

A Mixed Method Examination of the
Impact of Mandatory Wearable Location
Tracking Technologies on Employee Trust
and Organisational Commitment: An
Organisational Justice Perspective.

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Declaration

I hereby certify that the material, which I now submit for assessment on the programme of study leading to the award of Doctor of Philosophy is entirely my own work, and that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

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Date: 6th September 2021

Dedication

To Kevin, my fiancé and soon to be husband. This is for you.

Acknowledgements

My PhD journey has been different from most. It took me through a global recession, a global pandemic and to the inside of a Garda prison cell with my supervisor (all in the aid of research!!). I have been incredibly fortunate to have received tremendous support throughout my journey and I wish to take this opportunity to acknowledge that support.

First and foremost, I wish to thank my lead supervisor Professor Regina Connolly. I really could not have completed this journey without you. You believed in me and pushed me to greatness even when I didn't believe in myself. You never gave up on me and your expertise, guidance, support, and friendship allowed me to complete this journey and accomplish my dream and for that I will be forever grateful.

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To my parents Colm and Philomena, thank you for your endless love, support, and belief. You have been with me on this journey since the start and always encouraged me to keep pushing forward and for that I thank you. To my brother Sean and sister-in-law Val, your constant check ins, messages of support and unwavering belief in me meant the world to me. I hope you can both make the Shelbourne!!!

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Abstract

Cliona McParland

**A Mixed Method Examination of the Impact of Mandatory
Wearable Location Tracking Technologies on Employee Trust
and Organisational Commitment:
An Organisational Justice Perspective**

This study examines employee information privacy concerns (IPC) in relation to workplace electronic monitoring. Specifically, it develops a framework for examining the dimensions of employee IPC in relation to location monitoring technologies, examining the relationship of IPC to organisational justice perceptions and illustrating the distinctly different, but interconnected influence of both of these constructs on employee trust and organisational commitment.

The study proposes that employee IPC regarding electronic monitoring directly and indirectly reduces their organisational trust and affective commitment. It further proposes that these IPC reduce employees' perceptions of organisational justice, perceptions which are expected to increase employee trust and commitment.

A three-stage sequential mixed methods data collection approach was employed to explore these propositions. First, exploratory interviews were conducted to refine the proposed framework. Second, the hypothesised relationships in the framework were empirically tested, using a survey of 484 members of An Garda Síochána, Ireland's police force. In the third stage, 36 in-depth Garda interviews were conducted to further explore these relationships. The quantitative and qualitative findings were then integrated and evaluated in the context of the hypothesised relationships.

The integrated findings identify the drivers of employee IPC regarding workplace electronic monitoring, showing that they reduce employee trust, but not commitment. Employee IPC are shown to reduce perceptions of organisational justice, but these perceptions, in particular distributive justice, increase employee trust and affective commitment to the organisation, indicating their importance in managing IPC outcomes. Synthesising IPC and justice dimensions, it extends Social Exchange and Protection Motivation theories to the organisational electronic monitoring context. The study findings provide actionable insights, which can assist employers seeking to harness the organisational benefits of monitoring technologies, without reducing employee trust and commitment.

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Glossery

AGS = An Garda Síochána

DCU = Dublin City University

EFA = Exploratory Factor Analysis

IPC = Information Privacy Concerns

PC = Privacy Concerns

PMT = Protection Motivation Theory

SEM = Structural Equation Modelling

SET = Social Exchange Theory

VIF = Variable Inflation Factors

Acknowledgement from An Garda Síochána

“We are very grateful to the DCU Business School for leading this research. It will provide An Garda Síochána with the first national capture of the digital privacy and health concerns of all our members, enabling us to understand the large-scale impact of this mandatory location tracking technology on the organisation and assisting us in ensuring that data privacy concerns of Gardaí are fully addressed through appropriate governance policies.”

Detective Garda James Mulligan

President of the Garda Representative Association

Chapter One: Introduction

1.0 Introduction and Overview of Dissertation

This dissertation examines the nature of employee information privacy concerns in relation to mandatory electronic monitoring in an Irish organisational context. Specifically, it identifies the dimensions of those concerns in relation to mandatory electronic monitoring by employers and empirically demonstrates the way in which they intersect with organisational justice perceptions to impact organisational trust and commitment. A review of the literature is used to guide the research. The findings of that review are then integrated with the research findings to extend understanding of the dimensions, relational nature and outcomes of employee information privacy concerns in relation to electronic monitoring. Employing a unique case study and sequential mixed methods data collection approach, the results provide impactful and evidence-based insights that deepen our theoretical understanding of the nature of employee information privacy concerns in relation to electronic monitoring, identifying which concerns are predominant and further contextualising them in relation to three organisational justice dimensions in order to illustrate the pathway through which they impact the employee's relationship with the organisation. It also provides valuable practical insights for employers and those interested in understanding how to leverage digital monitoring technologies and their associated opportunities to enhance organisational efficiency, without impacting employee trust or organisational commitment.

The unique sample base, context and chosen technology explored in this study is deserving of particular mention. This is the first time that An Garda Síochána, the Irish police force, have permitted national research examining the privacy concerns of Gardaí in relation to use of mandatory location monitoring technologies within the Irish police force and the impact of such technologies on the organisation. Using this unique national sample, this research provides an in-depth examination of the degree to which mandatory use and adoption of tracking technologies impacts the organisational justice perceptions of Gardaí (across Ireland) in relation to information privacy and how these concerns and perceptions in turn influence their trust in Senior Management and their overall commitment to An Garda Síochána. The results of this study are applicable to

organisations who are considering or have implemented digital monitoring of employees. The study results will be used to guide the data governance policies of the Irish police force in relation to this and other innovative technologies that are currently under adoption consideration, thereby supporting An Garda Síochána in achieving their digital strategic and operational objectives, as well as their social objective of 'Keeping People Safe'. However, insights obtained from this research are equally relevant to other organisations who are considering or have implemented digital monitoring of employees.

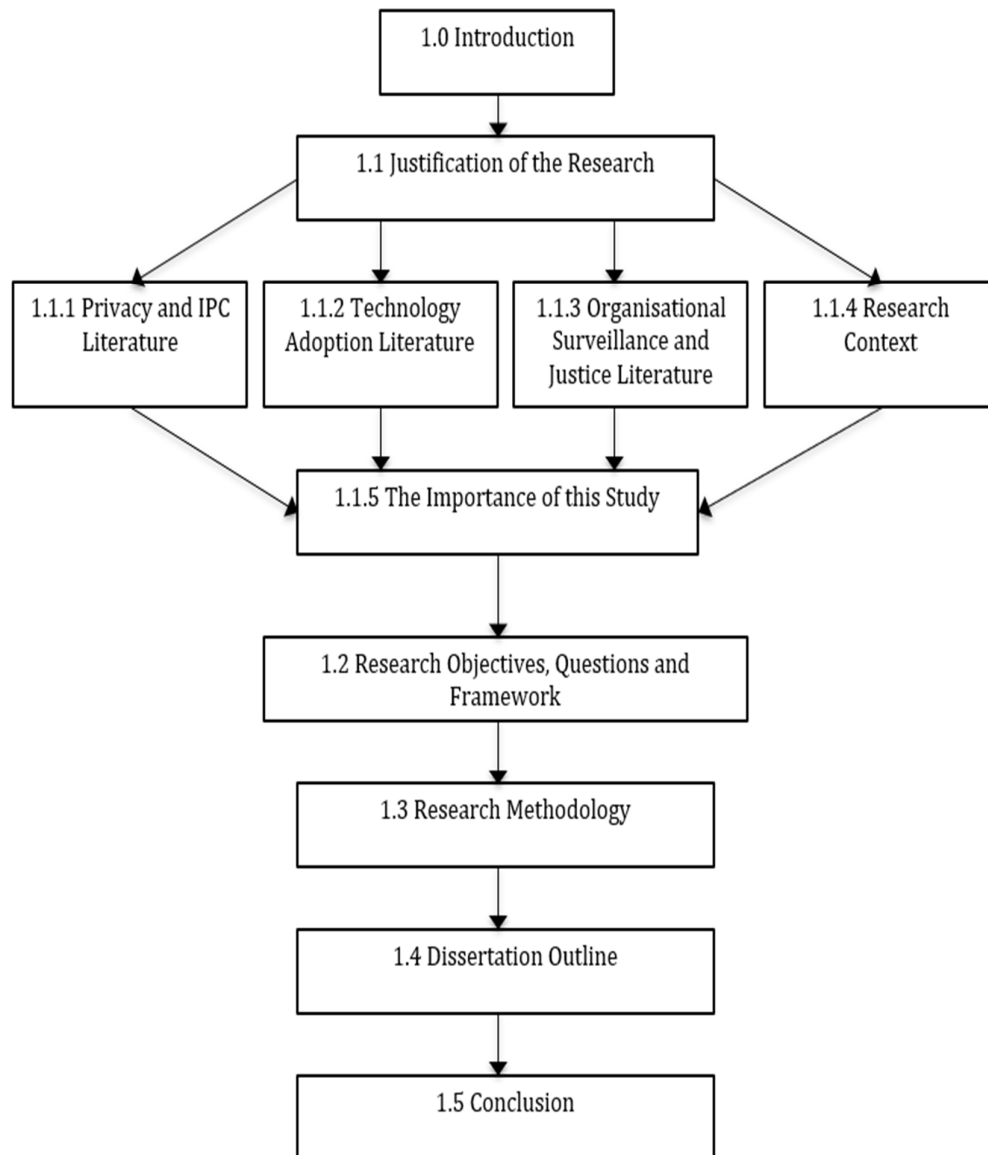
The research is interdisciplinary in nature encompassing an examination of the information privacy literature (chapter 3) and the organisational surveillance and organisational justice literatures (chapter 4). A number of key theories, constructs and measures were identified within these literatures and subsequently selected to formulate and underpin the framework for this study (chapter 5). This framework answers calls for a fully comprehensive model that provides a clear and concise understanding of how employee privacy concerns interact with concomitant workplace surveillance organisational justice perceptions. Using the philosophical lens of Critical Realism (chapter 6), the framework was tested via a sequential mixed method approach (chapter 7). The integrated findings are then discussed in the context of how they advance or challenge existing information privacy, technology-adoption, and organisational surveillance and justice literatures. The conceptual and practical ramifications of those findings, in terms of how they enhance understanding of the impact of digital tracking technologies on employee trust and organisational commitment, are then elucidated (chapter 8).

As previously mentioned, from a practical perspective, this study and its findings are being used to guide a very important public sector organisation in negotiating what is a difficult but necessary path – one in which digital tracking technologies can be used to increase the safety of rank and file members as they undertake their duties with the public, as well as offering Senior Management the opportunity for more precise overview and efficient management of personnel. However, the success of that path is predicated upon employees' willing acceptance of those technologies, which necessitates careful understanding and response to their concerns regarding information privacy and data utilization. Such concerns, if unaddressed, have significant potential to damage employee trust and commitment to the force, thereby impeding realization of the

organisation's strategic, digital and social objectives. Today, many organisations are experiencing competitive pressures to harness the potential of electronic monitoring technologies to enhance management of personnel and resources. The move to remote and hybrid working, which has resulted from Covid-19, has accentuated that pressure and heightened recognition of the value associated with such technologies. As a consequence, organisational adoption of employee tracking technologies and other surveillance innovations is becoming more normalized and their mandatory use is likely to increase. For that reason, although the case study of this research is that of An Garda Síochána, the study findings and their implications are equally pertinent for other public and private sector organisations.

This chapter begins by justifying the need for this research. The objectives of the research are then outlined along with the main research questions and proposed framework in section 1.2. The research methodology is discussed in section 1.3. Finally the chapter concludes with a full overview of the dissertation structure and introduction to literature review chapters.

Figure 1.1: Chapter Structure



1.1 Justification of the Research

The motivation for this research will be considered across a number of key areas relating to the literature mentioned above – information privacy, technology adoption, organisational surveillance and organisational justice. Moreover, the significance of the research context and the practical importance of this study will be also be discussed.

1.1.1 Privacy and Information Privacy Literature

In the literature, much research on information privacy has focused on the effect of consumer concerns within the online transactional domain, specifically the degree to which such concerns can influence a potential purchaser's trust in an online vendor (Sheehan, 2002; Singh and Hill, 2003; Udo, 2001). However, the capturing and storing of personal information, and the threats that this represents to the individual's privacy, extends far beyond the online transactional domain. For example, many questions are emerging regarding workplace surveillance (termed dataveillance), particularly regarding the ability of management to monitor employee computer-mediated interactions and the concerning power asymmetry that such actions reflect (Mitrou and Karyda, 2006; Boehle, 2000). In fact, the use of communication monitoring technologies by management could arguably be considered far more invasive than the use of monitoring technologies within the online transactional domain. For example, through the use of such technologies management can gather and collate detailed information on their employees on a continuous and often real-time basis, yet the employee has little ability to prevent this, in contrast to the online transactional environment. Despite the importance of this issue, there has been limited research conducted examining these issues or how they impact both the employee and the organisation. Thus, the need for research that progresses our understanding of employee information privacy concerns and their organisational impact is therefore urgently mandated.

While much of the existing literature suggests that organisations and Senior Management may have legitimate reasoning and rationale to employ monitoring technologies, the full degree to how these mandatory tracking technologies accentuate employee privacy concerns and how this impacts their relationship with the organisation remains undetermined. Furthermore, employees' have no ability to control how their information

is gathered and used the organisation once these mandatory systems are deployed. Significantly however, research on the information privacy concerns of public sector employees in relation to such technologies remains scarce. Thus, the degree to which these concerns affect public sector employees' behaviour, their adaptation response within the workplace, as well as their overall relationship with the organisation warrant further investigation.

1.1.2 Technology Adoption Literature¹

While previous research has explored the relationship between privacy concerns and their intention to adopt a technology (Reith et al., 2020; Dhagarra et al., 2020), little empirical research has been conducted to fully explore the factors that influence employee resistance to new tracking technologies, particularly in relation to the psychological and decision-making mechanisms underlying such resistance. The introduction of new technologies into the computer mediated workplace environment frequently impacts core business processes and practice and needs to be carefully managed. However, despite recognition of the need to understand and address the causes underpinning user resistance to the successful implementation of new technologies and systems (Lapointe and Rivard, 2005; Martinko et al., 1996) few researchers have proposed clear theoretical explanations or frameworks that address the issue (Kim and Kankanhalli, 2009). Consequently, there is a clear need for research that explores the concerns and perceptions that underpin user resistance in the first place.

In order for public or private sector organisations to achieve their strategic, operational and social objectives they must ensure that their employees' willingly accept and adopt these new innovation technologies and the workplace technology initiatives that are introduced by Senior Management. In fact it is vital that Senior Management understand the factors that drive employee resistance or reluctance to embrace these new technologies in order to fully leverage their capabilities in line with the mission and overall objectives of the organisation.

¹ Due to word count limitation technology adoption literature review chapter can be found in appendix I.

1.1.3 Organisational Justice Literature

A greater awareness of increased monitoring within the workplace combined with the corresponding information privacy concerns of employee's point to the need for further research on this issue. However, while there is much conceptual discussion relating to workplace surveillance and organisational justice perceptions within the literature, empirical studies on how these relate to employee monitoring are in short supply. Clearly there are two differing perspectives at play in relation to workplace surveillance – the need of the organisation to legitimately monitor their employees' interactions within the workplace in order to achieve organisational efficiencies, versus the equally legitimate right that an employee has to protect their personal and information privacy. However, despite keen interest from both academics and practitioners, neither perspective, nor how they can be balanced effectively, has received adequate attention to date (Alge, 2001; Snyder and Cistulli, 2011; Chory et al., 2016). Thus, whether management's ability to monitor employee actions in workplace represents good business practice or constitutes an invasion of privacy remains a matter of speculation. Moreover, the impact of employee information privacy concerns on their relationship with the organisation remains empirically undetermined. This is particularly surprising given that the organisational monitoring of employee communications has the potential to result in negative employee morale, exert a negative impact on productivity and could potentially force the employee to engage in specific privacy protection behaviours. Moreover little research has been conducted to explore whether and how the organisational justice perceptions of employees influence their concerns regarding workplace surveillance or indeed their trust in management and organisational commitment.

It is clear that organisations must leverage their location-monitoring technologies in a way that improves organisational effectiveness, whilst also enhancing employees' relationship with the organisation. They must seek to understand whether and how employees' organisational justice perceptions regarding the introduction of these technologies and monitoring initiatives, influence their trust and commitment to the organisation.

1.1.4 Significance of the Research Context

The case study used in this study is a public sector organisation, An Garda Síochána, which is the Irish Police Force. It enables an examination of high stakes electronic monitoring in practice. For example, the monitoring technology, which has been mandatorily adopted by this organisation, is the National Digital Radio System, which is a personal issue GPS enabled radio handset that is issued to all active Garda members on the force. Use of the National Digital Radio Service is a mandatory requirement of all active Garda members. Use of this technology has the potential to enhance Garda responsiveness to the public and their own personal safety through the provision of real time oversight regarding service delivery and resource deployment. Equally however, use of this technology by Garda Management to monitor Garda location can be seen by Gardaí as an invasion of privacy, especially as Garda members have no control over how their information is gathered and used by Senior Management. The introduction of this radio handset has the potential to elicit concerns from Garda members that may influence their attitude towards the system and negatively impact their trust in Garda Management and their commitment to An Garda Síochána. Thus, it is vital that Senior Management of An Garda Síochána identify and address the information privacy concerns of Garda members in relation to their use of the National Digital Radio Service. If those concerns are addressed effectively, this will enable the organisational benefits of this radio system to be effectively harnessed in a way that also enhances Garda member trust and organisational commitment. This study is directly aligned with the strategic objectives of the Irish Government - that is, to make the work of the public service more efficient and resilient, decision-making more accountable and public service delivery more effective. The insights obtained through this research study will assist An Garda Síochána in achieving these national strategic objectives and meeting the priorities of Project Ireland 2040. Moreover, it will allow them to drive innovation and technological advancements within the public sector, ensuring positive outcomes for members of the force whilst protecting and serving the Irish public. However, the case study used in this study does not bound the applicability of these findings and the conceptual and practical implications of this research are equally relevant for other public and private sector organizations.

1.1.5 The Practical Importance of this Study

Organisational interest in employee monitoring is increasing. A 2018 Gartner study showed that 22% of organisations in the USA are capturing employee movement data, 17% are monitoring computer usage data and a further 16% are monitoring employees' Microsoft Outlook calendars. From an employer perspective, the reasons for this interest are practical. Organisations are experiencing increasing competitive pressures which necessitate making data informed decisions. This necessitates acquiring data, including data which shows how their workforce is operating and which will enable them to identify and address disengagement and inefficiencies in the workplace. Moreover, Covid-19 and its implications for remote or hybrid working has further accentuated interest in how monitoring can provide actionable insights regarding employee productivity.

Evidence of such interest is shown in increased applications for monitoring technology patents. For example, in 2019 Amazon requested and was granted a patent for an ultrasonic bracelet which uses sound pulses to detect a warehouse employee's location and monitor their input and removal of items from inventory bins. From an employer perspective, this would remove the need for handheld scanners to fulfil orders, but from an employee perspective it clearly represents another incursion on their privacy. Similarly, in 2018, Walmart was granted a patent for a technology which enables them to listen for employee sounds such as bag rustling and scanner beeps at checkouts (providing them with insight into performance metrics), as well as capturing sounds from customers and employees (to determine whether employees are positively interacting with customers). Interesting, neither company has yet implemented the technology, possibly due to fears regarding how to manage expected employee backlash over the obvious privacy incursion.

As the above example show, the functional specificity of these monitoring technologies is increasing. For example, Humanyze provides wearable badges which incorporate RFID sensors, an accelerometer, microphones and Bluetooth. The audio functionalities of the device enable capture of the employee's tone of voice and volume, the accelerometer enables determination of whether an employee is sitting or standing, and the Bluetooth and infrared sensors enable tracking of employee location and whether they are having face-to-face interactions. Many companies (including Freddie Mac) already employ Microsoft's Workplace Analytics, which allows employers to monitor length of

time that employees spend sending emails or using online systems, attending meetings or after hours working and companies such as UPS have long used sensors to track performance of their delivery drivers and determine whether they are using seatbelts.

However, even though employers recognise the potential in monitoring employees, many are wary of doing so, fearing employee outcry and other negative organisational outcomes. For example, a recent (2019) Accenture survey found that although 62% of executives said their companies are using new technologies to collect employee data, fewer than a third (30%) said they feel confident they are using the data responsibly. The same survey also showed that employees are hesitant to accept such technologies, with 64% expressing concerns regarding the management of their data and 52% considering that such technologies have potential to damage trust. However, the precise nature of those data concerns and whether they do in fact influence employee trust has not yet been determined. Until such insight is available, employers will remain uncertain as to how they can implement workforce monitoring systems in a way that addresses employee concerns and does not impact on trust in the organisation. This research provides those insights. It identifies the dimensional expression of employee information privacy concerns in relation to electronic monitoring and examines how these concerns intersect with perceptions of organisational fairness. In doing so, it provides employers with the insights necessary for developing data governance policies that respond more precisely to employee concerns, as well as enabling more focused communication of same to their workforce. Moreover, this study empirically examines the impact of employee information privacy concerns on organisational trust and affective commitment, clarifying the impact pathway, which provides employers with the necessary insights to respond through more effective targeted communications. For these reasons, this research is not just interesting, but important (Tiyanhi, 2020).

1.2 Research Objective, Questions and Framework

The primary purpose of this study is to increase understanding of the dimensions, relational nature and impact of employee information privacy concerns in relation to mandatory electronic monitoring. The insights obtained are relevant for researchers across the information systems, privacy, organisational justice and management

disciplines, advancing and synthesising knowledge to advance the body of knowledge. The study findings will also provide employers with evidence that will assist them in understanding how they can harness workforce monitoring technologies in a way that addresses employee concerns effectively, thereby enhancing employee trust and organisational commitment.

This research objective will be addressed in following three questions:

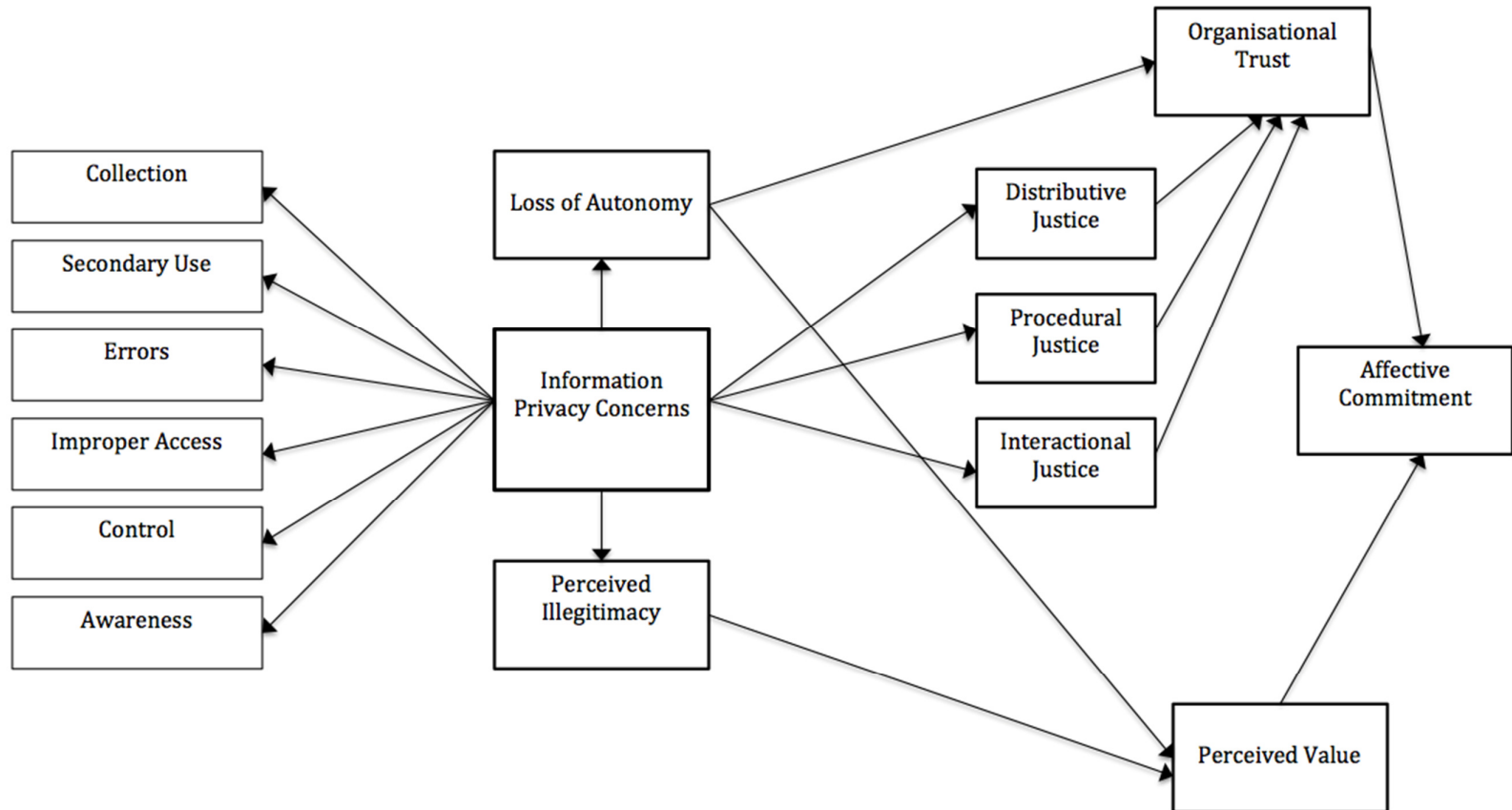
RQ1: What are the dimensions of employee information privacy concerns in relation to mandatory location tracking technologies?

RQ2: Do these employee information privacy concerns influence organisational trust and affective commitment to the organisation?

RQ3: (i) What is the nature of the relationship between these employee information privacy concerns and organisational justice perceptions and (ii) how does that relationship influence organisational trust and affective commitment?

The research framework outlined in figure 1.2 below, explores these questions by exploring the relationship between information privacy concerns, organisational justice perceptions, trust and affective commitment.

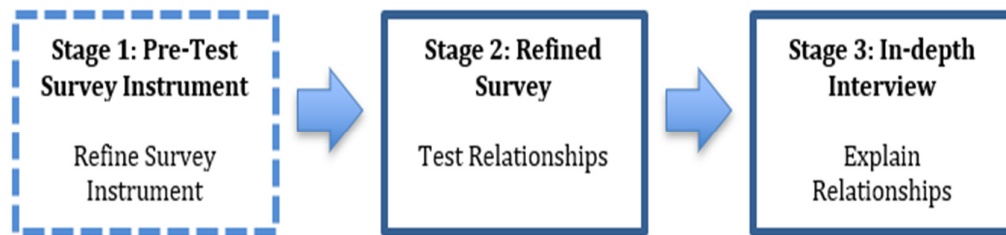
Figure 1.2: Research Framework



1.3 Research Methodology

A sequential mixed method research approach was selected to test the research framework and hypotheses. This process was conducted over three phases as outlined in figure 1.3 below.

Figure 1.3: Research Design



Exploratory interviews were conducted to determine the relevance of the study constructs to the sample. Following on from this the survey instrument was pre-tested by 124 Garda members to ensure that respondents were not influenced by any question or response. To ensure complete rigour at this stage of the research process, the pilot test group consisted of three or four Garda members from each Garda Division. Thus the pre-test stage of the research process was fully inclusive of all Garda Divisions throughout the country. The second stage of this process involved the full rollout of the survey instrument to Garda members across all Garda Districts and Divisions throughout Ireland. The key relationships in the framework were tested in this phase (n=484). In the third stage of this research process, these relationships were explored on a deeper level, through a number of in-depth interviews with 36 Garda members of varying rank, position, division and district within An Garda Síochána. In the final stage of this process, the quantitative and qualitative findings are integrated to deepen our understanding of the key issues involved.

The findings provide strong empirical evidence that information privacy concerns and organisational justice perceptions influence organisational commitment. The interview results were strongly supportive of the quantitative findings in this study. In addition, the in-depth interviews conducted with Garda members provided highly valuable

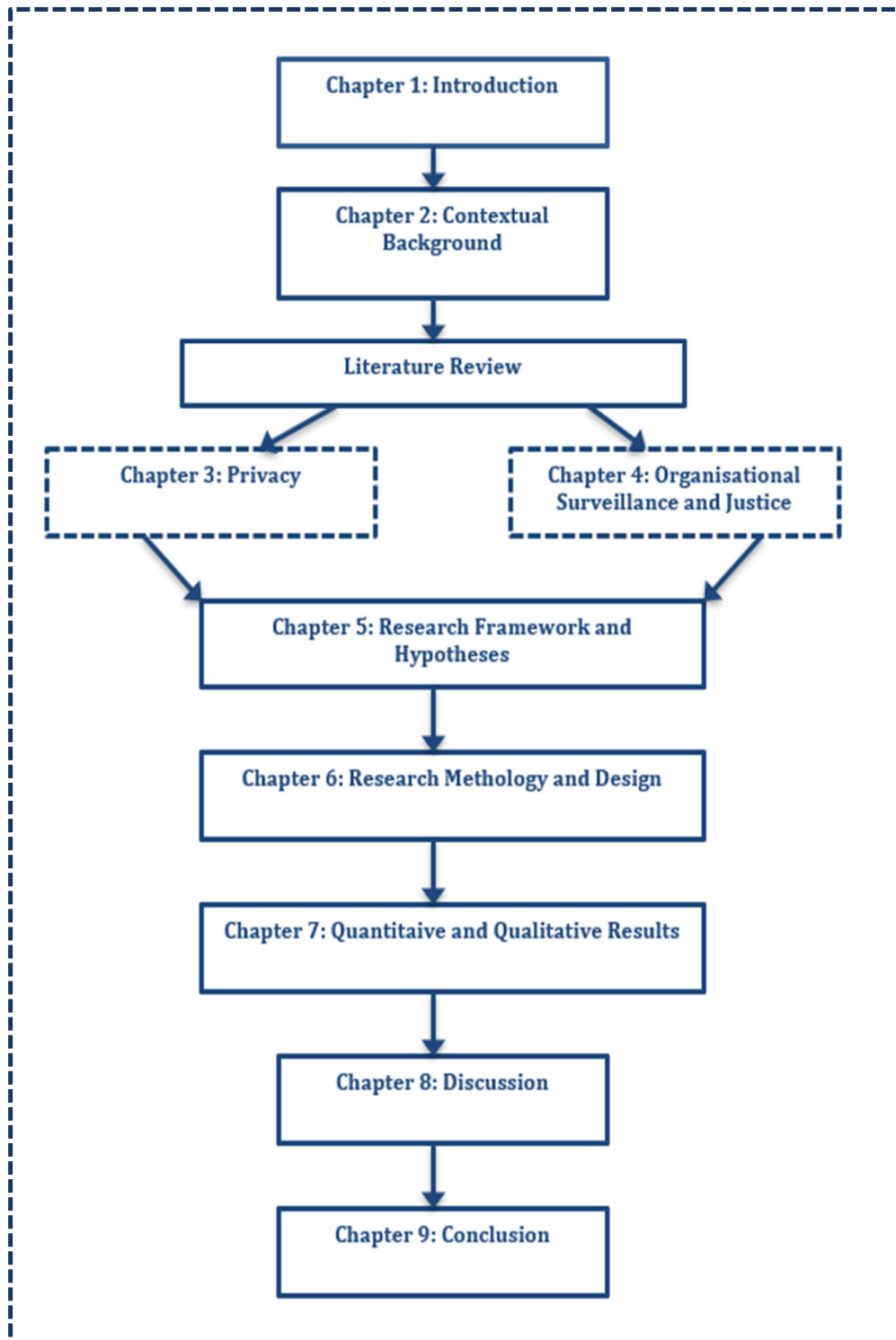
information that would not have been obtained if the study had been conducted using only a quantitative research approach.

1.4 Dissertation Outline

This dissertation consists of nine chapters. This current chapter (Chapter One) introduces the dissertation, justifies the need for the research and details the study's research objective, research questions and key hypotheses. The research framework is also introduced in this initial chapter. Chapter Two provides a contextual overview of An Garda Síochána, the case study employed in this study. The history and development of the Irish police force, the organisational structure within the force and the introduction and use of the National Digital Radio Service (NDRS) within An Garda Síochána is discussed in this chapter. The existing literature is reviewed over the course of two key chapters for this study. Chapter Three explores the privacy and information privacy-based literature, while Chapter Four examines the organisational surveillance and organisational justice-based literature pertinent to this study. In both of these literature review chapters, a number of key frameworks and constructs are selected from each base of literature to frame this research are identified and discussed in context of the research. The main gaps that hamper our understanding of these issues are further highlighted and discussed. Chapter Five builds upon the literature chapters to present the research framework and key hypotheses for this study. Chapter Six details the philosophical underpinnings of this research and further provides a comprehensive overview of the research design for this study. The quantitative and qualitative findings are presented in Chapter Seven. The three models in this study are discussed individually in terms of reliability and validity before a full discussion pertaining to the qualitative data procedures and findings are presented. The quantitative and qualitative findings are then integrated in the final stages of this chapter. Chapter Eight provides a comprehensive discussion concerning the implications of the findings from the previous chapter. These implications are discussed in relation to the research hypotheses developed in Chapter Five and their relevance to the body of the knowledge. Chapter Nine concludes this dissertation by drawing conclusions on the contribution of this study to academics, researchers and practitioners. It also details study limitations and offers direction for future research.

The structure of this dissertation is outlined in figure 1.4.

Figure 1.4: Dissertation Structure



1.5 Conclusion

This chapter provides an introduction into this dissertation and fully justifies the need for this research. The objectives of this research and research questions are clearly outlined. The research framework and key hypotheses are introduced, and the research methods conducted in this study are further discussed. Finally, the chapter concludes with a full overview of the dissertation structure.

Chapter Two provides a fully comprehensive contextual background into the research sample – An Garda Síochána. A full history pertaining to the Irish police force, the workforce structure and the introduction and use of the National Digital Radio Service is discussed in this following chapter.

Chapter Two: Contextual Background

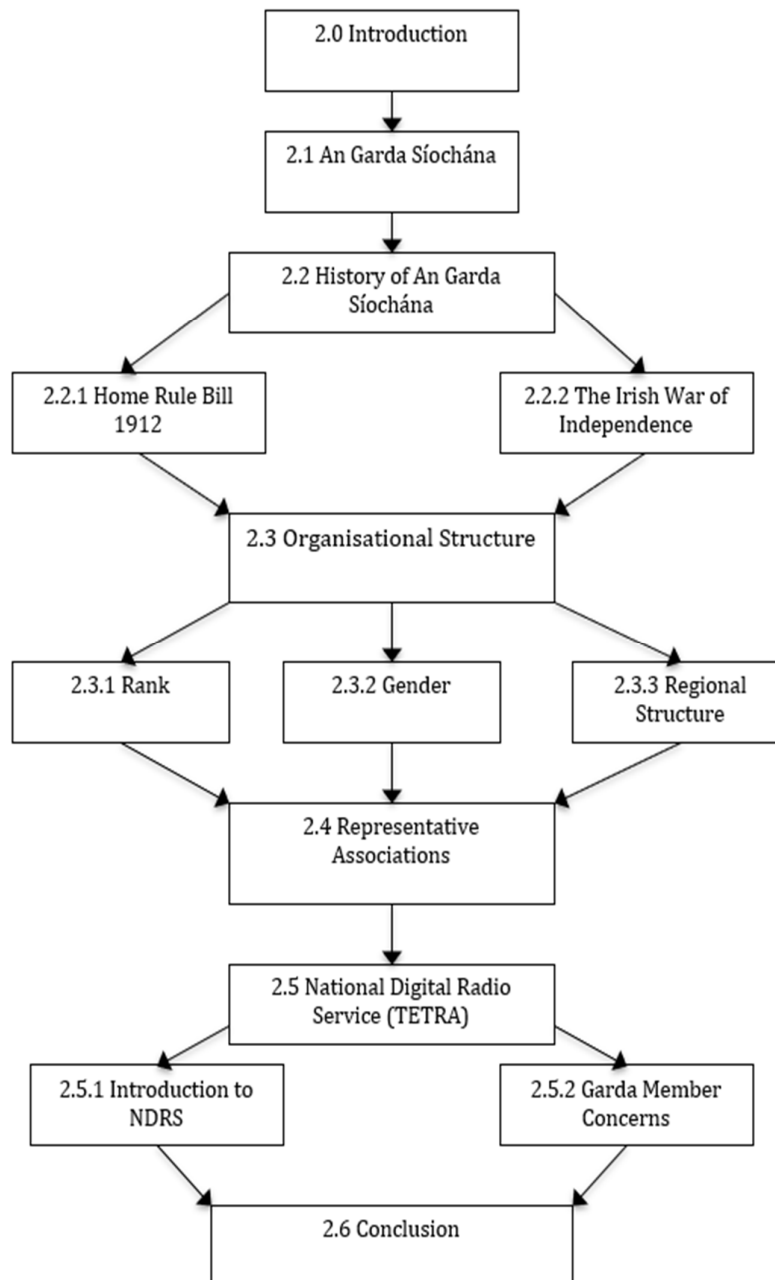
“Ag Coinneáil Daoine Sábháilte – Keeping People Safe.”

-Misson Statement – An Garda Síochána

2.0 Introduction

In order to understand the influence of technology on a particular work environment, it is helpful to understand the context in which that technology has been introduced. To that end, this chapter provides a contextual overview of An Garda Síochána, its history, structure and how the National Digital Radio Service (NDRS) technology was introduced into the police force. Section 2.2 provides an introduction into the National Police force of Ireland – An Garda Síochána - and details the history surrounding the formation of force. Section 2.3 focuses on the organisational structure of An Garda Síochána in terms of rank, gender, workplace profiles and the regional structures and divisions of the Garda workforce. Section 2.4 provides an insight into the various representative associations of An Garda Síochána and the roles they play in advocating for all members of the force. Finally section 2.5 considers the introduction and use of the National Digital Radio Service (NDRS) within An Garda Síochána and the corresponding issues and concerns relating to its introduction to the force. The chapter concludes with a short summary and an introduction into the literature review chapters that follow.

Figure 2.1: Chapter Structure



2.1 An Garda Síochána

An Garda Síochána is the policing service in the Republic of Ireland. Originally founded on 8th February 1922, the service is headed by a Garda Commissioner who is appointed by the Irish Government to help secure and police the state. An Garda Síochána has a long standing tradition of working closely with communities all over Ireland, detecting and preventing crime in an effort to ensure the nations security. The Garda workforce is broken into three main roles, Garda members - who actively police and secure the state, civilian personnel – who are involved in the provision of a wide range of administrative, professional and technical support services and Reserve members – a voluntary body of personnel drawn from the community to assist the existing service when required. In order to fully understand the workings of the organisation it is important to explore the tradition of organised Irish policing from its inception in the early 1800's through to the establishment of the current national policing service An Garda Síochána.

2.2 History of An Garda Síochána

The tradition of organised policing in Ireland can be traced back to the year 1822 with the establishment the first permanent police force known as the County Constabulary. This regional based constabulary was established as four provincial police forces within Ireland with main depots based in the North (Armagh), the West (Ballinrobe) the midlands (Daingean) and the South (Ballincollig) with an inspector general appointed for each (Dorney, 2017). A standard uniform was issued in 1828 before they were reformed as the Irish Constabulary in 1836 - later to be renamed as the Royal Irish Constabulary (RIC) in 1867 (Dorney, 2017). An Inspector-General based in Dublin castle commanded the constabulary and subsequently held jurisdiction over the entire country, with the exception of the Belfast, Derry and Dublin. Both the Belfast and Derry Police forces were formed in 1816 to police their own city's however they were to be later replaced by the Royal Irish Constabulary in 1865 and 1870 respectively, following various spates of sectarian violence and crime (Dorney, 2017). The Dublin Police patrolled the capital city of Dublin from 1786 before they were reformed as the Dublin Metropolitan Police (DMP) also in 1836. The DMP were the first unarmed police force to operate in Ireland (Garda.ie).

Prior to the War of Independence in 1919 the country of Ireland was under rule of the United Kingdom of Great Britain. Under the Act of Union in 1800 the separate Kingdoms of Ireland and Great Britain were merged to form what was then known as the United Kingdom of Great Britain and Ireland. Thus the County Constabulary, the Irish Constabulary and the Royal Irish Constabulary (RIC) all operated under the authority of the British administration of Ireland during their reigns of power (Garda.ie). Throughout the 19th century however, Irish opposition to the union was strong resulting in disruptions and violence throughout the country (Mac Donnchadha, 2019). Under the leadership of political leader Daniel O’Connell during the 1830’s and 1840’s attempts were made to break the union and restore the Kingdom of Ireland (Dorney, 2017). While the movement eventually collapsed however, the fight to restore the Kingdom of Ireland continued. A dominant political movement continued to campaign for a self-government Ireland. This drive for home rule would further shape the Irish policing force and as such is outlined in detail in section 2.1.1 below.

2.2.1 The History of An Garda Síochána – The Home Rule Bill 1912

While there was much support in Ireland for home rule and an Irish legislation that held responsibility for its own domestic affairs, a significant proportion of Irish citizens wanted to remain as part of the United Kingdom of Great Britain. In 1891 the Irish Unionist Alliance (IUA) was formed to oppose home rule in Ireland (Dorney, 2017). The Irish Unionist Alliance – also known as the Irish Unionist Party was formed from the Irish citizens who were loyal to the United Kingdom of Great Britain and as such opposed the notion of home rule or of an independent Ireland (Dorney, 2017). Unionists – as they are more commonly referred to, are still dominant in Northern Ireland (NI) today, which remains part of the United Kingdom of Great Britain and a separate country to the Republic of Ireland.

The drive for Home Rule continued however and on 11th April 1912 the British Prime Minister Herbert Henry Asquith introduced a Home Rule Bill granting Ireland self-government (Dorney, 2017). The Home Rule Bill of 1912 allowed Ireland limited autonomy and provided them with power to deal with most national affairs. The country

of Ireland however would still remain under the overall rule of the United Kingdom of Great Britain. The Home Rule Bill created much unrest and conflict between the Ulster Unionists and the Irish Nationals and attacks on the Irish police force - the RIC - were common. In order to ensure Home Rule was passed Irish nationalists formed a rival militia group to oppose the Unionists called the Irish Volunteers (Mac Donnchadha, 2019). Sinn Féin who was the political party in favour with many of the Irish nationals at the time wanted to continue the fight for a complete and free Ireland. Eamonn DeValera the leader of the party thus urged the Irish public to shun the RIC, the friends and family as agents of foreign power (Dorney, 2017).

Tensions between both sides were temporarily eased by the outbreak of the first World War however a radical Irish national group largely formed by the Irish Republican Brotherhood was formed in 1858 which would change the landscape of Irish policing forever. Unhappy with the support for the United Kingdom this group who envisioned Irish independence free from British Rule launched a rebellion known as the Easter Rising in April 1916, resulting in the death of approximately 500 individuals (civilians and soldiers) in one week (Dorney, 2017). Initially the rebels that launched the attack of 1916 faced much public outcry and rage however the British reaction to the rising – whereby they publically executed all the leaders and arrested over 3000 national activists - antagonised the Irish public and support for the Irish nationals grew significantly (Dorney, 2017). The British army under severe pressure from the public released the prisoners, many of whom subsequently went on to join the Sinn Féin party and the fight for Irish independence. The Sinn Féin party won the General Election of 1918 taking 70% of the seats and declared an Irish Republic (Mac Donnchadha, 2019). The first republican parliament – Dáil Éireann - subsequently met in January 1919 resulting in another new phase of Irish policing in Ireland (Dorney, 2017).

2.2.2 The History of An Garda Síochána: The Irish War of Independence

By 1918 much of Ireland was in favour of the nationalist side and as such turned against British Rule and leadership. Sinn Féin victorious in the General Elections refused to take part in the Westminster Parliament opting instead to set up the first Dáil Éireann. On 21st January 1919 on the first official convening of the Dáil in Dublin, the first act of war was

committed when two senior RIC officers who were escorting explosives were shot dead by Irish Volunteers (Dorney, 2017). The rebels seized their weapons and the ammunition they had been transporting at the time. As the year progressed attacks continued against the British administration with many RIC barracks attacked and raided by the rebels in an effort to obtain weapons and ammunition (Mac Donnchadha, 2019). The reaction of the British Rule to these attacks was punitive and heavy handed and so the violence between both sides escalated.

There were a number of assassinations and attempted assassinations of RIC leaders and members during this time also. Furthermore significant disturbances were commonly reported around rural Ireland with smaller farmers attempting to seize parts of large farms and land through violent means (Dorney, 2017). The British Army began to arrest and imprison individuals on suspicion and without trial causing much unrest amongst the Irish nationalists and volunteers (Mac Donnchadha, 2019). In retaliation, Michael Collins an Irish revolutionary, soldier, Politian and Head of Intelligence of the Irish Republican Army (IRA) formed a separate squad of volunteers to assassinate any detectives who attempted to arrest the Irish activists and volunteers. Collins who was a leading figure in the struggle for Irish independence further created an intelligence service, which reached into the very core of the British Authority in Dublin Castle. Using his spies Collins identified and eliminated a RIC police criminal squad known as the G-Men (Dorney, 2017). The Ireland of 1920 was an extremely violent and dangerous place to be.

While the Sinn Féin government eventually endorsed the IRA's campaign, many of the senior figures in the party as well as many of the supporters did not approve of the violence used by the volunteers. In the summer of 1920 Sinn Féin won the local general election for the second time, allowing them to form a separate police force called the Irish Republican Police (Dorney, 2017). In an effort to control this revolution and new government movement, the British government formed their own break out-group largely comprised of First World War veterans (Mac Donnchadh, 2019). The Black and Tans as they were known quickly gained a reputation for violence and police brutality against civilians thus further swaying Irish opinion against British Rule. They burned homes, villages and towns, murdering and terrorising the people of Ireland. Their brutality was so extreme they tarnished the reputation of the United Kingdom of Great Britain all over

the world (Mac Donnchadha, 2019). In fact the Black and Tans achieved little by way of reducing the support for Irish volunteers and instead galvanised Irish resistance to British rule.

The years that followed are some of the most violent but significant in the history of the conflict and troubles in the country. Severe rioting broke out in the North of Ireland, in Belfast, Derry and Lisburn in retaliation for the murder of two Protestant police officers by members of the IRA (Dorney, 2017). Unionist forces and civilians loyal to the British Rule and the United Kingdom attacked Catholic (nationalist) areas killing hundreds of Irish national civilians, burning their homes and forcing them to flee from the area. It is further reported that as many as 7000 Catholics were expelled from their jobs in shipyard in Belfast – the home of the great Titanic streamliner (Dorney, 2017). The autumn and winter months that followed in late 1920 saw a further escalation of violence from both sides in this conflict. In late November IRA units in Dublin launched a mass assassination attack on British Intelligence Officers, killing 14 men. Seeking revenge a unit of the Black and Tans on auxiliary trucks raided a football match in Dublin's Croke Park stadium shooting 26 unarmed civilians and killing 14 (Mac Donnchadha, 2019; Dorney, 2017). Many of the victims were shot as they fled the stadium and some while they were tending to the wounded. This extreme act of violence and police brutality is commonly considered to be the most significant act of violence throughout the conflict, particularly as it was the first time an attack was launched solely on civilians consisting of men, women and children and was done so in full view of the public and the press. Bloody Sunday – as the attack is referred to – thus fuelled further Catholic and Irish National hostility towards British Rule and Government across the country. Support for the IRA grew with many people joining the organisation to aid in the fight for Irish independence. The conflict once again worsened, with the IRA killing 17 British troops in Kilmichael in Cork only for the British forces to once again retaliate by burning down much of Cork City Centre (Dorney, 2017). This back and forth of violence between both sides continued throughout most of 1921 resulting in the death of over 1000 soldiers and civilians and the imprisonment of over 6000 republicans in the country (Dorney, 2017).

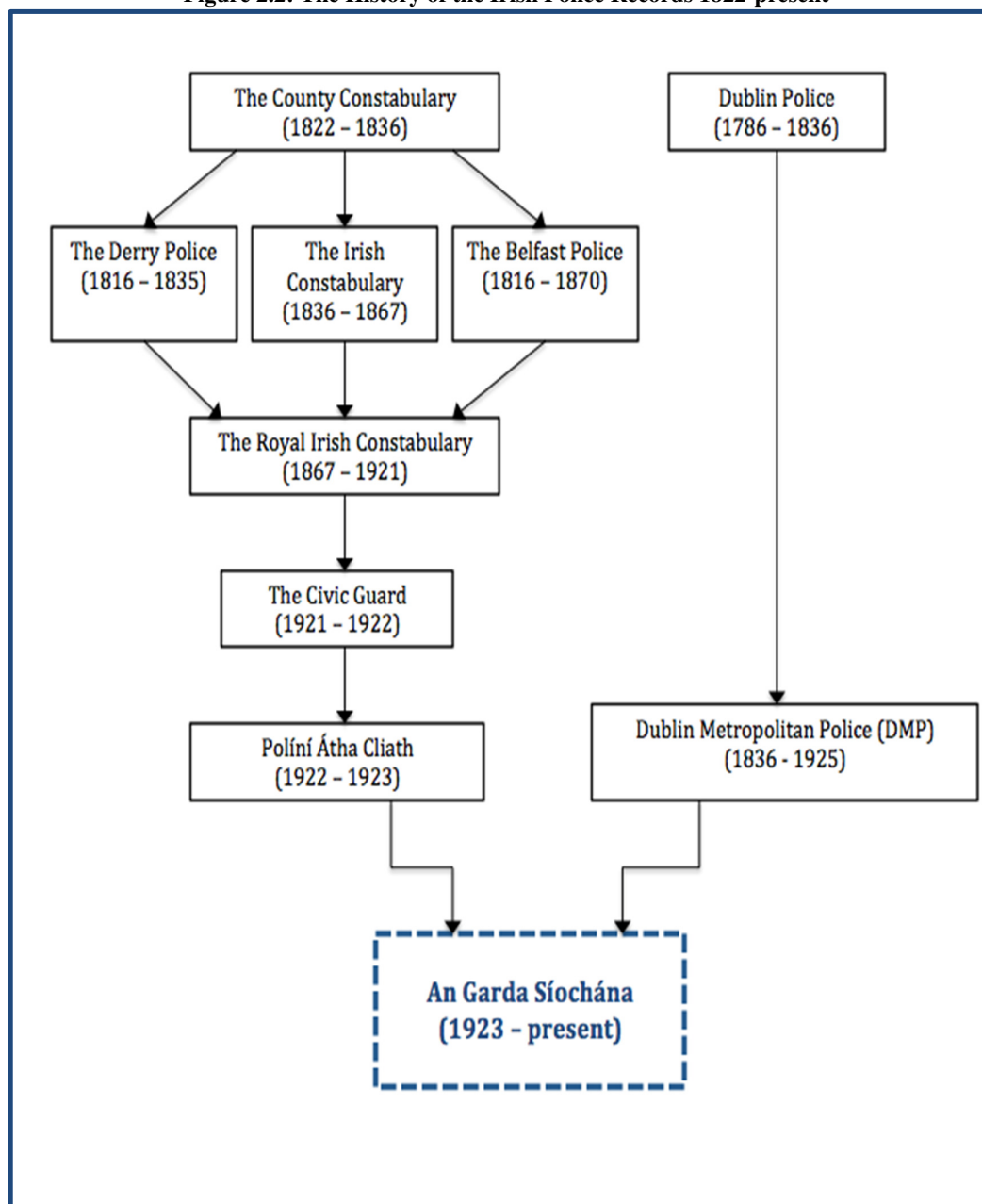
A truce was finally negotiated between British and Republican forces on 11th July 1921 to allow for talks on a political settlement to begin however fighting still continued in

Belfast in the North of Ireland, between the republican and the unionists through the second half of 1921 (Dorney, 2017). British morale was low and world opinion was against them. Their powerful forces in Ireland could not defeat a much smaller, poorly trained army of primarily part-time activists. Following the truce the RIC was replaced by another new police force in Ireland called ‘The Civic Guard’ which became known as Póilíní Átha Cliath in 1922 (Garda.ie). Dublin Castle which had been the centre of British Rule in Ireland for over 700 years (and now is home to the Garda Historical Museum) was officially handed over to the commissioner of the new Irish Police force on 17th August 1922. Five days after the handover Michael Collins leader of the IRA and the driving force behind the creation of the Civic Guard was shot dead in County Cork. Póilíní Átha Cliath was renamed ‘*An Garda Síochána na hÉireann*’ on 8th August 1923 (Garda.ie). In 1925 the Dublin Metropolitan Police (DMP) merged with An Garda Síochána to form the current Irish National Police and Security Service we have today.

