, and frameworks such as the Future Force Concept warrant further research. The identified lack of strategic direction provided from the political level, and associated lack of adequate funding from wider Government to support technological developments is concerning and based on the analysis of the extant literature, highlights the Irish Defence Forces as an outlier in this area. Additionally, the finding which identified the lack of a centralised capability development directorate is significant and contributes to the literature in the field and also requires further study.

Overall, the findings of this study are significant for both researchers and practitioners. The final chapter of this research provides a synthesis of the data gathered, resulting in the creation of a new change management process framework.
Chapter Five:

Conclusion
5.1 Introduction

As outlined in Chapter One, the context in which this research took place is one in which there is limited research on the impact new technological systems have on the Irish Defence Forces. In addition, the research sought to conduct an exploratory study of change management in the Irish Defence Forces for implementing new technological systems. In order to contribute to the extant literature on the area of change management within the Irish Defence Forces, during technological change, a grounded theory approach was utilised in this study, and the research methodology used was qualitative through the application of semi-structured interviews. This allowed the researcher to commence the study with these contextual issues in mind, but without a strict set of questions that needed to be answered. A set of objectives were proposed in Chapter One, to provide new insights as a result of conducting this research. The grounded theory approach taken in this research allowed for the development of theory from data resulting in the following contributions.

Based on the existing literature, the need for military organisations to prepare for the future and to develop strategies, which support long-term development, was identified. In this study, however, the Irish Defence Forces (military personnel) view long-term strategic planning as significant, however, due to many issues including government budgeting cycles the Department of Defence (civilian personnel) consider the short-term approach to outweigh long-term strategic planning. Due to the unique relationship the Irish Defence Forces have with the national Government, there are evident issues, which the respondents identified as obstacles to strategy creation in an Irish context. Both civil and military participants observed that the lack of long-term planning negatively affects the acquisition of suitable capability, and the omission of a capability development branch was considered necessary to support organisational development. A short-term approach, based on the study, outweighs long-term strategic planning. The findings of this research contradict the existing policy provided in the White Paper on Defence (Government of Ireland, 2015), which seeks to use NATO standards as the benchmark for capability development within the Irish Defence Forces.

In contributing to managerial practice, this research identified the lack of change agents within military organisations as a significant factor that impeded the implementation of technological systems within the Irish Defence Forces. The current staff rotation policy, used by the Irish
Defence Forces, was identified as a significant obstacle to organisational change, as key personnel are not being provided with adequate time to manage change, and further impacted on the change process. Furthermore, the identification of the influence of frames of reference, presupposed by generational influences was considered to have a significant bearing on how the Irish Defence Forces developed and evolved as new technologies were identified. The literature identifies the Irish Defence Forces as a public sector organisation (Chenhall et al. 2007) the process used in managing change may be useful to other public sector organisations implementing technological systems.

This research highlighted how change management processes and associated theories have not traditionally been examined in military organisations. In this study, the theoretical contribution highlights the applicability of the Engage and Learn Model espoused by Worley and Mohrman (2014) to the Irish Defence Forces as process for managing change. The model reflects the need for organisations to remain capable of operating in the ‘new normal’ environment which must manage complexity and change in an era of sustainability. In addition, it was a strong contention among most respondents that change is not well managed in the Irish Defence Forces, and the lack of a coherent and established process was highlighted as a significant issue across senior management levels of the organisation. Furthermore, this research provided a novel approach by using a military context against which to examine the Engage and Learn model and highlights the model’s suitability for military organisations during technological projects. The findings emanating from the empirical research undertaken for this study are such that they have enabled the compilation of factors contributing to the management of change in the Irish Defence Forces, which can be generalised for use, based on the extant literature, by other similar organisations, such as Irish public sector organisations, and potentially for other similar sized military organisations.

To conclude the study, a theoretical framework for implementing new technological systems, and associated change, in the Irish Defence Forces, is presented. This framework was developed from the interaction between the identified research objectives posed at the commencement of this research, and the interview data gathered. This proposed framework presents the findings and discussion and allows conclusions to be drawn from this exploratory study. Furthermore, it should be noted that the proposed framework seeks to provide a context
that the Irish Defence Forces can use for managing change. The research critically acknowledges the role of the political level (national Government Departments) and the Department of Defence in defence planning, and provides a novel framework for the Irish Defence Forces to identify and subsequently manage change once a technological system has been selected to meet an organisational need. This chapter culminates with recommendations for future research, recommendations for practice, limitations of research, the overall contribution to knowledge, and a conclusion on the study.

5.2 A Change Management Process Framework for the Irish Defence Forces

As discussed in the literature review, and as evident from the findings and discussion in Chapter Four, the Irish Defence Forces can benefit from the application of change management processes when introducing new technological systems. Analysis of the data has highlighted six key factors that the Irish Defence Forces must be cognisant of when introducing technological change. This framework demonstrates the interaction between the factors and the other two organisational components in the framework, leadership and communication, and organisational culture, which impact on the implementation of new technological systems. The outcome of this interaction is a new theoretical framework that highlights a process that the Irish Defence Forces should follow when identifying and subsequently implementing new technological systems.

The development of this new perspective on the management of change within the Irish Defence Forces is a new contribution to the literature in this area, as there is limited extant literature on the topic at present. At a conceptual level, few theoretical models demonstrating how military organisations can manage change have been proposed in the literature at present, and none has previously sought to establish a holistic process that includes all of the key factors that are required when identifying a new technological system and how its introduction is to be managed. The literature on change in the military has typically focussed on why military organisations find it hard to change, and why technology is becoming so pertinent for military organisations. There has been little research conducted on how new technologies are identified at the strategic level, and how they are then subsequently implemented and managed within the organisation. This framework provides a novel perspective on how change management
processes can be used during technological change within the Irish Defence Forces and presents an important new contribution to the extant literature on this phenomenon.
Figure 5.1 – A Change Management Process Framework for the Irish Defence Forces

Source: Developed by Author (2020)
The framework acknowledges the role of the political level in the long-term strategic planning of the Irish Defence Forces and the influence of where the current decision-making powers reside, particularly with reference to finance, a sub-theme that emerged from this research. The framework highlights that there is a responsibility on the political level, and associated Government Departments to collectively support the Irish Defence Forces, particularly, the Department of Defence, as noted by respondents. The findings that emerged from this research support the previous work of Uttley et al. (2019) who identified that military organisations are under pressure to adapt their force to ensure that they are fit for purpose in a rapidly changing world. Yet, the strategic leaders face a difficult task in attempting to change a system that is largely ‘set and fixed’ in place by a host of previous policy decisions. While this research primarily sought to explore how change management processes could support the Irish Defence Forces for implementing new technological systems, the findings of this research have identified the role of policy and its implications for capability development, thus reflecting Gray’s (2015) analysis on strategy’s elements and levels, contributing to the extant knowledge.