The past 100 years of policing in Ireland represents a complicated yet powerful journey for the Irish Policing Force. The inception of An Garda Síochána is shrouded in great Irish history and stems largely from the fight for an independent and free Ireland. Today the main strategic objective of An Garda Síochána is to provide ‘a safe and secure Ireland’ for the people of Ireland (Justice.ie). Thus the mission statement of An Garda Síochána reads as “*Ag Coinneáil Daoine Sábháilte*” which translates directly to “*Keeping People Safe*” – a motto which pays tribute to the years of conflict and the fight for a free Ireland.

The history of the Irish Police Records from the introduction of the County Constabulary to the current day An Garda Síochána is depicted in the figure 2.2 below.

Figure 2.2: The History of the Irish Police Records 1822-present



Information adapted from www.garda.ie

2.3 The Organisational Structure of An Garda Síochána

The Phoenix Park in Dublin was chosen as the main base for the new Constabulary formed in 1836 and today remains as the headquarters of An Garda Síochána. In the early 1920's the Phoenix Park location was used as a training centre for new members of An Garda Síochána before they established a more permanent Garda training unit in an old military barracks in Templemore, Co. Tipperary. This unit in Templemore currently houses the An Garda Síochána training college which is the national centre for police training, learning and development within the Irish state.

There are nine ranks within the structure of An Garda Síochána. In descending order they present as follows.

- **Commissioner:** The Commissioner is responsible to the Irish Minister for Justice, Equality and Law Reform who in turn is accountable to the Government (An Dáil na hÉireann) for the policing and security of the state.
- **Deputy Commissioner:** The Deputy Commissioner will assist the Commissioner in implementing strategic reforms across the force, including improving Governance and performance management, managerial capacity and enhancing overall service delivery. The Deputy Commissioner is also responsible for operational policing in the state.
- **Assistant Commissioner:** An Assistant Commissioner will report to and assist the Deputy Commissioner commanding areas of Security and Intelligence, Special Crime Operations, Roads Policing and Major Event Management, Community Engagement and Public Safety. There are currently 8 Assistant Commissioners in the state.
- **Chief Superintendent:** A Chief Superintendent is responsible for a policing area (division), headquarters or department within the force. They play a major role in operational policing often leading large and complex areas of command within the unit. A Chief Superintendent will report to an Assistant Commissioner.

-
- **Superintendent:** A Superintendent is responsible for the operational, ethical technical, financial, project and personnel management practices and requirements for a district (subset of a division).
 - **Inspector:** An inspector will assist a Superintendent within a specific district.
 - **Sergeant:** A Sergeant is responsible for a sub-district (division of a district).
 - **Garda:** A Garda (commonly referred to as the Gardaí) are responsible for carrying out all policing duties in the state. They report to their Sergeant within the sub-district.
 - **Reserve Garda:** The Reserve Garda consists of voluntary members of the community to assist the existing service. While they have limited policing power while on duty, they perform other policing duties as determined and outlined by the Commissioner under the supervision of a full time Gardaí.

The number of Gardaí across each rank from 2006 – 2019 (including available strength and total strength) is detailed in table 2.1 below.

Table 2.1: Overall An Garda Síochána Workforce 2006 - February 2021

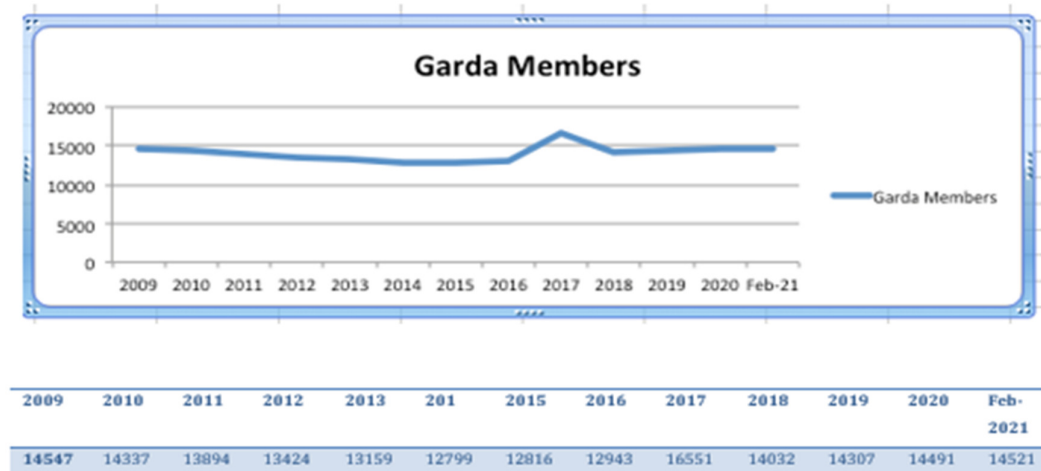
OVERALL AN GARDA SÍOCHÁNA WORKFORCE 2006 - 28 February 2021																
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Feb-21
Commissioner	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
Deputy Commissioner	2	2	2	2	1	2	2	1	0	2	2	2	1	1	1	2
Ass. Commissioner	11	12	12	11	10	7	9	8	8	5	8	9	9	8	9	8
Chief Superintendent	46	52	52	39	45	37	41	44	39	42	45	43	45	47	46	46
Superintendent	166	185	187	167	170	149	153	147	140	160	165	165	165	168	168	168
Inspector	287	330	344	317	336	319	262	270	297	247	308	270	297	379	438	437
Sergeant	1,945	2,083	2,229	2,078	2,135	2,024	1,903	1,860	1,919	1,835	1,944	1,873	1,996	1,966	1,980	1,967
Garda	10,496	11,090	11,585	11,932	11,679	11,355	11,053	10,762	10,395	10,524	10,470	11,189	11,518	11,737	11,848	11,892
SUB TOTAL (available strength)	12,954	13,755	14,412	14,547	14,377	13,894	13,424	13,093	12,799	12,816	12,943	13,551	14,032	14,307	14,491	14,521
Career Breaks								44	98	199	200	161	93	71	59	58
Work-sharing								44	44	43	46	54	56	57	49	44
Secondments (Overseas etc.)								16	14	17	17	18	14	12	13	13
Maternity Leave								92	102	135	131	85	86	67	86	89
Unpaid Maternity Leave								32	31	36	45	34	48	54	44	31
Paternity Leave															5	21
Total Garda Strength								12,866	12,510	12,387	12,504	13,200	13,736	14,046	14,235	14,265
Civilians (FTE)					2,099	2,074	2,028	2,072	2,055	2,007	1,999	2,192	2,430	2,945	3,112	3,125
Reserves				478	700	877	991	1,164	1,124	953	695	589	528	458	407	476
Total Workforce								16,102	15,689	15,347	15,198	15,981	16,694	17,449	17,754	17,866

2.3.1 Organisational Structure: Garda Rank

Individuals at the rank of Garda constitute the largest number of staff employed in the Irish police force. These Gardaí are tasked with carrying out the frontline day-to-day policing activities and interact most frequently with citizens. The numbers of staff at this rank has varied considerably over the past number of years, mainly due to a 2010 moratorium on recruitment that was imposed within the public sector in response to the financial crash that occurred during that decade. This moratorium had a significant impact on the strength and capacity of An Garda Síochána. For example, Garda personnel strength, which had originally peaked in 2009 at 14,547, began to decline with personnel numbers dropping significantly between the years 2010 to 2014. The moratorium on recruitment was lifted in 2014 allowing for the focus to shift towards rebuilding and strengthening the organisation particularly on the frontline. The Garda Training College in Templemore, Co Tipperary reopened and a new phase of Garda recruitment began. Since 2014 an estimated 2,800 new Garda trainees have trained through the Garda College and subsequently been assigned to policing duties nationwide. The number of active Gardaí rose to over 14,000 by the end of 2018, a figure that had not been achieved since 2010. In fact, by the end of 2018, the overall Garda workforce totalled 16,990 personnel comprising 14,032 Garda members, 2,430 civilians and 528 Reserve members. In 2019, 600 Garda trainees completed the initial phase of their training allowing them to join the force with immediate effect with a further 600 new Garda recruits entering the training centre in their place. In addition the Garda Commissioner redeployed a further 500 Gardaí from administrative duties to active and visible frontline policing duties that same year. As of February 2021 the total number of active Garda stands at 14,521 members. It is estimated that by the end of 2021 total staffing will reach 21,000 personnel encompassing 15,000 Garda members, 4000 civilians and 2000 Reserve members. This steady increase in the number of Garda personnel reflects additional funding to support development of the police force that was allocated by the Irish Government in 2019. The budget allocation of €1.76 billion (an increase of 6.5% from 2015) includes a provision for the recruitment of an additional 800 Garda members annually highlighting the Governments commitment to deliver an effective policing service to the state.

Table 2.2 below outlines the number of active Garda rank members of the police force from 2009 – February 2021.

Table 2.2: Garda Members 2009 - February 2021



Adapted from www.justice.ie

An Garda Síochána are in the process of a major rebuild and reform with a continuous drive to provide the Garda Commissioner with the necessary tools and resources to deploy increasing numbers of Gardaí across every division. As previously mentioned, under the Irish Government's 'Programme for a Partnership' An Garda Síochána aim to reach a total Garda Strength of 15,000 by 2021. The projected figures assume a retirement of 300 Garda members each year from 2018 -2021. Furthermore the figures take into account a projected intake of 800 trainees Gardaí each year from 2017-2020 with a reduction in intake in 2021. The projected Garda strength from 2016 – 2021 is outlined in table 2.3 below.

Table 2.3: Projected Garda Strength 2016 – 2021

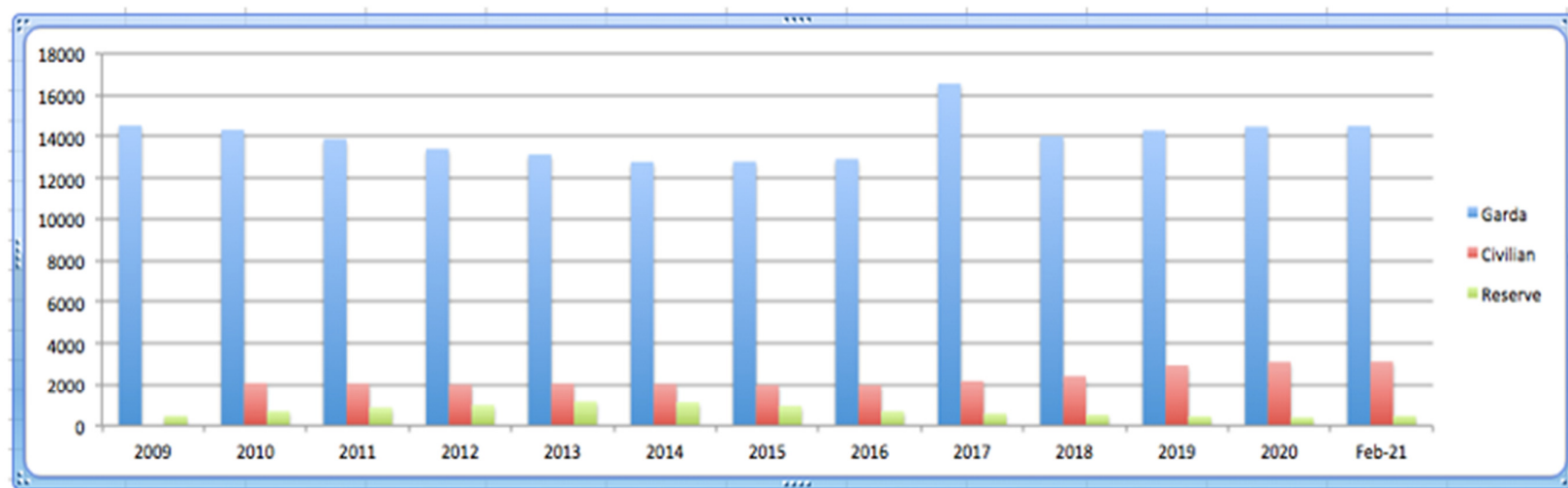
	2016	2017	2018	2019	2020	2021
Intake	650	800	800	800	800	300
Attestations	390	900	800	800	800	700
Departures	263	300	300	300	300	300
Net	125	600	500	500	500	400
Increase						
Total	12,943	13,543	14,043	14,543	15,043	15,433

Adapted from www.justice.ie

Since the beginning of 2017, there has also been a large investment in civilian personnel, with an estimated 410 new civilian posts sanctioned in an effort to strengthen and support many major corporate functions within An Garda Síochána. More recently, further civilian staff were employed to facilitate the redeployment of the many Garda administrative and technical staff that were reassigned back to visible policing duties in 2019.

Table 2.4 shows the changing number of Garda, civilian and reserve workforce members from 2010 – February 2021.

Table 2.4: An Garda Síochána Workforce (Garda Members, Civilians, Reserves) 2010 - February 2021



Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Feb-2021
Garda	14547	14337	13894	13424	13159	12799	12816	12943	16551	14032	14307	14491	14521
Civilian		2099	2074	2028	2072	2055	2007	1999	2192	2430	2945	3112	3125
Reserve	478	700	877	991	1164	1124	953	695	589	528	458	407	476

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Adapted from www.justice.ie

It is important to note that there has been a substantial drop off in the number of Garda Reserves joining the force in recent years. In fact the strength of the Garda Reserves dropped from 1,164 in 2013 to 528 in 2018. This fall off in numbers is attributed to two main factors. Firstly resources in An Garda Síochána and the Public Sector have focused on delivering recruitment of trainee Gardaí and full time members of An Garda Síochána. Secondly an estimated 200 Garda Reserves successfully applied to become trainee Gardaí in the years following the Public Sector moratorium. Thus in order to hit the projected figures of 2000 Garda Reserve members to help assist the existing force by 2021, an approximate 300 Reserves will need to be recruited each year.

2.3.2 Organisational Structure: Gender

As of December 2019, 27% of Garda members were female and 73% male, representing a small increase from the numbers in 2010 of 24% female and 76% male Garda members. Table 2.5 below outlines Garda Strength in each rank by gender as of the end of March 2021.

Table 2.5: Garda Strength by Gender – 31 March 2021

Rank	Strength	Male	Female
Commissioner	1	1	0
Deputy Commissioner	1	0	1
Assistant Commissioner	8	5	3
Chief Superintendent	47	38	9
Superintendent	168	147	21
Inspector	436	356	80
Sergeant	1,963	1,510	453
Garda	11,942	8,497	3,445
Total	14,566	10,554	4,012

Adapted from www.garda.ie

2.3.3 Regional Structure of An Garda Síochána

In an effort to better serve and protect the public, the Republic of Ireland is broke into Regions, Divisions, Districts and Sub-Districts under its policing strategy. This separation of policing duties allows Garda members to engage with local communities and stakeholders and to further participate in more front line policing within their area. For policing purposes Ireland is divided into four main regions, each of which are under the command of an assistant commissioner. The four regions are broken down as follows;

- Dublin Metropolitan Region (DMR)
- North Western Region
- Eastern Region
- Southern Region

Each region is divided into separate divisions, which are under the command of a Chief Superintendent. Each division is then further divided into districts under the command of a Superintendent who are assisted by a number of inspectors. Finally the districts are once divided into sub-districts commanded by a Sergeant who is assisted by Gardaí. There are currently 564 stations of An Garda Síochána located throughout Ireland.

As of April 2021 there were eight main divisions in the Dublin Metropolitan Region (DMR), six divisions in the North-western Region, and seven divisions in both the Eastern Region and Southern Regions. The Garda numbers as of February 2021 per division in each of the four main Regions are outlined in the tables 2.6 and 2.7 below.

Table 2.6: Garda Numbers by Division February 2021 - Dublin Metropolitan Region (DMR)
Divisions

	Comm	D/Com	A/Com	C/Supt	Supt	Insp	Srg	Gda	Total
DMR East	0	0	0	1	3	11	44	342	383
DMR North	0	0	0	1	5	25	89	679	799
DMR North Central	0	0	0	1	4	22	95	559	681
DMR South	0	0	0	1	4	18	74	492	589
DMR South Central	0	0	0	1	5	23	82	624	735
DMR West	0	0	0	1	4	23	88	652	768
DMR Traffic Division	0	0	0	1	2	3	10	94	110
DMR Office	0	0	1	1	1	1	2	3	751
Total	0	0	1	8	28	126	484	3445	4816

Table 2.7: Garda Numbers by Division February 2021 - North-Western Region Divisions, Eastern Region Divisions and Southern Region Divisions

	Comm	D/Com	A/Com	C/Supt	Supt	Insp	Srg	Gda	Total
Cavan/ Monaghan	0	0	0	0	5	9	50	329	393
Clare	0	0	0	1	2	9	50	254	316
Cork City	0	0	1	1	6	17	98	600	723
Cork North	0	0	0	1	2	8	49	294	354
Cork West	0	0	0	1	4	9	43	253	310
Donegal	0	0	0	1	4	8	51	399	463
Galway	0	0	0	1	6	20	88	509	624
Kerry	0	0	0	1	3	10	50	294	358
Kildare	0	0	0	0	3	10	55	354	422
Kilkenny/ Carlow	0	0	1	1	4	10	45	281	342
Laois/ Offaly	0	0	0	1	3	11	51	315	381
Limerick	0	0	0	1	5	16	74	503	599
Louth	0	0	0	1	2	10	49	328	390
Mayo	0	0	0	1	5	9	56	272	343
Meath	0	0	0	1	4	10	39	278	332
Roscommon/ Longford	0	0	0	1	4	9	46	254	314

Sligo/	0	0	1	1	3	10	46	249	310
Leitrim									
Tipperary	0	0	0	1	5	9	54	342	411
Waterford	0	0	0	1	3	11	48	318	381
Westmeath	0	0	0	0	3	7	38	226	274
Wexford	0	0	0	1	3	7	43	283	337
Wicklow	0	0	0	0	3	8	40	259	310
Total	0	0	3	18	82	227	1163	7194	8687

Adapted from www.garda.ie

It is a mandatory requirement that every member of An Garda Síochána must be part of Garda representative union. The union representing their interests is dictated by their rank within the force and as such these unions play a major role in relation to the decisions that affect their members. The four main Garda representative bodies are now described.

2.4 Garda Representative Associations

There are four main representative associations that represent members of An Garda Síochána according to their rank within the force. The Association of Garda Chief Superintendents advocates for all members of An Garda Síochána who hold Chief Superintendent rank, The Association of Garda Superintendents (AGS) represents all Garda Superintendents, the Association of Garda Sergeants and Inspectors (AGSI) represents all sergeants and inspectors across the force with the Garda Representative Association (GRA) advocating for all other members of Garda rank.

The Association of Chief Superintendents established in 1987, represents all members of An Garda Síochána who hold the rank of Chief Superintendent. The association

represents five major branches within the force consisting of members permanently assigned to offices located in either Garda Headquarters, the Dublin Metropolitan area, the province of Munster, the provinces of Connaught and Ulster (as one area) and the province of Leinster (Garda Headquarters and Dublin Metropolitan areas excluded). A National Executive Committee is elected every three years, comprising of members elected from each of the pre-defined branch areas. Similarly, the Association of Garda Superintendents (AGS) acts as the representative body for Superintendents in An Garda Síochána. Also set up in 1987, AGS was established to represent all members of An Garda Síochána holding the rank of Superintendent in all matters affecting their welfare and efficiency. Superintendents are senior officers in charge of Districts and National Units, thus there is a branch of the association in each area consisting of members permanently assigned to the area. An area committee is elected in each area, with the number of members in the committee being equal to the number of divisions in the area. Elections take place every three years as dictated by the National Executive Committee (elected from members of Association of Chief Superintendents). An annual conference consisting of members of the area committees acts as the primary policy making body for the association.

The AGSI represents over 2500 Sergeants and Inspectors in An Garda Síochána. The AGSI represents members at various levels including Garda management, Government and GSCO. A 13 member National Executive Committee delivers the overall strategic aims and objectives of the association. A number of working groups and sub committees within the association are further tasked with identifying any issues or concerns that arise within the association, to gather member input and to inevitably convey any issues to the main body of the association.

The GRA was established in 1978 to pursue the best interests of all members of Garda rank. It provides an efficient and reliable information service to its members, offering advice and support to relation to professional Garda matters. The GRA is organised at District, Divisional and National levels with committees and officers elected via democratic vote every four years. The Central Executive Committee (CEC) is comprised of one elected member from each Garda Division, with a President and Vice President elected every two years. The GRA currently represents over 12,000 members of An

Garda Síochána, advocating on their behalf, representing their interests and concerns with senior management. One issue that remains a matter of serious concern for the GRA and its members relates to the mandatory introduction of the National Digital Radio Service (NDRS) technology, known as Tetra GPS, in 2007. This initiative, the rationale for its introduction and the underlying reasons for those concerns are now discussed in more detail.

2.5 The National Digital Radio Service (TETRA Radio)

Tetra Ireland was commissioned by the Irish Government to build and operate the National Digital Radio Service (NDRS), a purpose built secure digital mobile radio technology in 2006 to meet the needs of the Security, Government, Health, Fire and Safety and Public Service agencies across the country. Governed by the European Telecommunications Standards Institute (ETSI), the TETRA network and technology was selected as the preferred digital platform for the NDRS in order to provide secure and resilient coverage in even the most rural and remote areas around the country. Its unique air-ground-air coverage ensures that areas up to 20km off shore remain in coverage, thus ensuring that all of Irelands islands are also connected within the service. The NDRS is Irelands most secure communications network offering five levels of security, on air encryption features as well as end-to end encryption to protect all voice and data traffic. Users can operate between a shared multi agency channel and individual radios within their network thus enabling a more responsive and coordinated operational response. The following section 2.3.1 outlines the introduction of the Tetra based National Digital Radio Service to operational members of An Garda Síochána.

2.5.1 Introduction of National Radio Service to An Garda Síochána

An Garda Síochána began the initial move to the National Digital Radio Service in early 2007, following a twelve phase plan to achieve full roll out within a 24 month period. The twelve-stage plan covered all aspects of the intended roll out including budgeting, logistics, site readiness as well as testing, distribution and end user training. A service performance evaluation was carried out in the greater Dublin area, including Dublin Port, Dublin Airport and North Dublin migrating into Co. Meath. The full roll out – which

encompassed over 14000 Garda officers, 2500 Garda vehicles and 700 Garda stations, was achieved in 2011.

The NDRS was introduced to upgrade An Garda Síochána's communications system, which failed to offer a sufficient standard of service to Garda officers. Unlawful eavesdropping was a major issue on the old analogue service employed by the Gardaí, as too was lack of coverage in rural based areas. This lack of security and poor network coverage impeded many Garda investigations over the years so that confidence in the system depleted. Thus the decision was made to move to a more resilient and dependable communications solution to meet the operational needs of the force. The NDRS was thereby introduced to provide a secure and reliable service, offering a clear and immediate communication process for Garda officers who ensure the safety of the public.

The new technology was initially demonstrated to senior members of An Garda Síochána in Balbriggan Garda Station in the presence of An Tánaiste and Minister for Justice, Equality and Law reform at the time. The Government support for the system highlighted their commitment to ensuring that An Garda Síochána had the necessary resources available to enable them to allow them to operate as an effective and modern police force on par with the best equipped policing services in the world.

The National Digital Radio System offers a number of operational benefits to Garda members. As such Garda use of the radio system is mandatory amongst all operational Gardaí. Firstly the NDRS offers **increased security of digital radio services** to Garda members. The digital radio transmissions are secured against interception, which was a major issue with the previous analogue system. The radio handsets also offer **increased protection for Garda Officers on operational duty**. The handsets are equipped with a single emergency push button that transmits an emergency signal with the exact GPS co-ordinates of the officer at the time, allowing An Garda Síochána to dispatch emergency assistance if required. The digital radio offers **improved voice quality over the old analogue systems** and as such is less susceptible to interference caused by a weak signal or any other noise interference. **Increased radio coverage including coverage for air support and off shore locations** are two other improvements offered with the NDRS. The Digital Radio Service offers Garda members between 96% and 99% handheld radio

coverage, including up to 20km off shore for rescue and other operations. Moreover air coverage is available to Garda helicopters and other aircraft. The radio service will further facilitate **communication with other emergency services** as well as **communications to mobile and landlines**. The radio terminals are enabled to facilitate inter-agency communications so that a Garda member can be in direct communication and contact with emergency services as needed. Furthermore the radio service is fully integrated to provide duplex communications allowing the user to access mobile and landline based telephone services. The last two operational benefits of the NDRS include **improved data services functionality** and **interoperability with other police forces**. The radio handsets allow the user to transmit data as well as voice so that Garda members can use the terminals for many functions to help facilitate their policing duties. For example the digital radio can be used by Garda members to access vehicle registration details, photographs or view details of wanted members of the public etc. Furthermore the radio system is interoperable with other police radio systems – such as those used by the PSNI – allowing for inter force cooperation as well as improved, effective and reliable communications between police forces.

It is clear that many of these service-enhancing benefits were at the forefront of the decision to migrate to the National Digital Service Radio by An Garda Síochána. However several of these operational benefits have also come at a cost to the Garda officers who engage with them. These concerns are addressed in the final section of this chapter, section 2.5.2 below.

2.5.2 National Digital Radio Service and An Garda Síochána Concerns

The many obvious benefits of the National Digital Radio Service have been matched by some less than welcome issues and concerns amongst Garda members. Improving data security, increasing radio coverage as well as ensuring the safety and security of both Garda members and the data they transmit have been major factors in the decision to employ the use of the digital radio system within the force. As such the use of the radio handset is mandatory amongst all frontline officers and operational Gardaí members. However the use of such advanced modern technologies to facilitate these service-

enhancing features have generated legitimate privacy concerns amongst Garda members that are required the use the system.

One such concern for example, relates directly to the potential loss of privacy of those Garda members who use the digital radio system on a daily basis. Each radio terminal is fully equipped with a GPS tracking solution, which enables real time tracking and management of Gardaí using the system. The recorded location data - which displays the Garda member on a map backdrop in real time - can be stored within the tracking unit or transmitted to a secured central location base. Senior officers and senior personnel can view and manage the data that is transmitted to the central location base. Furthermore, the handset terminal offers between 96% and 99% radio and data coverage and operate off shore and in the air.

From an operational perspective the GPS and data coverage functionalities allow for both strategic and secure asset and Garda deployment. However, these features also allow management to view, track and manage personnel discreetly and undetected leading to widespread resistance to the digital system within the force. For example, the Garda members who are required to use the system are constantly 'visible' to senior management and subsequently become a constant source of information. The very nature of this covert relationship plays on the vulnerability of human nature and turns 'visibility' into a trap. In fact the use of the radio system allows for the systematic monitoring of Garda actions and communications and therefore can compromise their personal privacy. Awareness of this fact has accentuated Garda privacy concerns, particularly as the Garda members are unable to exercise choice in relation to the use of these technologies. In this way, the use of the digital radio system within the force has added a dystopian edge to Garda privacy concerns.

It is currently estimated that over 14,000 Garda members are required to use the National Digital Radio System with 19.5 million secure radios calls being made an annual basis. Thus it is apparent that the on-going investment within Garda communications, technologies and other resources support the Governments commitment to ensuring a strong, visible and protected police force in the country. However while use of the radio system is mandatory for operational Gardaí, resistance to the system remains high.

Additional training and sanctions have subsequently been enforced in an effort to improve adoption of the radio system. However resistance to the technology remains. Therefore, it is equally important to consider the perceptions, attitudes and behaviours of Garda members in relation to these technology related privacy concerns. The Strategic Transformation Unit (STU) of An Garda Síochána are keen to understand the factors that predict and inhibit Garda member technology related privacy concerns in order to address them effectively. The purpose of this thesis is to examine the issues relating to the use of the National Digital Radio Service and further determine how they can be best addressed in order to ensure that employee trust and organisational commitment can be enhanced as opposed to diminished by its continued roll out and adoption. Moreover, the key issues identified in this thesis will provide the Strategic Transformation Unit of An Garda Síochána with impactful evidence-based insights that will assist them in successfully leveraging the digital radio technology in a way that improves organisational effectiveness, whilst also enhancing organisational trust and commitment.

2.6 Conclusion

This chapter has set out the contextual background for An Garda Síochána, the Irish police force. It started by providing an introduction into An Garda Síochána before discussing historical background surrounding the formation of the force. Next we outlined in detail the organisational structure of An Garda Síochána, in terms of rank, gender, workplace profiles as well as the regional and divisional structures of the force before discussing the impact of Garda unions on all Garda members. Finally we discussed in detail the introduction of the National Digital Radio Service to An Garda Síochána and further identified the major issues and privacy-related concerns arising amongst the Garda members that are required by management to use the digital radio system within their job role.

In the following two chapters, the literatures on Privacy, Surveillance and Organisational based literature are reviewed in detail and the insights that they provide for understanding the impact of technology-based workplace monitoring are further discussed.

Chapter Three: Literature Review: Information Privacy

“Privacy is not something I am merely entitled to, it’s an absolute prerequisite.”

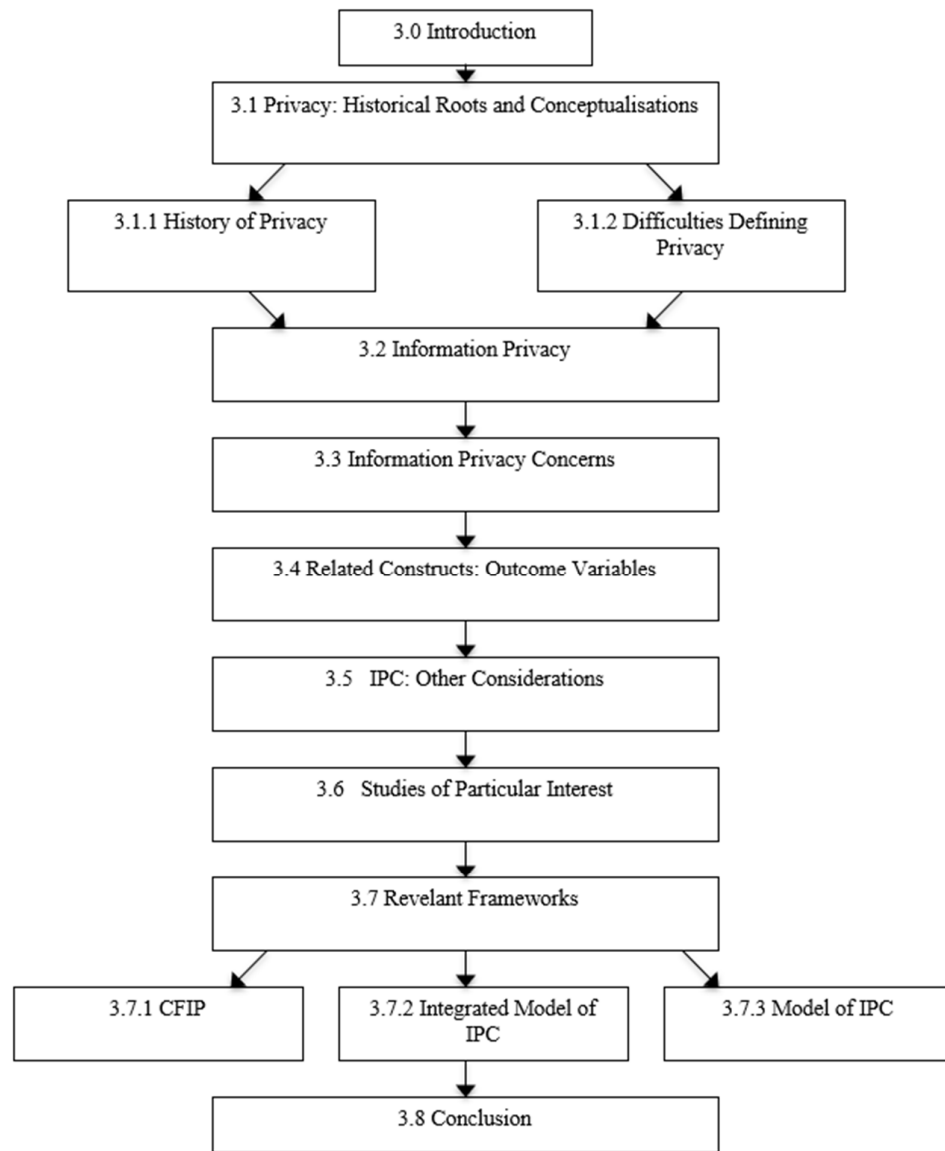
- Marlon Brando

3.0 Introduction

Privacy is a construct that spans multiple literatures, harnessing differing disciplinary lens and research perspectives. The aim of this chapter is to provide a thorough review of that literature and its subsidiary construct, that of information privacy, drawing on its relevance and potential to guide the current study.

The chapter begins by providing a brief history of the privacy construct, describing its evolution in societal and research consciousness. The various conceptualisations of privacy are discussed and a clear distinction is drawn between privacy and information privacy. Section 3.2 outlines the key dimensions associated with information privacy. Section 3.3 provides a critical analysis of associated constructs including attitudes. This is followed by a thorough review of research work and models of particular interest in terms of their ability to contribute to the study research framework. Based on this review the constructs pertinent to the study are identified. The chapter concludes with a brief summary.

Figure 3.1: Chapter Structure



3.1 Privacy: Historical Roots and Conceptualisations

Privacy is a complex construct that has attracted the interest of researchers from across multiple disciplines (Dinev et al., 2013). That research and its directional emphasis have been distilled through varying academic lenses (Platt, 1995; Rust et al., 2002; Graeff and Harmon, 2002; Solove, 1996), adding to both the richness and complexity of the literature. On one hand, attempts to clearly define and conceptualise the construct have produced a rich body of work. However, these differing perspectives and emphases have also resulted in copious conceptual and operational ambiguities regarding how privacy should be perceived, defined and even operationalized (Belanger and Crossler, 2011). Definitional consensus is an important goal of researchers seeking to progress understanding regarding what constitutes a private state or an invasion of that private state (Martin, 2016), but as researchers such as (Smith, 2001: 8) note, although “*much ink has been spilled*” in an effort to define privacy, to date there is no universally accepted definition of the privacy construct. This has manifested in a lack of clearly defined boundaries or conditions as to what defines a private state or indeed a privacy violation, resulting in much confusion. To counter this lack of definitional consensus, it is useful to trace the evolution of privacy and its underpinnings.

3.1.1 The History of Privacy

Researchers have long struggled to identify an exact epoch when our desire of privacy was born. Adam and Eve identified their violation of each other’s privacy after they had eaten the forbidden fruit at the beginning of the Bible as they felt the need to make themselves aprons out of fig leaves sewn together (Genesis 3:7). Judas Iscariot betrayed Jesus’s privacy by leading the soldiers and guards to the hidden Garden of Gethsemane in return for 30 pieces of silver (Matthew 26: 14-27:66). Greek philosophical traditions contested the boundaries of the individual’s right to privacy with Aristotle continually emphasising the importance of an individual as a member of a *polis*, which was a political community or city state. In order to conduct this ‘*public*’ life within the state, he argued that man had to forsake his privacy, as private beings could not subsist in society (Politics, 1253a 25-30). In Greek tradition animals could however lead a private life free from the state and researchers De Boni and Prigmore (2002) note how philosophers who chose to lead a private life were often branded ‘*cynical*’ which translated to mean ‘*dog like*’ as

according to tradition they could only become human by renouncing their privacy. Roman philosophers aligned with the perspectives of both Aristotle and Plato and De Boni and Prigmore (2002) note how the Latin word for “*privacy*” literally means “*deprived*” thus indicating support for the conceptualization of privacy as an incomplete and imperfect state.

The first challenge to this perspective occurred during the Italian Renaissance when political philosopher Machiavelli proposed the concept of separating the private individual from the public citizen, allowing each individual to take on a personal persona (The Prince, 2003). The political realism of Machiavelli was further elaborated by British empiricist Locke (1968: 116) who argued that “*every man has a property in his own person; this nobody has a right to but himself*”. More recently, researchers (Miller, 1971; Epstein, 1985; Pilon, 1999; Litman, 1999) have argued that privacy should be treated as a property right with Pilon (1999: 146) contending that “*property is the foundation of every right we have, including the right to be free.*”

The view of privacy as a fundamental human right is enshrined in laws such as the Universal Declaration of Human Rights (UN, 1948: Article 12), the International Covenant on Civil and Political Rights (1966: Article 17) and the European Convention for the Protection of Human Rights and Fundamental Freedom (CoE, 1984: Article 8). In scholarly literature the view of privacy as a human right is supported by Fried (1970) who argues from a Kantian perspective that privacy is a concept that provides a “*rational context*” as it is essential in order for love, friendship, trust and respect to develop among individuals. Support for this view is also provided by Young (1979) and Schoeman (1984) with the latter construing privacy as a significant aspect of human decorum. Other researchers such as Kouw et al., (2004) and Boatright (2004) also argue for privacy to be considered as a natural or metaphysical right stemming from their beliefs that there is a ‘*higher law*’ than that of any political or governmental power that applies to everyone and serves as a standard by which we should all live.

While the divergent viewpoints as to whether privacy should be a metaphysical right, a fundamental right or a property right remain heavily debated in the literature, current research is united in agreement that privacy concerns are a significant issue meriting

examination. To understand and examine those concerns necessitates conceptual and definitional consensus as this will inform how the construct is measured. This consensus has not yet been achieved.

3.1.2 Difficulties in Defining Privacy

Privacy is a difficult concept to define as researchers struggle to agree on a static and coherent definition of the construct despite heavy debate in the literature (Margulis, 1977; Solove, 2006; Dinev et al., 2013). For researchers such as Solove (2006: 477) for example, privacy is a concept that *'is in disarray'* whereby *"nobody can articulate what it means"*, with Miller (1971) noting that privacy is a concept that is simply *"vague and evanescent"*. Similarly, for Scheppelle (1988) privacy is a concept that has suffered from *"an embarrassment of meanings"* with moral philosopher Thomson (1975) observing how perhaps the most striking thing about the right to privacy is that *"nobody seems to have any clear idea of what it is"*.

One body of work focuses on information privacy in terms of access. This stems primarily from Warren and Brandeis (1890) who define privacy as *"the right to be let alone"*, which is widely accepted as the first publicly acknowledged definition of privacy within the literature. For example, researchers such as Sheehan (2002) contend that while limited, this definition has become the basis of much privacy legislation for the past century. This access-based view of privacy is heavily supported in scholarly literature with Persson and Hansson (2003: 61) defining privacy as *"the degree to which others may have information about her"*, Van Den Haag (1971: 149) explaining privacy as *'the exclusive access of a person to a realm of his own'* and Charters (2002) noting how privacy is inherently grounded in individual rights. Information System researchers such as Laudon and Laudon (2005: 159) have famously extended upon Warren and Brandeis's definition suggesting that privacy is *"the claim of individuals to be left alone, free from surveillance, or interference from other individuals or organisations including the state."*

A diverse body of literature, however, has argued against Warren and Brandeis's (1890) conceptualisation of privacy. For example, researchers across many disciplines have argued that it is difficult to consider privacy as a fundamental human right as it cannot be

treated as a universal absolute and perhaps more importantly, no one is quite sure who is actually responsible for protecting it (Schoeman, 1984; Posner, 1984; Milberg et al., 2000) – an issue that is clearly exasperated within a digital context. A second difficulty that relates to this conceptualisation of information privacy relates directly to the concept of privacy boundaries. For example, researchers such as Nissenbaum (2004) argue that there is no clear concept or definition outlining what constitutes privacy boundaries in the first place. This is an important point because as modern technologies become routinely integrated into our daily lives, it is becoming increasingly difficult for individuals to govern their own self-disclosures and protect those boundaries.

As various conceptualisations of privacy exist within the literature (Margulis, 1977), our current understanding of the privacy concept is fragmented, discipline-specific and for many remains a “*murky concept*” (Patton, 2000: 182) that “*is difficult to grasp*” (Dinev et al., 2013: 295). For example, the legal perspective tends to focus on privacy as a “*right*” or “*entitlement*” (Warren and Brandeis, 1890; Tavani, 2001), whereas an Information Systems background commonly considers it in terms of control of information (Westin, 1967; Culnan, 1993; Clarke, 1999; Dinev et al., 2013). Researchers from the psychology and philosophy disciplines define privacy as a “*state of limited access or isolation*” (Schoeman, 1984) whereas privacy researchers from a marketing background define privacy in terms of the unauthorised collection, use and exchange of information for various marketing purposes (Nam et al., 2006; Caudill and Murphy, 2000). These discipline-dependent views of privacy can be problematic as they consider, define and explore the construct through their own specific lens and fields of study, thereby bounding the utility of their findings for researchers from other discipline areas.

Recognising the need to overcome this limitation, a number of privacy researchers (Parker, 1974; Rust et al., 2002; Aquisti, 2002) contend that the privacy construct is best examined from incorporating a multiplicity of viewpoints. Accordingly, many studies within the literature now characterise privacy in terms of multiple dimensions as opposed to a singular one-dimensional view (De Cew, 1997; Altman, 1975; Burgoon et al., 1989; Zureik, 2004). For example, Parker (1974) suggests privacy can be examined as a psychological state, a form of power, an inherent right or an aspect of freedom, while Acquisti (2004) notes that privacy has become a class of multifaceted interests and

consequently should no longer be viewed as a single unambiguous concept. Other researchers such as Smith et al., (2011) further acknowledge the multidisciplinary nature of privacy arguing that each discipline it spans offers a unique angle and perspective through which to view and measure the construct from and therefore that multiplicity of perspective should not be ignored, but rather valued.

3.2 Information Privacy

The focus of this thesis is primarily information privacy. However, the distinction between general privacy and information privacy is rarely clarified within the literature. For example, many researchers (Smith et al., 2011; Dinev et al., 2013) note how questionnaires and polls commonly ask about ‘privacy’ as opposed to ‘information privacy’, with Smith et al. (2011) contending that popular terms and privacy associations – such as *privacy advocates*, *Privacy International* and the *World Privacy Forum* – also fail to distinguish between the two. Historically the concept of general privacy evolved before that of information privacy. For example, definitions and discussions of general privacy are often related to ones’ physical environment – such as the physical area surrounding them as well as an individual’s sense of self, and disclosure of self to others (Ball et al., 2012; Simms, 1994) and as such is commonly referred to as physical privacy with the literature (Smith et al., 2011; Kokolakis, 2017).

Information privacy, on the other hand, is commonly noted as an important subset of general privacy (Smith et al., 2011; Belanger and Crossler, 2011). Similar to general privacy, information privacy is often examined from a multiplicity of viewpoints including ethical (Mason, 1986; Platt, 1995), economical (Waldo et al., 2007; Rust et al., 2002), marketing (Miyazaki, 2008; Milne et al., 2008; Sprot, 2008; Wang et al., 1998), management (Stone and Stone, 1990; Chory et al., 2016), legal (Solove, 1996; Clarke, 1999) and information systems (Dinev et al., 2012; Smith et al., 2011; Pavlou, 2011) perspectives. This too is reflected in definitions of the construct. For example, researchers from the ethics discipline define information privacy as a moral right (Clarke, 1999), researchers from a philosophical background describe it in terms of a human right (Skinner et al., 2006) and legal researchers consider it a legislative issue (Solove, 1996).

Other researchers examining it through an economic lens define information privacy as a value, in that it plays an important role in regards the information needed for the cost-benefit calculation for efficient markets (Waldo et al., 2007; Smith et al., 2011).

Similar to general privacy, information privacy is also commonly considered to have multiple dimensions that influence how it is articulated (Belanger and Crossler, 2011; Pavlou, 2011; Miltgen and Smith, 2015). For example, Smith et al., (1996) describe it in terms of collection, unauthorised secondary use, improper access and error. Other researchers define it in terms of information processing, dissemination and invasion (Solove, 2006) with many separating it into individual, group and organisational privacy (Skinner et al., 2006).

However, IS researchers such as Belanger and Crossler (2002: 1018) note that although there are semantic differences regarding how information privacy is defined within the literature, there is *‘very little variance in the elements of the definitions’* as they all typically include some form of control over one’s personal information within an online context. Therefore, from an IS perspective (e.g., Pavlou, 2011, Belanger and Crossler, 2011) the way to move beyond this definitional confusion is to acknowledge that individuals should be able to assume some level of control over how organisations use and disseminate their information and that they desire that control, even in its absence. For example, their definition of information privacy, Belanger and Crossler (2011) avoid an exclusive emphasis on either rights or on absolute control, whilst simultaneously acknowledging that individuals do have rights regarding their information and wish to assume greater control over it than is the case at present. Therefore, the current study harnesses their definition, adapting it to the study context and defining information privacy as *“the desire of employees to be afforded a degree of control over the collection and dissemination of their personal location information by their employer.”* When information privacy is discussed in this study, it references this definition.

3.3 Information Privacy Concerns

A number of studies in the literature do not examine information privacy concerns directly, but rather include it amongst a number of variables under consideration (Flavian

and Guinaliu, 2006; Chen and Barnes, 2007). For example, Joines et al.'s (2003) study of the influence of demographics and motivational factors on Internet use includes a measure of information privacy along with other measures, whilst Lancelot Miltgen's (2007) study focuses on the factors that influence online consumers' decisions to provide personal information, as opposed to directly focusing on informational privacy concerns. Similarly, while a number of technology adoption studies include a measure of information privacy, they do not focus on it uniquely (Pavlou and Fygenson, 2006; Shih, 2004). This is surprising as several leading researchers contend that information privacy concerns greatly influence individuals' acceptance of technologies particularly in the digital marketplace (Smith et al., 1996; Stewart and Segars, 2002; Malhotra et al., 2004). As a consequence, these provide valuable but bounded insight in relation to information privacy and its drivers

This section focuses on information privacy concerns, the first research question in this study. Because information privacy is a complex construct, proxies such as concerns are used to measure it (Belanger and Crossler, 2011). However, although a number of validated scales exist, they differ in terms of factor structure and there is no agreed upon set of dimensions accessible to researchers. Nonetheless, many points of commonality are evident. The most widely accepted dimensions are those proposed by Hong and Thong (2013) and comprise, Collection, Control, Unauthorised Secondary Use, Improper Access, Errors and Awareness. These are now reviewed in terms of their relevance to electronic monitoring.

3.3.1 Collection

Collection refers to the individual's concerns regarding the collection and storage of their personal information by an organisation (Smith et al., 1996). Its importance is indicated through its presence in several prominent models of information privacy such as those proposed by Smith *et al.* (1996) and (Malhotra et al., 2004). In the context of organisational electronic monitoring, employees have very limited ability to prevent collection of their personal information. For example, workforce planning data analytics are capable of collecting copious amounts of data including computer usage in terms of amount and form, meeting attendance as well as level and nature of participation. Other monitoring technologies determine location to the degree of knowing when the employee

stands or sits and even their conversations (Sheng, 2019). Employers value the ability of these technologies to increase oversight and operational efficiency. However, from an employee perspective, that does not mitigate their concerns regarding the form and extent of collection. In light of the vastly increased ability of employers to collect and store information on their employees, it is proposed that the Collection dimension is relevant to examining employees' IPC.

3.3.2 Unauthorised Secondary Use

Unauthorised Secondary Use refers to the individual's concern that information which has been collated for one purpose is then used for another purpose without their permission (Smith et al., 1996). Researchers such as Dinev and Hart (2006) suggest much concern relates to an individual's perception as to how the information they provide online will be used. Similarly other researchers (Stanton, 2000; Zweig and Webster, 2002; Malhotra et al., 2004) cite justice and fairness regarding the collection and use of information as key drivers of IPC. Similarly organisational privacy researchers have cited the difficulties employees experience managing privately and publicly shared information within the workplace (Allen et al., 2007). In a workplace context, employees neither get to view or manage their data. They have no ability to determine whether the organisation is using it in a neutral way to improve operational management or whether it will be used for punitive purposes, such as in performance reviews. This naturally exacerbates their concerns. For these reasons, it is argued that this dimension of concern is relevant to examining employee IPC.

3.3.3 Improper Access

Improper access relates to individuals' concerns that the organisation does not have measures in place to prevent unauthorised persons from accessing their information (Smith et al., 1996). This measure is present in prominent models of information privacy (e.g. Smith et al., 1996) and a large number of organisational privacy research studies consider the accessing and monitoring of employee interactions as a significant invasion of privacy (Miller and Weckert, 2000; Fairweather, 1999; Lane, 2003) particularly if the information is used against them or as a means of regulating their behaviour. As previously noted, employees have no ability to view their data or audit how it is being

used. Neither can they view who has accessed it or the reasons for that access. In a context of electronic monitoring and the real time data collection which it enables, this naturally exacerbates individuals' concerns regarding the safety of their data. For that reason, it is contended that improper access is a dimension of concern relevant to examining employee IPC.

3.3.4 Errors

Errors are a dimension of interest to this study. This dimension has been included in measures and previous examinations of information privacy concern (e.g. Smith et al, 1996, Fox and Connolly, 2018). It relates to the concern that the organisation which collected and is storing their personal information does not have measures in place to prevent and correct errors in that data (Smith *et al.*, 1996). It is argued that this dimension is extremely relevant in an employee monitoring context as incorrect data could potentially be used to sanction employees, may impact their potential for promotion and may become a permanent part of their performance record. For that reason, it is argued that the dimension of errors warrants inclusion in this study.

3.3.5 Control

Control was first highlighted by Westin (1967) and then again by Altman (1975) as an important dimension of privacy concerns. From an information privacy perspective, it is typically described in terms of its absence i.e. as the individuals' concern regarding the lack of control they have over their personal information (Malhotra *et al.*, 2004). Belanger and Crossler (2011) point to its repeated emergence in definitions of information privacy and the work of IS researchers such as Dinev et al. (2016) shows that higher levels of control reduce the individual's privacy concerns. It is therefore argued that the dimension of control merits inclusion in this study of electronic monitoring.

3.3.6 Awareness

Awareness has been described as a passive but important dimension of information privacy concerns, which focuses on the concerns of the individual regarding how an organisation uses and protects their personal information (Culnan, 1995; Foxman and Kilcoyne, 1993; Malhotra et al., 2004). Researchers such as Algae and Hansen (2013)

have noted that in an employee electronic monitoring context, this lack of awareness can increase IPC. Other research by Connolly and McParland (2012) also points to the importance of awareness and the need for its inclusion in studies of employee monitoring. For example, an Accenture (2019) survey of employees found that more than half (52 percent) of the survey respondents think that the use of new sources of workforce data risks damaging trust, and 64 percent said that recent scandals over the misuse of data makes them concerned that their employee personal information might be at risk too. It is therefore concluded that awareness represents an important dimension in the electronic monitoring context and merits inclusion in this study.

The above discussion has outlined the six dimensions that are relevant to this examination of employee IPC in a context of electronic monitoring via location tracking technologies. In the context of this study:

- *Collection* relates to Garda IPC regarding the collection of their personal location information via their TETRA radios by Senior Management.
- *Unauthorised secondary use* relates to Garda IPC regarding potential secondary use of their personal location information by Senior Management.
- *Improper access* refers to Garda IPC that their personal location information can be accessed by a colleague who is not permitted to do so.
- *Errors* relates to Garda IPC that their personal location information collected by Senior Management is not free from accidental or deliberate errors.
- *Control* refers to Garda IPC that they do not have sufficient control over their own personal location information.
- *Awareness* examines the degree to which Gardaí are aware of the location information monitoring practices of Senior Management of An Garda Síochána.

3.4 Related Constructs: Outcome Variables

IPC are typically examined in relation to intention to adopt or reject an innovation (Dhagarra et al., 2020; Fox and Connolly, 2018; Zhou, 2011). However, in a context of mandatory employee monitoring, that volitional freedom is removed from the employee

and therefore the employee's response is less explicit and more likely to be expressed through their organisational trust and commitment.

3.4.1 IPC → Organisational Trust

IPC are naturally associated with perceptions of risk, a relationship that has repeatedly been confirmed in the literature (e.g., Fox and Connolly, 2018). Studies have shown that risk is also associated with trust in relationships (Mayer *et al.*, 1995; Coleman, 1990), whether trust in an individual or an organisation. In fact, Lewis and Weigert (1985) stress the uncertainty aspect of trust, making the point that trust would not be necessary if actions could be undertaken with complete certainty and no risk. For Robinson (1996), trust is defined as “*one's expectations, assumptions, or beliefs about the likelihood that another's future actions will be beneficial, favourable, or at least not detrimental to one's interests.*” In the context of the current study, this definition of trust is employed and interpreted in terms of how employees' respond to workplace electronic monitoring and organizational trust denotes the attitude workers have in the organization itself and not a particular individual such as a manager.

There is a lack of research examining the role of trust in relation to employees' IPC regarding use of electronic monitoring in the workplace. This is particularly surprising as Stanton (2000) observes that the way in which an electronic monitoring system is implemented and used should influence employees' perceptions of monitoring fairness and especially their trust in the organization (Butler, 2012). This lack of research is not a trivial issue as employee trust has been linked to important benefits for the organisation. For example, it has been shown to be important for both employee well being and organisational stability (Cook, 1980). In fact, Social Exchange Theory highlights the role of trust in the development and maintenance of a positive and lasting organisational relationship and research on organisational trust has linked it to several positive outcomes, including increasing employee commitment (Cook and Wall, 1980) and organisational citizenship behaviours (Wong *et al.*, 2006). Research has also shown that it aids in talent retention (Konovsky and Cropanzano, 1991). These outcomes imply a positive outcome of organisational trust, but the opposite also applies, and research shows that where trust is harmed, this has enduring consequences. For example, researchers (Lewicki and Bunker, 1996) have demonstrated once trust has been damaged, the

negative outcomes may be irreversible. Thus, understanding how employee IPC in the context of electronic monitoring influence organisational trust is of critical importance (Tihanyi, 2020) and merits examination in this study.

3.4.2 IPC → Affective Commitment

Organisational commitment refers to employees' commitment to the organization, something which research has shown to arise from their perception that the organization is committed to them (Wayne et al., 1997). Research (Tan and Lim, 2009) shows that organisational trust predicts affective commitment. This is consistent with Social Exchange Theory which emphasises the reciprocal nature of trust indicating that employees who trust their organization to fulfil their social exchange obligations are more likely to feel an emotional attachment to that organization, something confirmed in the literature (Chen et al., 2009).

Research by Chen and Sanders (2007) has confirmed that the perceived privacy invasion associated with employee monitoring influences employee affective commitment. One explanation for this is that perceived privacy invasions negatively impact organisational identity, which has been shown to predict organisational commitment (Tabak and Smith, 2005). The current study therefore proposes to examine the direct influence of IPC on employee affective commitment and its indirect effect via employees' organisational trust.

3.4.3 IPC → Loss of Autonomy

The concept *autonomy* is derived from the ancient Greek words *autos* (self) and *nomos* (law) and being autonomous was thus understood mainly as having control over one's own life. Becker (2019) argues that there is a direct relationship between privacy concerns and autonomy as constant observation (as is the case with workplace electronic monitoring) has been shown (Van Otterloo, 2014) impede the individual's freedom to act as he or she would like and therefore the loss of privacy leads to diminished autonomy. He points to fact that the loss of autonomy resulting from persistent surveillance becomes accentuated in a context of unprecedented digital

collection and storage of individuals' information, thereby relating loss of autonomy to individuals' of loss of control over their information and the potential for errors in collected information, which the individual cannot correct. Both of these are established IPC dimensions (Hong and Thong, 2013). Becker (2019) also notes that mere awareness of the possibility that surveillance techniques exist has an impact on human behaviour, thereby acknowledging the 'awareness' dimension of IPC and its relationship to autonomy. However, although he creates a compelling argument, he does not provide empirical evidence to support whether IPC influence employees' loss of autonomy or whether. The current study therefore proposes to examine and determine whether IPC have a negative association with employees' autonomy in a context of electronic monitoring.

3.5 *IPC – Other Considerations*

In their analysis of IPC, Belanger and Crossler (2011) point to the role of attitudes, context and legislation.

3.5.1 *Information Privacy Attitudes*

Research on information privacy attitudes commonly examines individuals' perceptions of and reactions to privacy practices (Miyazaki and Krishnamurthy, 2002), their attitudes towards data access (Mossholder et al., 1991), attitudes towards others privacy (Earp and Payton, 2001), tools and policies (Belanger and Crossler, 2011) as well as attitudes towards privacy in general (Udo, 2001; Razzouk et al., 2008). Many studies particularly within the IS literature take a one-dimensional approach to examining attitudes, focusing on what underpins refusal to provide sensitive information online (Dinev and Hart, 2006; Malhotra et al., 2004; Smith et al., 1996; Stewart and Segars, 2002). However, researchers such as Son and Kim (2008) maintain that this one-dimensional approach to exploring information privacy attitudes is limited in that it ignores the possibility that individuals may amend their attitudes and behaviour by responding to potential threats in other ways that are not limited to the refusal to communicate certain information online. This distinction is important for the current study as members of An Garda Síochána are not allowed to refuse to wear the location tracking technology, but exploratory work has

shown that some nonetheless seek nuanced ways of expressing their resistance. As these adaptation strategies are unique to each individual, they will be explored in the qualitative section of the study. Moreover, as attitudes are predicted by beliefs (Fishbein, 1980) they are represented in this study through the beliefs that underpin each of the IPC dimensions.

3.5.2 The Role of Context

A number of researchers (Nissenbaum, 2004; Martin, 2012; Tomar, 2020) consider information privacy in terms of a social contract, thereby examining and defining privacy norms in terms of relationship, situation and context. They argue that individuals share information about themselves based on a predisposed perception they have regarding who can access their information and to what degree and that this perception is specific to a particular context. For Tomar (2020) the underlying premise of this view of information privacy contextual integrity relates to the appropriateness and distribution of the information share. For example, he argues that individuals must decide if their information disclosure is justified (appropriate) according to that context and if the information needs to be shared to the same degree with different parties or individuals (distribution). Similarly, Martin (2016) suggests that by understanding these implicit privacy norms in terms of what information is shared, why it is shared and with whom, within specific relationships, we will be better able to understand if we are meeting the privacy expectations of others. However, these researchers all assume that information sharing is volitional and fail to recognise that workplace electronic monitoring does not require explicit consent from the individual. Therefore, this research provides a valuable counterpoint to this perspective, illustrating not only the importance of the electronic monitoring context (e.g., workplace monitoring) but also acknowledging the mandatory and explicit nature of that monitoring.

3.5.3 Information Privacy Legislation

As this study is conducted within the Irish public sector, it is important to consider privacy legislation from a European perspective, as it differs considerably between Europe and the United States. For example, in Europe privacy protection is considerably stronger than in the United States as it focuses on controlling and regulating managements'

collection and use of employee data. In this way European law lends itself more to the protection of data – and therefore the individual – compared to the United States, which focuses more on the use and collection of data. Any country that is a member state of the European Union [EU] must comply with the legislation that is passed by any one of its major institutions as well as any national laws or regulations set in place.

In 2016 the EU replaced the 1995 Data Protection Directive with the General Data Protection Regulation (GDPR), which is arguably the toughest privacy and security law in the world. GDPR imposes regulations and obligations upon any organisation worldwide, if they target or collate data relating to EU citizens (Regulation [EU] 2016/679). However, much of the protections conferred by GDPR apply to citizens with whom the company interacts, not their employees.

In an employee context the individual's right to privacy is balanced against his or her employer's rights to run their business and protect their company. While the employer is required to comply with article 35 of GDPR, workplace monitoring is deemed acceptable once it is necessary, legitimate and proportionate. Employers are supposed to consult with data subjects before a technology is introduced and supply employees with an Acceptable Usage Policy which includes information regarding who is conducting the monitoring what is being monitored, and how and when this is taking place. However, whether this occurs in practice is questionable and will be examined in the qualitative section of this study.

3.6 Studies of Particular Interest

As previously noted, the information privacy literature is diverse and evolving. However, a number of IPC studies were of particular interest and helped guide the framework of the current study. These are presented in table 3.1. They span a range of disciplines and contextual foci, including the computer mediated workplace environment, as well as health contexts. However, their dimensional articulation of IPC and their operationalisation of same was relevant to the current study.

Table 3.1: IPC Studies of Interest

Study	Focus	Context	Research Method		
			Participants	Sample	Methodology
Malthora et al., (2004)	Privacy Concerns	Online Domain	Online Users	449	10 item IUIPC scale and 15 item CFIP scale
Stanton and Weiss (2000)	Attitudes, Perceptions and Beliefs	Organisation	Employees	49 across 25 orgs	3 item – web based survey
Alder et al., (2006)	Attitude and Behaviour	Organisation	Employees	62 across 2 orgs	5 factor scale - 2 Paper surveys
Buchanan et al., (2007)	Attitude and Behaviour	Online Domain	Research Students	1515	28 item scale – Online questionnaire
Snyder (2010)	Privacy Concerns – email	Organisation	Employees	324	19 item scale - questionnaire

Despite the obvious interest in this topic, both conceptually and from an industry perspective, the number of empirical IPC studies, particularly those focusing on an organisational context, remains remarkably limited (Boehle, 2000). However, those few studies that do exist provide interesting insights into the importance of this issue and its potential for research. For example, Stanton and Weiss' (2000) study examined the issue of electronic monitoring from both employer and employee perspectives. A three-part survey was derived from a longer semi-structured research instrument used by the authors in a previous study. A surveillance-related question deliberately worded with both positive and negative connotations acted as the focal point of the survey. The respondents

exhibited a mixed view of attitudes in response towards electronic surveillance. Surprisingly, only a minority of those actually subjected to monitoring found it to be invasive or negative in any way. Other employees actually displayed positive attitudes towards high levels of surveillance, considering that it provided them with a deep sense of security and ensured that the line of command was set in place. However, the authors note a number of limitations in relation to their study, particularly in relation to sample size that restrict its generalizability and they point to the need for more detailed research on this issue.

Further insight into the dimensionality of IPC, in particular the importance of awareness and control, was provided by Malthotra et al., (2004). These researchers contributed to our understanding of information privacy and its operationalisation by developing a scale and causal model (the Internet User's Information Privacy Scale), which captures some of the dimensionality of an Internet users' information privacy concerns (specifically data collection, control and awareness). However, the authors note that the development of this scale was highly dependent on contextual factors and does not measure the influence of IPC on outcome. Nonetheless, this scale provided an important step towards identifying and measuring IPC and those dimensions are encompassed in the research framework for this study.

A critical task facing organisations and researchers is to identify the factors that underpin employees' reactions to Internet monitoring. Alder *et al.*, (2006) developed a causal model that seeks to explore the impact of Internet monitoring on employees' trust in the workplace. Following an initial survey, the respondents were unknowingly subjected to an Internet monitoring and filtering system implemented in their company. Afterwards they were informed that this monitoring activity was taking place. After a set time period, the sample group was sent a second survey to which 63% of the original sample responded. When the level of employee trust and their attitude towards their specific job was examined, the results indicated that frequent Internet users were more affected by the implementation of internet monitoring than was the case for those who used the Internet less frequently. The value of Alder's work to this study lies in the fact that it points to the value of examining the influence of IPC on employee trust in relation to workplace electronic monitoring, which is a core research question in the current study.

The work of Buchanan et al., (2007) sought to combine the examination of attitudes and behavioural outcomes. These researchers developed the Online Privacy Concern and Protection (PCP) Scale to measure attitudes and concerns relating to information privacy and the behaviour individuals may adopt to safeguard their privacy. Overall, 28 privacy factors were examined through three scales which focused on Privacy Concerns (16), General Caution (6) and Technical Protection (6). The Privacy Concern scale focused on attitudinal aspects, while the General Caution and Technical Protection scales focused on the behavioural outcomes of information privacy concerns. The study found that respondents who displayed higher levels of privacy concern were more cautious interacting online. Although this study focused on online interactions, its value lies in the fact that it points to the need to examine both IPC and its outcomes, both of which are central pillars of the current study.

In a similar vein, Snyder (2010) applied communication boundary theory to explore employees' responses to email monitoring in the computer mediated workplace environment. Employee perceptions of email monitoring in the workplace were gathered through an online survey and later tested through the perceived email privacy scale (PEP). The study indicated that PEP is a two-dimensional construct, measuring both an individual's ability to maintain their privacy as well as their legitimate concerns about organisation infringement on their email privacy. The study further suggested perceptions of PEP were directly related to an employee's perception of their workplace relationships – particularly in relation to management. For example, the study showed that if an employee perceived their email to be monitored by management, the psychological contract between them and the organisation would be negatively affected. Perhaps somewhat unsurprisingly it also found that employees who displayed higher levels of fear regarding monitoring showed greater distrust in Management, increased concerns regarding organisational monitoring of their email interactions and further reported poorer and more disjointed relationships with co-workers. The author highlighted a number of limitations in the study, however. For example, while the study examined employee psychological boundaries in regard the monitoring of their emails in the workplace, the study did not consider boundaries established by the organisation itself. i.e., workplace policies etc. However, the study provides valuable guidance to the current

research in that it points to the need to consider employees' perceptions of the legitimacy of electronic monitoring and its impact on their trust of the organisation.

3.7 Relevant Frameworks

There are a number of models within the information privacy literature which provided particularly helpful guidance to the development of the research framework. Similar to the studies outlined above, these models help identify relevant IPC dimensions for consideration, as well as relevant outcomes. These models and their value to this study are now outlined in more detail.

3.7.1 Concern for Information Privacy Scale (CFIP)

The Concern for Information Privacy (CFIP) Scale developed by Smith et al., (1996) was one of the first studies to operationalise IPC. The study identified four central dimensions of individuals' concerns about organisational information privacy practices - collection, errors, unauthorised secondary use and improper access. *Collection* refers to the concern that significant amounts of personally identifiable and sensitive information can be gathered and stored by organisations, something which for Smith et al., (1996: 171) has been “*a theme in privacy literature since the 1970s*” and “*an inevitable by-product of the growing computer revolution*”. The dimension of *error* refers to the concern that organisations do not employ adequate mechanisms to protect against deliberate or accidental errors and mistakes in personal data (Smith et al., 1996). *Unauthorised secondary use* relates to the concern that personally identifiable or sensitive information collected from individuals may be used for a secondary purpose without the individual's prior knowledge or consent. This can occur either internally whereby the organisation finds “*new uses for data*” or externally in which the information is passed on to a third party not within the organisation itself (Smith et al., 1996: 171). Finally, *improper access* refers to the concern that an individual's personal information can be accessed by others who are not permitted to view, access or work with their data. For Smith et al., (1996) this dimension is both managerial and technological in nature arguing that organisations must implement rigorous organisational policies and stringent technology-based access

controls to ensure that personal data is not readily available to those not authorised to access it.

The authors developed and validated an instrument to measure the validity of these dimensions as a means to measure individuals' concerns regarding organisational information privacy practices. The research model employed in this study harnesses the elements of this Concern for Information Privacy Scale (CFIP), integrating the four IPC dimensions from this framework into the study research model and employing their measures in the study survey instrument.

3.7.2 Integrated Model of Information Privacy Concerns

Hong and Thong (2013) adapted the four key dimensions of information privacy concerns identified by Smith et al., (1996) and combined them with two other important dimensions of privacy control and awareness – dimensions that had previously been identified by Malhotra et al., (2004) as important factors to provide a fully integrated IPC conceptualisation. Within this framework *control* refers to an individual's concerns that they have no influence or inadequate control over their own personal information stored by organisations, whereas *awareness* refers to how conscious they are of the company's information privacy practices and the degree to which this concerns them (Malhotra et al., 2004; Hong and Thong 2013). Hong and Thong (2013) used a theory driven approach to identify and develop the various dimensions of their IPC model and conducted a series of studies and tests to validate their integrated model of IPC. Thus, the research model employed in this study also harnesses elements of Hong and Thong's (2013) integrated framework.

3.7.3 Model of Information Privacy Concerns

Alge et al., (2006) developed a model to help understand how an individual's behavioural outcomes within the workplace are affected by their perceptions of information privacy. This model contained three sub-dimensions of information privacy – perceived legitimacy, information gathering control and information handling control. *Information gathering control* specifically describes an individual's belief that they can determine the type and extent of personal and identifiable personal information their organisation can

gather and store, whereas *information handling control* refers to their belief that they can control how an organisation uses their personal information after it has been collected (Alge et al., 2006). The authors define the *perceived legitimacy* construct as the individual's belief that the organisation has in some way or to some degree violated their expectations of what is appropriate, proper and legitimate conduct in terms of their information gathering practices. The current study integrates Alge et al.'s (2006) sub-dimensions of privacy, in particular perceived legitimacy, to explore the relationship between an employee's IPC and their behavioural outcomes in relation to electronic monitoring. Perceived illegitimacy describes an individual's belief that the organisation has in some way or to some degree violated their expectations of what is appropriate, proper and legitimate conduct in terms of information gathering practices (Alge et al., 2006). It is relevant to a person's view on the legitimacy of an organisation's attempt to collect, store (information gathering), use and distribute (information handling) personal information. Thus, in this study perceived illegitimacy refers to the degree to which Gardaí perceive Senior Management's information gathering and information handling practices to be legitimate and justifiable.

3.8 Conclusion

The primary aim of this chapter was to provide a thorough review of both the privacy and information privacy literatures. A thorough discussion surrounding the definitional ambiguities of both the privacy and information privacy constructs was provided and a clear distinction was drawn between the two constructs. As this study is directed through an information privacy lens, a number of key dimensions of information privacy concern and their relevance to this study were discussed, followed by an examination of potential outcomes important to this examination of employee monitoring. Insights provided from the literature in relation to privacy attitudes, the role of context and legal considerations regarding employee monitoring were described in terms of their significance for this study. The chapter concluded by identifying and describing particular studies and three key models which guide the constructs of this study and their relational structures.

Chapter Four: Surveillance and Organisational Justice

“Under observation, we act less free, which means we effectively are less free.”

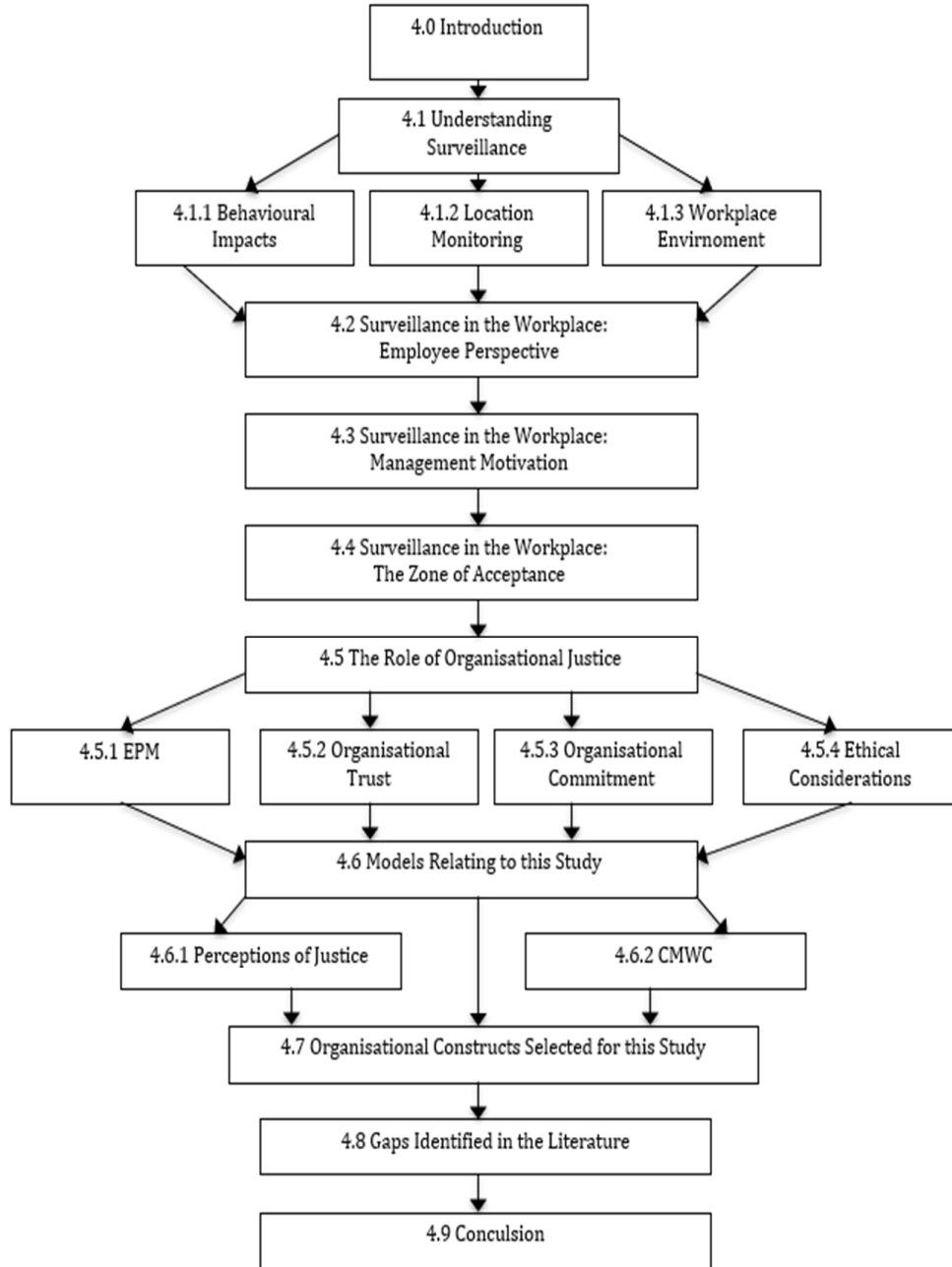
-Edward Snowden

4.0 Introduction

The primary aim of this chapter is to provide a thorough review of the surveillance and organisational justice literatures within an organisational context. The chapter begins with a discussion of the surveillance construct in which the various conceptualisations and dimensions of the surveillance construct are addressed in detail. Sections 4.2 to 4.4 explore the surveillance construct in the computer-mediated workplace environment. Section 4.2 outlines the privacy concerns and behavioural impacts of workplace surveillance from an employee perspective, while section 4.3 considers management’s rationale and motivation for employing monitoring techniques within the workplace. Section 4.4 explores a middle ground between the employee and employer by providing an overview of the ‘zone of acceptance’ identified within workplace surveillance literature.

In section 4.5, a full review of the organisational justice based literature is provided, in line with the surveillance literature. A selection of models that harness the research framework are identified in section 4.6 and a number of key constructs pertinent to this study are outlined and discussed in section 4.7. The chapter concludes with a brief summary that integrates both literature review chapters.

Figure 4.1: Chapter Structure



4.1 Understanding Surveillance.

It is common belief that one of the greatest threats to personal privacy lies in the monitoring and surveillance capabilities of modern technologies. As those technologies have become seamlessly integrated into society, this has fuelled privacy concerns and Stanton and Stam (2006: 63) note, the capturing and storing of information relating to human behaviour '*connects intimately with the concept of privacy*'.

4.1.1 The Behavioural Impacts of Surveillance

Researchers and analysts have studied the impact of surveillance on human behaviour and the outcomes associated with that behaviour (Stanton and Stam, 2006; Sewell and Barker, 2006; Widner, 2016; Toekke, 2011; Tavani, 2004). For example, Sewell and Barker (2006: 5) note how individuals have '*an almost compulsive desire to know all there is to know about people and use this knowledge to regulate their behaviour*'. This has worrying implications as many studies indicate that when an individual perceives that they may be watched they dramatically change their behaviour (Widner, 2016; Chellappa, 2001) causing privacy advocates such as Greenwald (2014) to contend that individuals' behaviour becomes more conformist and compliant as they act and behave in accordance with the expectations of others. For Widner (2016: 278) even the suspicion of surveillance - particularly online surveillance - results in a behavioural shift whereby a person alters their online activities and relationships to protect themselves and '*maintain a sense of privacy and control over their cyber-presence*'. While some studies suggest that surveillance is '*only a problem to criminals*' (Toekke, 2011: 443) or harmful to those that have something to hide, a diverse body of research counters this with the argument that individuals intrinsically crave privacy as "*all of us – not just terrorists and criminals . . . have something to hide.*" (Greenwald, 2014).

While it is clear that the exponential growth of Internet-based technologies has changed the scope and indeed the capabilities of such practices it is important to note that many of these behavioural monitoring techniques have a long established presence in the offline world also. One of the earliest known examples relates to an observation unit designed to

house prison inmates by English philosopher Jeremy Bentham in the 18th century. The unit was designed to allow a prison guard to observe inmates undetected so that the inmates were unaware if or when they were being monitored. In this way, prison inmates had to assume that they were being watched at all times, a concept that inevitably governed their behaviours and actions by forcing them to comply to the rules and regulations of the prison unit. Consequently, Bentham's model controlled prisoner behaviour through the uncertainty of being seen (Lyon, 2008; Rosenblat et al., 2014) with Foucault (1980: 155) noting, '*There is no need for arms, physical violence, material constraints. Just a gaze*'.

Many philosophers have addressed the notion of mass surveillance within the social science literature, such as Orwell (1949) who discusses the power dynamics of social control by addressing the issue of secret surveillance by a totalitarian or authoritarian state in his work 1984. Similarly for Foucault (1977; 204) Bentham's concept of panoptic surveillance can be applied to any institution in modern society as a means of societal control or as a '*laboratory of power*'. Examples of modern day computer-mediated surveillance techniques have relied heavily on these basic principals. Clarke (1988) for example, coined the term dataveillance to describe the systematic monitoring of the actions or communications of individuals. Modern technologies provide the opportunity for constant observation and continuous data collection ensuring that surveillance is employed through an individual not over them. Thus Lyon (1994) argues that in order to participate in modern society one must accept being under electronic surveillance with Chellappa (2001: 148) noting how '*there is no such thing as absolute privacy in a social order*' as this is something no individual can control.

In this way it is apparent that one of most notable threats to personal privacy lies in the act of mass surveillance. In 2013, Edward Snowden – a former contractor and analyst for the National Security Agency (NSA) leaked more than 1.7 million documents on secret global surveillance programmes conducted by the NSA (Blasi Casagran, 2017; Marthews and Tucker, 2017; Watt. 2017), sparking a heated debate around the globe regarding the impact of ubiquitous societal surveillance. The leaked documents revealed partnerships between the NSA, European Governments and various leading technology based companies, allowing them to obtain real time data on millions of individuals around the

world (Marthews and Tucker, 2017). Obviously these disclosures sparked major concerns amongst privacy advocates around the globe. However, perhaps more significantly this scandal also provoked a worldwide controversy amongst international and European Governments and agencies who were concerned for the privacy of their own citizens. This type of covert or mass surveillance can in fact have a very serious psychological impact on an individual with Koskela (2000; 259) arguing, “*to be under surveillance is an ambivalent emotional event*”.

Most recently, there has been an increase in the use of location data and location monitoring technologies by government agencies, law enforcement and organisations to gather and track precise and accurate location data on individuals (Pell, 2017). The section below explores these technologies and the major issues and privacy concerns they raise.

4.1.2 Location Monitoring Technologies

Advances in modern mobile communication technologies have led to the rapid growth and use of location tracking technologies. In fact researchers Abraham et al., (2019) note how almost every almost every activity we do in today's digital society generates a mass of information that can be used to permanently monitor and track our actions and behaviours. Moreover, diminished costs combined with the widespread adoption and use of GPS-enabled mobile devices have generated a shift in terms of the availability, intensity and type of monitoring that can occur with these technologies (Allen et al., 2007; Lane, 2003, Holland et al., 2015; Song et al., 2015).

Location data can be obtained through a number of means, the most common however being via GPS in a vehicle, GPS on a phone and GPS within wearable technologies. Many users willingly use these devices and accept or engage with the GPS on them to facilitate the use of location-based services such as road and map navigation, area-specific weather forecasts, traffic monitoring and nearest point of interest (POI) queries for example (Song et al., 2015). However revealing a user's location to an external source can pose a significant threat to privacy (Voelcker, 2006; Worrion et al., 2003; Holland et al., 2015) with Muntz et al., (2003) noting many real life scenarios in which technology has been

abused to locate and access private information on an individual. Interestingly however, this same unique feature of location-monitoring technologies has also been employed by governments and federal agencies in an effort to tackle crime. For example, Pell (2017) notes how the FBI have commonly used GPS tracking devices to monitor and record the precise location coordinates of individuals of interest, and how law enforcement agencies can readily obtain information through smart phone usage. In a similar vein, Business Insider (2020) reports that many European countries used smartphone location data to monitor coronavirus patients and the people they have been in contact with, in an effort to slow the spread and fight the COVID-19 outbreak that shook the world that same year. Despite the privacy concerns surrounding the issue of location monitoring technologies however, there has been a significant increase in the sale and use of wearable technologies in recent years. In fact, a Business Insider Report conducted in 2016 noted a growth rate of 24% in wearable technologies over a four year period, a figure which is expected to rise as these technologies become more conventional and therefore beneficial to the user. For example, this upward trend is particularly noticeable in the health and fitness industry whereby it is estimated that the total number of health based wearable technologies (i.e. fit bits, fit watches etc) will surpass 120 million customers by 2023 – a growth of 10% every year.

Many organisations now mandate employee use of GPS-enabled mobile devices, which allow employers to seamlessly gather and collate highly detailed real time information on employees on a continuous basis. For example, Abraham et al., (2019) notes how location sensor technology embedded in smart phones and body worn sensors allows managers to track and record the location of their employees offering them a new and more detailed quality of electronic monitoring. While tracking technologies have the potential to increase employee productivity and work performance (Bhave, 2014, Goomas and Ludwig, 2009) they may also provoke conflicts and tension between management and employees particularly if the employee does not accept the surveillance. In an effort to delve further into this issue, researchers Khakurel et al., (2017) carried out a study to examine the research trends, patterns and usage of wearable technologies in the workplace between the years 2000 to 2016. They conducted a systematic literature review to identify the types of wearable technologies that organisations were employing and the degree to which they were benefiting the company as a whole. They found a

noticeable uptrend in relevant articles from 2009 onwards, highlighting the growing interest among researchers in this topic. Notably the researchers identified 29 different types of wearable technologies, categorising their usage in terms of monitoring (18), augmenting – data, images etc (3), assisting (3), delivering – vital information contents etc (2) and tracking – behaviour etc (8).

4.1.3 Surveillance and the Computer-Mediated Workplace Environment

Legally, companies do have the right to monitor their employees and as such monitoring in the workplace is on the rise. For example, a 2017 study of 1627 firms conducted by the American Management Association found that 78% of major companies monitor the Internet usage, phone and email of their employees. This represents a steep increase over the past 20 years (from a figure of 35% in 1997). Perhaps somewhat unsurprisingly the figure is even higher for companies within the financial sector, with 92.1% of firms admitting to engaging in some form of surveillance. However while it is apparent the use of such information gathering technologies can benefit organisations immensely, they further allow organisations to gather and store information relating to employee behaviour and the outcomes associated with these behaviours thus generating privacy concerns amongst employees. For example, researchers Stanton and Stam (2003: 153) note how information technology provides employers with the tools to *‘increase the visibility of employee behaviour’* and further *‘uncover patterns of behaviour’* within the workplace thus providing the organisation the power to observe, analyse, predict and control employee behaviour and actions. In a later study the authors further highlight the lack of control employees have over the information gathered by their organisations noting how there are *‘few legal constraints on what information employers can collect’* and perhaps somewhat more worryingly *‘. . . or the methods they can use to collect it’* (Stanton and Stam, 2006: 68). Consequently, the monitoring of employees’ computer-related interactions has described in the literature as an ‘electronic whip’ used unfairly by management (Tavani, 2004).

While it is apparent employees are becoming increasingly aware of the potential of such technologies to monitor their email and computer interactions in the workplace, they for the main part remain unaware of the extent or detail of that monitoring. Similarly, they

are often unaware of how that collated information is being used by the monitoring body. In fact, researchers such as Safire (2002) note how gathering information through extreme or pervasive surveillance in the workplace can result in a ‘creepy feeling’ among those being monitored despite the fact that they may have done nothing wrong to merit such scrutiny. Profit driven organisations however aim to manage their business in an efficient and productive manner and as such it is perhaps unrealistic to expect that such organisations would not avail of the obvious empowering benefits that these communication monitoring technologies afford them particularly as it can be argued that they may in fact have legitimate reasons to monitor employee actions in the first place. Furthermore, as the organisation owns the information technology provided for use by the employee they effectively ‘own’ any information that is processed, stored or transmitted on the technology thus allowing them substantial control over what, when and how a technology is used (Stanton and Stam, 2006).

In this way it is clear that there are three distinct issues relating to organisational surveillance – one relating to the actual act of monitoring or surveillance itself, the second relating to how the collated information is being used and the third relating to managements legitimate desire to monitor in order to protect the organisation from internal and external threat.

The following three sections of this chapter discuss the major issues and subsequent privacy concerns from an employee perspective (section 4.2), management’s motivation to employ such technologies (section 4.3) and finally how to achieve a middle ground between both perspectives – the zone of acceptance – is discussed in section 4.4.

4.2 Surveillance in the Workplace: An Employees’ Perspective

Advanced digital technologies have facilitated organisations in their drive to become more productive, efficient and competitive in today’s global market. Increasing technological advancements have facilitated this drive for organisational efficiency, allowing management to gain insight into employee performance through monitoring their email communications and computer interactions within the workplace. This has

understandably, generated significant privacy concerns for employees. For example, email is very much a fundamental part of the communication structure of many organisations today. The contents of email communications are of great interest to employers for many reasons, including ensuring that company policies are being adhered to, communications are appropriate, information is not stolen or misused in any way and also to ensure that employees don't engage in any other questionable or destructive behaviour. However, many employees use the company email to facilitate their private communications, leading to long periods of unproductive work and at times a lack of attention to security (Machlis and Cole, 1997). In some cases management has responded monitoring email and other communication systems within their organisations. For example, employee productivity can be measured through company mobile phones and laptops, through tracking Internet usage, emails, browsing history and number of phone calls or text messages sent during working hours. Similarly, keystroke logging applications monitor the length of time a keyboard is unused or an employee's computer is inactive, and location tracking devices monitor employees' location in the workplace.

While such metrics can increase compliance and productivity, they often come at a cost to the employee. For example, the information gathered can be used to justify controversial changes in the workplace, such as pay cuts or terminating of employee contracts. In fact, a study conducted by the American Management Association (2017) found that 26% of employers had terminated employees for misuse of Internet, 25% for email misuse and a further 6% had fired employees for misuse of company phones. It is now estimated that as many as 94% of organisations monitor user behaviour, with 93% monitoring access to sensitive data in particular in an effort to help them proactively identify potential threats or breaches within the company (Crowd Research Partners, 2017). It is apparent however that this level of monitoring can represent a threat to the psychological contract within the employee-employer relationship. For example, for Morrison and Robinson (1997) performance monitoring of an employee can be perceived as a breach of employee expectations which in turn can lead to feelings of injustice or betrayal. Moreover, many studies further indicate that the introduction of monitoring technologies can be interpreted as a sign that the employee is untrustworthy (Smith and Tabak, 2009; Zuriek, 2003), they are underperforming in their role (Douthitt and Aiello,

2001; Martin et al., 2016) or that they are not committed to the company (Jensen and Raver, 2012).

While it is clear that workplace privacy can become comprised by technology embedded throughout the organisation, a study carried out by McParland and Connolly (2009) found that only 45% of employees surveyed knew their actions could be monitored by management while in the workplace. Of these, only 22% believed that their actions were monitored on a regular – such as daily or weekly – basis. Interestingly however, a significant number of respondents indicated a strong degree of privacy concerns in relation to managements' ability to monitor their email interactions in the workplace, despite the fact that many were unsure of whether or not such activities actually occurred. For example, 35% were concerned that employers could log into and record their personal emails, 42% were concerned that they could access their emails without their knowledge and 45% were concerned with how management would or could use information obtained from their personal emails. Employees indicated a stronger level of concern regarding the monitoring of personal emails they receive (32%) as opposed to those they send themselves from their work email account (12%) confirming the notion that control is an important aspect in relation to privacy issues. Perhaps more worryingly however, a more recent study carried out Technology Advice in 2014 found that while 53% of the employees surveyed *knew* their computer interactions were being monitored in the workplace, 36% of these respondents were completely unaware of their employer's data collection policies, confirming employee uncertainty of how their data is really being used. Prior research offers some explanation for employee complacency in the face of such uncertainty. For example, some researchers (Cappel, 1995; Weisband and Reinig, 1995) suggest the computer and email login and password procedures provide the illusion of privacy as the employee's computer is seemingly protected by a code. Similarly, Agarwal and Rodhin (2002) argue there is an implicit assumption that the password will prevent someone else from accessing their computer and email system. In a similar vein, Weisband and Reinig (1995) suggest there is often a misguided sense of security regarding computer interactions whereby many individuals express themselves more openly and freely through a computer interface than in the presence of others. Furthermore, the lack of clearly defined rules and regulations regarding correct and

proper use of computer systems in the workplace can further provide the assumption that all computer-mediated workplace communications are private.

4.2.1 An Employee Perspective: Behavioural Impacts

As noted in chapter 3, many Social Exchange Theory (SET) researchers (Holland et al., 2015; Gould Williams, 2003; Stanton and Stam, 2003) have shown that a lack of trust within the employee-employer relationship can negatively impact an employee's behaviours, attitudes, actions and willingness to disclose information in the workplace. In fact trust has been shown to be a critical component in the employee-employer relationship particularly within the computer-mediated workplace environment (Dietz and Forin, 2007; Holland et al., 2015; Mayer et al., 1995; Boxall and Purcell, 2011, Searle et al., 2011) with researchers linking a lack of trust to low motivation levels (Lester et al., 2001), lack of organisational commitment (Lemire and Rouillard, 2005), low work satisfaction (Sutton and Griffin, 2004), concerns regarding job security (Kramer et al., 2005) and increased stress levels (Gakovic and Tetrick, 2003; Tavani, 2004; Smith et al., 1992; Aiello and Kolb, 1995). For example, a study conducted by McParland and Connolly (2009) found that many individuals felt extremely uncomfortable being under watch by management expressing explicit concerns, questioning how the information collated is used and in some instances even translating it into a failing performance or lack of ability on their behalf.

Similarly, a recent study conducted by Martin et al., (2016) found that attitudes regarding surveillance in the workplace played a key role in determining whether or not the practices resulted in counterproductive workplace behaviours. Perhaps somewhat unsurprisingly the study found that higher levels of perceived surveillance in the workplace was associated with negative attitudes and counterproductive workplace behaviours amongst the sample. These behaviours may include manipulating the surveillance system (Taylor and Bain, 1999), avoiding monitored areas (Nussbaum and diRivage, 1986; Stanton, 2002; Stanton and Weiss, 2000) and deliberately falsifying the amount of work they are completing (Taylor and Bain, 1999). Furthermore, counterproductive workplace behaviours can manifest in the form of absenteeism, lateness and lack of productivity (Martin et al., 2016) as well as other deliberate violations

of company policies and regulations. Thus what companies gain in efficiency and productivity may be lost through lack of engagement, trust and empowerment – particularly if there is a lack of transparency regarding the monitoring behaviour and how that collated information is used.

Assuming the fundamental principals of the ‘Hawthorne Effect’, it is understandable that someone who is aware they are under observation will alter their behaviour and actions accordingly. For example, McParland and Connolly (2009) found that 84% of employees surveyed were careful about the type of information they would send in an email while in the workplace with only 32% sending a personal email if they thought their employer could not see them. Furthermore 57% sent emails from their own personal email account in order to prevent management from tracking their behaviour with only 54% of the overall sample accepting managements’ right to monitor staff email interactions in the workplace. Similarly, a study carried out by SHRM in 2005 found that as many as 75% of employees display a certain degree of caution in relation to what they write in emails due to possible monitoring by the organisation, with 47% being equally cautious in relation to telephone conversations while in the workplace environment.

The obvious negative impact that organisational digital surveillance has on employee morale is a serious issue and one which must be addressed. In fact, the use of electronic surveillance in the workplace has been compared to that of a work environment tantamount to an ‘electronic sweatshop’ in some instances (Tavani, 2004). Once again based on the fundamental principles of panopticism the question can be raised as to whether it is the presence of the ‘invisible supervisor’ that generates or in part fuels this distress. Ironically however, it is the computer-based information worker whose work is dependent upon the use of computer systems that is often the one most subjected to this form of monitoring. For example, a study carried out Crowd Research Partners (2017) found that regular employees (56%) and privileged IT users (56%) posed the biggest internal threat to organisations and were thereby monitored accordingly.

As workplace surveillance becomes increasingly embedded into organisational structures, the question moves from whether monitoring is acceptable, to how it can be

effectively managed without resulting in counterproductive work behaviours. One solution proposed in the literature is that employees who are empowered in the workplace are more satisfied (Lautizi et al., 2009; Wong and Laschinger, 2013; Beaulieu et al., 1997), committed (Beaulieu et al., 1997; Laschinger et al., 2001) and are accountable for their actions (Laschinger et al., 2000) leading to higher productivity and profitability for the organisation. Moreover, a strong positive link has been identified between employee empowerment and trust in management (Wager et al., 2010; Laschinger et al., 2000; Sarmiento et al., 2004) thus suggesting that employees who are empowered in the workplace are more likely to display positive behavioural tendencies in the employee management relationship than those who are not.

Many researchers who have examined employee empowerment (e.g Laschinger et al., 2001; Bradbury-Jones et al., 2007; Krebs et al., 2008; Wagner et al., 2010) have classified their work in terms of Kanter's (1977) Theory of Structural Power, thus suggesting that it is the characteristics of the organisation that determine empowerment within the workplace structure. For example, a work environment that provides employees with access to information, resources and support whilst providing them opportunities to learn, grow and develop is empowering and thus will encourage them to perform their work more successfully, efficiently and effectively (Laschinger et al., 2001). For Nelson and Quick (2012) empowerment provides employees with a sense of belonging to a company and high levels of job enrichment whereby they take responsibility for their own task in the workplace. Thus, it is apparent that when the characteristics of the organisation are structured so that employees feel empowered, they respond accordingly by improving their attitudes, increasing their commitment to their job, rising to challenges placed before them by management and thus improving organisational effectiveness. Therefore it can be argued that managers seeking to improve employee attitudes and behaviours regarding workplace surveillance should strive to manage the data monitoring process in a manner that is perceived to be fair and empowering for the employee.

4.3 Surveillance in the Workplace: Managements' Motivation

While many reports emphasise the risks faced by the employee, it is reasonable to assume that in some instances management may have legitimate reasons to monitor employee

actions. For example, profit driven organisations aim to manage their business in an efficient and productive manner and as such it may be unreasonable to expect that such companies would not avail of methods or employ technologies to ensure that their employees are completing the job they are being paid to do. Furthermore, organisations continually face the risk of adverse publicity resulting from offensive or explicit material circulating within the company and threat of data theft and as such many employ monitoring technologies to protect themselves from costly litigation claims (Laudon and Laudon, 2005).

4.3.1 Managements Motivation: Data Protection

Minimising theft and preventing workplace litigation are commonly cited rationale for employee monitoring. In fact, current research suggests that 90% of organisations feel vulnerable to insider attacks with 47% concerned that such an attack would be deliberate and malicious as opposed to accidental (Crowd Research Partner, 2017). Interestingly the study indicated that multiple users with excessive privileges (37%) and the increasing number of devices with access to sensitive data (36%) were the biggest enablers of internal attacks, with 53% of organisations confirming they had suffered an insider attack in 2016. Internal attacks typically target specific exploitable information, causing significant amounts of damage to an organisation (IBM, 2006). In fact, Crowd Research Partner (2017) further reported estimated average company losses of between \$100,000 - \$500,000 (27%) with 24% of companies reporting losses of over \$500,000 as a direct result of an internal attack. It is apparent that the seamless integration of technology into the workplace has increased the threat of internal attacks with researchers such as Lane (2003) noting the ease at which sensitive corporate data and trade secrets can be downloaded, transmitted, copied or posted onto a Web page by an aggrieved employee. Consequently 66% of organisations now consider malicious insider attacks or accidental breaches to be more likely than an external threat to the company (Crowd Research Partner, 2017).

The Internet has further increased the possible threat of hostile work environment claims by providing access to inappropriate jokes or images that can be transmitted internally or externally at the click of a button (Lane, 2003). In fact, a study carried out in 2000

concluded that 70% of the traffic on pornographic Websites occurs during office hours, with ComScore networks reporting 37% of such visits actually taking place in the office environment (Alder *et al.*, 2006). Statistics like these suggest that many organisations now run the risk of adverse publicity and costly litigation claims from such explicit material circulating within the company and monitor employee actions in order to minimise and ultimately prevent these threats.

4.3.2 *Managements Motivation: Workplace Productivity*

Whilst the need to protect the organisation from attack or litigation are common rationale for employee monitoring, other motivations such as the need to improve productivity can be considered equally justifiable in the eyes of management seeking to protect the interests of the organisation. For example, Holland *et al.*, (2015: 165) note how management often employ monitoring techniques within the workplace to 'identify appropriate levels of output' and to minimise the threat of employee 'cyber-slacking'. Similarly for Henderson (2003) the use of Internet based systems within the workplace has increased the probability employees will misuse the systems, misbehave or simply fail to adequately fulfil their employment contract.

For example, a study carried out by Forbes in 2012 found that 64% of employees visit non-work related sites on a daily basis. However, it is not just the surfing of the web that causes the major problems for the company, but rather the transition between tasks, with many experts noting how it takes on average 23 minutes for social media users to return to their work tasks after checking their accounts (Shore, 2012). Moreover, a study conducted by Mashable and Learn in 2012, further reported that the average employee is interrupted every 10.5 minutes by an I.M, tweet or Facebook message (Shore, 2012). Similarly, the use of the workplace email system has been a common focus for many workplace productivity studies over the years. In fact abuse of the email system has been a long-standing issue within the literature with numerous practitioner reports highlighting the significance and growth of the issue over the past 15 years. For example, Jackson *et al.*, (2001) conducted a study to examine the financial costs management endure as a result of email interruptions. They found it took the average employee between 1 and 44 seconds to respond to a new email when the icon or pop up box appeared on their

screen. 70% of these mails were reacted to within 6 seconds of them appearing on screen and a further 15% were reacted to within a 2 minute time period. Overall the study found that it took on average 64 seconds for an employee to return to a productive state of work for every one new mail sent. In a similar vein a study carried out by AMA (2003) reported that as many as 76% organisations have experienced a loss of business time due to email problems, 24% of which estimated they lost two days of company time as a direct result of email disruption. For example, 33% of the respondents experienced a computer virus, 34% reported various lengthy business interruptions and 38% of which had a computer system disabled for some time as the result of a bogus email.

Perhaps however these statistics are not so surprising given the amount of time the average employee spends online. The 2012 Mashable and Learn study reported that over 12 billion collective hours a day are spent browsing social email accounts in the US alone. The study also reported that the average individual spends twice as much time on Facebook as they do exercising with one in ten workers admitting to spending more time online then they do working. This issue of cyberslacking – surfing or browsing the Internet when you should be working – is in fact a multibillion-dollar problem. For example, it was estimated that social media alone cost US companies \$650 billion dollars in lost productivity in 2012 alone (Shore, 2012). However, incidents of cyberslacking are again far from a recent phenomenon with a study conducted by American Management Association in 2003, reporting that the average employee spends 25% of his or her working day solely on their emails, with a further 90% admitting to sending and receiving personal mails during company time. Similarly, a study carried out by American Online in the early 2000's reported that 44.7% of 10,000 employees surveyed cited web-surfing as their number one distraction in the workplace (Saalfeld, 2005).