In terms of the proposed framework, the relationships have been graphically illustrated and highlight the interactive and iterative concept of the framework. While the framework establishes a natural hierarchy in how organisational change should be managed internally within the Irish Defence Forces, the six core elements have been deliberately left unnumbered. Analysis conducted in Chapter Four has indicated that numbered steps can be construed as ‘box ticking’ exercises, therefore, numbering the elements would have potentially negative consequences on the ethos of the framework. The core six factors of the framework are reliant on each other, as each part of the process provides clarity and coherence to the change being implemented. If one of the elements has not been addressed, or included in the planning process, then the project will potentially fail, as alluded to previously by Cohen and Gooch (2006). The two-way arrows between each of the six factors highlights the interactive and iterative nature of the framework, as organisational change will require the Irish Defence Forces to remain flexible and adaptable to internal and external demands as it undergoes organisational change, reflective of the Engage and Learn Model (Worley and Mohrman, 2014).
Reflecting on the emergent themes from this research, the proposed framework would provide a structured process that could be used for developing long-term planning within the Irish Defence Forces. This is significant, as current practice does not consider long-term capability planning, therefore, projects currently being implemented are classed as ‘pet projects’ based on the empirical evidence. An example of this is the IKON project, which was identified in Chapter One, and was raised during the data-gathering phase, represents a project that did not adhere to any overarching framework. An individual identified the technological solution and once certain stakeholders provided support; the project was implemented in order to provide a knowledge management system for the entire Irish Defence Forces. The project was initiated and only achieved 30% coverage internally, thus resulting in 70% of the organisation (all formations, corps and services) not having access to the Irish Defence Forces online knowledge management system (Byrne, 2019). Analysis conducted on the project identified that the project failed to deliver a return on certain expectations and failed to recognise personnel’s contribution to knowledge capital. Furthermore, the failure of the project was a result of lack of leadership, particularly in the middle tier leadership, and championing across the organisation was lacking, highlighting a significant communication issue, which were all noted by the respondents of this research. An additional finding that emerged from this research was that of the ‘silo approach’, which exists within the Irish Defence Forces and the IKON, project faced similar challenges with the silo effect. The IKON project was conceived and implemented by the Communications and Information Services Corps (J6), which suffered from the lack of true cross boundary support and influence, highlighting the negative impact that organisational culture can have on the implementation of technological projects within the Irish Defence Forces. While the respondents agreed that the project sought to fulfil an organisational deficit, there was unanimous agreement that the project was not identified in line with an overarching strategic framework, therefore, suffered from a lack of leadership, was not holistically implemented, experienced resistance, and did not deliver as expected. The framework proposed in this research seeks to provide a structured yet flexible process that will allow the Irish Defence Forces to plan for future technological projects in a co-ordinated and holistic manner, providing a solution for an identified organisational gap.

Based on the findings of this research, organisational culture permeates all levels of an organisation and can influence the decisions people will make, both from a civilian and military context. The proposed framework seeks to illustrate this by enclosing the core six elements in
a shaded box. This box is enclosed by a dotted line, which symbolises that culture can be modified and changed as it is a human behaviour, reflecting the current literature (Goffee and Jones, 1996). Moreover, it is important to note that the organisational culture has the potential to effect all six of the factors due to the findings elucidated in this research, for example, frames of reference, and must be accounted for, particularly during large-scale organisational change. This finding furthers work by Farrell and Terriff (2002) who identified that cultural norms will define the purpose and possibilities of change within the military domain, and it is essential to understand how the central stakeholders involved in the transformation process justify change in terms of goals, strategies, and organisational structure. Finally, the framework also illustrates that leadership and communication transcend and encompass the entire organisational change process, including both the political level (Government to Department of Defence) and at the strategic level (Department of Defence to Irish Defence Forces). The success of the framework requires collaboration and leadership throughout the transformation process, and highlights the need for a strategic vision, in this case of this framework, the Future Force Concept, to inform the capability development required.

The responsibility for ‘feedback’ and lessons learned resides at the leadership level, as senior management within the Irish Defence Forces should ensure that identified issues and lessons learned during the organisational change are fed back into the core factors and amendments made where necessary. The following section will provide an overview of each of the components of the framework and discuss their role within the framework, based on the findings of this research.

5.2.1 Government Policy and Finance

One of the objectives of this research was to explore the role of the Department of Defence and wider Government in strategy formulation, and what impact this would have on capability development in the Irish Defence Forces. The findings of this research acknowledge that the political level has a significant influence on the level of capability development undertaken in the Irish Defence Forces, as the budget is controlled and administered by the Department of Public Expenditure and Reform and the department of Finance. While the military respondents acknowledged this factor, their frustrations were incorrectly directed at the Department of Defence. Analysis highlighted that the civil respondents provided a more in-depth view and
demonstrated how central government control the level of funding available to the Irish Defence Forces, which determines the amount of capability development that can currently be undertaken.

A key finding which emerged in this research highlights the role that the political level (central Government) contribute, or in the case of this research, do not contribute to the higher-level formulation of defence policy in Ireland. The consequential impact of this lack of engagement by central Government in providing long-term strategic direction has resulted in the current status quo, whereby, the Department of Defence now assume a more significant role in the development of defence policy in Ireland under the Carltona Principle, an issue the respondents raised. This would reiterate the findings of Norheim-Martinsen (2016) who acknowledged that identifying the goals of a military organisation is a more intricate and complex process as military goals are assigned by the civil element of defence (central Government). While analysis of the research has demonstrably shown that civil control of the military is necessary, it also emerged that in the absence of long-term strategic direction from central Government, military effectiveness will decrease, and that confusion will exist, as outlined by Nielsen (2005). For example, when the first White Paper on Defence ended in 2010, there was no White Paper until the next iteration, which was published in 2015. During this five year hiatus, capability development within the Irish Defence Forces was minimal as there was no Government approved policy in place, again highlighting the positive attributes of developing a Future Force Concept for Irish long-term defence planning. Furthermore, the emergence of the lack of integration at Defence Forces Headquarters from a civil-military perspective, and from an Irish Defence Forces perspective, further highlights that the Irish command and control structure, including management at the political level, does not adhere to international best practice. Reflecting on the first principle of integration, it must be acknowledged that the political system which militaries are based will determine their level of effectiveness, and whether they can divorce themselves from that society. The model of integration as espoused by Janowitz (1960) remains applicable to the Irish Defence Forces and the respondents highlighted that the lack of a truly joint Headquarters is problematic, as it remains army-centric and all of the services, formations, corps and directorates, including the Department of Defence, operate in silos.
To enhance military effectiveness and ensure that the Irish Defence Forces remain fit for purpose, it is critical that the civil and military elements (all three services) work collectively and influence the political level to ensure adequate funding and policy guidance is provided to support long-term planning. Analysis of the literature has acknowledged the need for both military and civil elements to understand that military activity occurs at multiple levels: the political, the strategic, the operational and the tactical, and failure to recognise this has potentially significant implications. Previous analysis highlighted the current relationship that exists within the Defence Organisation, which has the Secretary General is the primary policy adviser and accounting officer for the Irish Defence Forces, while the Chief of Staff is the primary military adviser. This observation, which does not reflect international best practice, presents added complications in the Irish context for long-term organisational development. The inclusion of this factor in the proposed framework highlights the need for the Irish Defence Forces to seek integration at the political level, whilst simultaneously achieving integration internally across all services, corps and directorates (Hegarty, 2018). The following section will introduce the need for a Defence Organisation future force concept for identifying new technological systems.