While it is apparent management need to ensure that their employees use their working time productively and are therefore benefiting the organisation as a whole (Nord et al., 2006) tensions between management and employee will continue to grow unless management outline what is acceptable behaviour in the workplace. In fact, the need for structure becomes all the more apparent when one considers the differing views and tolerance levels certain managers may hold (Selmi, 2006). For example, if an employee is hired to work, then technically they should refrain from sending personal emails or

shopping online during working hours. However, as a general rule, most management will overlook these misdemeanours as good practice or in order to boost worker morale. The situation becomes more serious however when the abuse of Internet privileges threatens to affect the company itself, be it through loss of profits or adverse publicity for the company. Furthermore, the problem increases as boundaries in the modern workplace begin to blur and confusion between formal and informal working conditions arise (Evans, 2007). For example, by allowing an employee to take a company laptop into the privacy of their own home, management could be sending out a message that the computer can be used for personal use which may lead to the employee storing personal data on management's property. Legally, the employer would have claims over all of the data stored on the computer and could use it to discipline or even terminate an employee. In fact, it is this apparent lack of natural limit in regards what is acceptable or indeed unacceptable relating to workplace privacy which makes the task of defining appropriate principles all the more difficult to comprehend (Godfrey, 2001).

4.4 Surveillance in the Workplace: The Zone of Acceptance

There is a significant disparity between management and employee perspectives on the issue of workplace surveillance. Employee uncertainty and lack of control related to the use of communication monitoring technologies in the workplace reflects a significant and troubling power asymmetry. For example, while it is apparent that technology has created better, faster and cheaper ways for individuals to satisfy their own needs, the capability to leverage this technology is far higher for companies than for the employee. Because unequal forces, leading to asymmetric information availability, tilt the playing field significantly in favour of industry, such technologies do not create market benefit to all parties in an equitable manner (Prakhaber, 2000).

Organisations looking for ways in which to balance this conflict of interest between management and employees are now leaning towards the implementation of workplace policies, many of which are framed on established or predefined codes of ethics. For example, some researchers (Marx and Sherizen, 1991) argue that employees should be made aware in advance of any monitoring practices conducted in the workplace before it actually occurs, thereby allowing them the option to decide whether or not they work for

the organisation in question. In fact, researchers Stanton and Stam (2006) argue that if an employee perceives some benefit to the surveillance they are likely to be more open to the surveillance, particularly if the reasons and benefits are communicated clearly to them, an idea which is supported by privacy advocates in the literature. In this way Alder (1998) highlights the importance of creating a 'Zone of Acceptance' relating to communication monitoring and surveillance practices in the workplace. Management need to have clearly defined sanctions in place within the organisation informing employees of the depth and detail of monitoring practices in the company whilst deterring them from abusing workplace systems.

It is apparent that organisations looking to create this 'Zone of Acceptance' in relation to the communication monitoring practices of the organisation must create and communicate data governance regulations that encapsulate the legal, technical and social issues that surround the issue in order to address employee concerns and promote a fair and just working environment. For that reason, the organisational justice literature provides important guidance in that regard.

4.5 The Role of Organisational Justice in Surveillance

Organisational justice is an overarching term used to describe individuals' perceptions of what is fair and just within the workplace. For Purang (2012) these perceptions of justice directly relate to the quality of the relationship that an employee has with their organisation, supervisors or line of management. Moreover, the justice perceptions of employees have been linked to various outcome variables in the literature such as organisational commitment, job satisfaction, income satisfaction and overall group commitment (McFarlin and Sweeney, 1992; Ambrose and Arnaud, 2005; Moorman et al., 1998). Thus it is apparent that justice theories provide a solid framework through which the perceived fairness of specific organisational outcomes, actions or procedures can be examined (Stanton, 2000; Stanton and Stam, 2006).

Most justice research evaluates organisational justice across three distinct dimensions - *procedural justice*, *distributive justice* and *interactional justice*. The first of these antecedents, procedural justice centres on an individuals' perception that the organisational decision-making process will produce fair and just outcomes (Barrett-Howard and Tyler, 1986; Stanton, 2000; Hauenstein *et al.*, 2001) and the procedures set in place by the organisation are accurate, consistent, unbiased and are correctable (Leventhal, 1980). In this way, procedural justice act as a critical factor for understanding the relations between the supervisors' social power and the employees' subsequent reactions to it whereby they perceive positive outcomes in a more favourable light (Mossholder *et al.*, 1998). Thus within the electronic monitoring literature for example, procedural justice refers to the procedures or decision-making process that governs the electronic monitoring process (Butler, 2012).

Distributive justice centres around the distribution of outcomes, measuring the extent to which employees feel recognised and therefore appropriately rewarded for their efforts within the workplace (Stanton, 2000; Cohen-Charash and Spector, 2001 and Hauenstein *et al.*, 2001). In this way management are required to treat employees who are similar in respect to a certain outcome in the same manner, as opposed to basing decisions on arbitrary characteristics (Daft, 2000). Thus if an employee perceives a distributive injustice, their emotions, cognitions and overall behaviour which motivates them to alter their inputs, outputs and perceptions will be impacted (Cohen-Charash and Spector, 2001; Butler, 2012). Within information systems literature, distributive justice therefore refers to the perceived fairness of the outcomes associated with the use of electronic monitoring.

Ambrose and Alder (2000) identified a detailed framework of the relationship between an electronic monitoring system and its perceived procedural and distributive fairness. The ten fairness dimensions of the electronic monitoring system include: the object of the monitoring (group or personal performance), disclosure of monitoring activities (when and when an employee will be monitored), amount of monitoring (to what degree will an employee be monitored), the tasks monitored (are they work related or non-work related), feedback tone (is it constructive or negative), feedback purpose (is it progressive or used to punish them), punitive opportunities to challenge the information gathered, link to

organisational incentive systems (i.e. pay or promotion decisions etc.) as well as employee participation in the system design.

The final facet of organisational justice, interactional justice, explores the degree to which employees' believe they have been treated with dignity, sincerity and respect during the distribution of outcomes as well as the process undertaken to achieve them by company decision makers (Stanton, 2000; Helne, 2005). Thus, it explores the quality of interpersonal treatment they experience by management (Cohen-Charash and Spector, 2001; Bies and Moah, 1986). Thus, if an employee perceives an interpersonal injustice, they are more likely to act negatively towards their direct supervisor as opposed to the organisation or the injustice in question (Cohen-Charash and Spector, 2001). Organisational justice theories have been linked to research on performance monitoring—specifically electronic performance monitoring [EPM] - in the literature (Stanton and Barnes-Farrell, 1996; Stanton, 2000) as discussed in section 4.5.1 below.

4.5.1 Organisational Justice and EPM

Electronic Performance Monitoring (EPM) differs from traditional (non-electronic) forms of monitoring in that it can be carried out on a continuous, large scale basis recording multiple dimensions of a single workers performance (Stanton, 2000; Rafnsdottir and Gudmundsdottir, 2011) and so increases an employee's concerns relating to loss of privacy in the workplace. In fact, the use of EPM within the workplace has been linked to employee stress and ill health in many instances (Rafnsdottir and Gudmundsdottir, 2011). For example, Smith et al., (1992) found that employees working under EPM complained of chronic disorders and diseases, such as headaches, shoulder pain, chronic fatigue, rapid heart rate, boredom and depression. Moreover, many felt they had little or no control over these conditions. Similarly, researchers Rafnsdottir and Gudmundsdottir (2007) found that employees who were being monitored in work were more likely to feel mentally exhausted and felt they had no influence over the major decisions regarding their work than those who were not monitored by their employers. Other studies further indicate that employees working under EPM experience reduced privacy and increased stress in the workplace, whereby they feel less loyal towards their

company and often a decreased desire to attend work (Botan, 1996; Botan and Vorvoreanu, 2001).

A diverse body of research however argues in favour of EPM within the workplace. For example many researchers (Levy, 1995; Skaptadottir and Rafnsdottir, 2000; Stanton and Stam, 2003) suggest that the networked society has increased the emphasis on employee performance and appraisal, making EPM an important feature within modern workplace management. For example Ratnsdottir and Gudmundsdottir (2011) suggests that the use of EPM technology can provides HRM departments with access to accurate, consistent and impartial methods of collecting performance information by providing exact measures of output, as well as protecting the company against abuse of resources and potential liability (Kallman, 1993; Wood 1998; Kidwell and Sprague, 2009). The use of these monitoring technologies within the workplace does however bring have implications for organisational trust perceived risk and organisational commitment. Thus the following section addresses these constructs in detail.

4.5.2 Organisational Justice: Organisational Trust

Perceptions of trust become increasingly more significant when discussing the importance of organisational justice within workplace surveillance, with many researchers (Chory et al., 2016; Hubbell and Chory-Assad, 2005; Cohen-Charash and Spector, 2001; Colquitt, 2001) exploring the degree to which an employee's perception of justice and fairness of workplace outcomes or processes, impacts their trust in management and the organisation. Other researchers (Ellis and Shockley-Zalabak; 2001; Chory et al., 2016) within the literature have explored the impact of trust perceptions on relationships, specifically in relation to the psychological contract between the employee and employer. As previously noted, workplace surveillance can exert an indirect effect on the employee-employer relationship within the organisation. The employee-employer relationship is typically perceived as a being a two-way exchange, with the focus squarely upon the perceptions of reciprocal promises and obligations of both parties (Guest, 2004). These perceived obligations form a psychological contract that has been described as the employees' "*belief in mutual obligations between that person and another party such as an employer.*" (Rousseau and Tijoriwala, 1998: 679). In short, employees have implicit

and sometimes unvoiced expectations regarding employee contributions in terms of effort, loyalty and ability for organisational inducements, such as pay, promotion and job security (Morrison and Robinson, 1997; Conway and Briner, 2002). However, the monitoring of performance represents a threat to that previously accepted contract and indeed can be perceived as a breach of employee expectations, which in turn can lead to feelings of injustice or betrayal (Morrison and Robinson, 1997).

As workplace privacy becomes comprised by technology, the knowledge power dynamic shifts in favour of the employer and this has potential to break the psychological trust contract between employee and employer. For example, many studies indicate that the implementation of surveillance by organisations can be interpreted as a sign the employee is untrustworthy (Smith & Tabak, 2009; Zureik, 2003), they are underperforming in their role (Douthitt & Aiello, 2001; Martin et al., 2016) or they are not committed to the organisation (Jensen and Raver, 2012). The impact of such a trust breach is likely to manifest in significant negative outcomes such as counterproductive behaviours or deviant actions such as resisting the technology or system completely, as outlined in detail in chapter four.

It is clear that an individuals' need to trust often relates directly to the perceived risks involved in a given situation, influencing their behaviour and so affecting how they make specific decisions. In order for trust to be engendered, employees must feel confident that the boundaries between what is acceptable and unacceptable in relation to information monitoring are clearly and openly stated. Those companies that are successful at building that trust and managing the uncertainty associated with communication monitoring practices will benefit from increased employee confidence.

4.5.3 Organisational Justice: Organisational Commitment

Organisational commitment is an equally important construct when discussing the importance of organisational justice and workplace surveillance. Employees who portray strong levels of commitment to an organisation are highly engaged and involved with the company, its values and goals (Mowday, 1998; Nawab and Bhatti, 2011; Chory et al., 2016; Maiti and Sanyal, 2018). Many studies within the literature have indicated that

employees who demonstrate high levels of organisational commitment are highly motivated to work for their organisations and desire to remain within the organisation (Porter et al., 1974; Robbins and Coulter, 2003; Chory et al., 2016; Maiti and Sanyal, 2018). Moreover, they are less likely to engage in counterproductive or deviant behaviours within the workplace (Martin, 2012, Nissenbaum 2004) and demonstrate low levels of absenteeism or desire to leave the company (Chory et al., 2016)

Porter et al., (1974) argue that organisational commitment is demonstrated by three key factors – an employee’s belief in the organisations goals and values, their desire to work hard on behalf of the organisation to achieve these goals and values and finally their inclination to remain a member of the team i.e. the organisation. In this way, organisational commitment has been defined as a psychological state regarding employee engagement or commitment to the organisation (Meyer and Allen, 1997). Organisational commitment has also been studied in relation to the psychological construct between the employee and the employer within the literature (Allen et al., 2007; Snyder, 2010; Grimland et al., 2012; Chory et al., 2016). For Snyder (2010) for example, even if an employee is aware they are being monitored by their organisation, they are likely to consider it as a breach of their privacy boundaries and thus a violation of the employee – employer psychological contract. Similarly, Grimland et al., (2012) and Meyer and Allen (1997) point out that a violation of the psychological contract lowers an employee’s organisational commitment as it implies that the employer is not meeting their employees’ expectations within the relationship.

Affective commitment is a component of organisational justice that considers an employee’s emotional attachment to the organisation, thus for many researchers (Allen and Meyer, 1990; Butler, 2012) represents the most prevalent approach in exploring organisational commitment. An employee who has strong affective commitment is emotionally committed to their organisation, whereby they demonstrate a strong desire to remain in the organisation because *‘they want to’*. (Yew, 2008: 31). Previous research has indicated that perceptions of organisational justice predict affective commitment (Colquitt, 2001; Cohen-Charash and Spector, 2001; Butler, 2012) influencing an employee’s perception of fair and just treatment by the organisation. Interestingly however, research examining the ways in which electronic monitoring affects an

employee's affective commitment is limited (Stanton, 2000a). For Butler (2012) however, employees are more likely to develop an emotional or highly affective commitment to the organisation if they perceive the implementation of the monitoring systems by the organisation as fair and just. Consequently, affective commitment represents an important component of organisational commitment that must be considered within organisational surveillance based studies.

4.5.4 Organisational Justice: Ethical Considerations

As the scope of surveillance is generally divided into two main components - one relating to the actual act of monitoring or surveillance itself, the second relating to how the collated information can be used, it is reasonable to assume that some employees may not fear the act of surveillance, but rather how the information could be used and whether or not employers will make subsequent judgements about them (Introna, 2001). For Rowan (2000) much of the confusion that surrounds the issue of ethics relating to organisational surveillance results from a lack of clear communication between ethical scholars and practitioners in the workplace environment. He argues for example that as much of the academic literature focuses on ethical theory and complex frameworks, in addition to the fact that its findings are often complex and impractical making it difficult for them to apply in the workplace. In fact, Rowan (2000: 355) contends that employees must be provided with relevant frameworks and theories, which are in a “*workable and relatively simple format*” as “*managers simply have neither the time nor the inclination to attempt large-scale translations of complex ethical theories and guidelines forwarded to them.*”

In order to alleviate this confusion other researchers such as Turban *et al.*, (2010) apply the basic ethical principals to information collected in an online environment. It is apparent however that these basic ethical principals can also be applied to the use of communication-monitoring technologies in the workplace environment thus providing a solid framework to guide management in their efforts to monitor employees in a fair and effective manner. The basic principals include the following;

1. **Notice or awareness** – employees should be made aware of the extent and detail of monitoring techniques, prior to the collection or use of personal information.

-
2. **Choice or consent** – employees should be made aware of how the collated information can be used and consent must be granted by the employee by signing a workplace policy or notification which outlines the companies monitoring practices.
 3. **Access or participation** – Employees should be able to access certain information on them and challenge the validity of the data.
 4. **Integration or security** – Employees should be assured that their personal information is kept secure within the organisation and cannot be used in a way which was not intended.
 5. **Enforcement or redress** – Employees must be made aware of organisational sanctions set in place such that a misuse of workplace systems will be detected and punished by management. Otherwise there is no deterrent or indeed enforceability to protect privacy issues.

It is clear that the ethical impact of monitoring in the computer-mediated work environment, addressing whether managements ability to monitor employee actions in workplace represents good business practice or constitutes an invasion of privacy is an important issue within the literature. However, while there is increasing evidence that workplace surveillance is on the rise, the factors influencing management to electively employ monitoring technologies remains ambiguous and difficult to constitute. Furthermore, the lines regarding what are correct and moral forms of behaviour continually blur thus limiting our overall understanding of the main issues involved as well as the ways in which to target them. A number of studies within the organisational justice and surveillance-based literature have helped guide the conceptual framework for this study. These studies are discussed in detail in section 4.6 below.

4.6 Relevant Models

There are a number of studies within the organisational justice and surveillance literatures that have contributed to the conceptual framework for this study. The studies outlined below help explain the influence of organisational justice perceptions on employee's trust and commitment to the organisation.

4.6.1 Perceptions of Justice Model

A study by Hubbell and Chory-Assad (2005) explored employees' perceptions of three types of justice – procedural justice, distributive justice and interactional justice - on two distinct constructs of trust – managerial trust and organisational trust - with regard to their performance appraisals within the organisation.

The findings showed that all three perceptions of organisational justice had significantly differing impacts on both managerial and organisational trust – indicating the importance of examining these dimensions separately rather than as a singular construct. For example, procedural justice demonstrated the strongest influence on both managerial and organisational trust, distributive justice only predicted managerial trust, and interactional trust had no impact on either managerial or organisational trust.

The value of this study lies in the empirical unpacking and examination of three types of organisational justice – procedural justice, distributive justice and interactional justice on two types of trust – managerial and organisational trust. While many researchers had previously recognised the three types of justice as separate variables (Colquitt, 2001; Cohen-Charash and Spector, 2001) few had really explored the effects of these distinct elements of justice on managerial or organisational trust within the literature. Consequently, in this study organisational justice will be considered terms of the three distinct variables of procedural justice, distributive justice and interactional justice.

4.6.2 Computer-Mediated Workplace Communication (CMWC) Model

One attempt to examine privacy concerns in relation to organisational justice was that of Chory et al., (2016). These researchers adapted Snyder's (2010) 13-item perceived email privacy measure (discussed in chapter three) and combined them with measures derived from the organisational justice based literature. This was then used to examine the influence of employee's privacy concerns regarding their computer-mediated communications and interactions and their corresponding evaluations of organisational justice on their trust in senior management and overall commitment to the organisation.

However only one variable of organisational justice – procedural justice – was examined in relation to organisational trust and organisational commitment.

Perhaps somewhat unsurprisingly the study found that employees who perceived less computer-mediated communication privacy viewed their organisations policies as less fair, displayed lower levels of trust in senior management and demonstrated less commitment to their organisation. Procedural justice was found to act as a mediator between privacy and organisational commitment, whereas it moderated the relationship between privacy and organisational trust. The authors did note a number of limitations in their study, however with the most important being that the examination of organisational justice was uni-dimensional, thereby limiting our understanding to only one aspect of organisational justice. Nonetheless it provides a valuable first attempt to link privacy concerns with organisation justice in this context and as such lays a directional foundation of encouragement for the current study.

4.7 Organisational Constructs Selected for this Study

A number of constructs of interest were selected from these studies and integrated into the research framework, described in chapter five. Constructs 9 – 11 are derived from Hubbell and Chory-Assad (2005) and constructs 12 and 13 are derived from Chory et al., (2016). The final construct – Perceived Value – is derived from Kim and Kankanhalli (2009) Status Quo Bias Theory Model (see appendix I).

Construct 9: Procedural Justice

Procedural Justice refers to perceptions that the procedures or processes used to make decisions are fair and applied equally (Butler, 2012). Research indicates that employees are likely to perceive electronic monitoring as a breach of the employee/employer psychological contract even if they have been informed by management of their monitoring policies (Snyder and Cistulli, 2011; Snyder, 2010) which in turn reduces their perceptions of procedural justice (Sayers et al., 2011). Further justification for the inclusion of this construct is provided by Alge (2001) and Chory et al., (2016) who identify privacy as a predictor of procedural justice.

While Chory et al., (2016) have identified a relationship between IPC and Procedural Justice, they have examined it in terms of computer-mediated workplace communication (CMWC) and not mandatory location monitoring which is the context of this current study. Consequently, in this study procedural justice refers to the perception of employees that the decision to monitor their location, as well as the procedures used to do so are fair. Moreover, it considers that these procedures are applied fairly and consistently to all employees.

Construct 10: Distributive Justice

Distributive Justice refers to the perception that the outcomes associated with a decision are fair and just (Butler, 2012). Previous literature has acknowledged an association between privacy, workplace surveillance and distributive justice (Introna, 2000) and so provides justification for the inclusion of the construct in this study. Moreover, Sandy (2006) confirms the importance of exploring the role of distributive justice in relation to ICT enabled workplace surveillance, particularly as a means to resolve the conflicting interests of the employee and employer in relation to electronic monitoring.

While it is apparent the above studies provide justification for the inclusion of the distributive construct in this study, distributive justice was explored in relation to information and communication monitoring as opposed to location monitoring technologies. Consequently, in this study Distributive Justice refers to the perception of employees that the outcomes associated with location monitoring are fair and applied equally.

Construct 11: Interactional Justice

Interactional Justice refers to transparency of communication from management to employees in relation to decisions and procedures being implemented (Hosmer and Kiewitz, 2005). Previous research conducted by Zhou (2016) identified a significant relationship between interactional justice and IPC in relation to electronic monitoring via location-based services (LBS). Significantly however, this study explores interactional justice as a determinant of IPC as opposed to examining the degree to which IPC are a

predictor of interactional justice. Nevertheless a significant relationship was identified between the two constructs in relation to location based monitoring technologies. and so provides justification for the inclusion of Interactional Justice as a construct in this study.

Consequently, in this study, Interactional Justice refers to the perception of employees that information relating to use of location monitoring technologies has been to communicated clearly and openly by Senior Management.

Construct 12: Organisational Trust

Trust within an organisational content has been recognised as an important concept by many researchers within the literature (Nyhan 2000; Snyder, 2000; Mayer et al., 1995). It is commonly considered an important factor within the employee-employer psychological contract within the literature (Ellis and Shockley-Zalabak; 2001; Chory et al., 2016), with many studies reporting a reduced level of trust among employees in an organisation as a result of management violating this unvoiced contract (Robinson and Rousseau, 1994). Moreover, previous research has explored the relationship between justice perceptions and organisational trust in the literature (Chory et al., 2016; Butler, 2012, Hubbel and Chory-Assad, 2005) thus indicating the relevance of the relationship and the inclusion of organisational trust as a construct in this study.

Consequently, in this study organisational trust is conceptualised as employee confidence that Senior Management of the organisation will not behave in an opportunistic way, but rather with integrity.

Construct 13: Affective Commitment

Affective commitment suggests that an employee has an emotional attachment to organisation (Purang, 2012; Butler, 2012; Yew, 2008). Prior studies in the literature (Chen et al., 2013; Snyder and Cistulli, 2011) suggest that organisational practices that impinge upon an employee's privacy will lower their feelings of affective commitment to the organisation. Moreover, perceptions of fairness have been linked to increased commitment in the literature (Alder and Tomkins, 1997). Prior research conducted by

Purang (2012) explores the relationship between justice perceptions and affective commitment and so provides justification for the inclusion of affective commitment as a construct in this study.

In this study, Affective Commitment is conceptualised as an employee's sense of belonging and emotional attachment to the organisation.

Construct 14: Perceived Value

Perceived Value is an important construct of note as it represents a trade-off between the benefits and negatives perceived by an individual (Garcia Sanchis, 2014). Prior research conducted by Widhyana (2019) explored consumer perceived value in relation to location-based service mobile applications. Interestingly, while the privacy construct was included in this framework, IPC was explored in relation to commitment and behavioural intentions as opposed to the perceived value construct. Moreover, the research context explore consumer perceptions of value as opposed to employees which the specific context of this study.

Consequently, in this study Perceived Value refers to an employee's evaluation of utility of the location monitoring technology.

4.8 Conclusion

This chapter has reviewed both the existing surveillance and organisational justice based literatures. While many researchers have recognised the three types of organisational justice as separate variables (Colquitt, 2001; Cohen-Charash and Spector, 2001), few have really explored the effects of these distinct elements of justice on an employee's trust or commitment to an organisation. As far as this author is aware, none have examined organisational justice in the context of mandatory location monitoring technologies, nor have they incorporated an examination of the effect of information privacy concerns on those justice perceptions. Moreover, the impact of organisational justice on the psychological contract between the employee and the employer in terms of their trust and commitment to the organisation, particularly in relationship to location monitoring technologies has not received adequate attention. Clearly there are two

differing perspectives at play in relation to workplace surveillance. Despite the keen interest from both academics and practitioners neither perspective, nor how they can be balanced effectively, has received adequate attention to date. The impact of such monitoring also remains undetermined. This is particularly surprising in view of the fact that organisational monitoring of employee communications has potential to result in privacy protective behaviours, negative employee morale and exert a negative impact on productivity.

The research framework and hypotheses are presented and discussed in detail in the following chapter.

Chapter Five: Proposed Framework and Hypothesis

“Research is seeing what everybody else has seen and thinking what nobody else has thought”

- Albert Szent-Gyorgyi

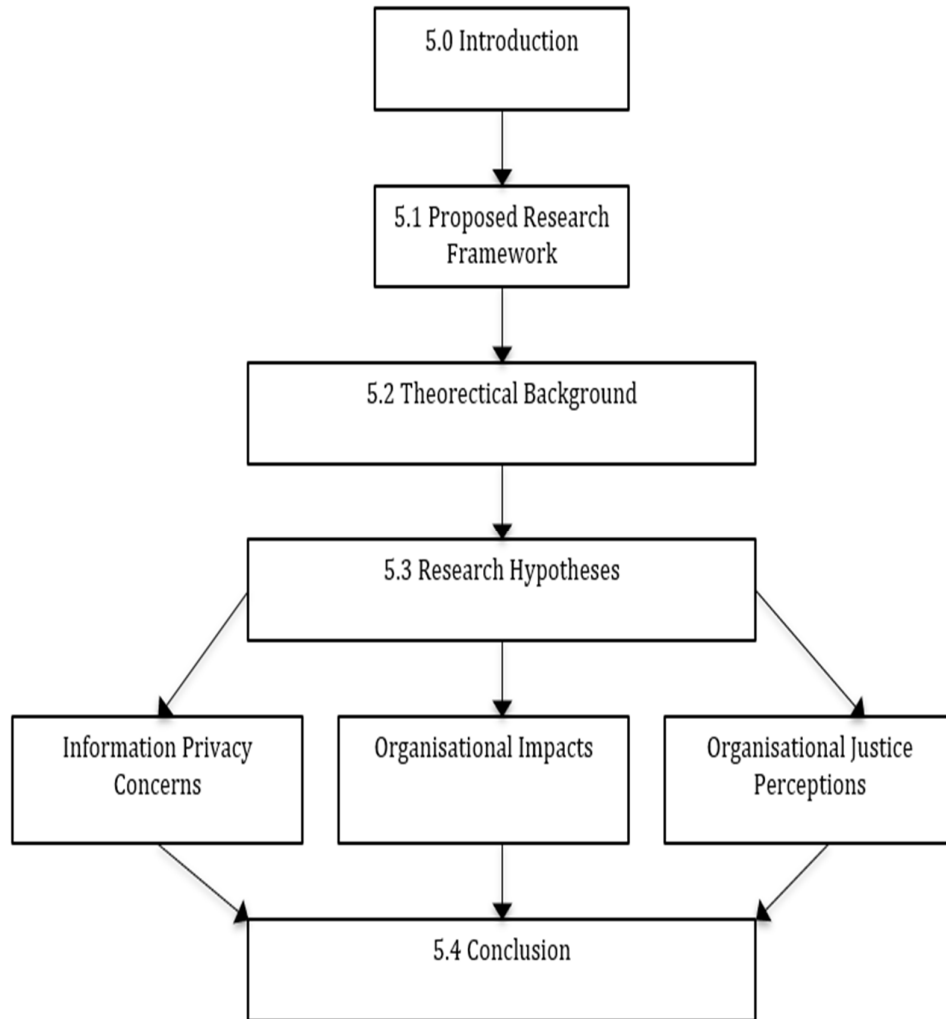
5.0. Introduction

The purpose of this chapter is to present the conceptual framework and associated hypotheses for this study. Guided by the literature and cognizant of current gaps in the body of knowledge, it recognises the dimensionality of both information privacy concerns and organisational justice constructs. It synthesises both constructs for the first time, capturing their subdimensions to enable a comprehensive examination of their relationship within the context of organisational digital surveillance and enabling examination of their impact on organisational trust and commitment. In doing so, this model answers the call for a more inclusive understanding of workplace digital surveillance, and the role and impact of concomitant employee privacy concerns and justice perceptions.

A comprehensive review of the theoretical underpinnings that support this research framework are discussed in detail in section 5.2. Following on from this the hypothesised relationships identified within the model are outlined and presented in sections 5.3.

The chapter concludes with a summary of the framework and its objectives, leading to the next chapter on Research Methodology and Design.

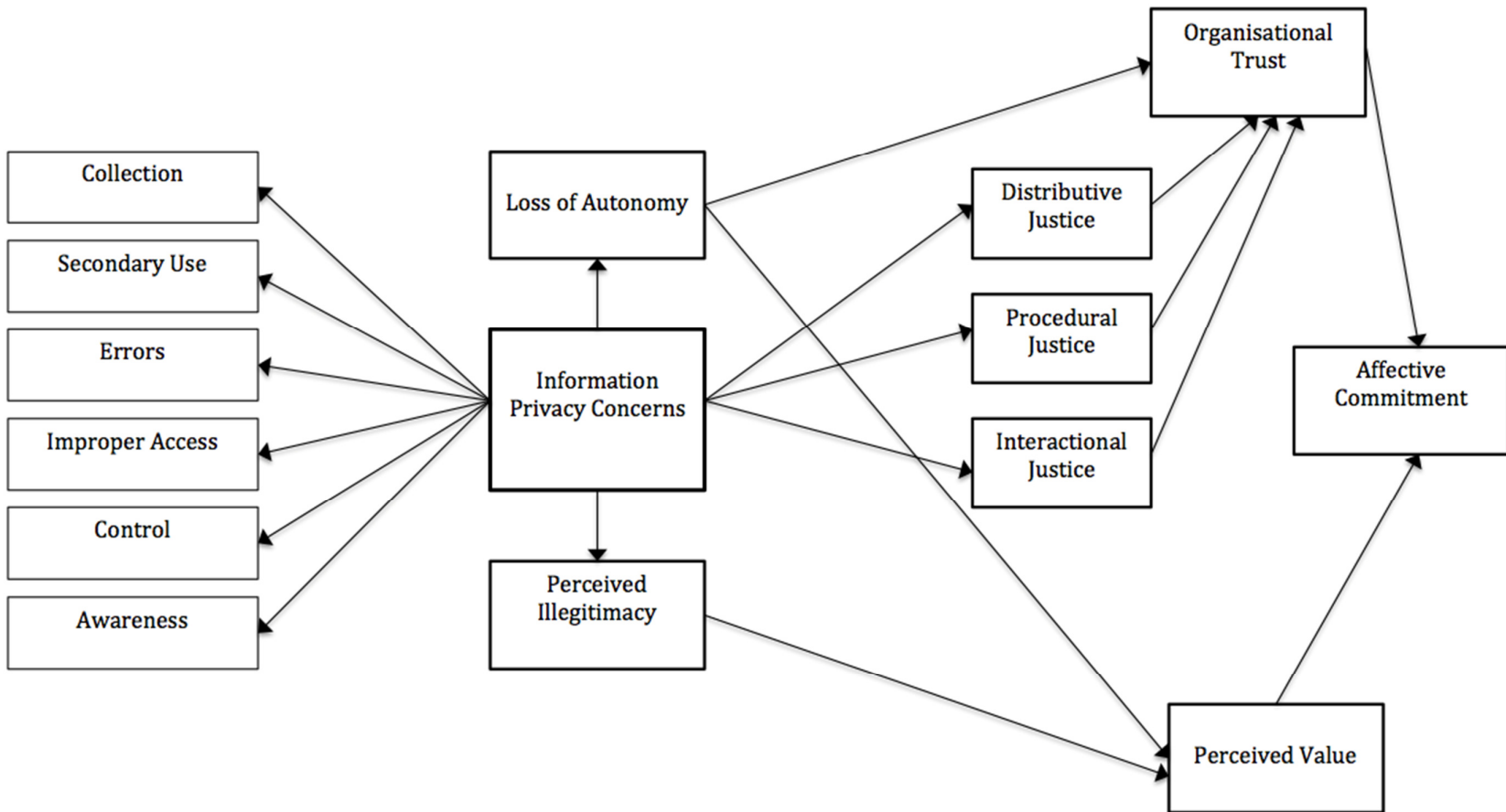
Figure 5.1: Chapter Structure



5.1 Proposed Research Framework

Based on an extensive review of the literature, a conceptual model for testing has been developed and is presented in figure 5.2 below. As outlined in the previous reviews of relevant literatures, several distinct issues require articulation and examination to progress the body of knowledge. The first relates to employee privacy concerns regarding organisational digital monitoring via location surveillance. The second relates to the how collated information can be used by management and the third relates to management's legitimate concerns that motivate monitoring of employees. The issue of organisation justice perceptions are equally important in this study – particularly the relationship between information privacy concerns and employee justice perceptions and the trajectory of that relationship in terms of impact on employee trust and affective commitment to the organisation.

Figure 5.2: Research Framework



5.2. Theoretical Background and this Study

A number of theories relating to IPC – Coping Theory, Social Response Theory, Communication Privacy Management, Theory of Reasoned Action, Theory of Planned Behaviour - and organisational theory – Agency Theory, Social Contract Theory, Psychological Contract Theory - were examined in the context of this study. While these theories provide valuable conceptual insights and guidance for this research, two other key theories – Protection Motivation Theory (PMT) and Social Exchange Theory (SET) were selected to support the construct development for the framework.

The first theory, Protection Motivation Theory (PMT), can help explain and predict the decision-making process of individuals attempting to protect their private information. This theory has been used by researchers (Westcott et al., 2017; Rad et al., 2021) to help explain the decision-making processes, which individuals undertake to protect themselves from a negative outcome in a situation of uncertainty. It is commonly used to explain how individuals protect their sensitive information by analysing the threats to their privacy. It considers perceived vulnerability (the likelihood of a threat occurrence), perceived severity of a threat attack and perceived ability to cope with one should it arise (Rodgers, 1975; Li, 2012; Oakley et al., 2020).

These factors can be further categorised into *threat appraisal* (which includes perceived probability and perceived severity of the attack) and *coping appraisal* (which includes preventative behaviour an individual may undertake after analysing the threat and their perceived ability to cope with the attack) (Li, 2012). In this way PMT focuses on the conditions through which fears influence attitudes and behaviours. For example, an individuals' perception of risk pertains to their belief that the threat will become a reality and their privacy may be compromised. Similarly, Norman et al., (2005) note that an individual's coping abilities – i.e. their perceived ability to cope with the fear of the threat - causes them to adapt their behavioural responses in order to cope with or avert the threat. As PMT is characterised by risk, fear and uncertainty it is commonly used to explore an individual's awareness of a potential privacy invasion, their perception of the risks or threats involved and the corresponding behavioural response. Protection Motivation

Theory thus supports inclusion of the **Information Privacy Concerns**, **Loss of Autonomy** and **Perceived Illegitimacy** constructs in this framework

The second theory, Social Exchange Theory (SET), provides further underlying support for a number of constructs in this framework. SET describes how relationships are formed through an exchange of benefits between parties (Butler, 2012) whereby individuals are motivated by reward or coercive power (Homans, 1958; French and Raven, 1959; Stanton and Stam, 2003). According to this theory, individuals will analyse the potential benefits, risks and costs associated with an interaction before deciding whether or not they will engage with the interaction (Homans, 1958.).

The relevance and explanatory power of Social Exchange Theory becomes even more apparent when used to explore the relationship between management and employee in relation to workplace surveillance. In fact, many researchers have applied SET to the computer-mediated workplace environment (Farndale et al., 2011; Tyler, 2003) with Stanton and Stam (2003) arguing that management exert power and control over their employees by employing various sanctions within the workplace. The increased ability of management to gather information on their employees via technology is resulting in a significant shift in the power dynamics of that relationship. Stanton and Stam (2003) conducted a study to examine the resource exchange process that occurred between employees and management in relation to the capturing of personal or valuable information in the workplace. Interestingly the authors highlighted the role that IT professionals play in the relationship suggesting they intercept the exchange process – whereby they compile and report surveillance data - and thereby intersect the relationship between both parties in the resource exchange process. While it is apparent that SET provides a useful framework for understanding the risk-reward aspect of workplace relationships, Stanton and Stam (2003: 174) argue that unless management pay close attention to the power dynamics surrounding the use of surveillance technology that includes all stakeholders ‘the likelihood of effective, beneficial use of organisational monitoring and/or surveillance seems low’

The concept of trust is a central to Social Exchange Theory (Holland et al., 2015) as trust is commonly recognised as the basis for cooperation, good relationships and overall

stability in the workplace (Gould Williams, 2003). It plays an important role in the underlying decision to share or disclose information with others, causing some researchers to suggest that an absence of trust inhibits boundary opening (decision to disclose information) resulting in subtle forms of resistance (Stanton and Stam, 2003; Li, 2012). SET is relevant to our understanding of workplace power relationships, as the workplace typically conveys a set of linked situations in which employees and management engage in social exchanges through many interactions (Stanton and Stam, 2003; Boxall and Purcell, 2011; Blau, 1964). A number of researchers (Butler, 2012; Allen and Meyer, 1990; Cropanzano and Mitchell, 2005) further acknowledge the importance of affective commitment as a predictor of the social exchange relationship that exists between employee and employer, with Eisenberger et al., (1986) noting how employees may demonstrate an affective level of commitment to their organisational in return for fair treatment. Moreover, Butler (2012) argues that based on this theory employees will be motivated to reciprocate fair and just treatment they experience within the organisation. In this way, the use of SET within an organisation thereby helps managers better understand employee reactions to the treatment they receive by management, particularly as the relationship unfolds (Farndale et al., 2011; Tyler, 2003).

Thus, Social Exchange Theory points to the need to include **Procedural Justice, Distributive Justice, Interactional Justice, Organisational Trust Affective Commitment** and **Perceived Value** in this framework.

5.3 Hypotheses

This framework encompasses a previously validated measurement instrument (Hong and Thong, 2013) to measure the key dimensions of Information Privacy Concerns (IPC). Hong and Thong's (2013) 26 item measure, examines information privacy concerns in terms of six key dimensions, *Collection, Secondary Use, Improper Access, Control, Errors* and *Awareness*. The definitions of these dimensions of information privacy concern were adapted to align with the research context and form the first six hypotheses for this study.

Collection of personal data has long been considered a significant driver of information privacy concern (Miller, 1982; Smith et al., 1996; Hong and Thong, 2013) and previous research (Bhave et al., 2019; Alge, 2006) has shown that employees are concerned that Senior Management may use technologies to collect and store employee location information. Thus, it is proposed that:

H1a: Digital collection of employee location information will result in higher employee IPC.

Unauthorised secondary use of information relates to the concern that information obtained for one purpose can be used for a secondary purpose without permission from the individual (Smith et al., 1996). The literature indicates that concerns about secondary use are likely to be exacerbated when the information is collated via digital means (Ienca and Vayena, 2020; Royakkers et al., 2018). Thus, it is hypothesised that:

H1b: Unauthorised secondary use of digitally collected location information will increase employee IPC.

Information privacy concerns regarding errors refers to the individual's concern that protections or procedures are not in place to protect against deliberate or accidental errors in the personal data collected (Smith et al., 1996). The literature indicates that such concerns are heightened when such data is collected and stored via electronic means (Ienca and Vayena, 2020). It is therefore hypothesised that:

H1c: Errors in digitally collected location information will increase employee IPC.

Improper access refers to the concern that personal information about individuals can be accessed by others (Smith et al., 1996). In an organisational digital data collection and storage context, data that is not adequately protected from unauthorised access may be altered or destroyed, thereby accentuating employee concerns. Thus it is hypothesised that:

H1d: Improper access of digitally collected location information will increase employee IPC.

Control refers to the concern that individuals do not have adequate control over their own personal information or data (Malhotra et al., 2004). The seamless integration of technologies into the workplace has negatively impacted individuals' ability to control their personal data, exacerbating information privacy concerns in the workplace context (Davies, 1997; Pavlou, 2011). It is therefore hypothesised that:

H1e: Lack of control over digitally collected location information will increase employee IPC

The literature shows that the more that an individual is aware of how organisations collect, use and protect their personal information (Malhotra et al., 2004), the greater their level of privacy concern. The seamless integration of technologies into the workplace has exacerbated this concern. Thus, this hypothesis reflects the concerns of employees in relation to their awareness of how their employing organisation uses and protects their location information. It is hypothesised that:

H1f: Awareness of organisational digital location monitoring will increase employee IPC.

Loss of autonomy refers to the inability of an individual to make meaningful independent decisions of their own accord (Susser et al., 2019). The use of digital monitoring technologies in the workplace has threatened employee autonomy (Zarsky, 2019) by making all actions viewable and recordable in real time. For example, the use of such technologies can place an employee under pressure to act in a way that is not authentically their own (Susser et al., 2019). Therefore, it is hypothesised that:

H2: IPC increase employees' perceived loss of autonomy.

Perceived illegitimacy refers to the belief that an action is improper, unjust or inappropriate. In line with the literature (Bhave et al., 2019; Alge, 2006) perceived illegitimacy relates to the degree to which employees believe that the digital gathering and handling of their data by an organisation violates their reasonable expectations. Thus it is hypothesised that:

H3: IPC increase employees' perception of the illegitimacy of digital location monitoring.

Organisational trust is an outcome variable in this study and one that the literature shows to be influenced by information privacy concerns (Chory et al., 2016; Snyder, 2010). It refers to the confidence that employees have in their employing organisation. It is hypothesised that employees' information privacy concerns regarding digital monitoring of their location by the organisation would negatively impact their trust and confidence in that organisation.

H4: Employee IPC regarding digital location monitoring decreases organisational trust.

Organisational Commitment is also an outcome variable in this study. It refers to the affective bond that employees experience with their employing organisation. The extant literature provides evidence that IPC can influence an employee's perception of the organisation (Snyder and Cistulli, 2011; Snyder, 2010; Tabak and Smith, 2005). Digital monitoring technologies are likely to exacerbate those concerns and therefore impact their organisational commitment. For that reason, it is proposed that:

H5: Employee IPC relating to digital location monitoring decreases affective commitment to the organisation.

In this study, Perceived Value refers to the employee's evaluation of the merits of digital workplace monitoring (such as safety improvement benefits). However, the literature shows that IPC can reduce the perceived value of an innovation, regardless of its benefits to the end user (Markus, 1983), something likely to be accentuated by organisational digital monitoring. For that reason, it is hypothesised that

H6: IPC will decrease employees' perceptions of the value of digital location monitoring.

The literature shows that monitoring of employees reduces their sense of autonomy (Patil and Bernstein, 2020; Anteby and Chan, 2018; Shaw et al., 2009). In a workplace

environment characterised by real time digital monitoring of employees, that loss of employee autonomy is likely to be accentuated. Moreover, the literature shows that loss of autonomy reduces employees' relationship with their organisation (Spector, 1986). Therefore it is hypothesised that:

H7: Loss of employee autonomy arising from digital location monitoring will decrease trust in the organisation.

Monitoring technologies can confer benefits (e.g., increased safety). However, being monitored reduces the individual's sense of autonomy, (Patil and Bernstein, 2020; Anteby and Chan, 2018; Shaw et al., 2009) thereby lessening their perception of the value of the monitoring technology (Patil and Bernstein, 2020). In a workplace context characterised by mandatory digital location monitoring, the resulting sense of loss of autonomy is accentuated for employees. It is therefore hypothesised that:

H8: Loss of autonomy will decrease employees' perception of the value of digital location monitoring technology.

The literature shows that whether an organisational action is perceived as legitimate or not will influence employees' reaction to it (Alge, 2006) and their resulting trust in the organisation (Bhave et al., 2019; Lamertz and Bhave, 2017). Similarly, if employees perceive workplace digital location monitoring as illegitimate, this is likely to impact their evaluation of the value of the technology and their trust in the organisation. It is therefore hypothesised:

H9: The perceived illegitimacy of workplace digital monitoring will decrease employees' perception of the value of the monitoring technology.

H10: The perceived illegitimacy of digital location monitoring will decrease employee trust in the organisation.

The literature shows that an employee's perception of an innovation as valuable and beneficial to their work can increase their affective response towards that organisation, including commitment (Srivastava, 2013). Location monitoring technologies may be

perceived as valuable or as a threat, depending on the perspective of the individual, which will correspondingly influence the employee's relationship with the organisation. It is therefore hypothesised that:

H11: The perceived value of digital location monitoring will increase employee affective commitment to the organisation.

Research repeatedly confirms a positive relationship between employee trust and affective commitment (Bloemer et al., 2013; Butler, 2012). In a workplace that employs digital location monitoring technologies, that relationship is also likely to exist and is particularly important as a counterbalance to IPC. It is therefore hypothesised:

H12: Employee trust in the organisation positively influences affective commitment.

Organisational Justice refers to an employee's perception of what is fair and just in the workplace (Greenberg, 1987). The Organisational Justice Construct consists of three key dimensions – Procedural Justice, Distributive Justice and Interactional Justice. Each of these dimensions of Justice were adapted to align with the research context and form the final six hypotheses for this study.

Procedural Justice refers to perceptions that the procedures or processes used to make decisions are fair and applied equally. In this study procedural justice refers to the perception of employees that the organisation's decision to use employee location tracking technology, as well as the data collection and usage procedures, are fair and applied equally and consistently to all employees. Any concerns that this is not the case, including IPC regarding collection, usage and control, are likely to influence that perception of procedural fairness. Thus it is hypothesised that:

H13: IPC will decrease employee perceptions that the procedures used to monitor their location are fair (Procedural Justice).

Distributive Justice refers to the perception that the outcomes associated with a decision are fair and just. In this study distributive justice refers to employees' perceptions that

the outcomes associated with organisational use of location tracking technologies are fair. IPC include uncertainty regarding secondary usage of data and errors, which are likely to influence that perception of outcome fairness. It is therefore hypothesised that

H14: IPC will decrease employee perceptions that the outcomes associated with use of location tracking technologies are fair (Distributive Justice).

Interactional Justice refers to fair and transparent communication in relation to decision-making and implementation of procedures (Hosmer and Kiewitz, 2005). In this study, Interactional Justice refers to the provision and transparent communication of information regarding why and how the organisation will use location monitoring technologies and its policies regarding data collected. Any IPC including those relating to data collection, control, access or secondary usage is likely to generate a perception of interactional injustice. It is therefore hypothesised that:

H15: IPC will decrease employee perceptions that information regarding use of location tracking technology and data management is communicated in a fair and transparent way (Interactional Justice).

The literature indicates that when employees perceive an organisation as having policies and outcomes that are fair and transparently communicated to employees, those organisations experience higher levels of employee trust. (Hubbell and Chory-Assad, 2005; Gopinath and Becker, 2000). This is likely to be even more accentuated in a context of digital location monitoring characterised by real time data collection and a greater need for fairness in policy, outcomes and transparent communication. For that reason, it is hypothesised that:

H16: Perceived procedural justice will increase employee trust in the organisation (Procedural Justice).

H17: Perceived distributive justice will increase employee trust in the organisation (Distributive Justice).

H18: Perceived interactional justice will increase employee trust in the organisation (Interactional Justice).

5.4 Summary

This chapter presented the research framework and outlined the study hypotheses. The framework represents an answer to the call for a more comprehensive and concise understanding of employee IPC in the context of digital workplace monitoring and the impact of those concerns on the organisation. The following chapter discusses the research methodology and design selected to conduct this study.

Chapter Six: Research Methodology and Design

“Philosophers have hitherto only interpreted the world in various ways; the point, however, is to change it.”

- Karl Marx

6.0 Introduction

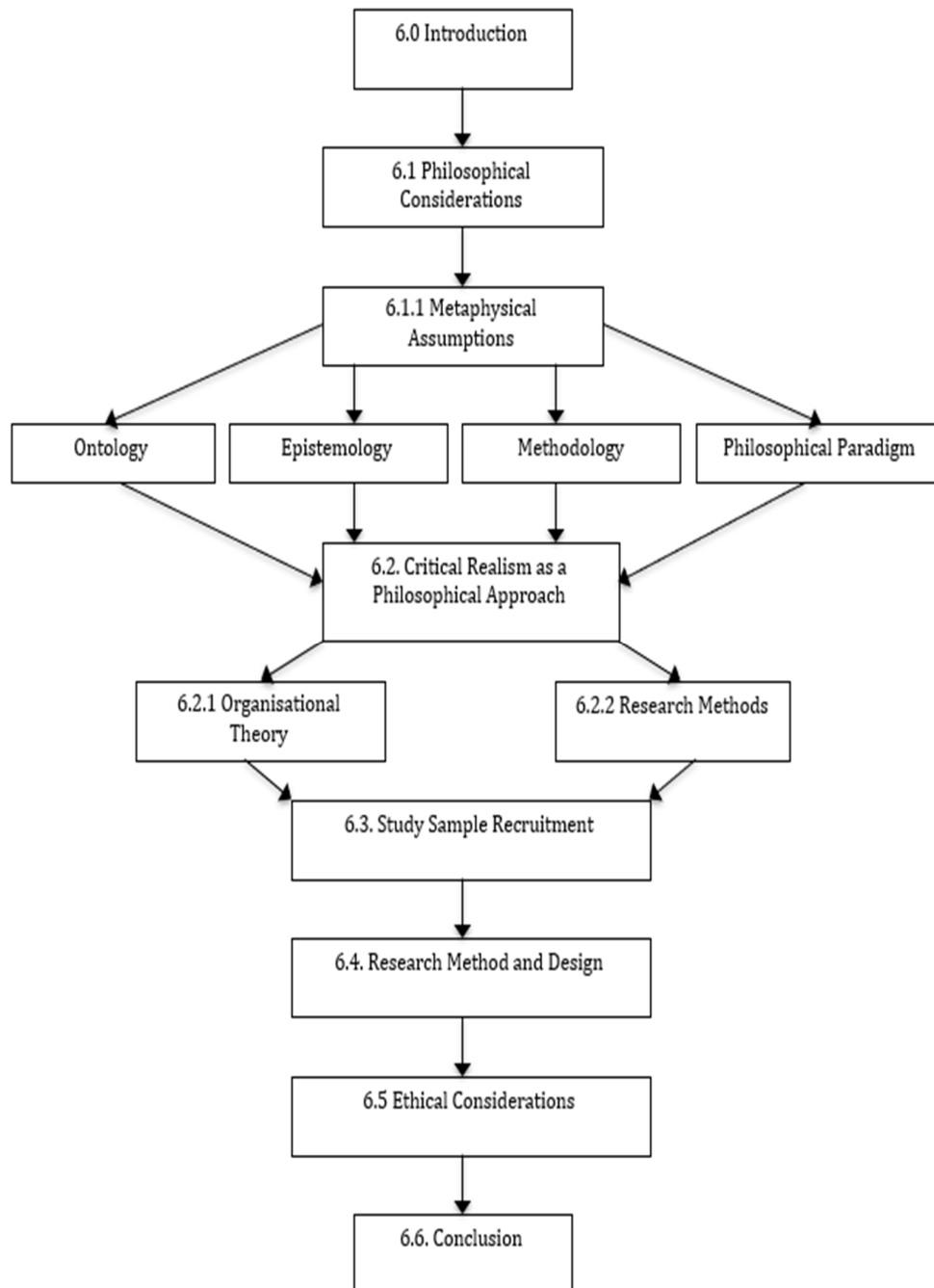
The purpose of this chapter is to outline the research methodology and research design applied in this study. This chapter builds upon the previous chapter by identifying a research approach that is appropriate to address the research questions proposed in this study. This chapter contains five sections, which are outlined below.

The development of the philosophical underpinning of this study is addressed in the first section. An extensive review of the philosophical literature is presented and a justification of the selected paradigm for this dissertation is provided in the following section. A brief overview of the type of research methods selected in line with the selected paradigm is also provided.

The research method and design of the methods is detailed in section 6.4. Expanding on the previous section, the use of a mixed-method approach is developed and presented in relation to the research problem that forms this dissertation.

The ethical considerations of the research conducted for this study are noted in section 6.5. Section 6.6 concludes the study with summary statements and a subsequent introduction to the following chapter.

Figure 5: Chapter Structure



6.1 Philosophical Considerations

Philosophy is concerned with the nature of reality, knowledge and existence acting as a guiding principle for research in particular scientific and research domains (Benton and Craib, 2001; Cronk and Fitzgerald, 2003; Bryman and Bell, 2011). There are three key assumptions associated with philosophy that directly influence the philosophical paradigm and research methods chosen in social science research. Each of these key assumptions represent different viewpoints in terms of how one views reality, (ontology), understands knowledge (epistemology) and the ways in which knowledge can be obtained or acquired (methodology) (Cronk and Fitzgerald, 2003).

As these key metaphysical assumptions directly influence the philosophical paradigm and research methods chosen in this study they are now discussed, along with the overlying significance of these inquiry paradigms and the philosophical position of this thesis.

6.1.1 *Metaphysical Assumptions*

Ontology

Ontology is the branch of metaphysics that deals with the theory of what exists in the world. Ontology seeks to understand ‘what is reality’, ‘what is in the world’ and ‘what is real’ (Fryer, 2020). The fundamental basis of ontology centres around two key considerations of objectivism and constructivism. For example, the objective view considers reality to exist independently, free from one’s influence and power, whereas the constructive view assumes reality is constructed and shaped by one’s own actions, understandings and knowledge (Cronk and Fitzgerald, 2003).

It has been noted in the literature (Mason, 2006; Benton and Craib, 2001; Bryman and Bell, 2011) that differing standpoints and conceptualisations of reality have created ontological approaches and viewpoints that compete rather than compliment each other, with Mason (2006) calling for harmony among opposing perspectives. Consequently, the ontological stance adopted in this thesis represents a mixture of both objectivism and constructivism for a number of reasons. Firstly, the organisation represents a social order

whereby the employees are expected to behave in a manner that is in line with the needs and requirements of the company (Bryman and Bell, 2011). For example, employees are expected to perform the duties assigned to them by following the rules and regulations decided upon by the organisation. In this way the organisation is a “*constraining force that acts on and inhibits its members*” (Bryman and Bell, 2011: 21) and therefore essentially prevents its individuals from constructing their own idea of reality. However, to accurately explore and measure the information privacy concerns of employees, it is vital to consider their individual perspectives. Thus adopting a mixed ontological stance was considered appropriate for this study.

Epistemology

Epistemology is the branch of metaphysics that is concerned with the study of knowledge. It answers questions relating to the nature of knowledge in society and our understanding of it (Fryer, 2020). The key underpinnings of epistemology are related to the question of whether the social world and reality can be studied in relation to the natural sciences and their values (Bryman and Bell, 2011). Similar to the nature of reality, the concept of knowledge is centred between two main approaches of positivism and interpretivism, which also feature on differing ends of the philosophical continuum (Scheffler, 1965; Benton and Craib, 2001; Bryman and Bell, 2011).

Positivism is the epistemological position that establishes general laws and assumes that knowledge is obtained through one’s observation of the world (Fryer, 2020; Bryman and Bell, 2011). Moreover, a positivist view in research champions the adaptation and use of methods, processes and procedures associated with the natural science to the study of the social science (Bryman and Bell, 2011). Interpretivism offers an entirely opposing view however, arguing that as social science is fundamentally and uniquely different to natural science it must be treated as such and therefore cannot be explored using the same methods (Bryman and Bell, 2011). In this way the interpretive approach is often referred to as the insider view in philosophy as opposed to the contrasting outsider perception (Blaikie, 2000).

As with the ontological stance adopted for this study, the epistemological stance of this thesis combines aspects of both positivism and interpretivism. For example, a realist approach acknowledges that the methods of natural science can and should be applied to social science as well as assuming a reality exists that is separate to our own perception or description of it (Bryman and Bell, 2011). This study combines an objective evaluation of location monitoring technology usage along with an examination of employees' individual IPC and their perceptions of organisational justice, thereby recognising the value of both objective and subjective knowledge.

Methodology

Methodology is the branch of metaphysics, which describes how research is undertaken. It refers to how knowledge is discovered through a systematic means. For example, this metaphysical assumption includes the underlying theoretical and philosophical considerations upon which the research is based (Saunders et al., 2007) while also considering the ways in which a researcher obtains and acquires knowledge (Moses and Knutsen, 2007). Methodologies can be qualitative, quantitative or triangulated by nature.

Consistent with the ontological and epistemological stances adopted in this thesis, a mixed method approach was chosen for this study. It contains elements of both a qualitative (ideographic) and quantitative (nomothetic) nature (Hair *et al.*, 2007). The use of a survey instrument with a predetermined set of questions is very much a quantitative approach whereas a semi-structured interview technique falls into a qualitative category. Furthermore, the adoption of a critical realist approach lends itself to the notion of mixed method research design, allowing a researcher to gain a deep insight into the research problem.

Philosophical Paradigm

In philosophy, a paradigm is defined as “*a cluster of beliefs and dictates which for scientists in a particular discipline influence what should be studied, how research should be done, [and] how results should be interpreted.*” (Bryman and Bell, 2011: 24). In this way a philosophical paradigm represents the ontological and epistemological standpoints

selected for a study. The contrasting viewpoints of these key metaphysical positions have generated multiple contrasting paradigms within the social science literature.

The rise of mixed method research within the social science literature however has reduced much of the conflict associated with the ‘paradigm war’ however. For example, researchers (Bouchard, 1976; Jick, 1979) note the use of a mixed method approach within a methodology provides a complete and contextual representation of the data, enhancing our understanding and discovery of the knowledge.

While research within the Information Systems [IS] discipline has traditionally considered from a positivist or empiricist background (Orlikowski and Baroudi, 1991; Walsham, 1995; Udo, 2001; Alder *et al.*, 2006; Mingers, 2004), many researchers have acknowledged the importance of interpretive approaches to help advance knowledge and understanding of important social and human factors in their research (Mingers, 2004; Walsham, 1995; Lee, 1991). A critical realist philosophy -which represents key elements of both an ontological (reality) and epistemological (knowledge) assumption – was chosen to underpin this study. The critical realist paradigm and its application to this study is now discussed in more detail.

6.2 Critical Realism as a Philosophical Approach

In the past, Information Systems researchers relied heavily on a practical research approach (Ormerod, 1997). However, as research within the discipline continues to grow, progress and even integrate into other research fields, there have been calls by researchers and scholars to consider other philosophies that consider human behaviour and experience to underpin their research (Dobson, 2003; Wilson, 1999; Iivari et al., 1998; Mingers and Stowell, 1997). Recently however, IS researchers have started to recognise critical realism as a compromise between the extremes of positivist and constructivist approaches (Mutch, 1999; Mingers, 2004; Fox, 2009) and as a radical alternative to postmodernism (Jones, 2010). For example, critical realists acknowledge that the world is real and that while knowledge is guided by theory, it is not determined by it, thus knowledge production is fallible (Fryer, 2020). It is worth noting that a critical realist paradigm has also been applied to research studies within organisational and

management disciplines (Ackroyd, 2010; Easton, 2010; Wynn and Williams, 2012; Bygstad et al., 2016; Fletcher, 2017). In fact, for Dobson (2003:1) a critical realist paradigm within organisational theory provides “*a promising analytical and explanatory framework for examining the interplay between structure and agency within organisations*” and so provides a useful foundation for this research study.

A critical realist approach allows a researcher to apply a non-positivist yet scientific based model to the study of social science, thereby allowing them to recognise the social elements of science while acknowledging the independent existence and reality of objects of scientific knowledge (Benton and Craib, 2001). In this way, the critical realism paradigm allows for a more complex understanding of reality in the scientific world whilst providing a rich description of the nature of its complexity, thus making it possible to conduct a scientific study in the social world (Lopez and Potter, 2005). Moreover, by accepting critical realism as a philosophy of social science, researchers are able form conclusions through retroductive reasoning (Fryer, 2020) allowing them to gain deeper and more comprehensive insights into the inherent meaning of the social domain (Stiles, 2003; Mingers, 2004).

There are two main assumptions that underpin a critical realist paradigm that can assist researchers looking to study the social science domain. Firstly, critical realists believe the world consists of three domains, drawing key distinctions between the real (what exists), the actual (events) and the empirical (experiences) domain. For example, critical realist theorists believe the empirical domain contains observable events i.e. events we experience, the actual suggests not all events are experienced i.e. they occur but are not observed and finally the real consists of causal mechanisms i.e. structures that cause events (Fryer, 2020; Mingers, 2004; Longshore Smith, 2006; Carlsson, 2005). Based on this perception of reality, a critical realist will assume an apple falls from a tree if we see and hear it do so (empirical), the apple has fallen from the tree even if we have not witnessed it falling (actual) and finally gravity caused the apple to fall from the tree (real – causal mechanisms). In this way the critical realist philosophy recognises that researchers should actively consider the influence of casual mechanisms and the degree to which they act as tendencies that shape and govern the world that we observe (Fryer, 2020).

Secondly, a critical realist paradigm follows the social theorists assumption of structuration, specifically the agency/structure relationship (Ackroyd, 2010). For example, critical realism assumes that society consists of social structures that influence the behaviours, perceptions, and attitudes of the individuals (agents) within it (Fryer, 2020). This assumption argues that society does not consist of free acting individuals, more so that society influences the knowledge and actions of those that exist within it. More specifically Fryer (2020) argues that these social structures emerge from the relationships formed among the individuals within society and that researchers must consider the impact of the two together i.e. social structures and individual agency's exist together and therefore social science researchers must consider both within their studies.

These two main assumptions of causal mechanisms and agency/structure relationship have been applied by researchers in studies of organisational theory thus providing further rationale for its selection in this research project. The application of critical realism to organisational and management-based studies is outlined in section 6.2.1 below.

6.2.1 Critical Realism and Organisational Theory

Many researchers and scholars studying within an organisational or management discipline have directed their research using a critical realist approach (Ackroyd, 2010; Easton, 2010; Wynn and Williams, 2012; Bygstad et al., 2016; Fletcher, 2017). In fact, the very premise that critical realism is associated with causal relationships lends itself nicely to research within an organisational content. For example, organisation and management-based studies commonly try and understand the causes of certain outcomes, events or relationships. Thus the critical-realist approach of event x is caused by antecedent event y (or in many cases the combined effects of antecedents of events y1 to y2) creates strong and effective research within an organisational context (Ackroyd, 2010).

As previously noted, critical realist researchers also view the organisation in terms of an agency/structure relationship whereby the structure of the organisation is represented by

the internal and external relationships that exist within it. Researchers such as Ackroyd (2010) argue that the power of the ‘structure’ within an organisational context is reflective of the power, position and capacity of the individuals that participate in the relationship. For example, Ahmed and Uddin (2018) applied a critical realist paradigm to a study of corporate governance to define the structure of the organisation whereby they considered shareholders and directors engaged in an on-going internal relationship with one another. Similarly, Mutiganda (2013) applied a critical realist underpinning to examine budgetary governance and accountability within the public sector, defining an internal relationship between the accountant and the accountees within the relationship (Frederiksen and Kringelum, 2020).

Consequently, it is apparent that many researchers acknowledge the importance of applying a critical realist paradigm to organisational-based studies. For example, Frederiksen and Kringelum (2020) argue that applying a critical realist approach within an organisational or management based context can increase our “*understanding of the complex world of organisations and management*”, with Ackroyd (2010: 48) noting that “*it is difficult to imagine the research {organisational and management based} having taken the form it has, or having been so effective had it not been informed by the knowledge of realist philosophy.*”

This study was conducted using a critical realist paradigm in light of its overall suitability to the research problem. The research methods applicable to this approach are addressed in the final section 6.2.2 below.

6.2.2 Research Methods of Critical Realism

By accepting elements of both the scientific and social world a realist paradigm commonly reflects a middle ground approach in the philosophical debate within the literature. For researchers such as McEvoy and Richards (2006) for example the use of qualitative methods within a critical realist approach, allows researchers to identify and explore emerging themes or complex concepts that may not have been captured by following a quantitative approach. For Mingers (2004) however, the use of quantitative methods are equally important as they allow researchers to identify and explore the

relationships between mechanisms under specific conditions. Consequently, for many researchers (e.g. Stiles, 2003; Mingers, 2004) critical realism favours the use of a mixed methods methodology.

For example, as critical-realist informed researchers believe the world consists of three dimensions that operate independently of each other, it is apparent that a combination of research methods would be required in order to fully understand and explore a critical realist view of the world (Mingers, 2004). Secondly the use of a mixed method approach exposes critical realist researchers to a wider range of experiences, interpretations and perspectives, which allow them to form a more comprehensive understanding of issues and phenomena allowing them to generate theory and perspective (McEvoy and Richards, 2006; Danermark, 2002). In this way, the use of mixed methods can assist researchers adopting a critical realist approach in explaining hypotheses within their studies. Finally, a mixed method approach can be applied to enforce the reliability of the findings, however care must be taken to avoid epistemic fallacy or internal inconsistency with the underpinning design (Scott, 2000; Downward and Mearman, 2006).

Consequently, it is apparent that researchers directing their research through a critical realist lens apply the use of mixed methods to their research to develop a comprehensive understanding of their results (completeness), to facilitate retroductive reasoning (abductive inspiration) concerning causal mechanisms or to enhance the reliability of their findings (confirmation) - an approach taken with caution (McEvoy and Richards, 2006).

The aim of this research study is to provide an in-depth understanding of employees' IPCs relating to their location information, specifically how those IPCs influence their perceptions of organisational justice and their trust and commitment to the organisation. The research approach selected to explore the research questions outlined in this study combine both qualitative and quantitative research methods. The use of a mixed method approach within this study was significant as the qualitative section of this research not only confirms the reliability of the survey results, but further extends our understanding of both the information privacy construct and organisational justice perceptions that would not have been obtained if a single research approach had been undertaken.

6.3 Study Sample Recruitment.

The case study used in this study was An Garda Síochána, the Irish national police force. Full access permission was granted by the Garda Representative Association (GRA) and by the Association of Garda Sergeants and Inspectors (AGSI) to examine their members' IPC in relation to Tetra, a mandatory location tracking technology. The potential sample size was 8,000 consisting of 6,200 Gardaí and 1,200 Sergeants and Inspectors.

6.3.1 Survey Respondent Recruitment

A brief outline of the study (and link to participate) was included in the GRA weekly newsletter, which was circulated to all members of the association by the GRA Communications Director. Both the President and General Secretary of the GRA publically endorsed the study after the initial newsletter segment was released to encourage member participation. Moreover, the Central Executive Committee (CEC) leaders from each district further encouraged members within their divisions to participate in the survey. In a similar vein an email invitation to participate in the study was circulated to all members of AGSI via the General Secretary of the representative body. Based on the theory proposed by Dillman (1978) it was assumed that the endorsement of the study by individuals familiar to the respondents would invariably increase the response rate.

The survey instrument was administered following Dillman's Total Design Method (1978) in an effort to maximise the overall response rate. Using the follow up procedure pattern outlined by Dillman (1978) weekly reminders were sent out to Gardaí via email, newsletter and bulletin notifications. Given the active nature of the day to day role of Gardaí members it was decided that an weekly alternate mix of these communication methods be used in an effort to connect with Gardaí members and thus elicit a greater response rate. Moreover, the survey was formatted to allow for mobile optimisation, ensuring that it was user friendly on all mobile user devices. The weekly response rates of respondents are outline in chapter 7 of this study.

6.3.2 Interview Participant Recruitment

In this study 36 in-depth interviews were conducted with a sample that consisted of 19 Rank Gardaí, 8 Detective Gardaí, 5 Garda Sergeants, 3 Garda Inspectors and 1 Garda Superintendent. Interviewees were both male (n=27) and female (n=9). Significantly a number of interviewee participants were specifically involved in the development, pilot test or roll out of the TETRA radio technology. Consequently, interviewees selected for this study were highly informed in relation to the phenomenon of interest and all had experienced significant lengths of exposure to the TETRA radio.

In terms of work base and location, 24 of the interviewees were stationed in Dublin with the remaining 12 stationed across the South, South East, Midlands and West of the country. Given the highly sensitive nature of the data collected, it was imperative to preserve respondent anonymity. Thus, in line with best practice, full details of respondent characteristics are not provided and interviewees are identified numerically. Interview templates and detailed summaries of findings are available in appendix C, E, F, G and H.

6.4 Research Method and Design

A mixed method approach consisting of a survey instrument and interview approach was selected in order to test the study hypotheses. The following section describes the survey instrument and its overall role in the research design will be discussed in detail. Secondly the interview approach will be addressed and discussed in relation to the framework and overall research design.

6.4.1 Quantitative Research Approach – Survey Instrument

A self-completion approach using a structured questionnaire design was selected for this study. An online survey was circulated to frontline Gardaí (GRA), Garda Sergeants and Garda Inspectors (AGSI) following Dillman's Total Design Method. (1978). The survey was endorsed by the President of the GRA and AGSI, the General Secretary of the GRA and the leaders of the Central Executive Committee.

The survey instrument developed for this study harnesses a number of previously validated research instruments within its design. All of these constructs have been identified and discussed within the previous literature reviews.

6.4.2 Questionnaire Design

The questionnaire was designed to examine the impact of Garda members information privacy concerns in relation to their mandatory required use of the TETRA radio system on their trust and commitment to the management and organisation of An Garda Síochána. The questionnaire comprised of a demographics section, a section of binary yes/no questions relating to their use of TETRA radio and the main body, which examined all the independent and dependent variables in detail. In order to remove method bias and ensure scale validity two attention check questions and eight marker variables were embedded into the survey. All four sections are discussed in detail below.

(i) Demographic Section

For descriptive purposes, respondents were asked to provide their age to the nearest range e.g. 35 – 44 etc. as well their rank level within An Garda Síochána. Employee tenure has been shown to influence specific variables such as organisational trust, organisational commitment and affective commitment (Butler et al., 2012) and as such was considered an important factor to capture within the demographic section of the survey. Similar to the age factor, tenure within An Garda Síochána was captured to the nearest range. Moreover, respondents were asked to indicate the number of years they were using the TETRA radio system to the nearest range e.g. 7-9 years etc. Finally, all participants were encouraged to indicate their gender, however they were provided with the option not to disclose if they so wished. In the initial development of the survey, the base location of the participant was included within the demographics section. However, after careful review from the Garda representative associations authorising the survey, this question was removed for anonymity and confidentiality purposes.

(ii) Binary Questions.

Respondents were asked to answer a number of yes or no questions relating to their *use* of TETRA system, *purpose awareness* and their *personal experience* of using TETRA radio. For example, respondents were asked if they used the TETRA handset on a daily basis and if they used TETRA purely for operational purposes. In terms of *purpose awareness*, respondents were asked if they were aware their precise location could be monitored and analysed by management via their TETRA radios. The purpose awareness questions were included to verify if the Garda members were conscious of the fact that senior management within An Garda Síochána could monitor their locations and activities while they are on duty. Finally, participants were asked about their *personal experience* of using TETRA radio. For example, respondents were asked to indicate if they had ever used the TETRA radio to request assistance in an emergency. This question was included to verify if respondents had been forced to personally activate the GPS function on the TETRA radio handsets.

(iii) Independent and Dependent Variables

The survey instrument examined a number of independent and dependent variables that framed the research instrument. All variables were measured using a 5-point likert scale with anchors of (-2) strongly disagree and strongly agree. (+2). The main body of the research instrument was divided into *Information Privacy Concerns and antecedent variables*, *Organisational Justice* and *Outcome Variables*. Details regarding how each construct was developed for the study are outlined below.

Information Privacy Concerns and Antecedent Variables

A number of IPC dimensions and corresponding dimensions were examined in this framework. The variables examined and corresponding measures are discussed in detail below.

Perceived Legitimacy

Perceived legitimacy was measured using items derived from Alge et al., (2006) 5-item measure of perceived legitimacy. Alge et al., (2006) employed a 7-point likert scale in their original framework ranging from strongly disagree to strongly agree, however for the purpose of this research, a 5-point likert scale was employed. The questions were adapted to align with the sample base and speak directly to the Garda sample. For example, perceived legitimacy examined the degree to which Garda members believed that Garda managements gathering and handling of their location data violated their reasonable expectations. Sample items include “*I feel that An Garda Síochána’s location monitoring policies are an invasion of my privacy*” and “*I feel uncomfortable that An Garda Síochána forces me to use a TETRA radio during my work.*”

Information Privacy Concerns

Information privacy concerns were measured using items and constructs adapted from Hong and Thong’s (2013) Information Privacy Concerns framework. This framework examines information privacy concerns in terms of six key dimensions, *Collection*, *Secondary Use*, *Improper Access*, *Control*, *Errors* and *Awareness*. Hong and Thong (2013) adapted the constructs of collection, secondary use, improper access and errors from a scale previously designed by Smith et al., (1996) to examine individuals' information privacy concerns regarding organisational information privacy practices. The remaining constructs of awareness and control in Hong and Thong’s IPC model were adapted from the IUIPC scale developed by Malhotra et al., (2004).

The definitions of these dimensions were adapted to align with the research context. For example, *collection* refers to the degree to which a Garda member is concerned that management can track and collate their location data. *Secondary use* refers to their concerns that management can use this information for purposes other than what was initially intended i.e. use for a purpose other than health and safety of Garda members. *Improper access* is the degree to which Garda members are concerned that their location information could be accessed by a third party without their authorisation. *Control* refers to the concern that Garda members do not have adequate control over their own location

information. The *errors* dimension refers to the degree to which a Garda member is concerned that are faults or errors within their location information or the technology gathering this information. Finally, *awareness* refers to the degree to which Garda members are aware of the information privacy practices or policies of Garda management.

In Hong and Thong's framework, these items were anchored on a 7-point likert scale. In line with the context of this study, these measures were reduced to a 5-point likert scale. Overall 26 items were measured – collection (5), secondary use (5), improper access (4), control (4), errors (4) and awareness (4).

Loss of Autonomy

Loss of autonomy refers to the loss of freedom to use one's personal initiative in a situation, such as making a decision for example. For the purpose of this research loss of autonomy explored the degree to which Garda members felt they were unable to use their personal initiative in their daily work, resulting from the mandatory required use of the TETRA radio system. The loss of autonomy scale was developed using items from three separate scales – Hackman and Oldham's (1973) Job Diagnostic Survey, Beehr (1976) Employee Autonomy Scale and a German scale developed by Clasen (2012), which examines the degree of autonomy perceived by employees regarding their work scheduling and task performance.

Item 1 was derived and adapted from Hackman and Oldman (1976), item 2, item 3 and item 4 from Beehr (1976) and item 5 from Clasen (2012). All items were modified from the original scales to align with the research context. For example items included "*I feel that being monitored via TETRA radio has reduced my personal initiative and judgement to carry out my daily work*" (Item-1), "*I feel that being monitored via TETRA radio has reduced my freedom to show initiative in doing my job*" (Item-4) and "*I feel that being monitored via TETRA radio has comprised my ability to determine the manner in which to complete my job tasks*" (Item-5). All items were anchored on a 5-point likert scale.

Organisational Justice Variables

The organisational justice construct consists of three key dimensions – Procedural Justice, Distributive Justice and Interactional Justice. All three dimensions are discussed in detail below.

Procedural Justice

The *procedural justice* dimension was measured using items adapted from Colquitt (2001) 7-item measure of perceived fairness of the decision-making process and procedures relating governing electronic monitoring (Butler, 2012).

The scale was adapted to reflect the perceived fairness of how decisions are made and policies are established by senior management in relation to use of the TETRA GPS to monitor Garda location on duty. For example, items 2–4 and item 6-7 from Colquitt (2001) were adapted to form items 1-4 and item 7 in this scale. Item 5 “*The procedures for monitoring Garda location via the TETRA radio are transparent*” and item 6 “*The procedures or how TETRA location data are stored and used are transparent*” were self-developed by the researchers for the purpose of this study.

Distributive Justice

Distributive justice was measured using a 3-point scale adapted from Hovorka-Mead et al., (2002). While the original scale was anchored on a 7-point range, this scale was adapted to a 5-point scale. The wordings of the items were adapted to reflect the consequence and outcomes associated with Garda members use of the TETRA radio, specifically in relation to how the collated data is subsequently used. Moreover, a new item was self-developed by the researchers to capture the fairness of the distribution and application of the monitoring system across the force i.e. “*I am satisfied that the outcomes from the use of TETRA radio location monitoring technology are fair for all members across the force regardless of unit or rank.*”

Interactional Justice

The *interactional justice* dimension was measured using Colquitt's (2001) 5-point measure of informational justice. This scale was adapted to explore the degree to which Garda members were informed of the data that TETRA radio collects and the ways in which that data will be used by management and the organisation. This scale was anchored on a 5-point scale from strongly disagree to strongly agree. Item number 5 on Colquitt's original scale "*Has (he/she) seemed to tailor (his/her) communications to individuals' specific needs?*" was redeveloped to create two new items to fully capture the degree to which management had been clear and transparent in their communications regarding the possible health consequences from using TETRA radio. i.e. "*An Garda Síochána have been transparent in their communications regarding any potential health consequences from using TETRA radio*" and "*I feel that Senior Management of the force has provided full information regarding any possible health consequences from using TETRA radio.*"

Outcome Variables

Three outcome variables were identified as a result of the independent variables selected for this research.

Perceived Value

Perceived value was measured using items adapted from Kim and Kankanhalli (2009) 4-item measure of switching benefits and one item from Furnham and Swami (2015) Positive Aspects of Surveillance Scale. For Kim and Kankanhalli (2009) switching benefits represent the associated value respective of a switch or a change from the status quo to something new or different. Thus, for the purpose of this study switching benefits imply utility associated with the mandatory required use of the GPS function of the TETRA radio system and as such represent perceived value in this study. The items were modified in line with the context of the research. For example, items included "*Using TETRA enhances my effectiveness on the job*" and "*Using TETRA radio increases my sense of security at work*". Item 15 was derived and adapted from Furnham and Swami

(2015) to create item 4 “*Using TETRA radio increases my sense of security at work.*” All items were anchored on a 5-point likert scale.

Organisational Trust

Organisational trust was measured using items derived and adapted from Robinson (1996) 7-item measure of trust. Robinson (1996) scale measures trust in terms of integrity, predictability, benevolence and general trust content. 6 of the 7 items were adapted for the context of the research and anchored on a 5-point likert scale. Item 5 “*I don't think my employer treats me fairly*” (RC) was removed from this scale.

Affective Commitment

Affective commitment was measured using items derived and adapted from Allen and Meyer's (1990) 8-item measure of affective commitment. Each item of this scale was rated using a 7-point likert scale however for the purpose of this study a 5-point likert scale was employed instead. In the original scale items 4, 5, 6 and 8 were reverse scored. While these 4 items were included in our adapted version of the scale, I did not reverse code the responses. Instead, I adapted and recoded each of these items to reflect a positive score loading. Item 2 “*I enjoy discussing my organisation with people outside of it*” and item 3 “*I feel as if this organisations problems are my own*” were excluded from this scale.

Attention Check and Marker Variables

Two instructed response attention check questions were embedded into the survey to ensure scale validity. Instructed response questions have an obvious or instructed answer and as such are designed to ensure that the respondents' attention is at a high level throughout the survey. Wrong answers to the instructed response items indicate that the respondent is not paying full attention during the survey process (Kung et al., 2017). The first instructed response item “*Please select strongly agree*” was embedded in the information privacy concerns items and the second item “*Please select somewhat disagree*” within the procedural justice items.

In order to reduce method bias in the survey, a number of marker variables were also included. All marker variables measured respondents' personality traits and were measured on a true/false scale. Four marker variables were adapted from Agarwal and Karahanna (2000) Focused Immersion scale. Sample items included "*Whenever I am online I am able to block out most other distractions*" and "*whenever I am online I become absorbed in what I am doing*". Four items were also included from the Attitude Toward the Colour Blue Scale (ATCB) by Miller and Chiodo (2008). Sample items include "*I prefer blue to other colours*" and "*I like the colour blue*".

After the survey instrument was designed it was pilot tested in order to evaluate the likely accuracy and consistency of the responses (Hair et al., 2007).

6.4.3 Pilot Testing of Survey Instrument

The survey instrument was pretested by 124 Garda members to ensure that all questions were clearly articulated and respondents were not influenced by the questions or responses. For researchers Converse and Presser (1986) pretesting a survey instrument is a critical step that must be taken by researchers in order to ensure the questionnaire will act as a valid and reliable tool in the research.

Members of the Garda Representative Association's Central Executive Committee (CEC) circulated the pilot version of the survey instrument to Garda members in every Garda Division across Ireland. The Central Executive Committee is comprised of one elected Garda member from each of these Garda Divisions and so took responsibility of circulating the pilot survey to members within their own Division. Consequently, the response rate was high and fully inclusive of all Garda Divisions in Ireland. The pilot survey was circulated via email to Garda respondents.

Based on the feedback received during pilot testing, the survey instrument was refined to ensure the language used would be clearly understood by Garda member respondents. For example, feedback received suggested we refer to the National Digital Radio Service (official name for the radio communications system) by its more commonly used 'nickname' and acronym the TETRA radio. As the survey instrument was hosted online,

it was suggested that progress bars were included to allow respondents to gauge where they were within the survey instrument. Finally, as previously noted, within the demographics section it was advised that the question “*In which location are you based*” and answers of a) *Garda Headquarters*, b) *Harcourt Square*, c) *Templemore*, d) *Rural station* and e) *urban station* - be removed in order to ensure respondent confidentiality and anonymity within the survey.

6.4.4 Qualitative Research Approach – The Interview Method

Conducting an interview is a commonly used qualitative research technique to identify and analyse the perceptions, beliefs, experience and ideas within social science research (Punch, 2005; Mason, 2006). Interviews can be very beneficial when gathering data of a complex or sensitive nature as they allow a researcher to capture verbal and non-verbal cues and obtain feedback from the interviewee (Hair et al., 2007). Interviews can take on a number of forms including structured, semi-structured, unstructured, in-depth or phenomenological based in nature.

Given the nature of the research required for this study it quickly became apparent that a semi-structured interview approach was an appropriate qualitative research method. For example, while the interview followed a particular sequence and consisted of pre-determined questions, the flexibility of the semi-structured approach allowed for a greater understanding of the thoughts, feelings and perceptions of Garda members relating to the monitoring of their location information. Thus, through the qualitative section of this research a number of interesting and insightful findings came to light, furthering our understanding of the both the information privacy construct and the impact of Garda members organisational justice perceptions on their trust and commitment to An Garda Síochána. Full details of these qualitative findings are discussed in the following chapter.

The interviews were conducted during the Covid-19 global pandemic. Consequently, each interview was conducted online. All Garda members interviewed in this process turned their camera on, thus ensuring that the interviews could be conducted face to face within the virtual domain. On the permission of interviewees each interview was

recorded. At the beginning of each interview, interviewees were reminded that all information obtained during the process was completely confidential and they were not obliged to answer all questions if they did wish to do so. At the end of the interview process each interviewee was given an option to discuss any topic they wished that had not been broached within the interview. Each interview lasted approximately one hour. To avoid any misconceptions or confusion and to further enhance the comparability of results with the quantitative data, the use of complex or theoretical language was avoided in the interviews. All interviews were conducted in a relaxed and open manner.

6.5 Ethical Considerations

A number of steps were taken to meet the ethical obligations of this research project. Firstly, participation in the study (qualitative and quantitative) was voluntary. A plain language statement was provided to all potential participants outlining details of the research and involvement in the study. Participants were advised that they could withdraw from the study without explanation at any point. Participants were advised that all data would be protected within the limitations of the law. Contact details of the DCU Data Protection Officer and the Secretary of the DCU Research Ethics Committee were provided to all potential participants. The plain language statement is outlined in appendix B.

All data collated through the study was completely anonymised. Great care was taken to ensure that the data collated via the survey instrument and through the interview process would not personally identify any respondent. Participants were asked to indicate their consent to participate in the online questionnaire by clicking on a specific link directing them to the survey. The first page of the survey further reiterated that participation was voluntary and required further consent to proceed onto the questionnaire. Garda members volunteered to participate in the interview process and provided verbal consent at the beginning of each interview. Participants were asked for further consent to allow the researcher to record the interview. They were advised they were not obliged to answer all questions and could opt out at any stage of the process without explanation.

In compliance with current GDPR guidelines, all data obtained in the study was password protected and securely stored in an encrypted file. All print material was stored in a secured cabinet within a secured office and shredded and disposed of via a secure bin, 3 months after it had been analysed. All electronic data was also fully deleted and wiped 3 months post data completion. At the request of An Garda Síochána it was agreed that any research papers arising from this study that reference the study results would not be published without approval from the Garda Representative Association of An Garda Síochána.

The research proposal was submitted to the ethical committee and research unit of An Garda Síochána for approval. Firstly, a Research Processing Agreement setting out the terms and conditions under which the data obtained through the study would be stored and utilised was completed and approved by An Garda Síochána. Secondly a Protocol for Research document formalising the relationship between An Garda Síochána and the researchers was also completed prior to data collection. This document outlined in detail the research aim and design, timescale and deliverables, corporate and strategic context and its relevancy to the internal and external stakeholders. The final part of this document outlined a number of specific requirements relating to the data as outlined by the ethics committee and research unit of An Garda Síochána. Finally, a questionnaire and interview guide detailing all questions in the survey instrument and the interview schedule was submitted to An Garda Síochána for approval. The study satisfied all requirements and was subsequently approved by the ethical committee and research unit of An Garda Síochána.

An application for approval of a research project form was also completed and submitted to the Research Ethics Committee of Dublin City University. The project outline, participant profile, proposed methodology, risk management outline, personal data security schedule and all supporting information was included in the application. The study satisfied all requirements and was subsequently approved by the Research Ethics Committee of DCU.

6.6 Conclusion

This chapter outlined the main philosophical assumptions associated with social science research. Moreover, the philosophical approach underpinning this study was presented and outlined in detail. The research methods supporting this research were also identified and outlined in line with the philosophical paradigm chosen for this study as well as the study itself. Finally, a number of ethical considerations were outlined to ensure the research study met all ethical obligations of both An Garda Síochána and Dublin City University.

Chapter Seven: Research Results

“It is a capital mistake to theorize before one has data.”

- Sherlock Holmes

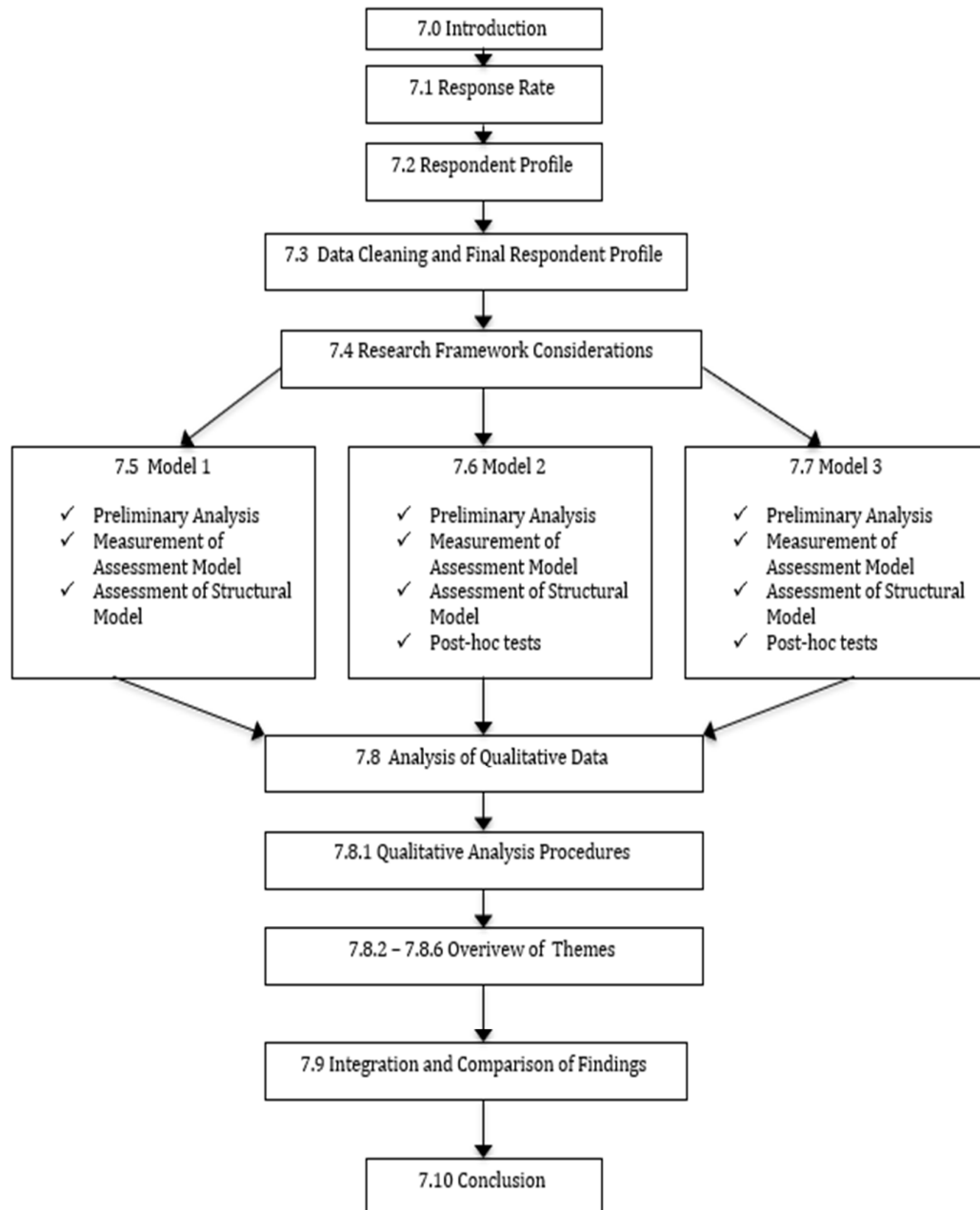
7.0 Introduction

This chapter provides a detailed account of the study’s quantitative and qualitative findings. The chapter outline is depicted in figure 7.1. The chapter begins with an overview of the processes used to administer the survey, along with a detailed discussion outlining the response rates. Following that the characteristics and frequencies of the sample are discussed.

The research framework developed from the literature review is then tested using three models. Each model is tested using Partial Least Square Structural Equation Modelling (PLS-SEM). Each individual model is analysed in three stages – Preliminary Analysis, Assessment of Measurement Model and Assessment of Structural Model. The main hypotheses are outlined and assessed in line with the quantitative data.

A full analysis of the qualitative data is undertaken and themes that emerged from same are detailed. The chapter concludes with an integration and comparison of the quantitative and qualitative results and findings.

Figure 7.1: Chapter Structure

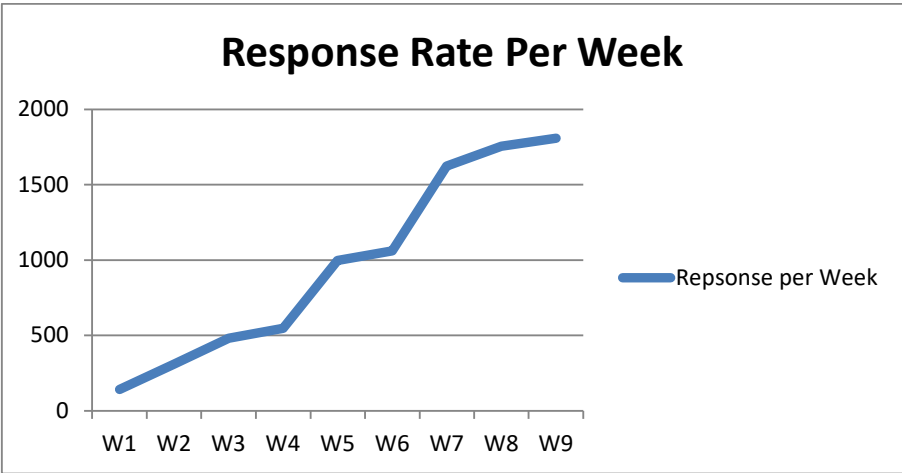


7.1 Response Rates

As noted in the previous chapter the survey instrument was administered following Dillman’s Total Design Method (1978) to maximise the overall response rate. Using the follow up procedure pattern outlined by Dillman, weekly reminders were sent out to Gardaí via email, newsletter and bulletin notifications. Given the active nature of the day to day role of Gardaí members it was decided that an weekly alternate mix of these communication methods be used in an effort to connect with Gardaí members and thus elicit a greater response rate. Moreover, the survey was formatted to allow for mobile optimisation, ensuring that it was user friendly on all mobile user devices. The survey was circulated to approximately 8,000 Garda members – 6,200 Garda rank and 1,800 Sergeants and Inspectors.

Figure 7.2 below outlines the weekly return rates from the survey sample.

Figure 7.2: Response Rate per Week



Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
142	310	481	549	997	1062	1624	1756	1808

The response rate increased significantly from week 5 and continued in a sharp upward trend until the survey was closed in week 9. This may in part relate to a ‘pass along effect’ in which the survey was communicated amongst members by word of mouth. Word of mouth communications have been found to play a pivotal role in shaping attitudes and influencing behaviours within the literature, particularly amongst close or familiar contacts (Godin, 2001; Reingen and Kernan, 1986). As an organisation, An Garda Síochána have a long standing tradition of building and sustaining positive relationships amongst their own members across rank and position. Furthermore, it can be argued that the CEC leaders demonstrated high levels of social and normative influence over their members and thus acted as “e-fluentials” – i.e. opinion leaders who spread information via the Internet (Sun et al., 2006) through their active encouragement of member involvement in the study. Thus, it is feasible to assume that word of mouth may have played an important role in propelling the survey in the latter half of the collection process.

Another significant factor, that must be considered when discussing an overview of the study and sample, was the impact that Covid-19 played in the process. This survey was conducted during the global pandemic, with Ireland firmly in it’s grip under heavy restrictions. A high demand was placed on all members of the organisation with Garda presence mandatory on all entry and exit routes, county to county nationwide. Despite the additional strain on members of the force a significant response rate was still obtained further highlighting the importance and relevance of this study.

Overall, a total of 1808 Gardaí members responded to the survey, equating to an approximate response rate of 22.6%. From this 1643 surveys were started, with 902 respondents opting to fully complete the demographic section of the study divulging their age, gender, rank, tenure and experience with the TETRA radio.

The respondent profile is discussed in more detail in section 7.2 below.

7.2 Respondent Profile

Of the 902 respondents who completed the demographics section of the survey, 78% were male, 21% were female with 1% opting not to divulge their gender. The sample consisted of 83% Garda rank members (GRA), 15% Sergeants and 2% Inspectors (AGSI).

Overall 81% of the sample used the TETRA radio system on a daily basis. Experience with the TETRA system was high for the majority of the sample base with 60% of the respondents stating they had 10 or more years experience using the radio system. A further 21% noted 7-9 years experience with 13% and 7% recording 4 – 6 years and 0 – 3 years experience respectively. In terms of overall Garda tenure and service, the majority – 33% - reported serving 21 or more years within An Garda Síochána with a further 24% noting 16 – 20 years experience and 30% stating 11 – 15 years service within the force. The remaining 13% reported 0- 5 years service (11%) and 6-10 years (2%) working within the force. From the above statistics it is clear that the vast majority of the sample base were experienced Gardaí, with experience using the TETRA radio system.

Figure 7.3 and 7.4 below outline Garda service experience and their experience using the TETRA radio system.

Figure 7.3: Garda Service and Tenure (Experience)

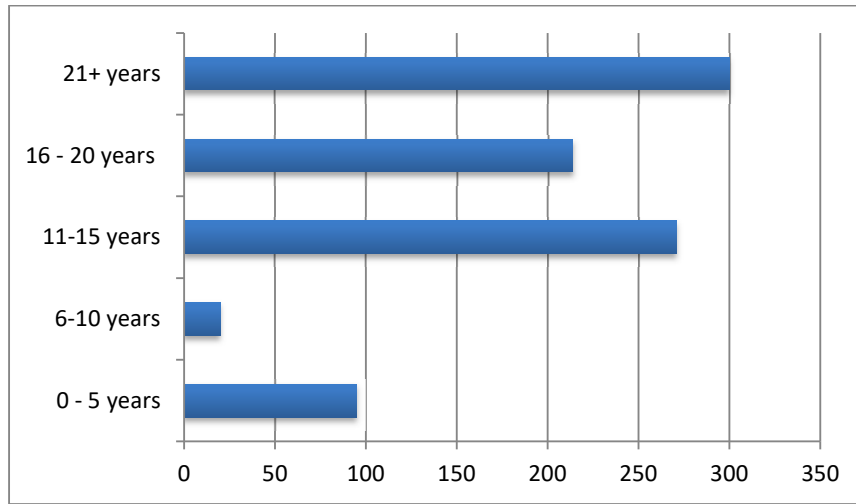
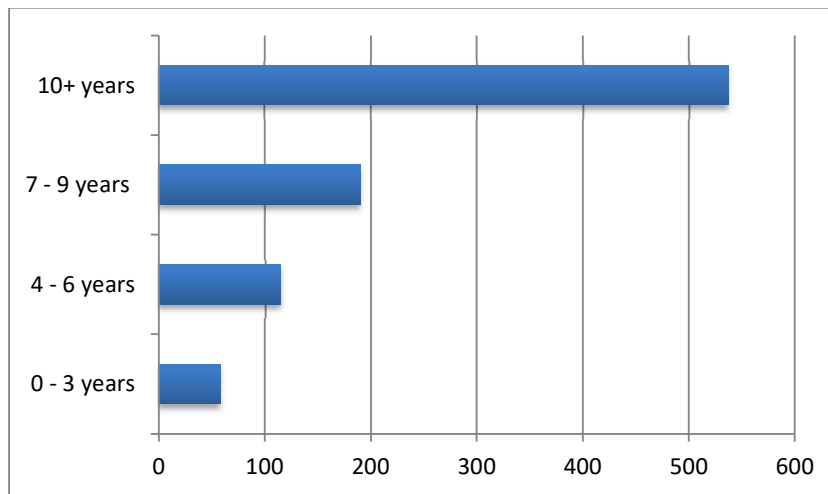


Figure 7.4: Garda Experience using TETRA radio (in years)



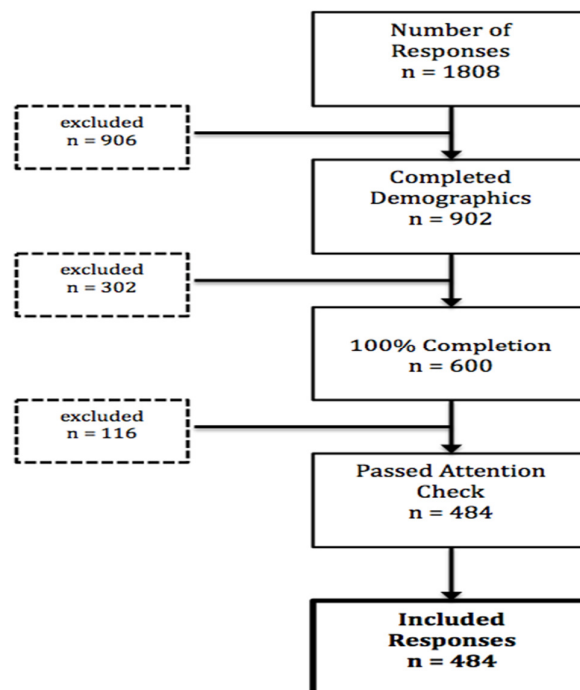
Significantly, 95% of the respondents were aware that the TETRA radio system could be used to identify their exact and precise location with a sizeable 36% of the sample admitting they had used the GPS function of the radio to call for assistance during an emergency situation or event. Similarly, a large majority – 64% - were aware that the information gathered through their continuous use of the TETRA radio could be used by An Garda Síochána for analysis purposes.

A detailed frequency analysis of respondents' responses to individual survey items is provided in appendix D.

7.3 Data Cleaning and Final Respondent Profile

As previously noted, a total of 1643 Garda members responded to the survey, with a total of 902 completing the demographics section. Prior to the testing of the research models, the data was screened and cleaned to ensure complete rigour within the study. The 902 responses (completed demographics) were examined for completeness. Blank responses and responses with 'missing data' were identified and removed from this sample leaving only responses with a 100% completion rate to be included in data analysis (n = 600). Respondents who did not select the correct structured response in the attention check items (n = 116) were also removed from the sample in order to maximize study rigour. As a result, the final respondent rate used to test the research models for this study was n = 484. Figure 7.5 depicts the process.

Figure 7.5: Response rate Inclusion Criteria



7.4 Research Framework - Considerations

The research framework is tested using three models. Each individual model is analysed in three stages – **Preliminary Analysis**, **Assessment of Measurement Model** and **Assessment of Structural Model**. The *Preliminary Analysis* section describes the procedures used to test statistical power and the overall model fit of each model. In the *Assessment of Measurement Model* section the reliability and validity of the model is tested and discussed in detail. Tests of convergent and discriminant validity, internal reliability, and construct reliability are discussed in this section. Next the measures of relationships are considered in the *Assessment of Structural Model* section, in terms of the correlation and associations between independent and dependent variables within the model. Finally, a number of post-hoc tests are considered for each individual model.