5.2.2 Defence Organisation Future Force Concept

The findings of this research indicate that the Irish Defence Forces initially commence their change process at the strategic policy level of the organisation. The research identified a significant dearth of knowledge and awareness about how the Irish Defence Forces conducts its strategic planning and how this plan is used for identifying future capability requirements, particularly when identifying new technological systems. Analysis of the research has shown that a developed and established strategic plan would ultimately provide the foundation for the Irish Defence Forces’ development over a long-term period, while remaining adaptable to respond to unforeseen future events. A core requirement of this framework, particularly for the Irish Defence Forces, is the creation of a future force concept, which encompasses a 20-30-year period.

As outlined in this research, the current mechanism for funding the Irish Defence Forces is centrally controlled at the political level and was found to be incompatible with the delivery of modern defence capabilities by both the military and civilian respondents. Furthermore, the
lack of long-term budgeting is affecting the identification and subsequent delivery of military capability in an Irish context when compared to other military forces based on the extent literature. Ireland, therefore, would be an exception in this regard, which refutes current Irish Defence Policy, namely, the White Paper on Defence (2015) which clearly states that NATO standards will be the benchmark for future defence capability development.

The importance of the Civil-Military relationship is another key factor that must be not be ignored and as evidenced by this research, the creation of sound military policy requires an input from both the civil and military elements. The creation of a Future Force Concept would provide all levels, the political, strategic and operational, with a long-term vision of where the Irish Defence Forces intends on positioning itself within the current and future operating environment. The alignment of all three levels would provide the Irish Defence Forces with the clarity it needs in identifying the capability it requires and the budget within which to deliver it, an omission that this research has identified by highlighting the current cumbersome approach, which is not aligned to any form of an established ‘best practice’ (Uttley et al. 2019).

Critically, for this research, this initial part of the proposed framework acknowledges that the political level has an impact on how the Irish Defence Forces are funded, and the strategic policy that drives organisational development. Notwithstanding, this research sought to explore if change management processes could enhance the Irish Defence Forces ability to identify and implement new technologies. The creation of a Future Force Concept would provide the initial step in identifying the capability the Irish Defence Forces requires (Hegarty, 2019), and the remaining parts of the proposed framework will provide a structure that the Irish Defence Forces should use. The next section will focus on the role of a Capability Development Plan.

5.2.3 Capability Development Plan

Analysis of the findings of this research highlighted the need for the creation of an Irish Defence Forces Capability Development Directorate and associated Capability Development Plan to accomplish the future forces concept. Revision of the extant literature and analysis of the respondents’ views highlighted that the lack of an organisational capability development...
The plan has promoted a ‘pet project’ mind-set within the Irish Defence Forces, and all respondents acknowledged this. The primary purpose of a capability development plan would be to stop the practice of ‘pet-projects’ from occurring, as highlighted by the findings of this research, and ensure that technological projects being identified are aligned to the future force concept, thus contributing to the overall performance of the Irish Defence Forces. Moreover, the findings that emerged from this research identified that the Irish Defence Forces does not have a Capability Development Directorate, therefore, there is no centralised control mechanism for managing organisational change projects, irrespective of their size and cost. This finding highlights the Irish Defence Forces does not align with international best practice, a standard the Irish Defence Forces espouse to meet, which encourages military organisations to have a capability development directorate. Critical to the efficiency of such a directorate would be the alignment of the civil and military elements, as the civil element would play a significant role as intermediary between the political and strategic levels for defence planning in Ireland and additionally contribute to securing the funding required for the associated capability development. This observation further reinforces the findings from this research.

This research also identified that, in the absence of prescribed Irish Defence Forces standards, military standardisation systems such as the NATO/PfP STANAGs have merit in forming part of the decision-making process when identifying future capabilities. Analysis of the existing literature highlighted how other militaries, irrespective of size, have used this process to their advantage (Prezelj et al. 2016). An added benefit of using internationally agreed standards would allow the Irish Defence Forces to become interoperable both nationally and internationally. Furthermore, the use of the military Doctrine, Organisation, Training, Material, Leadership, Personnel, Facilities and Interoperability (DOTMLPFI) or Defence Lines of Development approach provides another useful template against which to ensure that all aspects of the new technology have been examined and risk analysis completed where necessary. This finding further endorses the advantages of creating a Capability Development Directorate, as this would initiate and monitor standardisation throughout all services, Army, Naval Service and Air Corps, and all corps and directorates, a development that does not exist at present within the Irish Defence Forces. Moreover, it is pertinent to realise that a joint approach is required when introducing new technological systems and it is critical that the technological systems being implemented can be used throughout the Irish Defence Forces and not cause issues for single service (Army, Naval Service and Air Corps) components within...
the Defence Forces, as experienced by the IKON project. Analysis of this research highlights that the current composition of Defence Forces Headquarters is not reflective of best international practice and is having a detrimental impact on capability development within the Irish Defence Forces, as capability is being determined by services, corps or directorates, which highlights the ‘silo mindset’ identified by the respondents.

The creation of an Irish Defence Forces Capability Development Plan highlights a critical observation of this research as it acknowledges the current lack of centralised control in the organisation. As alluded to, the relevance of this factor on the proposed framework highlights the pivotal point at which Irish Defence Policy transitions from the political level to the delivery and implementation of military capability, which is the responsibility of the Irish Defence Forces. An objective of this research sought to examine how capability development is advanced within the Irish Defence Forces, and the proposed framework, which emerged from this research, provides a viable option that should be considered. Furthermore, this research has shown that the Irish Defence Forces approach of continuous incrementalism and ‘muddling through’ is problematic as it limits the extent to which military strategic leaders can plan.

5.2.4 Technological System

Once identified, the selected technology must be implemented throughout the Irish Defence Forces, both within the operational and training domains of the organisation. This research has demonstrably shown that the Irish Defence Forces do not implement training systems to support the new technologies that are being introduced, and such an approach will have negative and long-lasting consequences for the organisation. Gilchrist (2018) highlighted an issue prevalent in the military is where technological systems are procured before the full challenge of integrating it is understood or planned for, a finding, which the respondents highlighted when discussing the IKON project and other smaller scale projects during the data gathering. The impact of new technologies transcends the organisation and will have an impact on the organisational culture of the organisation, and failure to inculcate this new system within the culture will have a negative result.
5.2.5 Change Management Process

The findings of this research have demonstrably shown that the Irish Defence Forces would benefit from the introduction of a suitable change management process. The analysis conducted of the literature in Chapter Two, highlighted the positive attributes associated with change management processes and the stability they can provide during organisational change. This finding highlighted the knowledge that already exists within the Irish Defence Forces but has not been utilised to date. This discovery is insightful as it endorses the need for the Irish Defence Forces to review how it conducts organisational change and additionally highlights the need to educate and prepare senior leaders for roles that are responsible for implementing technological projects.

Reflecting on the findings of this research, the flexible and iterative methodology provided by the Engage and Learn Model (Worley and Mohrman, 2014) aligns to the framework proposed by this research as the new framework acknowledges that change is a constant, and as such, requires an iterative process that can evolve with the change being implemented. Analysis of the extant literature identified that there is a dearth of knowledge about the positive attributes of change management processes for military organisations when implementing new technologies (Davidson, 2011). The hierarchical and bureaucratic nature of military organisations do not readily align to flexible frameworks yet change requires an innate agile capacity. Additionally, the novel nature of the proposed framework highlights the key components of change based on the respondents’ feedback during the interview process and highlights the advantages associated for the Irish Defence Forces developing a change management process. Further analysis of the research highlighted the need for the Irish Defence Forces to remain adaptive and capable of learning during change, a theme, which emerged, based on the respondent’s responses.

Aligned to the framework, is the need for change to be identified by a strategic roadmap for the Irish Defence Forces. The respondents overwhelmingly highlighted the lack of strategic planning currently undertaken in the Irish Defence Forces and acknowledged the implications this has for the organisation. The outcome of this research suggests that a suitable change management process should be inculcated within the Irish Defence Forces and there must be
an organisational cognisance that the change process may need to evolve and develop over time, as each organisational change will present separate and unique challenges.

5.2.6 System Implementation

A significant finding from this research was the respondent's frustration with how technological systems were just implemented and never fully utilised. This led to the inclusion of this element in the proposed framework as the analysis suggests that leaders introducing new technological systems must ensure that sufficient time and resources are provided to complete training and familiarisation sessions with individuals. Failure to fully implement a new technological system will have a negative reaction as the organisation will not accept, or embrace the system, as they will have assumed it to be another ‘pet-project’, based on the findings of this research.

This was evidenced by the overwhelmingly negative feedback the respondents provided on the IKON project, which was an organisation-wide initiative, and other projects that were implemented in the various services, formations, corps and directorates. This finding supports the justification for utilising a cross case comparison by selecting one organisation wide technological project and the respondents lived experience of technological change in their respective services, formations, corps and directorates. Howard (1974) noted that inadequate thinking about operational requirements, the best of technology and the biggest budget in the world would only produce vast quantities of obsolete equipment. The findings of this research highlight that the Irish Defence Forces are in danger of replicating this trend unless technologies, which have been identified through a modern and future-oriented process, are inculcated within the Irish Defence Forces.

5.2.7 Leadership and Communication

One of the most significant and overriding contributory factors during the implementation of change is that of communication. This research has demonstrably shown that communication is recognised as a key enabler of change but is repeatedly ignored or misused within the Irish Defence Forces. Communication is a process that transcends the full conceptual framework as
proposed by this research and is integral in allowing the Irish Defence Forces to complete the
process of implementing a new technological system through a suitable change management
process. The respondents highlighted poor communication as a significant issue for the Irish
Defence Forces and acknowledged this factor as an issue when implementing new systems.
The inclusion of communication in the proposed framework highlights the need for the Irish
Defence Forces to enhance its internal communication processes and to use communication as
a mechanism for overcoming cultural issues. This finding further highlights previous research,
albeit in a different context, conducted by MacMahon and MacCurtain (2016), when they
completed a Workplace Climate Report on the Irish Defence Forces. Their study highlighted
that the Irish Defence Forces had significant issues with internal organisational culture, the lack
of leadership at all levels of the organisation and its inability to effectively manage change.

It is notable, therefore, that the leadership role during change projects, particularly
technological-related projects, will require experienced and transformational leadership. This
research has identified that this is a significant contributing factor towards ensuring a successful
outcome, and it is pertinent that the leaders in key decision-making positions are prepared and
capable of implementing change projects. The role of the Defence Forces’ leaders should not
be overlooked as they have a responsibility to contribute both in the implementation of the
project, but also, more importantly, with creating an environment that allows the organisational
culture to grow and evolve. Similarly, if leaders are observed to visibly encourage individuals
within the organisation to accept the new technological system, this symbolises acceptance and
emphasises the need for the organisation to change and develop. As observed in Chapter Two,
culture is a behaviour that can be modified, and while it may be difficult to change, the theory
indicates that a new behaviour can be learned, therefore encouraging leaders to lead (Goffee
and Jones, 1996).

An additional finding based on the analysis conducted in Chapter Four, was the apparent dearth
of change agents within the Irish Defence Forces for technological projects. Military leaders
have a responsibility to assume the role of change agents, or project champions, during
organisational change to ensure that the capability being introduced by the organisation is
realised and rendered operational (Surace, 2019). The respondents, both military and civilian
referenced the lack of time military officers spend in key appointments and highlighted the
‘box ticking’ mindset that exists within the Irish Defence Forces. The current rotation policy is having a negative and detrimental effect on the management of change within the Irish Defence Forces and highlights the leadership vacuum that exists in mid to high-ranking positions. Literature by Holten and Brenner (2015) highlights the need for continuity in leadership during periods of change and the current modus operandi would again reiterate that the Irish Defence Forces are an exception in this regard. The proposed framework acknowledges this issue and incorporates leadership as a theme that must transcend the entire change process, commencing at the political level, including influencing policy creation, to the successful implementation of the new technological system.

5.2.8 Organisational Culture

Chapter Two provided an in-depth analysis of the role culture plays in military organisations and the impact it can have on organisational change. One of the primary contributory factors that a public organisation can develop is how its organisational culture will change and evolve during the implementation of a new technological system (Morgan and Ogbona, 2008). This research has demonstrated that a new technological system can only be successfully implemented if the personnel within the Irish Defence Forces are united and willingly accepting of the new system and work towards inculcating it within the organisation. As evidenced in the analysis of this research, the period between the identification of a new technological system and the change process used to implement it will be pivotal in determining if the change will be a success. The example of the IKON project again highlights how the Irish Defence Forces have not successfully managed or changed the culture in embracing a technological (knowledge management) system. While the senior leadership of the organisation may have been aware of the project, up to 70% of the employees in the organisation were not aware of the planned change, nor could they access the system once it was implemented, highlighting the earlier finding on ensuring system implementation. Reflecting on the extant literature, the shared values and beliefs of the organisation were not managed, and the hierarchical structure of the Irish Defence Forces failed to evolve and change into a more responsive organisation due to existing cultural norms (Schwab, 2017; Hofstede, 2010).