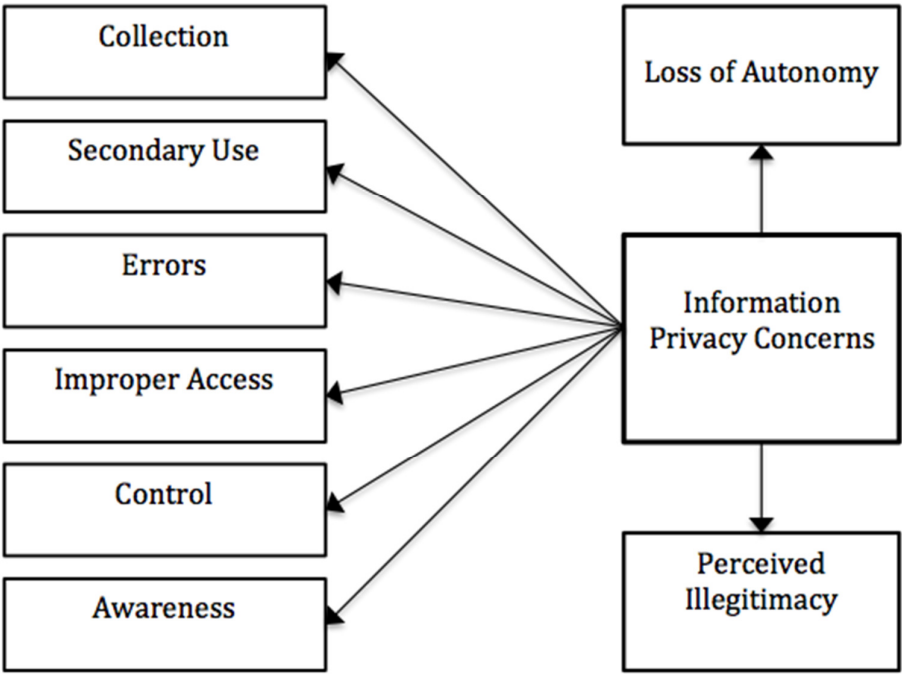
Simultaneous examination of endogenous and exogenous variables can result in common method bias (CMB). Thus, a number of recommendations proposed by Podsakoff et al., (2003) were followed to eliminate any potential CMB in this model. Firstly, survey items were tested to remove any ambiguity prior to the administration of the survey. All survey items were randomised and respondents were made aware that there were no right or wrong answers to any question. Finally, common latent factors were included in this model and tested for standardised regression weight both prior to and post addition of these latent factors (Gaskin, 2012). As no major change was evident when comparing the standardised regression weights, validity and reliability thresholds were satisfied. Thus, common method bias does not represent a concern in any of the three models.

7.5 Model 1: Information Privacy Concerns and Consequents

Model 1 explores the relationship between information privacy concerns (IPC), loss of autonomy and perceived legitimacy. Specifically, the influence of IPC on perceived legitimacy and on loss of autonomy are examined in this model. IPC was measured using the six key dimensions of collection, secondary use, improper access, control, awareness and errors. It was hypothesised that Garda members IPC would increase the perception of the illegitimacy (P-IL) of location monitoring technology and also increase perceived

loss of autonomy (LA). The proposed model and associated relationships are outlined in figure 7.6 below.

Figure 6.6: Model 1: Information Privacy Concerns



7.5.1 Preliminary Analysis Model 1: Statistical Power and Model Fit

This model was tested using Partial Least Squares (PLS) Structural Equation Modelling (SEM) as implemented in SmartPLS (Ringle et al., 2015). PLS-SEM is appropriate when the objective is to identify key driver constructs in a relatively complex model that simultaneously deals with multiple latent variables and relationships, without being subject to rigorous distributional assumptions (Hair et al., 2017).

Power analysis using GPower (Buchner et al., 2014) calculates the minimum required sample size to detect the effect of specific tests at the desired level of significance. GPower indicated that the minimum required sample size for this model was n=267. Thus, our actual sample size of n = 484 was more than sufficient to detect the effects of testing at the desired level of significance.

The model was next tested for model fit. Although Goodness-of-Fit (GoF) index is commonly proposed as a solution to validate models (Tenenhaus et al., 2005), it has subsequently been challenged both conceptually and empirically (Henseler and Sarstedt, 2013) particularly when testing models using PLS-SEM (Hair et al., 2019). In consequence, following the recommendations of Hair et al., (2017), the standardized root mean square residual (SRMR) was calculated to measure the model fit. As this index is an absolute measure of fit, the lowest value possible is considered preferable since this measure implies that the model has a good fit with the data. Thus, as per Kline (2005) values of less than 0.10 are the preferred measure of SRMR. The SRMR for this model was within the threshold at 0.10 thus indicating good model fit.

Table 7.1: Model 1: Model Fit Statistics

Model Fit Statistic	Model 1	Recommended Threshold
GPower	n = 267	Below n=484 (sample size)
SRMR	0.10	0.10 or less

7.5.2 Assessment of Measurement Model - Model 1: Reliability and Validity

The next step of the analysis involved determining the reliability and validity of the model. Firstly, a cross loadings analysis was conducted in order to confirm the convergent and discriminant validities of the constructs. Next the convergent validity of the model was further tested, by calculating the Average Variance Extracted (AVE) for each construct. The model was again tested for discriminant validity by comparing the square root of the AVE and the correlation between each set of constructs (Hair et al., 2010). The next stage involved testing the internal reliability of each construct by calculating the Cronbach's Alpha (α) for each measure of scale. Finally, the reliability of each construct was tested, by calculating the composite reliability (CR) of each.

Table 7.2 illustrates the findings from the validity and reliability testing.

Table 7.2: Model 1: Validity and Reliability

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted	IPC	LA	P-Ilegit	PC-Aw	PC-Col	PC-Ctr	PC-Err	PC-IA	PC-SU
IPC	0.971	0.974	0.589	*0.767								
LA	0.968	0.975	0.888	0.673	*0.942							
P-Ilegit	0.836	0.899	0.749	0.678	0.688	*0.865						
PC-Aw	0.927	0.948	0.821	0.810	0.485	0.450	*0.906					
PC-Col	0.974	0.979	0.905	0.838	0.698	0.746	0.553	*0.951				
PC-Ctr	0.933	0.952	0.833	0.923	0.608	0.609	0.063	0.740	*0.912			
PC-Err	0.890	0.925	0.757	0.782	0.485	0.488	0.610	0.516	0.703	*0.870		
PC-IA	0.920	0.944	0.807	0.816	0.478	0.512	0.566	0.585	0.720	0.703	*0.898	
PC-SU	0.933	0.949	0.790	0.895	0.591	0.557	0.741	0.710	0.810	0.573	0.644	*0.889

7.5.2.1 Convergent and Discriminant Validity

As this model was derived and adapted from previous theories, it was important to ensure that the constructs were operationalized correctly within the model. Thus, a cross loadings analysis was conducted in order to confirm the convergent and discriminant validities of the constructs. It is expected that a high correlation (>0.7) exists between items and the construct that they intend to measure and a low correlation (<0.5) between the constructs that the items are not intended to measure. All items measured in the cross loadings met the required thresholds with the exception of item 4 in errors (ERR-4) which showed a low cross loading of 0.483 onto the privacy construct. This item '*all location information in computer databases should be double-checked for accuracy – no matter how much it costs*' was derived directly from a previously validated instrument Smith et al., (1996). On deeper examination it was determined that the absolute wording in this item i.e. *all* and *should be*, made it a statement as opposed to a declaration of concern as were the other 3 items in this scale. Secondly, it is proposed that this item consists of 3 dimensions – 1. *all location information*, 2. *should be double checked for accuracy* and 3. *no matter what the cost* thus further compounding the issue. Thus, it was determined that the absolute wording and triple dimension of this item had a direct impact on the cross loading factor of this item. As item 4 in errors (ERR-4) was adapted from a previously validated scale and had a high factor loading of 0.71, the decision was made to keep this item as a measure of awareness. Furthermore, the complete 4-item scale exceeded the validity (AVE = 0.76) and reliability (CR = 0.93) thresholds.

The Average Variance Extracted (AVE) for each construct was calculated in order to test the convergent validity of the model. Convergent validity establishes the extent to which each construct in the model is positively related to other measures and other variables of the same construct (Hair et al., 2007). An AVE of greater than 0.5, indicates that the measurement items reflect the characteristics of the constructs within the model (Guo et al., 2019). As the AVE for each construct was above 0.5 (refer to table 7.2), convergent validity was achieved (Fornell and Larcker, 1981).

The discriminant validity of the model was tested using the square root of the AVE value of each construct (Hair et al., 2010). Strong discriminant validity is indicated if the square

root of the AVE is greater than the inter-correlation between variables (Guo et al., 2019). As indicated in table 7.2 all variables in this model are considered discriminately valid, as the square root of the AVE for each construct was greater than the correlation coefficient between variables (Gaskin, 2012).

7.5.2.2 Internal Reliability and Construct Reliability

The internal reliability of each of the survey constructs was conducted by calculating the Cronbachs Alpha (α) for each measure of scale. The internal consistency for all six IPC dimensions were found to be high; 0.97 for *collection*, 0.93 for *secondary use*, 0.92 for *improper access*, 0.93 for *control*, 0.89 for *errors* and 0.92 for *awareness*. The combination of all six dimensions of IPC also provided a high internal consistency at $\alpha = 0.97$. The internal consistency of Loss of Autonomy was also high at $\alpha = 0.96$. Two items – item 4 and item 5 – were removed from the Perceived Illegitimacy scale in order to improve the internal consistency of the scale. The removal of these items ensured that Perceived Legitimacy had an acceptable internal consistency of $\alpha = 0.836$. Thus internal consistency was achieved in this model.

The construct reliability was also tested, by calculating the composite reliability (CR) for each construct. A value of 0.6 or higher indicates high reliability (Guo et al., 2019). The CR for all six IPC dimensions were found to be high; 0.97 for *collection*, 0.94 for *secondary use*, 0.94 for *improper access*, 0.97 for *control*, 0.92 for *errors* and 0.94 for *awareness*. The overall CR for the IPC construct was also found to be high at 0.97. Finally, the CR for Loss of Autonomy (0.97) and Perceived Legitimacy (0.89) were also found to be high, thus indicating that all items that compose the constructs were reliable.

As the data has met all of the conditions above we can conclude that it both valid and reliable.

7.5.3 Assessment of Structural Model - Model 1: Measures of Relationships

Tests to establish the degree of association and strength of the relationship between the independent and dependent variables were conducted using specific correlation techniques. Firstly, the Variable Inflation Factor (VIF) for each independent variable was

calculated to detect for multicollinearity. Next explanatory power of the model is measured by calculating the R² value for the endogenous variable (Hair et al., 2019). Thirdly the models predictive power is measured by calculating the root mean squared error (RMSE). Next the significance and relevance of the path coefficients is explored and examined in detail. Finally, the study findings in relation to the hypothesis are presented and discussed in detail.

7.5.3.1 Variable Inflation Factor

The first stage of this process involves determining the degree to which independent variables are statistically independent and uncorrelated from each other (Hair et al., 2007). The Variable Inflation Factor (VIF) for each independent variable was calculated to detect for correlations, thus identifying if any of the variables were affected by multicollinearity. Menard (2002) suggests that VIF's less than 5 (VIF<5) have only a moderate correlation and as such they do not warrant corrective measures. As all independent variables reported a VIF score of 1, no significant correlations were identified between the independent variables in the study. Thus, the assumption of no multicollinearity has been met in this study.

The Variable Inflation Factors for model 1 are illustrated in table 7.3 below.

Table 7.3: Model 1: Variable Inflation Factors (VIF)

	IPC	LA	P-IL	Awa	Col	Con	Err	IA	SU
IPC	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Loss of Autonomy									
Perceived Illegitimacy									

7.5.3.2 Explanatory and Predictive Power

As multicollinearity is not an issue, the next stage of the analysis involves the calculation of the R² value of the endogenous variables – Loss of Autonomy and Perceived Illegitimacy (Hair et al., 2019). As the R² is a measure of the percentage of the dependent variable variation that the model explains (Frost, 2019) it is a measure of the models explanatory power (Hair et al., 2019). The R² value is also referred to as an in-sample predictive power (Rigdon, 2012) as it measures the predictive influence of the variables on the outcome. As per Hair et al., (2019) R² values range from 0 to 1 with higher values indicating greater explanatory power. However, studies that try and predict human behaviour will commonly have R² values of less than 0.5, as human behaviour is inherently difficult to predict (Frost, 2019). The R² value for Loss of Autonomy (0.453) and Perceived Illegitimacy (0.460) are thus within the acceptable thresholds for models predicting human behaviour. The results outlined showed that privacy concerns explains 45% of the variation in loss of autonomy and 46% of the variation in perceived legitimacy. In this way the explanatory power of the model is substantiated.

The explanatory and predictive power of the model was substantiated.

7.5.3.3 Path Coefficients and Hypothesis testing

As the explanatory and predictive power of the model has been substantiated, the next stage of the analysis involves measuring the significance and relevance of the path coefficients. Values typically run between -1 (negative effect) and +1 (positive effect) with a high value of 0.7 or more indicating a strong relation between the variables. All six IPC dimensions– *collection* ($\beta = 0.84$, $p < 0.001$), *secondary use* ($\beta = 0.90$, $p < 0.001$), *errors* ($\beta = 0.78$, $p < 0.001$), *improper access* ($\beta = 0.82$, $p < 0.001$), *control* ($\beta = 0.92$, $p < 0.001$) and *awareness* ($\beta = 0.81$, $p < 0.001$) showed a strong positive correlation with IPC, thus confirming H1a – H1f. H2 proposed a positive relationship between IPC and loss of autonomy. This relationship was supported in the data ($\beta = 0.67$, $p < 0.001$) thus confirming H2. H3 hypothesised that IPC would have a strong positive impact on

perceived illegitimacy. The path analysis revealed a significant relationship between IPC and perceived illegitimacy ($\beta = 0.68$, $p < 0.001$), confirming H3.

As illustrated in table 7.4, the findings support all of the proposed hypotheses. The results for this model are strong indicating that privacy concerns explains 45% of the variation in loss of autonomy and 46% of the variation in perceived legitimacy.

Table 7.4: Model 1: Hypothesis Results

#	Hypothesis	Supported	Not Supported
H1a	Digital collection of employee location information will result in higher employee IPC.	✓	
H1b	Unauthorised secondary use of digitally collected location information will increase employee IPC.	✓	
H1c	Errors in digitally collected location information will increase employee IPC.	✓	
H1d	Improper access of digitally collected location information will increase employee IPC.	✓	
H1e	Lack of control over digitally collected location information will increase employee IPC	✓	
H1f	Awareness of organisational digital location monitoring will increase employee IPC.	✓	
H2	IPC increase employees' perceived loss of autonomy	✓	
H3	IPC increase employees' perception of the illegitimacy of digital location monitoring	✓	

7.5.4 Model 1: Summary

Model 1 examined the influence of loss of autonomy and perceived legitimacy on Garda members IPC. The proposed model achieved strong model fit and all constructs met reliability and validity thresholds. The main relationships were tested and supported in the model. The explanatory and predictive power of the model was substantiated. The findings supported all the hypotheses related to model 1.

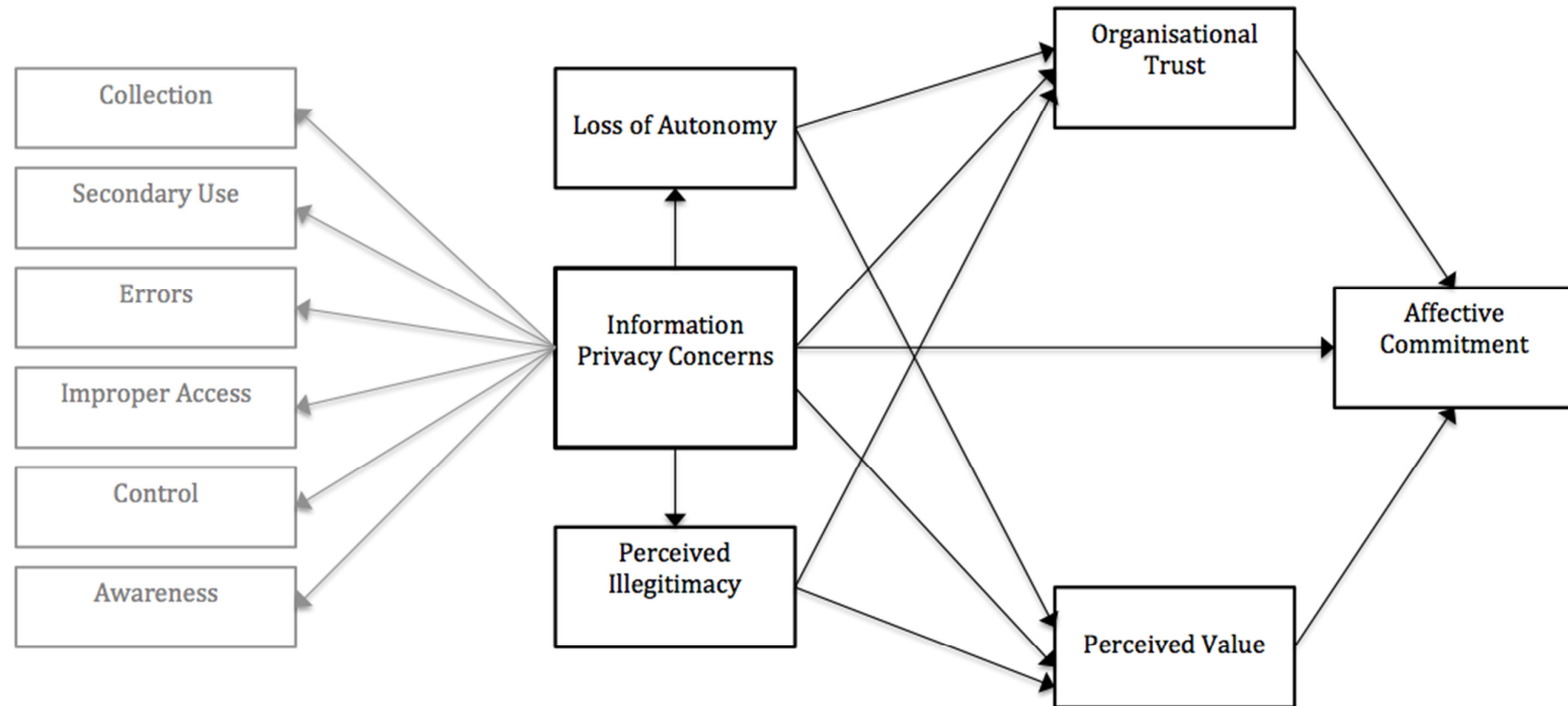
The findings pertinent to model 2 are addressed in the section below.

7.6 Model 2: Exploring the Relationship between Information Privacy Concerns and Perceived Value, Organisational Trust and Organisational Commitment.

Model 2 explores the relationship between IPC and Organisational Trust, Perceived Value and Affective Commitment. It considers the relationship between Loss of Autonomy and Organisational Trust as well as the influence of Loss of Autonomy on Perceived Value. It explores the effect of Perceived Illegitimacy on Perceived Value and Organisational Trust. It further explores the relationship between Perceived Value and Affective Commitment. Finally, it examines the relationship between Organisational Trust and Affective Commitment.

The proposed model and associated relationships are outline in figure 7.7.

Figure 7.7: Model 2: Organisational Trust and Commitment



Similar to model 1, the quantitative analysis of this model involved a number of different stages, each of which are outlined in detail below.

7.6.1 Preliminary Analysis - Model 2: Statistical Power and Model Fit

Similar to model 1 this model was tested using Partial Least Squares (PLS) Structural Equation Modelling (SEM) as implemented in SmartPLS (Ringle et al., 2015). Power analysis using GPower (Buchner et al., 2014) indicated that the n= 484 sample was more than sufficient to meet the minimum model requirements of n = 333 for this model.

The model was next tested for model fit. As with model 1 the standardized root mean square residual (SRMR) was calculated to measure the model fit. As per Kline (2005) values of less than 0.10 are preferable measure of SRMR. The SRMR for this model was within the threshold at 0.09 thus indicating good model fit.

Table 7.5: Model 2: Model Fit Statistics

Model Fit Statistic	Model 1	Recommended Threshold
GPower	n = 333	Below n=484 (sample size)
SRMR	0.09	0.10 or less

7.6.2 Measurement of Model - Model 2: Reliability and Validity

The next step of the analysis involved determining the reliability and validity of the model. The same process was followed as in model 1. Firstly, a cross loadings analysis was conducted in order to confirm the convergent and discriminant validities of the constructs. Next the convergent validity of the model was further tested, by calculating the Average Variance Extracted (AVE) for each construct. Model 2 was again tested for discriminant validity by comparing the square root of the AVE and the correlation between each set of constructs (Hair et al., 2010). The next stage involved testing the internal reliability of each construct by calculating the Cronbach's Alpha (α) for each measure of scale. Finally, the reliability of each construct was tested, by calculating the composite reliability (CR) of each.

Table 7.6 illustrates the findings from the validity and reliability testing.

Table 7.6: Model 2: Validity and Reliability

	Cronbachs Alpha	Composite Reliability	Average Variance Extracted	IPC	LA	P-IL	Org- Trust	Per. Value	Aff- Com	PC-Aw	PC-Col	PC-Ctr	PC-Err	PC-IA	PC-SU
IPC	0.971	0.974	0.589	*0.767											
LA	0.968	0.975	0.888	0.674	*0.942										
P-IL	0.836	0.901	0.753	0.670	0.633	*0.868									
Org- Trust	0.909	0.930	0.689	-0.506	-0.493	-0.366	*0.830								
Per- Value	0.873	0.913	0.724	-0.309	-0.370	-0.431	0.281	*0.851							
Aff- Com	0.916	0.941	0.799	-0.266	-0.291	-0.275	0.397	0.319	*0.894						
P-Aw	0.927	0.948	0.821	0.809	0.485	0.439	-0.435	-0.124	-0.166	*0.906					
P-Col	0.974	0.979	0.905	0.839	0.698	0.737	-0.415	-0.379	-0.310	0.553	*0.951				
P-Ctr	0.933	0.952	0.833	0.922	0.608	0.601	-0.452	-0.236	-0.230	0.693	0.740	*0.912			
P-Err	0.890	0.925	0.757	0.781	0.485	0.485	-0.397	-0.255	-0.160	0.610	0.516	0.703	*0.870		
P-IA	0.920	0.944	0.807	0.816	0.478	0.509	-0.387	-0.278	-0.197	0.566	0.585	0.720	0.703	*0.898	
P-SU	0.933	0.949	0.790	0.895	0.591	0.548	-0.474	-0.243	-0.238	0.741	0.710	0.810	0.573	0.644	*0.889

7.6.2.1. Convergent and Discriminant Validity

A cross loadings analysis was conducted to confirm the convergent and discriminant validities of the constructs. As previously noted there should be a high correlation (>0.7) between items and the construct they are intended to measure and a low correlation (<0.5) between the items and the constructs they are not intended to measure. The cross loadings for Organisational Trust, Affective Commitment and Perceived Value met all requirements.

Next, the Average Variance Extracted (AVE) for each construct was calculated in order to test the convergent validity of the model. As illustrated in table 7.6, the AVE of each construct exceeded the recommended threshold of 0.50, thus convergent validity was achieved (Fornell and Locker, 1981). The discriminant validity of the model was tested using the square root of the AVE value of each construct (Hair et al., 2010). As the square root of the AVE (illustrated on the diagonal in table 7.6) was greater than the correlation coefficient between variables, discriminant validity was confirmed. (Gaskin, 2012).

7.6.2.2. Internal Reliability and Construct Reliability

The internal reliability for each of the constructs was examined by calculating the Cronbachs Alpha (α) for each measure of scale. The internal consistency of Organisational Trust ($\alpha = 0.90$), Affective Commitment ($\alpha = 0.91$) and Perceived Value ($\alpha = 0.87$) exceeded the recommended thresholds. Thus, internal consistency was achieved in this model.

Similar to model 1, the construct reliability was also tested, by calculating the composite reliability (CR) for each construct. The CR for Organisational Trust (0.93), Affective Commitment (0.94) and Perceived Value (0.91) were found to be high in the model, thus indicating that all items that compose the constructs were reliable.

As the data has met all of the conditions above, we can conclude that it both valid and reliable.

7.6.3 Measurement of Structural Model - Model 2: Measures of Relationships

As in model 1, tests to establish the degree of association and strength of the relationship between the independent and dependent variables were conducted using specific correlation techniques. Firstly, the Variable Inflation Factor (VIF) for each independent variable was calculated to detect for multicollinearity. Next, the explanatory power of the model is measured by calculating the R² value for the endogenous variable (Hair et al., 2019). Thirdly, the models predictive power is measured by calculating the root mean squared error (RMSE). Next, the significance and relevance of the path coefficients is explored and examined in detail. Finally, the study findings in relation to the hypothesis are presented and discussed in detail.

7.6.3.1. Variable Inflation Factor

The Variable Inflation Factor (VIF) for each independent variable was calculated to detect if any of the variables were affected by multicollinearity. As per Menard (2002), VIF's less than 5 (VIF<5) have only a moderate correlation and as such they do not warrant corrective measures. As all independent variables reported a VIF score of less than 3 (VIF<3), no significant correlations were identified between the independent variables in the study, eliminating multicollinearity concerns.

The Variable Inflation Factors for model 2 are illustrated in table 7.7 below.

Table 7.7: Model 2: Variable Inflation Factors (VIF)

	IPC	LA	P-IL	Org- Tr	Per- Val	Aff - Com	Awa	Col	Ctr	Err	IA	SU
IPC	1,000	1,000	2,186	2,186	1,400	1,000	1,000	1,000	1,000	1,000	1,000	1,000
LA			2,153	2,153								
P-IL			2,132	2,132								
OT					1,375							
PV					1,132							
AC												

7.6.3.2. *Explanatory and Predictive Power*

As multicollinearity was not an issue in model 2, the next stage of the analysis involved measuring the explanatory and predictive power of the model. The R² value was calculated to measure the joint predictive influence of IPC, Loss of Autonomy and Perceived Illegitimacy on Organisational Trust, Perceived Value and Affective Commitment. As previously noted studies that attempt to predict human behaviour commonly have a R² value of less than 50% as human behaviour is commonly difficult to predict (Frost, 2019). The results indicated that IPC, Loss of Autonomy and Perceived Illegitimacy explain 30.1% (0.301) of Organisational Trust and 19.9% (0.199) of Perceived Value for this sample. The joint predictive influence of IPC, Perceived Value and Organisational Trust further explain 20.5% (0.205) variance of Affective Commitment.

As per Frost (2019) regression models that show low R² values but have significant independent variables do not negate the importance of the relationship between variables. The relationship between Loss of Autonomy and Organisational Trust ($p < 0.001$) and Loss of Autonomy and Perceived Value ($p < 0.001$) proved significant in the model. Similarly, the path analysis revealed a strong relationship between Perceived Illegitimacy and Perceived Value ($p < 0.001$) and IPC and Organisation Trust ($p < 0.001$). Thus, as per Frost (2019) the statistically significant P-values identified in these relationships ensure there is no cause to discount the low R² value findings. Thus, the explanatory and predictive power of the model was substantiated.

The relationship between Perceived Illegitimacy and Organisational Trust, ($p = 0.23$), Privacy Concerns and Perceived Value ($p = 0.64$) and IPC and Affective Commitment ($p = 0.42$) were not significant in this model.

7.6.3.3. *Path Coefficients and Hypothesis testing*

As the explanatory and predictive power of the model has been substantiated, the next stage of the analysis involves measuring the significance and relevance of the path coefficients. H4 hypothesised that IPC would have a strong negative relationship on Organisational Trust. This relationship was supported in the data ($\beta = -0.35$, $p < 0.001$) thus confirming H4. H5 proposed a negative relationship between IPC and Affective Commitment. This relationship was not significant ($\beta = -0.04$, $p = 0.42$) thus rejecting

H5. H6 posited that IPC would have a strong negative impact on Perceived Value. This relationship was neither supported nor negative ($\beta = 0.03$, $p = 0.64$) thus rejecting H6. H7 proposed a negative relationship between Loss of Autonomy and Organisational Trust. This relationship was supported in the data ($\beta = -0.31$, $p < 0.001$) thus confirming H7. H8 proposed a negative association between Loss of Autonomy and Perceived Value. The path analysis revealed a significant relationship between Loss of Autonomy and Perceived Value ($\beta = -0.16$, $p < 0.001$), confirming H8. H9 hypothesised that Perceived Illegitimacy would have a strong negative impact on Perceived Value. This relationship was supported in the data ($\beta = -0.34$, $p < 0.001$) thus confirming H9. H10 proposed a negative association between Perceived Illegitimacy and Organisational Trust however this relationship was neither negative nor supported in the data ($\beta = 0.07$, $p = 0.23$) thus rejecting H10. H11 proposed a positive relationship between Perceived Value and Affective Commitment. The data revealed a significant positive relationship ($\beta = 0.22$, $p < 0.001$) thus confirming H11. H12 posited a positive association between Organisational Trust and Affective Commitment. The path analysis revealed a significant positive relationship between Organisational Trust and Affective Commitment ($\beta = 0.32$, $p < 0.001$) thus confirming H12.

As illustrated in table 7.8, the findings support many of the major proposed hypotheses. The results in this model are strong as in model 1. The data indicates that the joint influence of IPC, Loss of Autonomy and Perceived Illegitimacy explain 30.1% of the variation in Organisational Trust and 20.5% of the variation of Affective Commitment and 19.9% variation of Perceived Value for this sample.

Table 7.8: Model 2: Hypothesis Results

#	Hypotheses	Supported	Not Supported
H4	Employee IPC regarding digital location monitoring decreases organisational trust.	✓	
H5	Employee IPC relating to digital location monitoring decreases commitment to the organisation.		✓
H6	IPC will decrease employees' perceptions of the value of digital location monitoring.		✓
H7	Loss of employee autonomy arising from digital location monitoring will decrease trust in the organisation.	✓	
H8	Loss of autonomy will decrease employees' perception of the value of location monitoring technology.	✓	
H9	The perceived illegitimacy of workplace digital monitoring will influence employees' perception of the value of the monitoring technology.	✓	
H10	The perceived illegitimacy of digital location monitoring will decrease employee trust in the organisation		✓
H11	The perceived value of digital location monitoring will increase	✓	

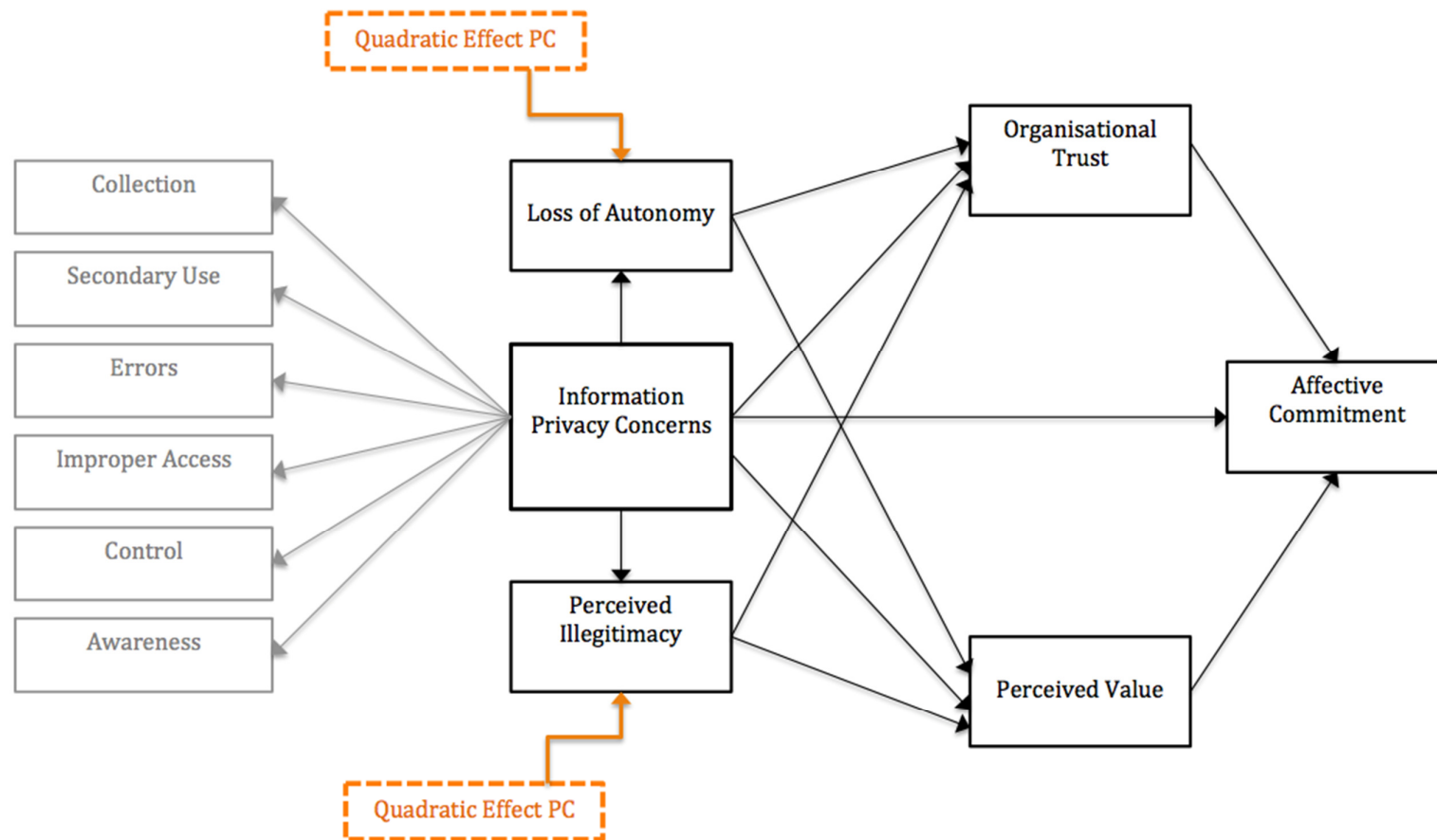
	employee affective commitment to the organisation.	
H12	Employee trust in the organisation positively influences affective commitment.	✓

7.6.3.4. *Testing for Complex Effects*

The final stage of this part of the analysis involved testing for complex effects. When this model was examined for complex effects the results showed that IPC exerted a quadratic effect on Loss of Autonomy and a quadratic effect on Perceived Illegitimacy of the TETRA radio system. In this way, the results demonstrate that the privacy concerns of Garda members play an influential role in determining their perceived illegitimacy of TETRA radio as well as their perceptions relating to their loss of autonomy as a result of it's use.

The quadratic effects are illustrated in figure 7.8 below.

Figure 7.8: Model 2: Quadratic Effects



7.6.4 Model 2: Post-Hoc Testing

In the final stage of the analysis a number of post-hoc tests were conducted. In this study, two sets of multi-group analysis (MGA) tests were conducted as further tests, to determine whether certain groups would differ from other groups in terms of the path model and its relationships. Measurement invariance assessments (MICOM) were also conducted to test for construct compositional variance between pre-determined data groups in each model.

The first set of analyses focuses on Model 2: Organisational Trust and Affective Commitment and as such is described in detail in the sections below. The results of this testing provides interesting insights into the differential impacts on the path model and it's relationships in this model.

7.6.4.1 Multi-Group Analysis (MGA) Tests

Multi-group analysis (MGA) or between-group analysis is a means to test predefined data groups to determine the existence of significant differences across group-specific parameter estimates - i.e. outer weights, outer loadings, path coefficients (Hair et al., 2017). It enables testing for variations between groups, and according to Hair et al., (2017) is one of the most efficient ways to assess moderation impact across all modelled relationships.

Multi-group analysis (MGA) indicated that there were no significant path differences in relation to age, gender or years of service in An Garda Síochána within this model. Differences were identified however in relation to Garda rank and number of years using the TETRA radio system.

Garda Rank

A significant path difference was identified between rank and file Gardaí and Garda Sergeants in relation to the relationship between Organisational Trust and Affective Commitment. The results demonstrate that the path between Organisational Trust and Affective Commitment is stronger for Garda Sergeants (0.54, $p < 0.000$) than for rank and file Gardaí (0.27, $p < 0.000$). In this way, the results indicate the strength of this relationship increases as Garda rank increases i.e. as they get promoted within the force.

A measurement invariance assessment (MICOM) was conducted to test the construct compositional variance among rank within this model. This test was conducted to ensure that the constructs in the model were interpreted the same way amongst all Garda members across all ranks. Compositional invariance was established in terms of Garda rank in this model, as outlined in table 7.9 below.

Years using TETRA Radio

A significant path difference was also identified between Garda members who have used the TETRA radio for between 4-6 years and those who have used it for between 7-9 years in relation to the relationship between Perceived Value and Affective Commitment. The findings indicate that the relationship between a Garda member's perceived value relating to the TETRA radio system and their overall commitment to An Garda Síochána was stronger in the 4-6 year group. A similar path difference exists between Garda members who have used the TETRA system for 4-6 years and those who have used it for more than 10 years. No significant path difference was identified between Garda members who have used the TETRA radio for 7-9 years or for 10 or more years thus indicating that the relationship between Perceived Value and Affective Commitment is strongest in the initial years of using TETRA radio.

A measurement invariance assessment (MICOM) was conducted to test the construct compositional variance among years using TETRA radio within this model. Compositional invariance was established in terms of Loss of Autonomy, Organisational Trust, Perceived Value, Affective Commitment and the quadratic effects within the second data group – number of years using TETRA radio, as outlined in table 7.10.

Table 8.9: Model 2: Multi-Group Analysis Testing (Garda Rank)

MICOM		MGA				
	Original Correlation	Permutation p-Values	Compositional Invariance		Path Diff Grd - Srg	p-Value Sig. Path Diff
IPC	1,000	0.600	Yes	IPC->LA	0.021	0.873
LA	1,000	0.517	Yes	IPC->P-IL	0.097	0.332
P-IL	1,000	0.695	Yes	IPC->OT	0.122	0.528
Org T	0.998	0.098	Yes	IPC->PV	-0.119	0.436
PV	0.998	0.347	Yes	IPC->AC	-0.210	0.144
Aff C	0.999	0.362	Yes	LA->OT	-0.187	0.246
				LA->PV	-0.152	0.268
Quadratic IPC	1,000	0.500	Yes	P-IL->OT	0.056	0.746
Quadratic	1,000	0.500	Yes	P-IL->PV	0.140	0.285
IPC2						
				OT->AC	-0.268	0.048 Yes
				PV->AC	0.139	0.278
				Q-IPC->P-IL	-0.102	0.145
				Q-IPC2->LA	-0.104	0.124

Table 7.10: Model 2: Multi-Group Analysis Testing (Number of Years using TETRA)

MICOM			MGA							
	Original Correlation	Permutation p-Values	Compositional Invariance		Path Diff 4-6y/7-9y	p-Value	Sig. Path Diff	Path Diff 4-6y/10y+	p-Value	Sig. Path Diff
IPC	0.999	0.018		IPC->LA	0.045	0.763		0.052	0.690	
LA	1.000	0.620	Yes	IPC->P-IL	0.042	0.788		-0.005	0.960	
P-IL	0.994	0.018		IPC->OT	-0.015	0.903		-0.110	0.515	
Org T	0.997	0.062	Yes	IPC->PV	-0.085	0.621		-0.184	0.197	
PV	1.000	0.938	Yes	IPC->AC	0.267	0.097		0.072	0.641	
Aff C	1.000	0.688	Yes	LA->OT	0.158	0.557		0.271	0.219	
				LA->PV	-0.086	0.681		-0.231	0.179	
Quadratic IPC	1.000	0.655	Yes	P-IL->OT	-0.094	0.691		-0.027	0.841	
Quadratic IPC2	1.000	0.655	Yes	P-IL->PV	0.070	0.719		0.159	0.342	
				OT->AC	-0.164	0.280		-0.182	0.186	
				PV->AC	0.341	0.027	Yes	0.273	0.042	Yes
				Q-IPC->P-IL	-0.020	0.845		0.011	0.975	
				Q-IPC2->LA	0.060	0.505		0.068	0.341	

7.6.5 Model 2: Summary

Model 2 examined the influence of IPC, Loss of Autonomy and Perceived Illegitimacy on Organisational Trust, Perceived Value and Affective Commitment. The proposed model achieved strong model fit and all constructs met reliability and validity thresholds. The explanatory and predictive power was substantiated and a number of main relationships were supported in the model. Multi-group analysis (MGA) identified significant path differences between Garda rank and the number of years Garda members are using the TETRA radio system.

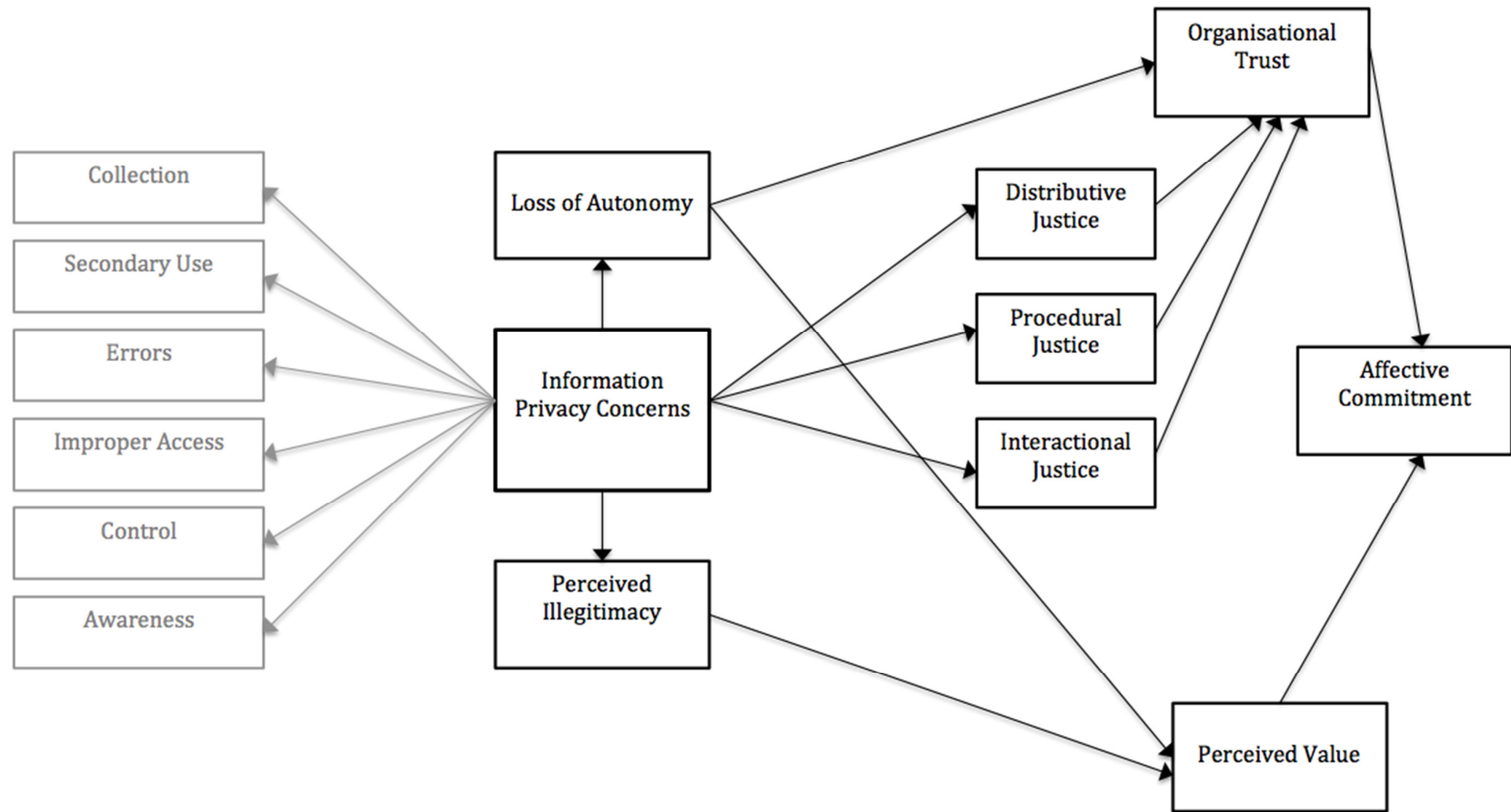
The findings pertinent to model 3 are addressed in the section below.

7.7 Model 3: The Influence of Organisational Justice Perceptions.

Model 3 explores the influence of IPC on organisational justice perceptions – Procedural Justice, Distributive Justice and Interactional Justice. It considers the relationship between perceptions of organisational justice and Organisational Trust, which in turn influences Affective Commitment. It was hypothesised that IPC would have a negative influence all Procedural Justice, Distributive Justice and Interactional Justice in this model. It was further hypothesised that Procedural Justice, Distributive Justice and Interactional Justice would have a positive relationship with Organisational Trust. Finally, it was hypothesised that Organisational Trust would have a positive relationship with Affective Commitment.

The proposed model and associated relationships are outlined in figure 7.9.

Figure 7.9: Model 3: Organisational Justice



Similar to model 1 and model 2, the quantitative analysis of this model involved a number of different stages, each of which are outlined in detail below.

7.7.1 Preliminary Analysis - Model 3: Statistical Power and Model Fit

Similar to model 1 and model 2 this model was tested using Partial Least Squares (PLS) Structural Equation Modelling (SEM) as implemented in SmartPLS (Ringle et al., 2015). Power analysis using GPower (Buchner et al., 2014) indicated that the sample $n = 484$ was more than sufficient to meet the minimum requirements for this model of $n = 356$.

The model was next tested for model fit. The standardized root mean square residual (SRMR) was calculated to measure the model fit. As per Kline (2005) values of less than 0.10 are preferable measure of SRMR. The SRMR for this model was within the threshold at 0.08 thus indicating good model fit.

Table 7.11: Model 3: Model Fit Statistics

Model Fit Statistic	Model 1	Recommended Threshold
GPower	$n = 356$	Below $n=484$ (sample size)
SRMR	0.08	0.10 or less

7.7.2 Measurement of Assessment Model - Model 3: Reliability and Validity

The next step of the analysis involved determining the reliability and validity of the model. The same process was followed as in model 1 and model 2. Firstly, a cross loadings analysis was conducted in order to confirm the convergent and discriminant validities of the constructs. Next the convergent validity of the model was further tested, by calculating the Average Variance Extracted (AVE) for each construct. Model 3 was again tested for discriminant validity by comparing the square root of the AVE and the correlation between each set of constructs (Hair et al., 2010). The next stage involved testing the internal reliability of each construct by calculating the Cronbach's Alpha (α)

for each measure of scale. Finally, the reliability of each construct was tested, by calculating the composite reliability (CR) of each.

Table 7.12 illustrates the findings from the validity and reliability testing.

Table 7.12: Model 3: Validity and Reliability

	Cronbachs Alpha	Composite Reliability	Average Variance Extracted	IPC	LA	P-IL	Dis- Just	Proc- Just	Int- Just	Org- Tru	Per- Value	Aff- Com	PC-Aw	PC-Col	PC-Ctr	PC-Err	PC-IA	PC-SU
IPC	0.971	0.974	0.589	*0.767														
LA	0.968	0.975	0.888	0.673	*0.942													
P-IL	0.836	0.901	0.753	0.668	0.663	*0.868												
Dis- Just	0.896	0.928	0.762	-0.661	-0.574	-0.527	*0.873											
Prod- Just	0.870	0.911	0.720	-0.625	-0.469	-0.391	0.694	*0.848										
Int- Just	0.926	0.942	0.732	-0.460	-0.307	-0.259	0.526	0.554	*0.855									
Org- Tru	0.909	0.930	0.689	-0.504	-0.492	-0.364	0.559	0.510	0.407	*0.830								
Per- Val	0.873	0.913	0.724	-0.308	-0.370	-0.431	0.291	0.160	0.052	0.279	*0.851							
Aff- Com	0.916	0.941	0.799	-0.266	-0.291	-0.275	0.265	0.237	0.193	0.395	0.319	*0.894						
P-Aw	0.927	0.948	0.821	0.812	0.485	0.438	-0.544	-0.592	-0.492	-0.434	-0.134	-0.166	*0.906					
P-Col	0.974	0.979	0.905	0.838	0.698	0.736	-0.618	-0.509	-0.372	-0.413	-0.379	-0.310	0.533	*0.951				
P-Ctr	0.933	0.952	0.833	0.922	0.608	0.601	-0.588	-0.539	-0.387	-0.451	-0.236	-0.230	0.693	0.740	*0.912			
P-Err	0.890	0.925	0.757	0.781	0.485	0.485	-0.487	-0.487	-0.337	-0.395	-0.255	-0.160	0.610	0.516	0.703	*0.870		
P-IA	0.920	0.944	0.807	0.814	0.478	0.508	-0.490	-0.462	-0.325	-0.385	-0.278	-0.197	0.566	0.585	0.720	0.703	*0.898	
P-SU	0.933	0.949	0.790	0.896	0.591	0.547	-0.587	-0.580	-0.418	-0.473	-0.243	-0.238	0.741	0.710	0.810	0.573	0.644	*0.889

7.7.2.1. Convergent and Discriminant Validity

A cross loadings analysis was conducted to confirm the convergent and discriminant validity of the constructs. As previously noted there should be a high correlation (>0.7) between items and the construct they are intended to measure and a low correlation (<0.5) between the items and the constructs they are not intended to measure. The cross loadings for Procedural Justice, Distributive Justice and Interactional Justice met all requirements.

Next, the Average Variance Extracted (AVE) for each construct was calculated in order to test the convergent validity of the model. As illustrated in table 7.12 above the AVE of each construct exceeded the recommended threshold of 0.50, thus convergent validity was achieved (Fornell and Locker, 1981). The discriminant validity of the model was tested using the square root of the AVE value of each construct (Hair et al., 2010). As the square root of the AVE (illustrated on the diagonal in table 7.12) was greater than the correlation coefficient between variables, discriminant validity was also confirmed for this model (Gaskin, 2012).

7.7.2.2. Internal Reliability and Construct Reliability

The internal reliability of each of the survey constructs was conducted by calculating the Cronbachs Alpha (α) for each measure. The internal consistency for Distributive Justice ($\alpha = 0.896$) and Interactional Justice ($\alpha = 0.926$) exceeded the threshold and as such achieved internal consistency. Two items – item 1 and item 2 – were removed from the Procedural Justice scale to improve internal consistency. The removal of these items ensured that Procedural Justice had an acceptable internal consistency of $\alpha = 0.870$. Thus internal consistency was achieved in this model.