Furthermore, the respondents additionally raised the presence of generational issues and innate frames of reference that evolve when personnel joined the Irish Defence Forces as an obstacle
to change (Clarke, 2016). The research also identified the Irish Defence Forces as a peacetime military (Laswell, 1997), and acknowledged the need for military organisations to be capable of investing and implementing new technological systems in order to remain relevant. Analysis of the respondents’ feedback has highlighted that the Irish Defence Forces continue to be risk averse to change, particularly when technology is concerned, and that the generational issues, which influence organisational culture, have contributed to this stasis. Moreover, this research highlighted the lack of support mechanisms that were associated with selected examples the respondents referred to during the interviews. This emphasises the importance of ensuring that an adequate training process is put in place to support individuals within the Irish Defence Forces. This will assist in creating new organisational cultures as individuals will experience the ‘unlearning/learning process’ as they embrace the new technological system.

In addition to the identification of this framework, a number of recommendations for practice, and recommendations for future research are evident from the findings of this research.

5.3 Limitations of Study

While this study provides a contribution on both a theoretical and empirical level, some limitations of the research need to be considered. First, time constraints posed a particular challenge, as they dictate the amount of time that can be dedicated to empirical research. In particular, time constraints impacted on the geographical scope of the study. It was originally intended to base the study on the Naval Base, Cork and include Defence Force Headquarters, Kildare. The inclusion of individuals from these locations proved problematic and personnel from these locations frequently sought to reschedule interviews. This had an adverse impact on the schedule that was developed for the data-gathering phase and it was therefore decided to focus efforts on Cork and include the personnel who made themselves available from the other locations, based on their corps, service and formations.

Second, it must be acknowledged that the sample in this study is small. While the composition of the sample is communicated in Table 3.1, it also warrants mention here. Of an overall total of 31 respondents, all of whom were Irish, there were 29 respondents from the Irish Defence Forces and two respondents from the Department of Defence, who were interviewed for this
research. Qualitative research, however, allows for small sample sizes as the focus is on analysis of insights, rather than providing a representative, statistically accurate representation.

Third, the Irish Defence Forces focus of the study also raises a potential limitation. This research has acknowledged and referred to organisational culture, particularly regarding its ability to impact on the introduction of new technological systems and how this affects the change process. It is possible, therefore, that organisational cultural differences do exist internally within the Irish Defence Forces among the services, corps, formations and directorates, as this research acknowledges that organisational culture will determine the success of change projects. Included within this cohort were personnel from various corps, such as, the Communications and Information Service Corp, the Corps of Engineers, Marine and Electrical Engineers from the Naval Service and officers experienced in change management. Additionally, two respondents were included from the civil element of the Defence Organisation. It must be acknowledged that it is possible that this study may have been impacted by its confinement to the Naval Base, Cork and Defence Forces Headquarters, Newbridge, Co. Kildare.

Fourth, this research is representative of the views of senior management within the Irish Defence Forces and Department of Defence only. While military organisations traditionally have junior and senior officers in management positions, the primary decision-makers are senior officers, and this was an issue that was fully considered at the outset of this research. It was decided that, because senior officers are the primary decision-makers in the Irish Defence Forces, this was the most appropriate level from which to gather data in order to achieve the objectives of this research. This research did not include an input from the Non-Commissioned officers within the Irish Defence Forces, and as leaders at the tactical level, they do have an influence over how change is communicated and implemented within the Defence Forces.

5.4 Recommendations for Practice

The review of the literature, coupled with the empirical data gathered, highlights a number of organisational areas that could be addressed by the Irish Defence Forces in an attempt to improve current practice. There were three key areas identified in this research and these are elaborated on below.
First, it is evident from the findings of this research that the Irish Defence Forces are failing to adequately communicate change initiatives, particularly when they concern the introduction of new technological systems. The analysis demonstrably showed that this breakdown in communication also exists at the higher decision-making level, as there was an apparent issue when delineating the organisations’ medium to long-term strategic policy. The development and establishment of a coherent change management process and policy would actively encourage the requirement for the Irish Defence Forces to engage with its personnel and communicate the organisational change that will be occurring. Communication is required throughout the entire change process and failure to utilise it could be divisive during organisational change. It is recommended, therefore, that the implementation of such a process would positively improve relations across all levels of the Irish Defence Forces, simultaneously creating a collaborative and enhanced environment in which to deliver change. However, it is also suggested that while the Irish Defence Forces are developing their communication policy, they do so with the ultimate aim of inclusion and enhancing the organisations cultural mindset. Indeed, in this study, respondents strongly opined that a more transparent and robust communication process would have significantly enhanced their level of acceptance and ‘buy-in’ towards new technological systems, thereby, underscoring the importance of communication, and presenting a significant finding of this research.

Second, another observation emerging from this research highlighted the rotation policy that the Irish Defence Forces use when rotating staff through key appointments. During the interview process, there was a constant undercurrent that pointed towards the frustrations that respondents believed when they were not provided with adequate time to identify and subsequently implement organisational change. The traditional Irish Defence Forces system of rotating through command and staff appointments is not conducive to the implementation of organisational change and created more significant problems that led to project over-runs and higher associated project costs, as evidenced in Chapter Four. The senior civil servants interviewed for this research concurred with this finding based on their lived experience, thus providing greater credibility to this finding. It is recommended, therefore, that the Irish Defence Forces review their rotation policies and identify personnel who will play integral roles when identifying and implementing organisational change. These key personnel or ‘change agents’ need to be supported by the organisation to ensure that technological change is successfully inculcated within the Irish Defence Forces, but more importantly, that there is
an experienced and knowledgeable cohort present throughout the project, thus, ensuring that the change is carefully managed throughout the project lifecycle. Furthermore, developing a rotation policy that protects the organisation’s investment will ensure that the new system is fully inculcated within the Irish Defence Forces, while simultaneously ensuring that the level of risk is diminished and maintained at a low level.

Third, one of the early issues identified in this research elaborated on the respondents’ beliefs that the Irish Defence Forces do not holistically utilise a future force concept, or strategic planning process, when identifying new technologies. The evident lack of capability development planning within the Irish Defence Forces and the Department of Defence was acknowledged by the majority of respondents. The literature identified capability development planning as one of the key factors involved in having a resilient and robust strategic planning process that can sustain the rigours of time and a complex operating environment. It is recommended, therefore, that the Irish Defence Forces seek to establish a Capability Development Directorate that is jointly staffed by all three services (Army, Navy and Air Corps) and personnel from the Department of Defence. Furthermore, it is also recommended that any future capability development planning process is intrinsically linked to the Irish Defence Forces long-term strategic planning, thus, avoiding the findings of this research, in that systems are being procured without any higher-level oversight. The analysis of this research indicates that a Future Force Concept would provide a suitable mechanism through which to plan for the long-term. By establishing a modern process that provides a holistic view of capability development, it will be possible to ensure that new technologies are procured to meet a strategic need, as opposed to a convenient or ‘pet-project’ solution, that does not offer long-term viability. Furthermore, a developed long-term plan can be financed and budgeted for over a sustained period thereby providing a value for money approach for capability development planning in the Irish Defence Forces.

In summary, it is recommended that as part of achieving the recommendations outlined above, the Irish Defence Forces review how the key decision-makers ultimately conduct organisational planning. This research has identified that key decision-makers and senior leaders within the Irish Defence Forces innately rely on pre-conceived frames of reference when confronted with making significant decisions based on their lived experience thereby
providing a generational impact. The inability to change how key decision-makers conduct strategic planning needs to transform in order for the Irish Defence Forces to ensure that new technological solutions are aligned to the strategic ambition of the organisation.

The above suggestions have been made for improving practice in the Irish Defence Forces. The following section will now look at recommendations for future research based on the findings of this research.

5.5 Recommendations for Further Research

There are a number of potential contributions to further research stemming from this research. This research provides a suitable base for further studies that would contribute to the literature on change management and the introduction of technology within military organisations undergoing organisational change.

First, the framework proposed in this research focuses on providing a new theoretical construct that can be used for managing the identification and subsequent controlled introduction of new technologies within the Irish Defence Forces. It would be interesting to replicate this qualitative study in other similar sized international military organisations, to further examine the proposed framework, and to overcome the limitation of generalising from one study. It would also assist in determining if these findings are unique to this study.

Second, this study primarily focussed on the Irish Defence Forces. It would be interesting to examine if the proposed framework could be used in an Irish public sector context. For example, could another public sector organisation with a similar hierarchical structure and bureaucratic culture, such as An Garda Síochána, benefit from the analysis and findings of this research, and if the framework has greater applicability than just the Irish Defence Forces? It is recommended, therefore, that a similar study be undertaken in other Irish public sector organisations to increase the potential for findings generalisability. The results of such a study should be of interest and would generate significant comparative data.
Finally, one of the key issues identified in this research was the process used in the identification of new technologies by military organisations. The current literature indicates that military organisations aspire to migrate towards a ‘system-of-systems’ approach to support their operations and non-operational requirements based on a process of emulation. The findings of this research would suggest that future research should focus on the negative aspects associated with organisational change, as understanding how technological change projects fail would provide a valuable data source. Studying such projects may provide a more contextual basis from which to investigate such phenomena, particularly from a military perspective. Research undertaken in this area would be valuable in developing and extending the understanding of the impact of new technological systems on military organisations.

5.6 Overall Contribution to Knowledge

The findings of this research have implications for both practice and future research, as previously discussed in this chapter. The findings also contribute to knowledge in several ways, and with relevance to a number of discipline areas. From a theoretical perspective, this research contributes to the extant theory on change management in military organisations.

Firstly, this research highlighted how change management processes and associated theories have not traditionally been examined in military organisations. This research identified the applicability of the Engage and Learn model as a suitable change management process that would suit the hierarchical nature of the Irish Defence Forces. Notwithstanding that military organisations are rigid, the research has identified that more flexible processes such as the Engage and Learn model have applicability during change projects, particularly as military organisations can have numerous projects being commenced and completed at various times, adding to the current knowledge that exists.

Secondly, the role of strategy, and how organisational assumptions can influence it, contributes to the extant theory. Strategy development is necessary when preparing an organisation for the long-term and the notable lack of any long-term strategic planning process within the Irish Defence Forces, including the Department of Defence identifies a significant shortcoming for the Irish Defence Forces. This research built on the work of Gray (2015) and highlighted the
applicability of his definition of strategy in a military context. Additionally, the research acknowledged the previous work of Mintzberg and Waters (1985) and provided an alternative use by applying it to a military organisation. The lack of a long-term strategic plan, further restricted by the lack of a capability development directorate has a negative connotation for the Irish Defence Forces as it is unable to adequately realise intended strategies and due to its current rigid structure, which this research has shown does not manage change effectively, is unable to respond to emergent strategies. These findings have implications for the Irish Defence Forces and arguably add to the literature.

The findings of this research also have contributions to the managerial practice of change management and organisational change. Firstly, from an organisational culture perspective, this study highlighted the role of military organisational culture on technological change and outlined how military organisational values can negatively impact on the proposed change and contributes to knowledge. Organisational culture is proposed to shape, for example, how individuals behave, and their attitudes to change. It can be inferred from cultural theory that organisational change may result in some employees being likely to engage in technological change. The generational impact from which individuals gain their formative understanding, or exposure to military organisational cultural norms and accepted behaviours, will dictate group cohesion and loyalty and will determine how receptive those individuals will be to change. In this study, however, the respondents, which included senior managers within the Irish Defence Forces and Department of Defence, acknowledged the negative role individuals can have on proposed change projects, particularly those involving technology. Furthermore, the respondents highlighted that the cultural obstacles are affected by the frames of reference generated by individuals as they progress through their organisation and contributes to the current knowledge.

Secondly, based on the findings of this research, the creation of a long-term future force concept would allow the Irish Defence Forces to align to international best practice and develop a sustainable long-term strategic plan for the organisation. The creation of such a concept would not take a prolonged period but would require organisational acceptance across both the civil and military level. This process has not been implemented to date in the Irish Defence
Forces and would provide a logical and discernible contribution to the future capability planning of the Irish Defence Forces.

Finally, the identification of qualified and suitable change agents is a managerial practice that the Irish Defence Forces do not currently observe. The creation of a process to train and equip senior managers for positions as change managers within the Irish Defence Forces would arguably enhance the Irish Defence Forces’ ability to implement technological change in a structured and sustainable manner. The results of this managerial practice may contribute to the knowledge for professional military education and enhance military organisational effectiveness within the Irish Defence Forces.

5.7 Conclusion

Change in the military is a contentious subject and the extant literature, which is minimal, reinforces this concept, particularly in the case of the Irish Defence Forces. This research has sought to provide new perspectives on this, and the findings of this research do indicate that the Irish Defence Forces can utilise change management processes to manage the introduction of new technological systems.

The significant obstacles, which exist at the political and strategic level within the Irish Defence Forces and the Department of Defence, contribute to the current impasse regarding strategic planning in the Irish Defence Forces. While this research primarily aimed to explore the role of change management processes during change, it is evident that the lack of strategic direction and adequate budgetary provision is having a negative impact on how the Irish Defence Forces plans for strategic change. The acknowledgement that funding continues to be an issue, and that there appears to be no immediate desire to develop a long-term strategic vision further exacerbates the current stasis.