Similar to model 1 and model 2, the construct reliability was also tested, by calculating the composite reliability (CR) for each construct. The CR for Procedural Justice (0.928), Distributive Justice (0.911) and Interactional Justice (0.942) were found to be high in the model, thus indicating that all items that compose the constructs were reliable.

As the data has met all of the conditions above we can conclude that it both valid and reliable.

7.7.3 Assessment of Structural Model - Model 3: Measures of Relationships

As in model 1 and model 2, tests to establish the degree of association and strength of the relationship between the independent and dependent variables were conducted using specific correlation techniques. Firstly, the Variable Inflation Factor (VIF) for each independent variable was calculated to detect for multicollinearity. Next, the R² values for the independent variables are calculated to measure the explanatory power of the model (Hair et al., 2019). Thirdly the models predictive power is measured by calculating the root mean squared error (RMSE). Next the significance and relevance of the path coefficients is explored and examined in detail. Finally, the study findings in relation to the hypothesis are presented and discussed in detail.

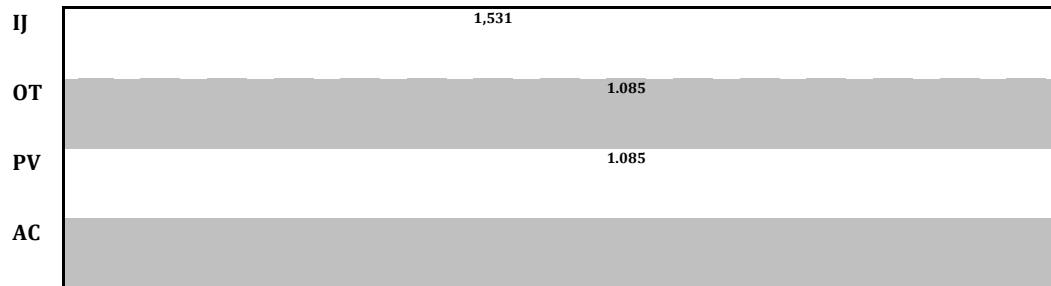
7.7.3.1. Variable Inflation Factor

As in model 1 and model 2 the Variable Inflation Factor (VIF) for each independent variable was calculated to detect if any of the variables were affected by multicollinearity. As all independent variables reported a VIF score of less than 3 (VIF<3), no significant correlations were identified between the independent variables in the study. Thus the assumption of no multicollinearity has been met in this study.

The Variable Inflation Factors for model 3 are illustrated in table 7.13 below.

Table 7.13: Model 3: Variable Inflation Factors (VIF)

	IPC	LA	PIL	DJ	PJ	IJ	OT	PV	AC	Aw	Col	Crt	Er	IA	SU
IPC	1,000	1,000	1,000	1,000	1,000					1,000	1,000	1,000	1,000	1,000	1,000
LA							1,515	1,785							
P-IL								1,785							
DJ							2,407								
PJ							2,167								



7.7.3.2. *Explanatory and Predictive Power*

As multicollinearity was not an issue in model 3, the next stage of the analysis involved measuring the explanatory and predictive power of the model. The R² value was calculated to measure the influence of IPC on the Procedural Justice, Distributive Justice and the Interactional Justice constructs. The joint effect of Procedural Justice, Distributive Justice, Interactional Justice and Loss of Autonomy on Organisational Trust was also measured. The results indicated that IPC explains 43.7% (0.437) of Distributive Justice, 39.1% (0.391) of Procedural Justice and 21.1% (0.211) of Interactional Justice in the model. The joint influence of Procedural Justice, Distributive Justice, Interactional Justice and Loss of Autonomy explains 38.6% (0.386) of Organisational Trust.

As per Frost (2019) regression models that show low R² values but have significant independent variables do not negate the importance of the relationship between variables. The relationship between IPC and Procedural Justice ($p < 0.001$), IPC and Distributive Justice ($p < 0.001$) and between IPC and Interactional Justice ($p < 0.001$) all proved significant in the model. Similarly the relationship between Loss of Autonomy and Organisational Trust ($p < 0.001$), Distributive Justice and Organisational Trust ($p < 0.001$), Procedural Justice and Organisational Trust ($p = 0.01$) and Interactional Justice and Organisational Trust ($p = 0.01$) were also significant. Thus, as per Frost (2019) the statistically significant P-values identified in these relationships ensure there is no cause to discount the low R² value findings.

The explanatory and predictive power of the model was substantiated.

7.7.3.3. *Path Coefficients and Hypothesis testing*

As the explanatory and predictive power of model 3 has been substantiated, the next stage of the analysis involves measuring the significance and relevance of the path coefficients. H13 hypothesised a strong negative relationship between IPC and Procedural Justice. This relationship was supported in the data ($\beta = -0.63$, $p < 0.001$) thus confirming H13. H14 also hypothesised a strong negative relationship IPC and Distributive Justice. This relationship was also supported in the data ($\beta = -0.66$, $p < 0.001$) thus supporting H14. H15 posited a negative relationship between IPC and Interactional Justice. The path analysis revealed a significant negative relationship ($\beta = -0.46$, $p = 0.001$) thus confirming H15. It was proposed in H16 that there would be a positive association between Procedural Justice and Organisational Trust. The data supported this relationship ($\beta = 0.16$, $p = 0.01$) thus confirming H16. H17 posited a positive relationship between Distributive Justice and Organisational Trust. This hypothesis was confirmed by the data ($\beta = 0.25$, $p < 0.001$) thus supporting H17. Finally, it was hypothesised in H18 that there would be a positive association between Interactional Justice and Organisational Trust. The data supported this relationship ($\beta = 0.11$, $p = 0.001$) thus confirming H18.

The results of the hypothesis findings are illustrated in table 7.14 below. The findings support all of the proposed hypotheses. The results in this model are strong as in model 1 and in model 2. The data indicates that IPC explains 43.7% of the variation of Distributive Justice, 39.1% of Procedural Justice and 21.1% of Interactional Justice in this model. Moreover, the joint influence of Distributive Justice, Procedural Justice, Interactional Justice and Loss of Autonomy explains 38.6% of the variation in Organisational Trust in this sample.

Table 7.14: Model 3: Hypothesis Results

#	Hypothesis	Supported	Not Supported
H13	IPC will decrease employee perceptions that the procedures used to monitor their location are fair	✓	
H14	IPC will decrease employee perceptions that the outcomes associated with use of location tracking technologies are fair	✓	
H15	IPC will decrease employee perceptions that information regarding use of location tracking technology and data management is communicated in a fair and transparent way	✓	
H16	Perceived procedural justice will increase employee trust in the organisation	✓	
H17	Perceived distributive justice will increase employee trust in the organisation	✓	
H18	Perceived interactional justice will increase employee trust in the organisation	✓	

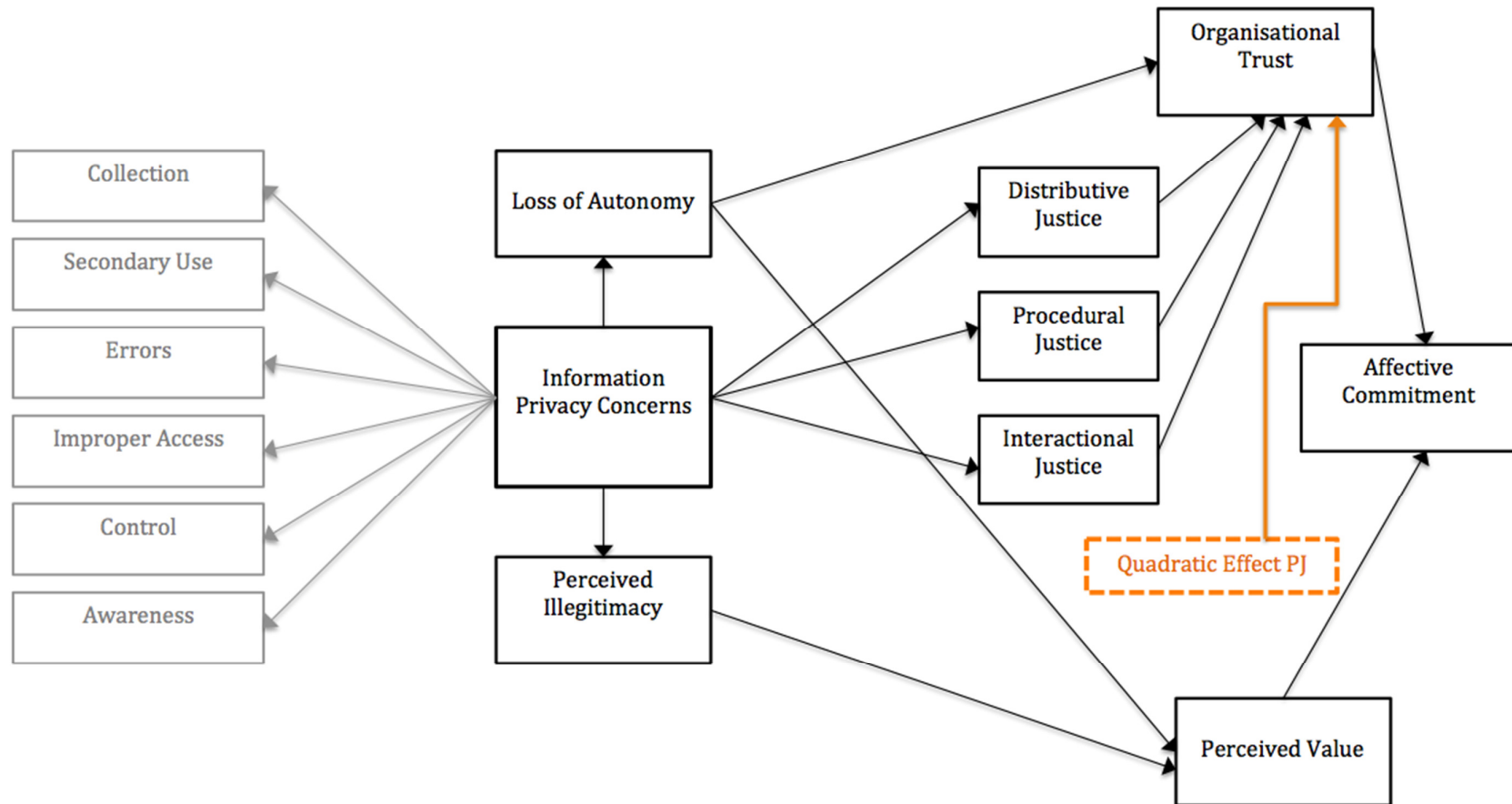
A point worth noting is that the pathways between the three dimensions of organisational justice and Affective Commitment were also tested in this model. Interestingly however, these pathways were insignificant and not supported within the model. Consequently, these pathways were removed from the final model, so that the framework could focus on the significant relationship identified in the study.

7.7.3.4. Testing for Complex Effects

The final stage of this part of the analysis involved testing for complex effects. When this model was examined for complex effects the results showed that Procedural Justice exerts a quadratic effect on Organisational Trust. In this way the results demonstrate that a Garda member's perception of fairness in relation to the procedures relating to the TETRA strongly influence their trust in Senior Management and in An Garda Síochána.

This quadratic effect is illustrated in figure 7.10 below.

Figure 7.10: Model 3: Quadratic Effects



7.7.4 Model 3: Post-Hoc Testing

As noted previously, two sets of multi-group analysis (MGA) tests were conducted in this study, to determine whether certain groups would differ from other groups in terms of the path model and its relationships. The second set of MGA analysis relates directly to this model - Model 3: Organisational Justice. Measurement invariance assessments (MICOM) were also conducted to test for construct compositional variance between pre-determined data groups in this model. Multi-Group Analysis (MGA) indicated that significant path differences exist in relation to gender and rank within this model.

The results of this testing provides interesting insights into the differential impacts on the path model and it's relationships in this model.

7.7.4.1 Multi-Group Analysis (MGA) Tests

Multi-group analysis (MGA) indicated that there were no significant path differences in relation to gender and rank within this model. Differences were identified however in relation to age and years of service as outlined below.

Age

Three age groups were examined for differences within this study those aged between 25-34 years, those aged between 35-44 years and those aged between 45-54 years. The results confirm a significant path difference between the 25-34 age group and the 45-54 age group in relation to the influence of IPC on Distributive Justice. The results demonstrate that IPC exert a weaker influence on Distributive Justice for Garda members who are aged between 45 and 54 years of age (-0.74; $p < 0.000$) then younger Garda members who are aged between 25 and 34 years of age (-0.54; $p < 0.000$). As this effect is negative in origin, the results indicate that the weakness of the pathway relationship between IPC and Distributive Justice accentuates in line with age.

A measurement invariance assessment (MICOM) was conducted to test the construct compositional variance among age groups within this model. This test was conducted to ensure that the constructs in the model were interpreted the same way amongst all Garda members across all age groups. Compositional invariance was established in terms of age in this model, as outlined in table 7.15 below.

Years of Service

A significant path difference was also identified between Garda members who have 0-3 years service and those with 11-15 years service within An Garda Síochána in relation to the relationship between Procedural Justice and Organisational Trust. The results indicate that the relationship between perceived fairness of the procedures relating to the TETRA radio and overall commitment to An Garda Síochána is stronger for Garda member with less years of service within the force. In this way the results indicate that Garda member's perception of procedural justice becomes less significant, the longer they serve within the force. The results also confirm a significant path difference between Garda members who have 0-3 years service and those with more than 21 years service in relation to the relationship between IPC and Procedural Justice. The results indicate that the relationship between a Garda member's IPC and their perceptions of procedural fairness in relation to the TETRA radio is weaker for Garda members with 21 or more years service within An Garda Síochána.

A measurement invariance assessment (MICOM) was conducted to test the construct compositional variance among years of service groups within this model. This test was conducted to ensure that the constructs in the model were interpreted the same way amongst all Garda members across all age groups. Compositional invariance was established in terms of IPC, Loss of Autonomy, Distributive Justice, Procedural Justice, Informational Justice, Organisational Trust, Perceived Value and Affective Commitment within this data group – years of service in An Garda Síochána, as outlined in table 7.16 below.

Table 7.15: Model 3: Multi-Group Analysis Testing (Garda Age)

MICOM				MGA						
	Original Correlation	Permutation p-Values	Compositional Invariance		Path Diff (25-34y/35- 44y)	p-Value	Significant Path Diff	Path Diff (25-34y/45- 54y)	p-Value	Significant Path Diff
IPC	1.000	0.312	Yes	IPC->LA	-0.043	0.593		-0.006	0.953	
LA	1.000	0.207	Yes	IPC->P-IL	-0.013	0.826		-0.032	0.630	
P-IL	0.993	0.028	Yes	IPC->DJ	0.131	0.054		0.199	0.003	Yes
DJ	1.000	0.855	Yes	IPC->PJ	0.011	0.911		-0.018	0.870	
PJ	0.995	0.072	Yes	IPC->IJ	-0.010	0.942		0.125	0.284	
IJ	0.999	0.395	Yes	LA->OT	0.120	0.353		0.080	0.603	
Org T	0.999	0.328	Yes	LA->PV	-0.150	0.252		0.090	0.558	
PV	0.998	0.305	Yes	P-IL->PV	0.043	0.782		-0.233	0.168	
Aff C	0.999	0.347	Yes	DJ->OT	-0.137	0.384		-0.054	0.782	
				PJ->OT	0.333	0.066		0.162	0.484	
Quadratic Effect PJ	1.000	0.960	Yes	IJ->OT	-0.099	0.403		-0.098	0.467	
				OT->AC	-0.030	0.775		-0.026	0.821	
				PV->AC	0.178	0.104		0.133	0.286	
				Quadratic Effect PJ	-0.106	0.401		-0.025	0.827	

Table 7.16: Model 3: Multi-Group Analysis Testing (Years of Service)

MICOM				MGA									
	Original Correlation	Permutation p-Values	Compositional Invariance		Path.Dif (0-3/11- 15)	p-Value	Sig. Path Diff	Path.Dif (0-3/16- 20)	p-Value	Sig.Path Diff	Path.Dif (0-3/ 21+)	p-Value	Sig. Path Diff
IPC	1.000	0.277	Yes	IPC->LA	-0.047	0.643		-0.046	0.659		-0.022	0.840	
LA	1.000	0.753	Yes	IPC->P-IL	-0.000	0.948		0.030	0.635		0.021	0.707	
P-IL	0.988	0.037		IPC->DJ	0.027	0.737		0.111	0.188		0.093	0.240	
DJ	0.997	0.117	Yes	IPC->PJ	-0.079	0.283		-0.036	0.599		-0.193	0.026	Yes
PJ	0.982	0.362	Yes	IPC->IJ	0.076	0.593		0.011	0.937		0.058	0.674	
IJ	0.994	0.363	Yes	LA->OT	0.223	0.132		0.142	0.322		0.195	0.153	
Org T	0.998	0.403	Yes	LA->PV	-0.137	0.451		-0.293	0.144		-0.138	0.441	
PV	0.997	0.517	Yes	P-IL->PV	0.024	0.891		0.234	0.209		-0.063	0.740	
Aff C	0.999	0.363	Yes	DJ->OT	-0.174	0.409		-0.267	0.224		-0.216	0.293	
IPC-Aw	1.000	0.690	Yes	PJ->OT	0.458	0.033	Yes	0.359	0.108		0.332	0.107	
IPC-Col	1.000	0.357	Yes	IJ->OT	-0.051	0.727		0.089	0.583		-0.122	0.410	
IPC-Ctr	1.000	0.323	Yes	OT->AC	-0.134	0.347		-0.068	0.665		-0.132	0.365	
IPC-Err	0.996	0.067	Yes	PV->AC	-0.023	0.948		0.043	0.762		-0.004	0.959	
Quadratic Effect PJ					-0.208	0.157		-0.262	0.059		-0.158	0.206	

7.7.5 Model 3: Summary

Model 3 examined the influence of IPC on Organisational Justice Perceptions – specifically Procedural Justice, Distributive Justice and Interactional Justice. The model also explored the relationship between these perceptions of justice and Organisational Trust. The proposed model achieved strong model fit and all constructs met reliability and validity thresholds. The explanatory and predictive power was substantiated and all of the main relationships were supported in the model. Multi-Group Analysis (MGA) testing indicated that significant path differences exist in relation to age and years of service within this model.

The following section 7.8 below focuses on the qualitative data that was collated for this study.

7.8 Analysis of Qualitative Data

As outlined in chapter 6, this study was conducted using a critical realist approach, which combines both quantitative and qualitative research methodologies. Consequently, this section focuses on the qualitative data that was collected via interviews conducted with members of An Garda Síochána. The overarching aim was to develop a rich understanding of each construct in the research framework. Within this context, the relationship between information privacy concerns and perceptions of organisational justice was explored. Additionally, the unfolding influence of information privacy concerns on Garda member's trust and commitment to An Garda Síochána was examined in detail.

The qualitative section of this research adds significant value to the study, confirming the reliability of the survey results as well as providing new and richer insights into the impact of privacy concerns on employees' perceptions of organisational justice. Moreover, it reveals the significant impact of stress and loss of morale on Garda member's trust in Senior Management and commitment to An Garda Síochána, which not have been identified if a purely quantitative approach had been employed.

The first part of this section, discusses the procedures employed to analyse the qualitative data obtained in this study. Next an overview of the participants and themes identified in the data are outlined in detail. The chapter concludes with a brief summary integrating the findings of the quantitative and qualitative data in the study.

7.8.1 *Thematic Analysis Procedures*

The data was analysed based on a framework analysis process described by Braun and Clarke (2006). This framework analysis consisted of six basic precepts, which were applied to the data.

1. Familiarisation with the data
2. Generate initial codes
3. Search for themes
4. Review themes
5. Define and name themes
6. Produce the report

The first step of the process was to become familiar with the data. To this end, each interview was transcribed verbatim. Each interview recording was then replayed to ensure all speech, tone and emphasis was captured in the transcripts. Finally, all transcripts were reread and notes relating to the constructs and emerging ideas were added in the margins of each.

The second step involved the coding of each segment of text in the context of the research questions and the guiding constructs in the study. As noted by Bryman and Bell (2011: 587) *“There is no one correct approach to coding your data”*. Thus, the data set was reorganised in a cohesive and systematic manner into small meaningful segments of information to begin the coding process. Additional sub-codes, relevant to dimensions of particular constructs, were also developed in this section. In the third step of the process the coded data was re-examined and collated into themes that were identified in relation to the research questions. The fourth step of this process involved a thorough review of these themes in an effort to ensure they are coherent and distinct (Maguire and Delahunt, 2017). Finally, the data associated with each theme was colour coded. The themes were further refined in the fifth stage of the process by describing clear definitions

and names for each theme. Tables illustrating each construct and theme are outlined in appendix E, F, G and H.

An example of the coding process (steps 2 -4) is outlined in figure 7.11 below.

Figure 7.11: Coding Process

Transcript	<i>"I just heard over the radio that someone was being asked about being on a checkpoint and they said they were on the checkpoint and it came over our control, our command and control saying 'we're looking at you here on the map lads and you aren't where you's are meant to be ' and that was the first time we'd ever heard of it so it was kind of a shock to the system that we were being monitored in that way. But that kind of . . . I suppose you feel like you've been stabbed in the back because you could have been being watched for the last couple of years and you weren't meant to be. It was never brought in for that purpose it was brought in for safety only."</i>	
Theme/Construct	Awareness	
Main Code	Lack of Awareness - <i>"I just heard over the radio"</i>	Monitoring of Information - <i>"We are looking at you here on the map"</i>
Sub-Code: IPC	Concern of Secondary Use - <i>"It was never brought in for that purpose"</i>	Concern of Improper Access - <i>"A shock to the system we were being monitored that way"</i>
Sub-Code: Justice	Interactional Justice - <i>"That was the first time we'd ever heard of it"</i>	Procedural Justice - <i>"It was never brought in for that purpose, it was brought in for safety only"</i>
Sub-Code: Org. Impacts	Lack of Organisational Trust: <i>"You feel like you've been stabbed in the back because you could have been watched for the last couple of years and you weren't meant to be"</i>	

The main findings of the qualitative section of the research are presented in section 7.8.2 below.

7.8.1.1 Qualitative Sample Overview

As detailed in the previous chapter, selection criteria were applied to ensure respondent representativeness and ability to provide insight into the research questions. A number of themes emerged from these interviews. These themes and their relevance to the research study are discussed in the sections below.

The qualitative findings were examined in two ways. Firstly, an intra-group comparison was conducted to examine similarities and differences between the interviewees and their insights. Secondly, the interview results were compared with the results from the survey

data. This comparison confirmed the reliability of the survey results and the triangulated results deepened understanding of the ways in which workplace monitoring influence employees and impacts their relationship with the organisation.

7.8.2. Emergent Themes

A number of themes emerged from these interviews, each of which provide deep insight into the complex relationship between Garda member's IPC, their organisational justice perceptions and their trust and commitment to the organisation of An Garda Síochána. These are now discussed individually.

- *Perceived Benefits of TETRA Radio*

Overall, the interview participants agreed that there were significant benefits associated with use of the TETRA radio system. For example, interviewees agreed it was a useful tool, significantly enhancing their overall safety and performance in the job. TETRA radios are equipped with a GPS enabled security button at the top of each handset. Once pressed, the TETRA radio will block all other communications to and from the radio channel in order to prioritise a transmission for help or assistance. In this way a Garda member can receive immediate backup and assistance to their exact location if required. Furthermore, once the emergency button is activated it automatically captures and records all real-time voice and data communication, safely storing it for future needs. For example, Garda 29 details a deeply sinister incident in which an armed Detective Garda was murdered with his own service weapon while on patrol during the summer of 2020. Garda 29 describes how the Detective in question pressed the emergency button on his TETRA radio during the attack, sending an urgent assistance request with his exact location to the Garda Control centre. Urgent assistance was dispatched and arrived on scene in a matter of minutes. Despite the swift response from Control and backup the Garda member in question succumbed to his fatal injuries at the scene. However, the voice and data recording functions of the radio system clearly detailed and recorded the final moments of the attack, which ultimately enabled the perpetrator to be brought to justice swiftly. In this example, Garda 29 described how it was the GPS function of the TETRA radio that enabled the response team to locate the injured Detective Garda instantly in order to send emergency assistance.

“He did press the emergency button on TETRA and it did record the final incident – the final moments of it. But like it was the emergency locator that was . . . that security feature did . . . you know other than that . . . It did assist and people knew exactly where he was.”

Garda 29.

Similarly, Garda 33 recalls a particularly serious incident in which two Garda members were seriously assaulted in an unprovoked attack while on patrol. In this particular incident one of the Garda members was working over time and the other had not logged on for duty. As a result the Garda control centre had not been aware that these Garda members were on duty or where they were patrolling at the time. Consequently, when the distress call for assistance was received, the Garda control centre was unable to identify the Garda members involved or their location to send immediate backup. Garda 33 described how the Garda control centre traced the location and identification of the Garda members solely through the GPS function of one of their TETRA radio systems.

“One of the girls called urgent assistance and roaring like for it and we went - there was three of us (control centres) and we didn't recognise the female voice. So . . . and this person was under severe pressure and next of all we went through all the females on the units that were working. . no, no, no Jesus who is it because even to see who it was . . . they were gone . . . this is their God. So we got on the AVPLS and they showed her up around {street name} near {public house}. What had happened was one of the girls was on overtime with another one of the lads and they didn't log on, they never told us. So they went off on business up towards {area} and next of all they were set upon by 6 lads and Jesus the two of them got a good hiding now (beaten up) I'll tell ya. If it wasn't for that now . . . we didn't know . . . because we didn't recognise the voice. So we would not have known.”

Garda 33.

A number of interview participants also cited improved communications between members as a significant benefit of the TETRA radio system. For example, prior to introduction of TETRA to the organisation, An Garda Síochána communicated via an analogue radio system, which did not offer a sufficient standard of communications, security or service. Because of this, many of the interviewees viewed the migration to TETRA as a significant improvement in terms of network coverage and the overall resilience of the radio handsets.

“It's better than the old crap we used to have – that was an old modem I'm long enough in the job to know that.”

Garda 33.

“Our old radio system wasn't great. It wasn't secure. The coverage wasn't great.”

Garda 25.

“ You'd just lose signal. And - sure you could be talking away there and no one would know where you were or you could be looking for assistance and no one would hear you. So compared to that it's chalk and cheese.”

Garda 30.

Furthermore a number of interviewees described how the encrypted communications system embedded within the TETRA radio, alleviated a number of data security issues and concerns they experienced using the old analogue system. For example, a significant lacking in the security features of the analogue system resulted in several cases of unlawful eavesdropping whereby unauthorised 3rd party members intercepted Garda voice and data transmissions, seriously impeding their investigations. In the extract below, Garda 2 details a specific incident in which an unauthorised 3rd party intercepted an old analogue radio system during a serious crime investigation.

“I remember one day there was a murder I was on and I saw a guy leaving the scene like I broadcast it on the radio and about two hours later I am

back in the station and the guy who I was looking for - for the murder or who I had seen leaving the scene - now he wasn't involved in it but he was a witness. He arrived up to the front of the station and he was like are you looking for me? I heard you were looking for me? And I was like how did you hear that? Ah someone listening to a scanner was able to tell me that you were looking for me."

Garda 2.

Similarly many of the interviewees describe how the TETRA radio provides a safe and secure network platform through which members of An Garda Síochána can operate, particularly in comparison to the previous model.

"It is a secure network which is another key feature of it but like we had radios before which could be easily hacked. This is a secure network you know."

Garda 29.

"I know when the new radios came in I felt then it was safer because scanners couldn't interfere with these radios."

Garda 16.

"The radio in the guards (Gardaí) has been a vital tool since the year dot, since radios were ever invented. TETRA just happens to be a far better model."

Garda 23.

The majority of interviewees believed that the introduction of the TETRA radio system by An Garda Síochána was a positive initiative for the force. They viewed it as a vital tool in terms of improved communications, increased security, greater resilience and overall job performance.

Summary Point: Garda members agreed there were significant benefits associated with use of the TETRA radio. These benefits significantly enhanced their overall safety and performance in the job.

- *Perceived Illegitimacy*

A primary issue that emerged from the interviews centred on legitimacy, specifically whether management has the right to monitor members' exact locations via their TETRA radio and whether such data collection is legitimate. Overall, the majority of the respondents believed that management should have access to their location information in order to be able to assist and protect them in the event of an emergency.

"I think they have the right for certain aspects they should have it yeah obviously if I press my panic button and I can't give my location for whatever, if I'm being assaulted or something like that, yeah I'd be happy with the knowledge to know that I'll be identified somewhere on a map and someone will turn up."

Garda 9.

"If it's just to show where you are for health and safety purposes, no problem. Just purely health and safety."

Garda 28.

"I agree with it if it was for safety purposes."

Garda 6.

Despite this however a significant number of interviewees were concerned that management could collect and retain this data for an indefinite period, differentiating between retention period and retention purpose.

"As an employer I suppose they're entitled to know where their employees are particularly if there's emergency calls come in and they need to know who's the closest or again if someone's in trouble they need to know where"

they are . . . (pause) should they retain it forever more? I'm not so sure, I'm not so sure."

Garda 25.

"I suppose, with my health and safety hat on me - they do. Because I suppose they have to provide you with a safe place to work under the 2005 act – as set out in my fair work act. It's the utilisation and I suppose it's the data retention of that location is I suppose of concern, well I personally would have concern with it, as would a number of other members"

Garda 29.

"I would have no problem with them collecting and storing it for the correct purposes . . . but put it this way I wouldn't be surprised to hear if management were collecting and storing information on members in order to throw it back at them at a later date. And to build a dossier of your comings, goings and not bring it to your attention at the time but essentially build a case against you for whatever reason."

Garda 24.

A number of interviewees expressed concern that management were in fact monitoring their activities unnecessarily via their TETRA radios. For example, in many cases participants describe how the information obtained via the TETRA radio was being used to control and supervise Garda members, rather than for the purpose of protecting and assisting them while on duty, raising serious concerns in relation to the legitimacy of Management's actions in gathering this data. As can be seen in the extracts below, Garda 5, Garda 22 and Garda 23 describe how TETRA radio has subsequently become a tool for supervision and micro-managing Garda members as opposed to safeguarding them on duty.

“It has become a tool to micro-manage and supervise people that - they are just going about doing their jobs”

Garda 5.

“They are constantly monitoring where you are, what you are doing.”

Garda 22.

“It’s Big Brother is watching you.”

Garda 23.

Interestingly a small number of interviewees remarked that their locations were being monitored during the process of providing the interview. For example, in the extracts below, Garda 7 describes how her TETRA was now pinpointing her as being in the station for the duration of the interview, as opposed to being on patrol. Similarly, Garda 32 advised me that if at any stage her supervisors became aware of her location during the interview process she would be forced to terminate the interview.

“Ah I’ve no doubt that they probably are yeah (pause) that you know they are seeing exactly where you are and obviously its logging me to the station now where I’m supposed to be out in the car kind of you know that they are looking to see how long you are in the station. I’ve no doubt that it probably is being used for that.”

Garda 7.

“Just to let you know obviously if this thing {points to her TETRA} - if I have to go. I have to go.”

Garda 32.

Similarly a select number of interviewees detail specific examples whereby Garda management have blatantly utilised the TETRA system to monitor and track Garda locations within their own districts. For example, in the two extracts below, Garda 6 and Garda 23 explain how individual Gardaí locations are displayed on large interactive screens in specific control centres, allowing Garda management to pinpoint the exact live

locations of all members at any given time. Similarly, Garda 9 details how Garda vehicles are also being tracked and traced via the AVPLS and TETRA systems.

“I would – would definitely have concerns yes. I work in {station name} and we have an office where you can actually see our GPS’s monitored on a television screen. Yeah it concerns me. If they tell me to be somewhere I’ll be there. Just don’t use a computer system to check it you know.”

Garda 6.

“Well they are (tracking locations). They are. We have plenty of examples. But sure it’s the guards (Gardaí) that are being asked to do it. The map is up on the wall in {station name}. And there’s red dots all over the wall where, we’re on the panel.”

Garda 23.

“The radio is not meant to be used to monitor your location. It’s for health and safety only and then when - you do hear stories after that well that cars were being checked on their locations you know.”

Garda 9.

Throughout the interviews it became apparent that a specific number of the interviewees differentiated between, and were deeply concerned with, Management’s use of the GPS function of the TETRA handset, as opposed to the features of the technology itself. For example, Garda 24 argued that previous incidents in which members of Management have in fact misused information collected via TETRA, has subsequently impacted Garda members trust in Garda Management and their use of the system to collect information.

“They do monitor it for the wrong reasons and I know this and that’s the biggest issue that members have is not the technology but it’s a distrust of management – well across the board management is not trusted full stop

but members know that officers use that information for . . . not the right purposes.”

Garda 24.

While the majority of the interviewees believed that Management were monitoring their locations and activities unnecessarily via their TETRA radios, a small proportion of the sample agreed that Senior Management had a right to know where Garda members were while on duty. For example, in the extract below Garda 36 argues that as the primary role of a Garda member is to serve the public, their managers have a both the right and a need to know their locations at all times.

“Yes. Because I am being paid by them to serve the public and they need to see that I am doing what I’m supposed to be doing.”

Garda 36.

Similarly Garda 1 and Garda 4 contend that as they are employed by An Garda Síochána, the organisation is entitled to have full access to their locations at all times.

“They own it so I suppose they do have a right. I wouldn't have an issue with it. Its their device so (pause) yeah I think – I don't see an issue with it.”

Garda 1.

“Because they own the system and it is, its’ not ours. It’s an organisational system.”

Garda 3.

“I’d say they do when I’m working yeah of course they do yeah. When I go in – when I go into work the jobs owns me for the 12 hours you know.”

Garda 4.

Summary Point: The majority of participants questioned the legitimacy of Senior Management’s right to collect their location information via their personal issue TETRA radio. The uncertainty surrounding Senior Management’s use of the location data collated via the TETRA radio negatively impacted their perceptions of that legitimacy and their trust in Garda Management.

7.8.3. Themes: Information Privacy Concerns (IPC)

A core purpose of these interviews was to develop a deeper understanding of Garda member’s information privacy concerns in relation to their mandatory required use of the TETRA radio system. Interviewees outlined a number of specific IPC particularly in relation to the collection and use of their information. Each dimension of their specific IPC is now described in detail below.

- *Awareness*

Throughout the interviews a significant number of interviewees explain they were never formally notified that the GPS function was active on their TETRA radio or that Senior Management were using this function to monitor their real-time locations. A specific number of participants describe how they only learned that they were being monitored by Management, either indirectly through other Garda members or directly as a victim of circumstance. For example, Garda 31 describes how his unit were not formally notified of the GPS tracking function of the TETRA radio, explaining how he simply found out ‘by accident’ when he stumbled across a purpose-built GPS tracking and surveillance office within his division.

“I think it was one day by accident we went up to {station} and we said ‘what’s that computer for’ and he goes ‘that’s for tracking’ I don’t think we ever got an email saying that they’re actually tracking. It was only by coincidence that we found out that there was a system live.”

Garda 31.

During the Covid19 crisis, Garda members were stationed to particular stations in an effort to adhere to the social distancing guidelines and measures and Garda 22 describes how he became aware that his radio was being monitored after briefly visiting a nearby

Garda station one day without official authorisation from his superiors. In the example below he describes how his Superintendent traced him via his TETRA radio to a different station, which he was not authorised to attend.

*“I’m in {station A}, I’m not to go near {station B} Garda station or {station C} Garda station or {town} and I am not to enter the station due to cross contamination so on and so forth. And a couple of times so far already – I’m after being out in {station B} Garda station having the tea and the chats with some of the lads that are out there and I wouldn’t be there 5 minutes and the super (superintendent) is there ringing saying ‘what the f*** is the {station A} patrol car doing outside {station B} Garda station?’”*

Garda 22.

In the two extracts below, both Garda 27 and Garda 22 describe similar situations in which they were contacted by their supervisors after leaving their patrols and districts without official authorisation. Prior to these incidents, neither Garda member had been aware that their Managers were in fact tracking their locations via their TETRA radios.

“We were in a different towns land, and our superintendent was able to ring us and tell us where we were so, you know the only . . . we were trying to think, how did how did he know where we were so we thought maybe he’s monitoring our GPS”

Garda 27.

“I do know that in my experience there was a couple of incidents where an officer would have brought it to my attention about being out of my district. Luckily for me on those occasions I had a genuine reason to be out of my district at a certain time and I could I back it up and I was fine – but the point is afterwards I was thinking right well why was he looking at me? And the way they approached me afterwards lead me to believe

that it wasn't - they weren't looking it for my health and safety by looking at my location."

Garda 24.

A number of interviewees describe how they became aware of the new monitoring measures, indirectly through the Command and Control system or through their colleagues as opposed to directly by Senior Management. For example, in a specific number of cases, participants describe how Management openly reprimanded particular Gardaí over the central radio control system for failing to be in their assigned location at the correct time. Garda 14 describes how this information was received second hand from other Garda colleagues, whereas Garda 12 describes how he heard for himself indirectly over the central radio system.

"Just from talking to lads on the unit and one of the lads might say 'do you know they can track it? . . .' or I've heard at different checkpoints Control asking for members to go back to a location."

Garda 14.

"I just heard over the radio that someone was being asked about being on a checkpoint and they said they were on the checkpoint and it came over our control, our command and control saying 'we're looking at you here on the map lads and you aren't where you's are meant to be ' and that was the first time we'd ever heard of it so it was kind of a shock to the system that we were being monitored in that way. But that kind of . . . I suppose you feel like you've been stabbed in the back because you could have been being watched for the last couple of years and you weren't meant to be. It was never brought in for that purpose it was brought in for safety only."

Garda 12

Similarly, Garda 9 recalls how his station sergeant was attending a meeting in a different station within their division and was brought into a GPS surveillance office fitted with large screens showing each Garda's live location via their handheld and car radio

systems. On returning to her Station, she informed her colleagues of the new monitoring procedures that had been implemented by Garda Management.

“She was working in there one of the weekends and you could see it on the screen and lads were being called by the supervisor in charge on the day “phone that car there, ask them or call that car there. Why are they not at their location? We can see on the map” they had a live map that they weren’t there.”

Garda 9.

These interviews were conducting at the time of the Covid 19 global pandemic, when the Irish Government and its health advisory board placed Ireland under a number of strict regional and national lockdowns in an effort to curb the spread of the coronavirus. During this time, An Garda Síochána were tasked with enforcing these restrictions, ensuring Garda personnel were present and visible throughout the country at all times. Management reallocated Garda resources and power in an effort to ensure the public complied with the tight restrictions. Interestingly, the majority of respondents considered that An Garda Síochána’s response to the pandemic had in fact placed them even further under the watchful eye of Management, with many believing they were under even more scrutiny than before. For example, Garda 4 speculates that Management utilised the Covid 19 crisis as a means to implement a number of new measures into the Force, including the introduction of more stringent monitoring practices.

“They are kind of using Covid 19 as a way to bring in a lot of changes into – into the guards (Gardaí) now you know – that's my personal opinion. Like why didn't they do it before Covid19 you know? I think they're just using Covid19 as an excuse to bring this in maybe.”

Garda 4.

Consistent with this view, a significant number of participants make reference to a new surveillance office within the Dublin Metropolitan Region, which was established specifically to monitor the locations of Gardaí during the Covid 19 crisis. Many of the respondents describe how this newly established office - which is separate from the main

command and control centres – is specifically tasked with monitoring Garda presence at Covid-19 checkpoints throughout the country.

“They have this new unit set up now in {area} that’s monitoring all the guards (Gardaí) on the checkpoints and using the Tetra – you know they’re kind of if you’re not on the checkpoint they are ringing down saying “oh why aren’t you on your checkpoint” you know?”

Garda 4.

“We’ve had recent calls from this new office that they have created that – where is such and such a member they are meant to be at this location on this checkpoint – and they are barking down the phone – and lads are doing what they are supposed to be doing or there’s a very - a reason – they are not looking at command and control system where it actually says they’ve been reassigned to another call or they’ve had to go to court or – so they are actually just monitoring the radio as opposed to looking to see you know if they are not where there are as opposed to be what’s the reason – And its in relation to checkpoints its not being used for their safety its being used to say oh well we have a checkpoint set up here on the N7 and I know that there’s three members at it or whatever – it’s a PR thing you know.”

Garda 5.

Summary Point: Overall the majority of the interviewees displayed limited understanding and awareness of the degree to which Senior Management were monitoring their location information. The confusion surrounding the degree to which management were engaging in these monitoring practices were heightened by the actions of Senior Management during the Covid-19 crisis. Lack of awareness generated concerns regarding potential unauthorised access and secondary use of location information.

- *Collection*

Collection relates to the concerns that Garda members' specific location information can be collected and stored by management. During the initial roll out of TETRA radio, Garda members were advised that the GPS function on the TETRA radios operated through a live system and as such could not collect or retain data. Despite these reassurances from management however, a number of interviewees were deeply concerned that management were in fact collecting and retaining their location data.

"We had that debate at the time and we were kind of given guarantees at the time that the data was only being used live. That once the controller who has access to the map logged off that the data was wiped and I'm presuming that's still the case, it might well not be."

Garda 25.

While Garda 26 agrees that management should have access to real time location information, he expresses similar concerns in relation to Managements' ability to gather and store the information. For example, in the extract below, he argues that Management must have a legitimate, fair and legal reason to retain information on Garda members.

"I wouldn't definitely wouldn't be in agreement of them storing it, whatever, about, as you say, real time access, which I think is very important. Yeah, that is obviously the most important one that they can pinpoint you if you were in trouble. But as regards just block storing all of this information, I don't know. Then, what would be the need for that or the reason for storing it you know? You have to have a reason really to store any information anymore you know data protection and that so I don't know what lawful reason they would outline as being a reason to store it like."

Garda 26.

In a similar vein, Garda 17 and Garda 28 suggest that Management could potentially retain this information in order to build and maintain detailed profiles on individual Garda

members. In the two extracts below, both respondents express significant concerns in relation to how this collated information could be portrayed at a later date.

“They could build up a portfolio of everything you do and they could I suppose use it to make a narrative of something that isn’t true if that makes sense? I suppose they could just use it – and I have seen it where they slowly build up information to use it against people down the line and yeah that would be a concern like you know?”

Garda 17.

“It would concern me yeah because . . . they may not utilise that information directly on that period . . on that date but they could utilise the information gained from it to target members at a later stage.”

Garda 28.

A significant amount of concern centred around the lack of clear guidelines relating to the collection and possible retention of Garda member’s location data. For example, a large number of interviewees describe how there is no written policy or communication outlining how their location information can be collated and then used by Senior Management.

“The policy has never been agreed and signed off on this thing and it’s being used now and I think that’s one of the biggest problems we’re finding now it’s being used. There’s no clear understanding as to where my data is and how long it’s being kept for or what it’s being used for.”

Garda 25.

“There should have been negotiations in relation to this before they ever bought the facility to be able to do what they did. But they just try and steam roll {it}.”

Garda 23.

There was a general consensus among the interview participants that the implementation of a clear and concise policy outlining the constraints of how the data is collected and stored would help to alleviate the privacy concerns of Garda members.

“I think once people know that there is a policy, and they can see that, and that it's, you know that - that it is a clear policy, and that they know what are the constraints of, you know who can access it, you kind of know the rules of engagement then. That's never been clarified.”

Garda 26.

In a large number of cases interviewees argued that member information should not be retained for any purpose or under any circumstance. For example, Garda 30 argues that Garda Management have no specific or legitimate reason to retain data on their members. In his example below, he speculates that Management who do store the information, do so for potentially punitive reasons. Similarly Garda 35 argues that Management have no authority to record and store information on members that they do not require, flagging the potential GDPR implications surrounding the retention and use of such data.

“There's no need for them to retain it, and then why are they retaining it? And for me being cynical, I would say they're retaining it to use against members, which would be a big problem.”

Garda 30.

“They shouldn't retain anything they don't require or need and there's no reason to have it. I think that's very clear. It should be very clear. There's no like - if you don't have a purpose you shouldn't be gathering anything. It's basic GDPR. And you shouldn't retain anything unless you need to retain it.”

Garda 35.

Overall, while the majority of interviewees acknowledged it was in their best interests for Management to be able to access live real-time location information they expressed serious concerns regarding the storage of this information by Garda Management.

Summary Point: IPC relating to the collection and retention of location information was high among these interviewees. These concerns may be alleviated if Management were to agree to a policy outlining the collection and storage procedures relating to the data.

- *Unauthorised Secondary Use*

Unauthorised secondary use refers to the concern that a Garda members' location information is collated for one purpose and then used for additional purposes without their explicit knowledge or consent. Throughout the interviews a number of respondents expressed significant concerns in relation to the secondary use of their location information by members of Management. For example, in many cases respondents were concerned that the information obtained by Management could potentially be used in disciplinary proceedings or as a means of micro-managing Garda members while on patrol. In a large number of cases, participants' detail how certain members of Garda Management are using the GPS function of the TETRA radio as a micro-managing tool to closely monitor members on the ground. In a number of these specific reports, the interviewees concerned expressed concerns regarding the uncertainty of how the information obtained could be used against members.

"It's being used as a supervision tool as I said. Now the inspector doesn't have to get up off his arse and go out and get into the car and check the checkpoints. He's probably at home with a beady eye set up on his computer looking and he's looking at it from home. He picks up the phone, then his own (work) phone he starts ringing members private phones asking them why they aren't here and why they aren't there, so it's supervisory – supervision tool."

Garda 23.

“It (TETRA) has been used at the start of Covid by Senior Management to see are members on checkpoints, you know are they doing their checkpoints are they on their checkpoints and I suppose it's been used as a supervisory tool for that. And that's not what it was geared at and that wasn't part of the buy in from the GRA perspective and from . . . you know? Could it be used in a disciplinary investigation? Could it be used in a criminal investigation whereas that's not one of the reasons that is there.”

Garda 29.

A number of interviewees expressed similar concerns that the location information obtained through the TETRA radios could be used to scrutinise or target certain Garda members while on duty. For example, many Gardaí describe how a supervisor or line manager could misuse the information if they had a grievance against a particular Garda or to ‘earmark’ specific members for disciplinary purposes.

“The officers aren't looking at your location with your best interests in mind. They're looking at your location to see if it can be used to your detriment.”

Garda 24.

“I suppose my fear would be that it would be used to target you know if you had we'll say a Line Manager or a Super or a Chief or whatever who took a particular dislike to somebody they could use it as a tool to you know constantly monitor that person and I think that element of it is unfair. They will use it and they probably are using it to target you know certain people that they you know they perceived to have done wrong in the past and they haven't been able to get them”.

Garda 21.

“It's always in our job if they can - if you do something wrong and you get away with it I'm always of the opinion that they will try and get you another way. If the gou (person) gets away with something you'll always go a different route to try and catch him out. Management are the same

like. If they could use this to catch you out I'd say they probably would. It's not unheard of in this job if they want to get rid of you they'll try their best too"

Garda 31.

A number of interviewees further discuss a potentially more sinister outcome related to the collection and secondary use of the location information. In the two extracts below, Garda members discuss the potential for a more extreme oppressive form of supervision, warning that certain members of management could utilise it to bully or persecute specific Garda members.

"If the wrong person had access to that, as in a bully or what not of Management, that would be a very - they could make a very uncomfortable working environment for the people they work with."

Garda 9.

"It could just be someone targeting a vulnerable employee and abusing him or her, it could be predatory, it could be . . . you know . . . come from any context of abuse and we have to make sure that that can't happen".

Garda 35.

In a small number of cases, Garda members described how certain senior Garda Management are able to access Garda member locations via their own personal mobile phones, whether on or off duty. For example, Garda 35 details a particular incident in which a senior Garda officer openly utilised his mobile phone to track and trace Garda members on his unit while off duty, further highlighting the lack of policy and procedure in relation to the authorisation and use of this data. Similarly, Garda 28 explains how he was 'unofficially' informed that certain members of Senior Management were using their personal mobile phones to access the locations of other Garda members.

"I am aware that a slightly ill-informed supervisor took out his mobile phone at a checkpoint one day when he was off duty to show the members

on the checkpoint how he was able to check them. Now that's, you know - that reflects two things – an over authorisation and stupidity. An over authorisation by the organisation – he shouldn't be able to do it –when he's off duty a) and b) he was a stupid individual to have said it because he caused distinct upset and concern to people because where does it stop and where does it start? And who has it and for what purpose? So there needs to be clear parameters around what is retained, why it's retained and who has access to it. And those checks and balances do not exist.”

Garda 35.

“We’ve been told unofficially that officers can check any members location from their own personal issue mobile phone. - I don't know if my Superintendent is checking where I am when he's sitting at home bed at any time.”

Garda 28.

It was further noted that Garda members who were looking to secure a promotion or effectively ‘climb the ladder’ within the force could misuse the data collected via TETRA radio to their own advantage. For example, a number of interviewees describe situations whereby certain members of Management have used the TETRA radio to track and report members who are not fully compliant within their job role in an effort to secure their own progression and promotion within the force.

“There’s an element always in our job of somebody there trying to catch you out or somebody there trying to earn their stripes in some way and its just . . I don’t know maybe its in every police force that you’re always cautious of people just trying to . . that are just solely out there to get somebody”

Garda 13.

“Ever since day one, I've been wary of things in this job anyway, because I was in {station name} and that was a promotion station that's where I learned about things like and management will look for if they want to get

rid of you they'll look for a reason. Someone - a senior Garda told me . . . he says they will get rid of you if they want to. Just be careful what you do . . . in relation to them like. He says AV (AVPLS) – as you said the camera system there was supposed to be used for crime and not for looking where guards (Gardaí) were and there was a inspector using it for that.”

Garda 31.

Despite the fact a number of Garda members received assurances that their personal information would not be used in an unauthorised manner, Garda 32 describes a situation in which her personal information was accessed and utilised by Garda Management without her knowledge or consent. In the example below, she explains how her personal mobile phone records – and that of a colleague - were obtained by Garda management and used as part of a criminal investigation without their consent. Both Garda members were involved in a road traffic collision while on duty and their phone records were seized as part of the internal investigation to determine whether the driver was using her mobile phone while driving the car. In the extract below, Garda 32 describes how senior management accessed her private phone records through the crime and security team using her private mobile phone number.

“This is 10 years ago that they got my telephone records without contacting me, without any authorization, without anything and I'd be afraid to do the same thing again with the TETRA radio. It was a disciplinary matter, but it was more of an investigation than . . . what would you say - it was a criminal investigation, because, though it was traffic accident, but the person who was driving the car . . . I was the passenger and the other girl was the driver and they checked both of our mobile phones to see if she was on the phone during - when the accident happened, without my knowledge. And as I say like I would be concerned that they might try to do the same thing. It was like an invasion of privacy. Total invasion of privacy - when it was my own personal phone. They only had my phone number. They didn't even like - they didn't ask me for my phone or anything else, but they got my records, obviously through crime

and security or something with my phone number, without having my phone.”