Notwithstanding, it is evident from the study that the Irish Defence Forces struggle to manage the introduction of new technological systems and the organisational change associated with them. The inability to adequately manage change is having an adverse impact on the
organisation and the failure to learn from past change projects is notable. The findings confirm that the Irish Defence Forces does not create a strategic plan over the medium to long-term and this finding is concerning and highlights an area that must be addressed for future organisational sustainability. This acknowledgement provides persuasive evidence that many new technologies within the Irish Defence Forces, are introduced on an ad hoc basis and that this current modus operandi is having a detrimental impact on the organisation, and its associated organisational culture.

Furthermore, the findings critically highlight a lack of future-oriented transformational leadership and an associated proactive communication process, which actively inhibits progress when introducing new technologies within the Irish Defence Forces. The consistent lack of a coherent strategic message provides more obstacles to the successful management of change and the findings of this research further justify the need for the Irish Defence Forces to have established change management processes and procedures. The findings also suggest that progress in the Irish Defence Forces is affected by the generational frames of reference that senior leaders have developed throughout their careers. The importance of creating and maintaining a more future-oriented approach to managing organisational change cannot be understated as the data gathered during the semi-structured interviews confirm a palpable demonstration of the challenges faced due to the Irish Defence Forces not evolving.

Finally, it is evident that having a change management process will benefit the Irish Defence Forces, particularly, when it is aligned to an overarching long-term strategy for the organisation. This research has demonstrated that the respondents, which comprised of current and future strategic leaders within the Irish Defence Forces and Department of Defence, desire such progression and acknowledge the positive contribution that change management processes can make. It is imperative, therefore, that the Irish Defence Forces embrace the advantages change management can contribute, particularly, when implementing new technological systems, and that previously inculcated beliefs, and dogmatic risk adverse mind-sets, are discarded. The result of such an evolution would be a successful outcome for both the Irish Defence Forces, and the individuals within it, thus, creating an environment that promotes the creation of a new organisational culture by embracing change.
References


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NATO Headquarters (2010b). *ACT Strategic Plan, 2010*. NATO.


Appendix 1 – Interview Guide & Interview Protocol

Interview Guide

Date:

Interview Start Time: Interview End Time:

Interviewee:

Interviewee Identification Code:

Appointment:

Length of Service:

Branch:

1. With respect to technology, how has your organisation evolved over the last 5-10 years?
2. Does your organisation utilise a strategic planning process when identifying and introducing new technological systems?
3. What influence, if any, does NATO/PfP/EU and their associated standards have on your organisations strategic planning?
4. What challenges exist for your organisation when introducing new technologies?
5. Has the introduction of new technologies had a transformative influence on your organisation?
6. How accepting is your organisation of innovation, when implementing new technology?
7. Is your organisational culture supportive of change management initiatives?
8. What does Change Management mean to you?
9. How is change managed within your organisation?
10. Are your organisations current structures suitable for change management processes and cultural change?
11. Do you see change management practices and processes benefiting your organisation?
12. Do you think that military organisations can successfully adapt civilian change management practices when implementing projects?
13. What leadership qualities are important when embracing and managing change?
14. How are change management initiatives communicated within your organisation?
15. In the context of change management, do new technologies enable a new paradigm for education and training within your organisation?
16. Before completing this interview and reflecting on the main themes just discussed, is there anything else you would like to add?
Interview Protocol

Initial Guidance
Good morning (afternoon). My name is Paul Hegarty. Thank you for coming. This interview involves a semi-structured interview that contains 16 questions, in which I will ask you about your experiences as an officer/civil servant in the Defence Forces/Department of Defence. The purpose is to get your perceptions and understanding of change management during technological change in the Defence Forces. There are no right or wrong or desirable or undesirable answers. I would like you to feel comfortable with saying what you really think and how you really feel.

Digital Recorder Instructions
If it is okay with you, I will be digitally-recording our conversation. The purpose of this is so that I can get all the details but at the same time be able to carry on an attentive conversation with you. I assure you that all your comments will remain confidential. I will be compiling a transcript, which I will send to you for your comments and/or observations based on what you say here today. At no stage will you be attributed to any of the remarks as a code will be randomly assigned to you.

Respondent Details
I’m now going to ask you some personal questions which relate to your professional experience.

Date:

Interview Start Time: Interview End Time:

Interviewee:

Interviewee Identification Code:

Appointment:

Length of Service:

Branch:

Questions
I will now commence the recording. Please let me know if you have any questions as the interview progresses and we can take a break if necessary, should it be required.

1. With respect to technology, how has your organisation evolved over the last 5-10 years?

FUQ – Can you think of any immediate examples of technologies that were introduced?

FUQ – Has the progress been a positive or negative experience?

2. Does your organisation utilise a strategic planning process when identifying and introducing new technological systems?

FUQ – How does your organisation plan for technological systems?

FUQ – How do you plan for unplanned systems? Would this be a normal occurrence?

FUQ – What impact does the strategic/political level have on your strategic planning process?

3. What influence, if any, does NATO/PfP/EU and their associated standards have on your organisation's strategic planning?

FUQ – Why are these standards important?

FUQ – Are you aware that this was a DF policy (WP 2015)? If not, why not?

4. What challenges exist for your organisation when introducing new technologies?

FUQ – Are these technologies planned for in advance?

FUQ – Is there an issue with the generation gap when introducing new technologies?

FUQ – Do you think that senior officers do not embrace new technologies?

FUQ – Are there budgetary or policy issues/concerns that present challenges?
5. Has the introduction of new technologies had a transformative influence on your organisation?

FUQ – Have these projects been highlighted in advance, and where necessary, has training been provided?

FUQ – Have new technologies allowed the organisation to become more efficient and effective?

6. How accepting is your organisation of innovation, when implementing new technology?

FUQ – Do you think that people’s frames of reference affect how they view innovative change?

FUQ – Is innovation supported in your organisation? If not, why not?

7. Is your organisational culture supportive of change management initiatives?

FUQ – What cultural barriers to do think stop change from taking place?

FUQ – Why do you think military organisations struggle with change projects involving technology?

FUQ – Does your organisational culture evolve because of change initiatives?

8. What does Change Management mean to you?

FUQ – Have you had experience of change management during your career?

9. How is change managed within your organisation?

FUQ – Are personnel informed of the proposed change in advance of the project commencing?

FUQ – Does the DF utilise a pet-project approach?

FUQ – Can you provide any examples of positive or negative change projects?
10. Are your organisations current structures suitable for change management processes and cultural change?

FUQ – Do personnel stay in positions for prolonged periods?

FUQ – How often do personnel rotate through key positions? Why is this a problem?

FUQ – Why do you think your organisation is so risk averse to technology?

11. Do you see change management practices and processes benefiting your organisation?

FUQ – Why are change agents important?

FUQ – What attributes do you think such processes can bring to the DF?

12. Do you think that military organisations can successfully adapt civilian change management practices when implementing projects?

FUQ – What barriers do you feel exist in your organisation?

FUQ – Is this something you believe would make the organisation more efficient?

13. What leadership qualities are important when embracing and managing change?

FUQ – Are change agents or project champions identified in advance of a change project?

FUQ – How does the senior leadership dynamic function during change?

FUQ – Do personnel receive the training they need for leading change projects?

14. How are change management initiatives communicated within your organisation?

FUQ – Is technology used to communicate change?

FUQ – Are decisions adequately communicated at all levels of your organisation?
FUQ – Do senior leaders keep your organisation appraised of current and future developments?

15. In the context of change management, do new technologies enable a new paradigm for education and training within your organisation?

FUQ – Do your training processes evolve to reflect the change being introduced?

FUQ – Are technological systems inculcated within the DF?

16. Before completing this interview and reflecting on the main themes just discussed, is there anything else you would like to add?

FUQ – As necessary.

________________________________________________________________________

Interview Concludes

That now concludes the interview. Once I have transcribed the digital recording I will send it on to you for your comments and/or observations.

Thank you very much for your time and assistance in completing this research interview.

________________________________________________________________________
Appendix 2 – Chain of Evidence
Appendix 3 – Content Analysis Example

<table>
<thead>
<tr>
<th>Meaning Unit</th>
<th>Condensed Meaning Unit</th>
<th>Code</th>
<th>Sub-Category</th>
<th>Category</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 2 – Colour Code Orange</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Well I did look at the strategic planning process for my MBA and I haven’t seen too much of it being used in the Defence Forces. New technology in my opinion, and this may sound cynical, it almost happens by chance that there is maybe one ambitious or innovative individual picks up something and it starts happening from there as I don’t think there is anybody sitting down at the strategic level and asking where do we want to go.</td>
<td>Strategic planning process for my MBA and I haven’t seen too much of it being used in the Defence Forces.</td>
<td>Strategic planning process not being used.</td>
<td>Strategic planning process.</td>
<td>Strategic Planning.</td>
<td>Use of strategic planning process for identifying new technologies.</td>
</tr>
<tr>
<td>I don’t think there is anybody sitting down at the strategic level and asking where do we want to go over the next 5 years.</td>
<td>It almost happens by chance that there is maybe one ambitious or innovative individual.</td>
<td>Happens by chance.</td>
<td>Strategic planning process.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Innovative or ambitious individual.</td>
<td>Change agents.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Nobody sitting down and planning for future.</td>
<td>Strategic planning process.</td>
<td></td>
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<tr>
<td>In my experience no, as it’s been very much an ad hoc, and in some cases a reactionary approach and there doesn’t seem to be a central point driving it. You kind of get individuals with their pet projects and depending on the personalities of the individuals and where they reside in the organisation, you either get an examination of the new technology or you</td>
<td>Strategic Planning.</td>
<td>Use of strategic planning process for identifying new technologies.</td>
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<td></td>
<td></td>
<td>Ad hoc approach to strategic planning.</td>
<td>Strategic planning process.</td>
<td></td>
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<td></td>
<td></td>
<td>Individuals driving change.</td>
<td>Strategic planning process.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Depending on the personalities of the individuals and where they reside in the organisation.</td>
<td>Solos run.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Personalities and their position in the organisation.</td>
<td>Pet projects.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Generational issues / frames of reference.</td>
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</tbody>
</table>
get the adaptation of it, one or the other.  
You get an examination or adaptation.  
Acceptance of technology  
Resistance to change.

| It’s hard to say whether they actually do use a strategic planning process to implement new technologies. Very often it’s driven from a middle management level and one or two SME’s who see the requirement to progress that area and they bring it forward to command and it fits in to the strategic plan but it’s not necessarily driven by the strategic plan, it’s possible a chicken and egg scenario. | Hard to say whether there is a strategic planning process.  
Driven by individuals at middle management level or SME’s.  
Need is identified and technology is selected, not by design. | Strategic planning process not being used.  
Innovative or ambitious individual / SME.  
Individuals driving change, not by design. | Strategic planning process.  
Change agent.  
Pet projects.  
Solo run. | Strategic Planning.  
Use of strategic planning process for identifying new technologies. |

| **Question 14 – Colour Code Yellow** | **Where we fail is processes, so again, we don’t have a system of systems in place that enable us to systematically, correctly, methodically and pedantically in cases where necessary, introduce change and as a consequence we rely on the quality of the individual and when that individual changes or leaves, then we go back and start looking at things again** | We rely on the quality of the individual.  
When that individual changes or leaves, then we go back and start looking at things. | Quality of the individual.  
Individual changes or leaves. | Change agents.  
Rotation policy. | Leadership.  
Leadership qualities that are important when embracing and managing change. |

| So, there has to be credibility, communications of the project and there has to be the core competence of being able to bring the project through from start to finish and that it doesn’t get there has to be credibility and communications of the project. | There has to be credibility and communications of the project.  
Quality of the individual.  
Ability to communicate. | Change agents.  
Communications.  
Project Champion. | Leadership.  
Leadership qualities that are important when embracing and managing change. |
<table>
<thead>
<tr>
<th>Brought half way and then collapses through incompetence or lack of funding, or the lack of a project management structure.</th>
<th>Core competence of being able to deliver the project from start to finish.</th>
<th>Individual remains with the project to completion.</th>
<th>Rotation policy.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Incompetence can be a threat to the success of the project.</td>
<td>Quality of the individual.</td>
<td>Change agents.</td>
</tr>
<tr>
<td></td>
<td>Lack of funding can be a risk to the project.</td>
<td>Risk posed by funding.</td>
<td>Funding.</td>
</tr>
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<td></td>
<td>Requirement to have project management structure in place.</td>
<td>Correct structures in place.</td>
<td>Organisational structure.</td>
</tr>
<tr>
<td>Communication would be a big one and passing on of information is critical. The ability to be able to build and sustain relationships is important and as I said earlier, the ability to be able to influence both the management level and the staff level is paramount to the success of any change project. Knowing where your sources of power are is also important as these do change over time.</td>
<td>Communication and passing on of information is critical.</td>
<td>Quality of the individual.</td>
<td>Change agents.</td>
</tr>
<tr>
<td></td>
<td>Building relationships is important.</td>
<td>Ability to communicate.</td>
<td>Communication.</td>
</tr>
<tr>
<td></td>
<td>Ability to influence up and down the chain of command.</td>
<td>Quality of the individual.</td>
<td>Change agents.</td>
</tr>
<tr>
<td></td>
<td>Understanding where the source of power is.</td>
<td>Ability to communicate.</td>
<td>Communication.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quality of the individual.</td>
<td>Change agents.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leadership.</td>
<td>Leadership qualities that are important when embracing and managing change.</td>
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</tbody>
</table>