Garda 32.

As a result of this experience, Garda 32 expressed serious concerns in relation to the unauthorised access of her location information by Garda management via her TETRA radio.

“If they did it 10 years ago, they’re most certainly going to do it now. They’re capable of anything that’s my view.”

Garda 32.

Describing a similar situation Garda 31 details how a senior Garda official was reprimanded for utilising a camera surveillance system to actively target a Garda member within his division. In this example Garda 31 describes how the Inspector in question singled out a particular Garda member and scrutinised his movements while on patrol, via his TETRA radio. When he found him not to be at the locations he was assigned to, he would arrive at the scene in an effort to expose his behaviour.

“There was an Inspector went up to the camera room nearly every night to see if the member was on his post, and if he wasn’t he kind of go down, and pretending he’s on patrol and saying ‘where’s the member that’s supposed to be on his post’ but he knew going down he wasn’t there. He used the camera system for that effect.”

Garda 31.

Summary Point: Overall the majority of respondents expressed significant concerns in relation to the potential unauthorised secondary use of their information. There was a common view that location data should not be used for secondary purposes under any circumstance. Unauthorised secondary use of the location information had a strong negative effect on their trust in Garda Management.

- *Control*

Notably all of the interviewees expressed a strong desire to be able to control how and when their information was being accessed. Ultimately however, the majority acknowledged that the current reality was that they had little or no control over their personal information, which was being collected via the TETRA radio.

“No I definitely don’t have control.”

Garda 14.

“There’s not really a way of controlling it no.”

Garda 21.

“No, we don’t have any control over that – no none.”

Garda 2.

The majority of interviewees expressed a strong desire to exercise control over their location data. In some cases, interviewees suggest that members may turn off their radios, remove the battery or simply refuse to use the TETRA radio if they believe they have no control over their information. Similarly a number of Garda members describe how members can disable the GPS function on their radios as a means to prevent management from accessing their data and to regain some level of control over their personal information.

“You hear of lads turning off their radios if they’re out and about or on the beat like that, or something like that. And funny, only that I recall this during the week I was chatting to someone and someone said about the monitoring that’s going on in Dublin Castle - because of the COVID - and they said about the cars being checked. And lads said oh there is ways and means of taking that off, switching off the aerial in the cars – now I don’t know how accurate or true or what that is, but it is being discussed obviously like, so it wouldn’t be beyond the remit of lads if they were paranoid that they’d turn off their radios and go wherever they have to go and then switch it back on. Disconnect the battery or whatever.”

Garda 9.

“If they bring in something we will find a way around it, to do a bypass around it. Because I don’t know, you could always turn the radio off so it’s not the system.”

Garda 31.

“Do I have any control over it . . . I’m sure if you took the aerial off you would yeah.”

Garda 15.

While it is apparent a number of interviewees were willing to engage in extreme measures in an attempt to regain control over their information, a small percentage of interviewees highlighted the significant dangers of such counterproductive behaviours. For example, Garda members who do not carry a radio while on patrol are at a serious disadvantage as they are unable to communicate with colleagues or call for assistance or back up if required. Despite these serious drawbacks, Garda 23 (second extract) describes how Management are ultimately forcing members to make this calculus and leave their radios behind in an effort to work without scrutiny.

“I suppose when guards (Gardaí) are going out on patrol they need their radio and the only way to control them not being able to collect it is to turn off your radio and the GPS signal goes off of it. But then you are at a disadvantage in that you know you could be – I could be on Patrick’s Street which is the main street in Cork city and something serious could be happening on Patrick’s Street and if I don’t have my radio on, I’m not aware of it.”

Garda 21.

“What you are driving fellas to do is leave the radio in the station. And why would I bring it now, it’s become a tracking device – why would I bring a tracking device

with me? - I don't legally have to take the radio set out with me. And if I thought it was a tracking device that was going to be used to monitor me, I'd leave it in the station. Members - that's what's going to happen. Members are going to, are going to just leave it behind."

Garda 23.

Summary Point: Garda members did not believe that they had control over the collection, use and storage of their location information obtained by Senior Management via their TETRA radio. Interviewees expressed a strong desire for greater control over their location information. Lack of control has a strong impact on their job satisfaction and commitment to the organisation.

- *Errors*

Errors relates to Garda members concerns that the location information collated via the TETRA radio might not be accurate. This did not appear to be a primary concern for many of the interview participants. In fact, many of the interviewees simply 'presumed' the data was accurate.

"I assume that's its - its accurate enough, but I don't know about the accuracy to be honest – I'm not concerned about it."

Garda 5.

"I've no idea if it's accurate. I presume so."

Garda 9.

"I'd be hoping that it would be accurate enough like . . . do you know what I mean that . . . yeah I trust it being honest, do you know that kind of a way?"

Garda 16.

Significantly however, there was evidence of automation bias present on the part of Garda Management in the form of over-reliance on the TETRA location monitoring technology

as being the correct source of information, whereby they ignored important additional contradictory information. For example, a specific number of participants outlined incidents whereby the GPS location on their TETRA provided inaccurate location details for Garda members. Garda 12 recalls a particular incident whereby his TETRA radio logged the location of himself and his colleagues to the middle of the Irish Sea in Wexford, as opposed to where they were, which was on patrol in Dublin. Similarly Garda 6 described how her own TETRA radio logged her location as Cork instead of south Dublin where she was actually on patrol.

“The GPS on the radios, a couple of years ago they were called the GPS locations . . . were showing people out at sea in Wexford at one point when we were in Dublin so unless I went for a swim at 4am in the morning it was way off.”

Garda 12.

“We use the GPS system eh for putting incidents onto the computer and a lot of the time the GPS – I put one on last week and it told me I was in Cork.”

Garda 6.

Garda 6 continues to explain how Management approached and questioned her as a result of continued inaccuracy of the GPS function of her radio. For example, she describes how Management assumed that she was in different locations without authorisation and confronted her as a result.

“They kept saying that I wasn't in a position where I was supposed to be, but I was – but it was my actual radio's fault at the time.”

Garda 6.

In a similar vein, Garda 7 details a more recent incident, which further emphasized the danger of errors in the TETRA GPS system. She describes how the colleague in question was forced to call for emergency assistance on patrol one day. Unfortunately, due to

errors in the accuracy of the GPS location data, the control unit were unable to locate him and send back up to his aid.

“I was actually talking to a guard (Garda) this morning about this and he said that he had problems before when he called for assistance so they didn't exactly know where he was. To be honest because I think he was under a bit of pressure and yeah his exact location couldn't be {found}.”

Garda 7.

While the majority of interview participants expressed little concern in relation to errors in their data, the above example serves as a stark reminder of the potential dangers that Garda members' face if any errors or inaccuracies are present in their location data.

Summary Point: The majority of interviewees did not express any significant concerns in relation to the accuracy of the data collected by TETRA radio system.

- *Improper Access*

Improper access refers to the concerns that unauthorised groups or individuals could access Garda members' location information. A number of interviewees expressed concerns regarding potential improper access to their location data. For example, some interviewees were concerned that criminal gangs could access their Tetra information and use it to target specific Garda members or impede investigations.

“A criminal would pay good money to find out information on Garda.”

Garda 17.

“People can access TETRA that's the dangerous thing. It could get into the wrong hands, it can get into criminals or whatever, that's the thing. How safe is it? We don't know.”

Garda 19.

Specifically, a number of interviewees describe how criminal organisations could utilise Garda location information to assist them in their criminal activities. In fact, a number of Garda members explain how TETRA radio can be automated to monitor the speed of cars in which Garda members are travelling. In this way, a number of participants expressed significant concerns that criminals now had access to this data and could use it to plan and execute specific attacks or to target individual Garda members.

“An organised crime gang who maybe they’re - what they do is target - even a tiger kidnapping you know, as in monitoring where radios are or something like that. So for the use of criminality that is my only concern”.

Garda 3.

“Externally if someone was that way, if they were organising a robbery and they knew the location of the cars for their getaway stuff like that”

Garda 9.

In fact, Garda 17 details a specific incident whereby a criminal gang falsely reported a serious incident in an effort to infiltrate the Garda response system. For example, he describes how criminals will report a false incident, time the response to scene, make note of the level of response and then either sell the information to other criminal gangs or use it to plan a real attack.

“I had the radio on and I could hear ‘shots fired! shots fired! {area} shot’s fired!’ completely bogey call (fake call). They’re just testing the waters the whole time. They’re testing the waters to see how many people are responding to the call . . they’re seeing how long it takes you know? These criminal gangs are seeing how many armed units went, how many detective units went and you know they could tell all the differences you know that kind of way like so? And I . . I’m not going to be naive and not think they would love to have that information, do you know what I mean?”

Garda 17.

Summary Point: The majority of interviewees were concerned that their location information collated by the TETRA radio system could be accessed by an unauthorised external individual or group of individuals.

7.8.4 Themes: Perceptions of Organisational Justice

The interviews explored the impact of Tetra privacy concerns on Garda members' perceptions of organisational justice. A number of interviewees indicated that their perceptions of Garda Managements' behaviours, decisions and actions in relation to the introduction and use of TETRA influenced their perceptions regarding the fairness of An Garda Síochána. This is now described through the lens of the main dimensions of organisational justice – Procedural Justice, Distributive Justice and Interactional Justice.

- *Procedural Justice*

Procedural justice focuses on how policies and procedures are established within the workplace and the fairness of the decisions and processes that lead to these outcomes. Overall many of the interviewees noted that they little to no input in the decision to introduce the TETRA radio for location monitoring purposes. In fact many respondents describe how the decision to introduce the GPS function of the TETRA radio for monitoring purposes was orchestrated at senior level within An Garda Síochána without their input.

“No we were just told that – that was what was occurring.”

Garda 6.

“It was done at a higher level than, than us.”

Garda 4.

Throughout the interviews, a number of interviewees draw attention to the absence of a clear policy document or procedures, governing the introduction and use of the TETRA GPS function. Despite on-going pressure from Garda representative associations and bodies, a number of Garda members describe how Senior Management have continued to fail to produce written procedures or guidelines in this regard. Consequently, many of

the interviewees acknowledge they have no influence in how the GPS function is used, nor in Management's decision to employ it.

"I don't know. There's no policy. They haven't informed any member of the force what they're at . . so, nobody actually really knows."

Garda 28.

"You know there's no policy document for it and there's a whole lot of different things really, it hasn't really, it hasn't {been} worked out I suppose."

Garda 13.

"The policy has never been agreed and signed off on this thing and it's being used now. That's my biggest problem with it is that the rules of the game aren't in place for everyone to see and understand."

Garda 25.

Interestingly a number of Gardaí describe how they were effectively strong-armed into activating the GPS function on their radio by Senior Management. For example, both Garda 23 and Garda 4 explain how their radios were rendered inactive for use and subsequently recalled to allow for the updates to be installed by technicians in headquarters, during which time the GPS function was activated on each handset.

"My radio was stunned because I hadn't brought it in for an update, so it was effectively useless, so I had to bring it in for the update and during that update was when the GPS was activated I'm told."

Garda 23.

"I know that the GPS were only activated on some of the radios in recent times, they weren't always activated. I know my radio was recalled about a year ago and it - they done something to it and I think they probably activated the GPS."

Garda 4.

In a similar vein, Garda 24 recalls receiving notification that his TETRA handset required a mandatory update during this time. In the extract below, he describes how the GPS function was activated onto his radio without his knowledge or consent, suggesting Management used the update as a means in which to implement it. As Garda 24 notes, this lack of transparency demonstrated by Management in relation to the activation and use of the GPS function impacted the relationship between Gardaí and Management in many cases with a number of Gardaí refusing to submit their radios for update as a result.

“We were getting emails about having to go and get your radio updated for x,y and z purpose and it turned out this was the activation of the GPS. And it seemed somewhat sneaky. We all knew what was happening, but instead of making it perfectly obvious and open or transparent - and these are all the key words that are being bandied about these days . . . transparency and what not, they never actually came out and said: ‘look lads your GPS should have been activated. You need to go to Telecoms get them updated. This is why it needs to be done by a certain date.’ So it was somewhat . . . the feeling was somewhat underhanded and a lot of members did not update their radio purely because of the uncertainty and they kicked back and said I’m not updating my TETRA, don’t know what’s going on, why are they doing it”.

Garda 24.

Interestingly, Garda 29 notes how neither he nor his colleagues can question Management regarding the activation of the GPS on their personal issue TETRA radios. In the extract below he details how Garda members can be sanctioned and required to face disciplinary proceedings if they fail to embrace the GPS functioning of their radios.

“I suppose from a rank and file member it's a lawful order - you can't, you know, you're being asked to utilise this system. We have to follow lawful orders if we don't we're subject to discipline regulations, and by if we

don't do it we could be cited for a discipline regulation for breach of discipline, you know, and I suppose that is the fear that most members would have . . . you know, if you question it you know you could get your knuckles slapped.”

Garda 29.

Consequently a number of Garda members detail how they have approached their Garda representative associations and bodies to advocate for clarity on their behalf. However, despite this heavy push by the Garda representative associations, Garda members have still not received the clarity they desire in relation to the use of the GPS function on the TETRA radio system. In fact, Garda 28 suggests the likelihood of Garda Management formally releasing and implementing transparent and fair documents is doubtful, remarking they would need to be ‘*written in blood*’ before they would commit to any specific guidelines regarding its correct use and implementation.

“Even the newsletter that came out there recently in relation to oh we've raised the issue to Garda Management in relation to use of GPS and monitoring you know . . . two, three and we haven't been satisfied by their answers. And yet, two or three months later, or we've continued to raise these issues, but yet they've done nothing about it.”

Garda 34.

“Not unless it was written in blood. I would be of the view that they would management would keep everything unless they're told they can't . . . in my view.”

Garda 28.

Summary Point: The majority of interviewees did not perceive the decision by Senior Management to monitor Garda member's location information as fair or just. Overall interviewees believed the lack of clear guidelines or policies outlining these location-monitoring practices was unfair and unjust.

- *Distributive Justice*

Distributive justice refers to the perceived fairness of the outcomes that employees receive in the workplace. Overall there was a lack of uncertainty in relation to the fairness of how the collection and use of the data was being applied across the force. Garda 25 expressed concerns in relation to the consistency of how the data collected via the TETRA unit could be utilised by members of management. In the example below he describes how certain supervisors may choose to use the location information obtained via the TETRA radio for different purposes suggesting it may not be fairly applied in all cases.

“The consistency across the country needs to be there and it’s not there. There’s different understandings at different levels of Management and supervisors as to what its there for and you’re right, that is - that is the problem. It’s when you have different supervisors have different understandings of what it’s there for that’s when the problems start. You know?”

Garda 25.

Similarly, a number of interviewees argue that use of the information is not consistent or fairly distributed throughout the force, a fact which has significant implications for the relationship between Management and Garda members. For example, in the first extract below, Garda 34 suggests that the decision to implement these monitoring procedures often lies in the hands of the supervising officer and can be very much dependent upon your rank, unit and role within the force. Similarly, Garda 16 and Garda 1 describe how Garda members in uniform are subject to more scrutiny than their plain clothed colleagues.

“You see if you’re a guard (Garda) on a regular unit or if you’re a guard (Garda) on a National Unit it’ll be used differently do you know what I mean? Depending on who the Management, your manager, who your Super, Chief or CIG (Cigerocht/Cigera – Irish for Inspector) is – and the role . . . what you’re doing - it will be used differently”.

Garda 34.

“I don't know I just think maybe the uniform lads get the, are the ones that are followed up more, maybe. That's my opinion on it anyway. {They are} Easy targets. Do you know? They are kind of - I think anyone in plain clothes is kind of, they have that bit more breathing space than the uniform has do you know?”

Garda 16.

“The frontline uniform lads that are out in cars – that's who it affects more than the non core, as we call it – like detective units, community police and people who work in the offices you know.”

Garda 1.

The notion that front line or regular unit Gardaí were more susceptible to monitoring via their TETRA radios was a common theme amongst interviewees. For example, in the first extract below, Garda 17 argues there are different standards and expectations imposed upon members dependent upon their rank, unit and tenure, with Garda 12 calling for more consistency in the monitoring of Garda members.

“Oh I think there's - I think there's double and triple standards when it comes to different units. I mean with some detective units you know they can get away with not logging on you know? --- The more junior you are in the job and the more if you are on a regular unit in uniform the more kind of where you are all the time you know that kind of way? Whereas if you're just like, I mean if you're on a detective unit, a drug unit, a street crime unit, you've more free reign but if you're in uniform and you're on the - you're starting out they seem to apply where you are and what you are doing more . . more strictly.”

Garda 17.

“I mean if they are going to monitor . . I don't know if they are going to monitor a certain element of the guards (Gardaí) like the regular lads in uniform I suppose then everybody should be monitored. It should be either everyone or no one.”

Garda 12.

In some cases, interviewees suggest that the monitoring of Garda actions is not consistent across districts or divisions. For example, Garda 9 contends that Garda members working in Dublin are monitored more closely than those from rural areas. He suggests that:

“The use of the data . . . well the DMR (Dublin Metropolitan Region) only has that office you know. The lads down the country don’t – aren’t being monitored like that you know.”

Garda 9.

A number of interviewees expressed some confusion in relation to who was being monitored, why the information was being obtained and ultimately how Management was using it. For example, Garda 31 outlines an obvious lack of understanding in relation to the type of information collated through the TETRA and the length for which it can be retained.

“See I don’t really know what it records, like no one actually knows that. What the data is used for and I don’t even know how long is kept for”.

Garda 31.

Again a number of interviewees reiterated the lack of communication received from management in relation to the activation of the GPS function on their radios. For example, a number of Garda members describe how they became aware of the situation anecdotally through other colleagues. Consequently, many of the interviewees were unaware of the degree to which these procedures were being applied across the force.

“I don’t really know much about it. We – I was just kind of told through kind of other Guards (Gardaí) that you know this was going on you know so I actually don’t know what way its being collected or are they sending like you know a report at the end of the month up to some Superintendent going – oh well this was done or people aren’t where they are supposed to be – I’m not sure em you know?”

Garda 4.

“I thought the GPS was only really used for, you know the bad situations, but then lately I sort of realised that it’s almost like they are watching your every move. I’d hope they wouldn’t just focus in on one person you know, picking one individual you know or picking a group of individuals out.”

Garda 15.

Summary Point: Overall the majority of the respondents did not believe the collection and use of the data obtained through TETRA was applied fairly across the force. The majority of the respondents expressed strong concerns that the monitoring practices were only applied to frontline uniformed officers.

- *Interactional Justice*

Interactional justice refers to the degree to which employees are treated with respect and fairness by Management when they are applying policies and procedures in the workplaces. The interviews explored the manner in which the introduction and use of the GPS function of TETRA was communicated to Garda members. Overall, the majority of the sample agreed that Management did not clearly communicate the rationale for implementing the GPS function of TETRA, nor did they openly outline the ways in which the location data could be used.

“As with Management there was no communication.”

Garda 24.

“Oh no. We weren’t told anything, no.”

Garda 5.

“No it’s not explained in full. It’s not, no.”

Garda 34.

“Nothing has been communicated to us about it. It’s been brought in and that’s it.”

Garda 12.

In a more detailed response, Garda 21 displays significant frustration towards Management describes how they failed to disclose or discuss the new location tracking procedures with Garda members, suggesting they were heavy handed in their approach to instigating and employing these techniques.

“It’s like everything else that Management roll out these days. It’s just rolled out and there’s very little consultation or anything like that so. It’s like all systems they’re just rolling them out and you know . . . I think their attitude towards the roll out of anything including TETRA is I would liken it to a rugby player with a ball and he’s going to the line and they just put the head down and no matter what’s comes in the way they’re just bulldoze it out you know?”

Garda 21.

In a similar vein, Garda 5 outlines her disappointment regarding the ways in which Management introduced the GPS function onto the TETRA radios. In the example below, she also notes how Garda members are very much unaware of the capabilities of the GPS tracking function and are unable to fully comprehend how management can use this data as a result.

“Its disappointing that they’re not informing members as to – this is here, this is the reason why its here. --- It hasn't been explained and it hasn't been filtered down to the members on the ground. As much as Management might know what the reasoning is or what they are going to utilise it for, the members on the ground that are using it day in day out - we don't know.”

Garda 5.

Once again, for many of the interviewees, the lack of a clear policy or procedures communicated by management was the basis of much of their concern and distain. For example, a number of interviewees describe how the initial version of TERA radios was specifically commissioned without the GPS function enabled on the handsets. Thus, in order for Management to implement the GPS function on the TETRA handsets, they needed to request and purchase an additional licence, all of which was conducted without the knowledge of Garda members who were the ones using the system.

“Like I said to you, really the only thing I can take from that course all those years ago was that we were told the GPS wasn't on it. That the Government hadn't paid for it and then – its not like we all got a message one day, or I cant recall maybe there was something came up on the portal or whatever came out saying there was going to be GPS, but I don't recall it.”

Garda 9.

“You didn't have the licence when you bought TETRA first. So you've gone to buy this extra bit, this GPS bit and they can't use the excuse that 'oh if there's a radio lost we can find it' because all they were doing was zapping them. They were zapping the radios and killing it. And it was only a bit of plastic after that. So for the amount of radios they were losing, it didn't justify the amount they spent on buying the licence for GPS.”

Garda 23.

Perhaps somewhat unsurprisingly, a select number of Garda members argue that as the Tetra radio monitoring procedures affect them directly, they should have been consulted prior to its introduction. In this way they further highlight the lack of clear understanding in relation to the parameters surrounding this issue.

“If you're working for an organisation where there's 15,000 members. Everyone should have a say in what's going on. Look I'm sure there's stuff that has been implemented into the job that I don't agree on. And I'm sure

there's stuff I do totally agree on and other people don't - like it's everyone's own opinion, but I definitely think you should have a say in it. Like there's no way it should just be implemented and that's it."

Garda 15.

"The vast majority of the systems including TETRA impact the guards (Gardaí) on the ground and they should be coming and consulting with REP bodies to say, you know – we think this is a very good system. Do ye see any pitfalls to it? And at least then we'll be able to point out you now x,y and z will be wrong with this, or you know, we don't think you should be able to do this with it. But they just don't seem to be doing that."

Garda 21.

Similarly, while Garda 14 agrees that the decision to implement certain systems should lie at Senior Management level, he highlights the valuable insight that members on the ground could provide in many cases.

"It is a decision that should be made at a higher level above my pay grade anyway, but I think they could use us to help give them information to help them make those decisions."

Garda 14.

In a select number of cases, Garda members welcomed the introduction and use of the GPS function on the TETRA radio as a means of securing members health and safety while on duty but were disappointed by the lack of clear communication regarding its use by Senior Management to track and monitor Garda members. For example, Garda 12 describes how initially he was excited by the prospect of a new and more technical communications system within the force, but was quickly deflated when he realised the GPS function was openly bring used to track and locate Garda members on duty.

“On the whole up until a couple of weeks ago, it would have been very positive {attitude} because its modern technology which this organisation have been extremely, extremely slow to bring out. So it was great in that respect, but (pause) this kind of an element, there’s a sneakiness to it as well that we weren’t told that we were going to be monitored on a map now where the GPS locations are up on it so that’s kind of tainted it . . . in the last couple of weeks.”

Garda 12.

Summary Point: Overall the majority of interviewees did not believe the introduction, use and function of the GPS system on the TETRA radio was clearly or fairly communicated to Garda members. Overall the majority of interviewees did not perceive that Managements rationale for implementing the GPS function on the TETRA was fair or just.

7.8.5. Themes: Outcomes Associated with Location Monitoring

A number of outcomes associated with the use of TETRA radio to monitor Garda member location were identified throughout the interviews. For example, a number of interviewees describe how use of the TETRA system to monitor and record their locations in the workplace significantly impacted their stress levels, which in turn impacted on their morale and perceptions of autonomy at work. Each of these outcomes are discussed in detail below.

- *Stress*

An association between the use of TETRA radio for location monitoring purposes and Garda stress emerged distinctly in the interviews and was particularly articulated in terms of strain and fatigue. A number of Gardaí describe how the use of TETRA radio to monitor their work locations was in fact creating additional stress and workload for Garda members.

“You have to let lads go out and do their job and particularly in these times (Covid-19 pandemic) – there’s nowhere else they could be going – there’s nowhere offside to go so its – its putting stress on members that’s - its unnecessary.”

Garda 5.

Garda 5 continues to discuss in detail the impact that the increased level of monitoring was having on Garda members already burdened by the Covid-19 pandemic. In her example she provides some very personal insights into the pressures that Garda members from her own unit were experiencing, expressing serious concerns in relation to the impact that these new monitoring techniques were having on her colleagues.

“I’ve got members on the unit here that haven’t been home to (area), haven’t seen family, haven’t seen their girlfriends, are living in rented accommodation. They’re coming into work, which is a break from the monotony of being in their rented accommodation, but then they are coming into work and they are only here half an hour and they are being hammered ‘where are you going, what are you doing, why are you . . .’ you know, you can see it has impacted definitely and since the introduction of this Tetra thing, people - people are on edge. Its like ‘big brother’ is watching you. I think is the phrase that’s going around the station.”

Garda 5.

A significant number of interviewees describe how Garda members have subsequently become fearful and anxious within their roles and continually modify their behaviours as a result. For example, in the first extract below, Garda 25 describes how members have approached him, as they are apprehensive and more so, were deeply concerned that Management are watching their every move while on duty. Similarly, Garda 27 and Garda 5 warn of the effects that this pervasive monitoring could have on the junior members of the force, with Garda 5 describing them as ‘scape goats’ for many situations.

“The amount of people that are saying to me like ‘I’m being watched.’ And I say well what do you mean you’re being watched? And they say, well they’re tracking my radio all day and I’m afraid to go on my lunch 10 minutes early or spend 5 minutes extra having a cup of coffee, because I’m being tracked. And I suppose that does build up a little stress in you. If you’re on the clock constantly, it is stressful you know.”

Garda 25.

“For probationers or things like that, on top of what they have to do with college and - and keeping on top of day - the day to day running of the job. I think if that was in the back of their minds, maybe I think it could cause them stress. I think they’d be stressed enough as it is.”

Garda 27.

“They are even afraid to come back on a break and if their break runs over or they are late coming in on a break, they are like ‘oh we have to get back out’ and I’m like ‘you’re entitled to your break’ so – especially the junior lads there, you know a senior enough person is more able to speak up for themselves, but the junior lads – and they’re kind of the scape goats, because they’re the ones they make an example of then, because they are easy targets, so there is definitely an element of stress yeah.”

Garda 5.

A small number of interviewees broached a far more sinister and serious concern in relation to these monitoring techniques by Senior Management. For example, Garda 35 discusses the potential impact of pervasive monitoring on Garda members’ mental health and wellbeing, describing how Garda members who may already feel apprehensive or anxious within their roles could suffer psychologically as a result. Moreover, he argues how such feelings could be amplified if the members in question were experiencing any difficulties or issues with their line managers or supervisors who are the ones monitoring their TETRA GPS. In a similar vein, Garda 28 details his concerns relating to the potential

abuse of the technologies by Garda Management, describing the TETRA radio system as an ‘oppressive tracking monitoring’ in his example.

“Well if any workforce feels like they are being oppressively supervised or any society feel that (pause) it can terrible, terrible damage very, very quickly ---- if you’re in difficulty or you’re having problems with individuals that are with the organisation, all of these things become you know amplified and can do terrible, terrible damage to their mental health and their wellbeing.”

Garda 35.

“It’s like an oppressive tracking monitor. If you’re being tracked every day, your location . . where you are second by second is being monitored . . and then stored . . it can be utilised at a later stage to . . I suppose to check up on you and if you’re saying well where were you at this time? What were you doing here on a particular day at a particular time . . . well then to have that information. I don’t think they should be allowed to do that.”

Garda 28.

Summary Point: There is a strong relationship between location monitoring and stress. A significant number of Garda members experienced high levels of stress as a result of having their location monitored by Senior Management. High levels of stress influenced the behaviours and actions of a specific number of interviewees.

- *Morale*

Many of the interviewees acknowledged the negative impact of the location monitoring techniques on member morale within the force. For example, Garda 23 describes the impact of the increased monitoring on members self-esteem with Garda 5 noting morale is ‘on the floor’ within her own unit as a result.

“There’s very little giving at the moment. For the last 3 or 4 years it’s been take, take, take and this is just another added part of it you know? So yeah it’s spying on members without even a discussion process is always going to affect morale you know?”

Garda 23.

“You can see morale is on the floor here. I suppose the trust element is gone. That you know, they’re not trusting that members are doing their jobs. --- you can see the impact, so I would say yes morale is definitely very low as a result of it.”

Garda 5.

A significant number of respondents describe how the uncertainty surrounding the Tetra radio monitoring practices further impacts member morale. For example, for many the constant scrutiny through the daily use of their radios has the potential to significantly damage members’ self-esteem and negatively impact overall job performance and satisfaction within the force, as well as Garda retention.

“They’ll go out with their radios. They’ll do their job, but like I said it’s always in the back of their minds. So that being said, it can’t but not impact morale. It has to impact morale if something like that is constantly in the back of your mind as to who’s watching you? When? Why? How?”

Garda 24.

“If the AVPLS is going to start going on Red Alert if you’re gone out of your town, area on patrol, like I’d say you’ll see members dropping out of this job like flies.”

Garda 31.

Overall the majority of interviewees acknowledged the importance of high morale as a means to increase motivation, reduce negative or counterproductive behaviours and

improve overall workplace performance. In fact for many of the interviewees, the very nature of the role of a Garda officer requires high morale, motivation and a strong sense of self-belief in order to operate on the front line and serve and lead the public.

“You need high morale and enthusiasm and motivation in Garda, particularly in investigation units and sections like that. Because if you want people to do more than the bare bones, people need to be motivated in any walk of life. Particularly in the civil service. ----- It’s not the place where you want people badly motivated or carrying a grudge or being chipped away at gradually.”

Garda 23.

Summary Point: There is a strong relationship between Tetra location monitoring and loss of morale. A significant number of Garda members believe the monitoring of their locations while on duty lowers morale.

- *Loss of Autonomy*

Throughout the interviews a number of participants suggested that use of the GPS function of the TETRA radios to monitor and control Garda members actions, behaviours and locations reduced their level of autonomy within their roles. For example, many interviewees argued that this use of TETRA radio in this manner had significantly reduced the autonomous decision making of Garda members on patrol. In the two extracts below, both Garda 24 and Garda 14 describe how continuous monitoring via TETRA radio can affect members’ ability to act upon their own initiatives and interests within their role highlighting the serious impact it could have on members’ job performance as a result.

“You shouldn’t have to be going to work thinking ‘right well if I go down to this district, if I go down to this street this sector or if I go over here now, am I going to get a phone call? Are they watching me? Will I be told when I go back to the station? Will I be reprimanded for it if I go somewhere that I might not specifically have been detailed for?’ And it’s

just a constant {rolls hand around} in the back of member's heads that someone could potentially be watching them at all times."

Garda 24.

"You're being detailed to certain places a lot more and a lot more frequently in a shift and it's kind of taken away from Garda initiative when you are out in the street and you say you want to go somewhere and do something because you think something might be going on but you can't because you have to be on a certain checkpoint at a certain time and you can't leave that location because you could get in trouble."

Garda 14.

Similarly, a number of Gardaí based in rural locations cited concerns in relation to their ability to perform their jobs efficiently while under the control of the Command and Control units.

"Do I need to tell Control that I am going to visit an old woman just to have a cup of tea with her because she's lonely? No. But I feel like if they don't know where I am, they are just going to be hounding me to know where I am you know? I'm 42 years of age and I don't need to be babysat . . . there is that feeling, yeah. I feel that and I think probably in rural locations they probably feel that more, that there's no . . . just let me get into my car and do my patrol and leave me alone."

Garda 13.

Garda 25 discusses how the conventional style of policing work – traditionally conducted using ones own initiative and drive – has been significantly impacted as a result of these new monitoring measures. In the below example, he describes how the liberty to choose when, how and why Garda members police has been curtailed as a result of the new measures set in place to monitor and control resources on the ground.

“There’s a certain amount of autonomy when you’re a guard (Garda) you know you’re expected to follow up on things, which might involve going over a house here or you know or if you see something happening, to deal with it. ---- And that’s all autonomy. I’m not asking anyone’s permission to do that. We’re expected to come in with the results to solve the crimes, so that’s . . but this system seems to be taking that a little bit away, because it’s in the back of your mind that someone is watching me now and am I going to get a phone call now and ask to explain what I’m doing or why I’m doing it?”

Garda 25.

In this example, Garda 25 details specific incidents whereby members within his own district are targeted by Command and Control monitoring their locations via their TETRA radios, ultimately hampering their ability to make decisions at their own discretion within their job roles.

“We’ve had reports of people who have got phone calls from the Control Room ‘what are you down there?’ or ‘why are you over here?’ and it’s taking away that autonomous decision-making from you, as you know as an employee where you’re expected to deal with stuff. Now you’re saying well I’m going to go deal with this, but I’d better have a reason for being there to do it.”

Garda 25.

In a select number of cases, interviewees reported incidents whereby Garda members were specifically disciplined for using their own initiative while on patrol. For example, Garda 29 recalls how a particular Garda member was sanctioned for making the decision to leave his district in order to refill his patrol car with diesel while on duty. As there are no diesel based garages within his district of patrol, the Garda member in question was forced to visit a neighbouring county in order to refill his service vehicle, however he was disciplined and fined as a result of this decision.

“I suppose we only have it in one kind area (area X). . where the members have to go into (area Y) to get diesel for the car, but the system then shows them as being in (area Y) - albeit to get diesel, but they're outside their area (area X). And I had a member who was disciplined a number of years ago because the Superintendent at the time said: ‘you know when you should have been patrolling in your area. But you, you . . it took you longer than it should have to go and respond to that call, you know’, and the member . . the member received a fine for it.”

Garda 29.

A significant number of interviewees were deeply frustrated and irritated by their lack of autonomy as a result of being monitored via Tetra. In fact in a number of these specific cases, the reduced level of autonomous decision-making was further impacting their relationships with Garda management.

“I get annoyed – I wouldn't say stressed, but frustrated. But I can see definitely that different members have been stressed and if you get this call from an officer going - ‘why aren't they where they're supposed to be according to this excel sheet’ - and I'm looking at a dot and they're in a different location --- as soon as something is not where its should be, they're on the phone straight away, instead of just going ‘maybe there's a reason for that’ or you know it's a once off – do we need to get on their backs over this?”

Garda 5.

“It's a frustration and it just adds to the anger of other stuff they have done you know.”

Garda 23.

In the extract below, Garda 13 displays extreme levels of frustration and anger towards both Management and members of Garda Command and Control who are tasked by Management to allocate Garda resource and personnel via the TETRA radio. He

describes how controllers are now forced to constantly interact and direct members to incidents or locations through the radio systems. This increased traffic through the radio channels has an extremely negative effect on his mood and behaviour, which in turn continually disrupts his working day.

“It’s annoying, just constant, you know you’re in the car there and you’d find yourself screaming not on the radio, but just sitting there ‘would you ever stop talking . . .’ you know? So it can be annoying yeah. I’ve found it . . . maybe it’s just me, I don’t know, but I find it . . . you’re driving around the country and there’s a lad on the radio that just will not stop talking and you know you could be literally trying to do anything, you know? And it’s not even calls I’m going to. I’m listening to him interacting with people in a different county and I’m getting . . . I’m getting thick (annoyed) on the radio saying ‘will you leave them alone they are trying to deal with something . . .’ you know? But anyway that’s just me.”

Garda 13.

Summary Point: The majority of interviewees expressed strong levels of concerns regarding their loss of autonomy. Loss of autonomy increased stress and lowered morale.

7.8.6. Themes: Organisational Impact

Throughout the interviews a number of factors influencing Garda members’ organisational justice perceptions were identified and addressed. For example, a number of interviewees described how use of the TETRA system to monitor and record their locations in the workplace significantly impacted their trust and commitment to An Garda Síochána. These are discussed in detail below.

- *Organisational Trust*

Throughout the interviews it became apparent that a lack of trust in Senior Management was a significant issue impacting Garda members. Lack of trust can severely damage the relationship between leadership and employees, ultimately affecting employee morale

and work performance. Moreover a lack of trust between Management and employees can have a lasting negative effect on the overall culture within the organisation. In many cases Garda expressed little to no trust in Garda Management.

“Oh I don't trust management with anything.”

Garda 23.

“Personally I wouldn't trust management at all really.”

Garda 24.

“I don't have much faith in senior management in this organisation.”

Garda 5.

“You'll never find a guard (Garda) to trust anyone in management, unless they're looking to go to management themselves.”

Garda 31.

In a specific number of cases, this lack of trust stemmed from the behaviours and actions displayed by members of Senior Management in the organisation, with Garda 24 arguing that Management do not always consider what actions or considerations are in the best interest of rank Garda members. In the extract below, he explains how Management have proven themselves to be inadequate at times, particularly in relation to their dealings with and management of rank or frontline Garda officers.

“Well Management have proved themselves to be incompetent on many occasions, in many districts, in many areas over time. They don't care about the guard (Garda) on the ground. That's well known and well documented. Officers don't care. They just don't. They're only worried about themselves. So the welfare of a member doesn't concern them, so why would they you know?”

Garda 24.

Despite the fact Garda 24 expressed a serious degree of disdain toward Senior Management, he claims an impeccable working record within An Garda Síochána, evident by the fact he has never been disciplined or sanctioned within the organisation. Consequently, he explains how much of his cynicism and distrust stems from simple day to day actions conducted by Management within the organisation, as opposed to a singular event or situation, a factor he largely attributes to the rigid culture embedded throughout the organisation.

“I would like to add as well – I’ve never been in trouble. It’s not like I’m constantly having run ins with Management where I’m constantly butting heads and fighting with them. I have very little to do with Management. I come in, I keep my head down and I go about my business, which makes it even worse that I have a distrust, because I’m distrusting them just from day to day interactions. Things they say, things they never follow through on, or the way they go about implementing things. But like, look it’s unfortunate, but it is what it is. It’s a certain type of person that is in Management. It’s a club and it may take a couple of generations to change, if ever. If ever.”

Garda 24.

In a significant number of cases, interviewees noted a mutual distrust between Management and employees further compounding the trust deficit for both sides. For example, Garda 14 describes a disconnect between Management and employees, with Garda 5 arguing that Management’s inability to display trust in lower ranking Garda members affected her level of trust in them.

“Yeah like trust is a big issue. Like I’m only in the job, nearly three years now and one thing I’ve noticed coming from the private sector into a public sector job and being a guard (Garda) is that there is – seems to be a disconnect between Management trusting employees and employees trusting Management.”

Garda 14.

“Oh well I don't trust them but they've never - they don't trust us – Management. Like I trust the members on my unit but once it goes above a certain rank, the level of trust, its not there. I wouldn't trust, I don't trust Management in this job at all.”

Garda 5.

Garda 30 further illustrates the divide between Management and rank level Gardaí, outlining the degree to which it negatively impacts his trust in the leadership of An Garda Síochána. In the example below, Garda 30 is particularly cynical towards members who have advanced their career from Garda level to Management level, suggesting they become consumed by the leadership culture in the organisation, which ultimately alters his belief and confidence in them.

“Oh no! I don't have much trust. You're asking the wrong person there . . honest to god! The whole culture – no absolutely there'd be no trust and they'd - as soon as they get promoted from guards (Garda) they're gone. They're separate to us. They're like a different organisation. And I know the general public might not believe this, but they treat guards (Gardaí) worse than anyone from the outside.”

Garda 30.

Throughout the interviews it became apparent that for many Garda members the way in which the GPS function on the TETRA radio had been introduced further deteriorated their trust in Senior Management. In many cases, much of this mistrust linked back to their data privacy concerns resulting from use of the TETRA radio to monitor Garda member locations. For example, in the two extracts below, Garda 32 and Garda 27 describe how the introduction of the GPS function on the radio can send a strong message to members that Management do not trust them to do their jobs effectively without the need to be monitored. Garda 13 further argues that this feeling of 'over supervision' is felt stronger amongst the rural Garda community, than their city or town based colleagues.

“It's more so the fact that you think they don't trust you. --- It was kind of like we don't trust you enough to do what you're meant to be doing, so we

want proof that you're there, to get the GPS that you're actually . . . to know that you did those things. If you know what I mean?

Garda 32.

“It just bothers me that we can't be trusted – you know if Management can't trust us to do our job and are checking in on us, it bothers me.”

Garda 27.

In a similar vein, Garda 16 describes how she is ‘walking on eggshells’ simply waiting for a senior officer to ‘catch her out’.

“Sometimes you're just waiting for a Sergeant or an Inspector to try catch you out doing something or not doing something you should have done or things like that, do you know? So you would be kind of walking on eggshells sometimes, because of that you know like?”

Garda 16.

A select number of interviewees describe how a combination of past experience and dealings with senior personnel has lowered their trust in Garda Management. For example, Garda 13, Garda 26 and Garda 31 all describe situations whereby senior officers have blatantly misused their power and resources to transgress against Garda colleagues in an effort to advance their own career, a characteristic that has significantly affected their level of trust in them.

“Maybe it's just me now, but I definitely know a good few that would be like me, just a bit cynical and stuff like that so - why is there a mistrust? I suppose just past experiences, little things. It's just lads trying to get up the ladder and they'll just step on your head just to get up there, so why would you trust anything they do?”

Garda 13.

“You know, you will always be aware of the potential for Management to . . . how do you put it . . . use things inappropriately . . . to keep an eye on

people. That is just the thing that is still definitely in the organisation you know?"

Garda 26.

"Anybody that has red on their shoulder I just don't trust. They're always out – see the problem with Management is they always want the next step and they'll burn anyone they can to get that jump. That's the problem. A lot of them – most of the ones, most of the ones I've had they're all just looking for the next rank up, and they'll do whatever they can to get to that rank, even if it is burning a guard (Garda) saying that they caught him out doing this . . it's a tick on their shoulder like, they're not afraid of ethics and all this. Some Inspectors and all that, and Supers (superintendents) are looking to sack a guard (Garda) because it looks good in the Commissioners eyes and he's not afraid to tackle guards (Gardaí), so I have an issue like with that. They'll look for a way to get rid of you just to make themselves look good, because that's one way to get promoted in our job . . is to sack a guard (Garda)."

Garda 31.

Garda 21 further describes how he has never fully trusted Management in the force and as a result did not trust Management with the location information and data they could obtain via his TETRA radio.

"Well I always mistrusted it (laughs) I always mistrusted management because I suppose I'm long in the tooth now in the guards (Gardaí) and I've always seen you know stuff . . the cans being kicked down the road and we'll sort that, we'll sort that and you know hoping the problem will go away and so I've always had that little bit of mistrust for the vast majority of management. Thankfully I currently get on with most of them but if you had a falling out with somebody I just think that they would , , , they would use it to their advantage and not mine. "

Garda 21.

Similarly for Garda 9 the introduction and use of the GPS tracking system has simply reaffirmed his belief that senior management do not trust frontline officers or Garda members working on the ground.

“Has it affected level of trust . . . (pause) no, its probably reaffirmed eh a previous thought of how Management and trust and stuff like that which wouldn’t have been valued very highly anyway.”

Garda 9.

Summary Point: Overall the introduction of the GPS tracking function on the TETRA radio negatively impacted Garda members’ perceptions of trust in management.

- **Affective Commitment**

Affective commitment refers to an individuals’ emotional or psychological attachment to an organisation. The interviews provided a detailed insight into how data privacy concerns in relation to their mandatory use of TETRA radio impacted employee commitment to An Garda Síochána. For example, throughout the interviews it became apparent that the use of the GPS function of TETRA to track and record location data has an obvious negative effect on Garda behaviours in the workplace. In fact the use of TETRA in this manner has forced many Gardaí to alter their actions, behaviours and movements as a result. While in some cases this has resulted in Gardaí engaging in counterproductive resistance behaviours, Garda 24 describes how he has simply adapted his behaviour to comply with Management expectations. In the example below, he describes how experience within the force has enabled him to modify his behaviour in an effort to accommodate the needs of Management and operate in line with their requirements.

“I’ve adapted to their way of doing things over the years. When I first started and I’m sure it’s the same for many young guards (Gardaí) it’s a bit of a shock and you might feel hindered or whatever in your work but

as you become more senior you learn to . . . you learn to adapt and you learn to work with whatever restrictions are placed in front of you.”

Garda 24.

Similarly, a number of interviewees explain how the introduction of the GPS function on TETRA has reinforced a need to justify and at times defend their actions and behaviours in the workplace, in an effort to avoid any potential disciplinary action regarding their performance or conduct.

“I suppose covering my ass do you know? Making sure I do things right and just you know that you’re aware that you are being kind of watched.”

Garda 14.

“TETRA is one of these things. Everything is moving to a kind of cover your arse system I suppose.”

Garda 21.

“In your work, it probably, just maybe it makes you a bit more em what’s the word, a bit more -particular about what you do at a certain call maybe.”

Garda 16.

For a number of the interviewees, their lack of trust in Garda Management had a negative impact on their commitment to An Garda Síochána. For example, Garda 35 explains how a trust deficit between Management and lower ranking officers can have serious implications in terms of their productivity, efficiency and engagement within the organisation. In the extract below, he flags the dangers of these counterproductive behaviours and the potential impact they have on Garda members’ commitment to the organisation.

“I think if any of us in any walk of life felt that the person we were working to or working for didn’t trust us . . . it’s a bad basis for business is it not? It would impact right from start to end. Because first of all, the natural

inclination with anyone who distrusts you is just to have the bare minimum of engagement and interaction with them for fear that they'd misrepresent you. And it will impact on output, it will impact on efficiency, effectiveness and . . like after a while it's like a cancer. Distrust eats into every . . whether it's in any relationship . . if distrust exists it will do terrible damage to it."

Garda 35.

Similarly Garda 29 describes how a lack of trust in Senior Management can have severe ramifications on members' ability to performance their civic duty to both the general public and the force. In the extract below, he places the onus back on Management to reduce the trust deficit, arguing that the majority of Garda members wish to perform their duty safely and efficiently, however their distrust in management affects their ability to do so.

"If you were to let that affect your trust in An Garda Síochána well then you're going to have an issue regarding how you actually perform your duty and the vast majority of guards (Gardaí) that I know of, and I've ever worked with they want to perform their job but they also want a safe- as again to go back to 2005 Safety, Health and Welfare Work act - they want to be provided with a safe both a safe place of work and a safe system of work, which is a statutory obligation and on our employer the Garda Commissioner."

Garda 29.

Despite the fact a large number of respondents expressed serious concerns relating to the implications of their mandatory use of the TETRA radio, the majority of Garda members interviewed expressed a clear and strong emotional attachment to An Garda Síochána. For example, every single interviewee described how they thoroughly enjoyed their roles within the force despite any issues they may have.

“To be honest with you I really enjoy it. You get good days and bad days, now don't get me wrong, but I really enjoy it's very good for me.”

Garda 30.

“I love my job and it wouldn't change me either way”

Garda 6.

“I love my job I just don't trust management.”

Garda 31.

Similarly, two of the female interviewees describe highly positive experiences in relation to the introduction of the GPS tracking function on the TETRA radio. For example, both Garda 20 and Garda 19 describe how the GPS feature on the radio improved their feelings of safety within their role. In this way both interviewees demonstrated high levels of job satisfaction and commitment to An Garda Síochána.

“Well yeah like I suppose as a girl and I work on my own it gives me a bit more security, so yeah I'd get a bit more job satisfaction out of it, yeah.”

Garda 20.

“It's just as I said to you it's like an extra blanket a safety blanket if you're in bother on the street you can press that button and they can locate where you are and just to have it that's it.”

Garda 19.

Summary Point: Overall the introduction of the GPS tracking function on the TETRA radio did not negatively impact Garda member's commitment to An Garda Síochána.

7.9 Integration and Comparison of Findings

The final stage of the data analysis stage involved the integration and comparison of the quantitative and qualitative findings to confirm the reliability of the study. This section compares the results from the Garda member interviews with the data obtained from the survey instrument. This process is done in two phases. Firstly each of the key constructs identified in the research model were reviewed in line with the findings from the interview process. The interviews further established the importance of two other constructs – stress and morale – which would not have been identified if the survey instrument had been the exclusive research method employed.

The following table 7.17 outlines the main constructs identified in the framework with a corresponding summary of the findings from the interviews. A summary of the two new constructs identified through the interview process is also provided.

Table 9: Constructs and Summary of Interviews

Construct	Summary
Perceived Value	Garda members agreed there were significant value associated with use of the TETRA radio. Benefits included increased safety and security of members and improved communications between members and the Control Centre while on duty.
Perceived Illegitimacy	The majority of participants questioned the legitimacy of Senior Management's right to collect their location information via their personal issue TETRA radio. The uncertainty surrounding Senior Management's use of the location data collated via the TETRA radio lowered their perceptions of legitimacy.
Loss of Autonomy	The majority of interviewees expressed strong levels of concerns regarding their loss of autonomy. Loss of autonomy increased stress and lowered morale.
IPC-Awareness	Overall the majority of the interviewees displayed limited understanding and awareness of the degree to which Senior Management were monitoring their location information. The

	confusion surrounding the degree to which management were engaging in these monitoring practices were heightened by the actions of Senior Management during the Covid-19 crisis. Lack of awareness generated concerns regarding potential unauthorised access and secondary use of location information.
IPC-Collection	Concerns relating to the collection of and retention of location information were high among these interviewees. Those concerns could be alleviated if Management were to agree to a policy outlining the collection and storage procedures relating to the data.
IPC-Unauthorised Secondary Use	Overall the majority of respondents expressed significant concerns in relation to the potential unauthorised secondary use of their information. There was a common view that location data should not be used for secondary purposes under any circumstance. Unauthorised secondary use of the location information had a strong negative effect on their trust in Garda Management.
IPC-Control	Garda members did not believe that they had control over the collection, use and storage of their location information obtained by Senior Management via their TETRA radio. Interviewees expressed a strong desire for greater control over their location information. Lack of control has a strong impact on their job satisfaction and commitment to the organisation.
IPC-Errors	The majority of interviewees did not express any significant concerns in relation to the accuracy of the GPS function of the TETRA radio system.
IPC-Improper Access	The majority of interviewees were concerned that their location information collated via the TETRA radio system could be accessed by an unauthorised external individual or group of individuals.
OJ- Procedural Justice	The majority of interviewees did not perceive the decision by Senior Management to monitor Garda member's location information was fair or just. The majority of interviewees did not believe they had any input in the decision to activate the GPS function on the radio. Overall, interviewees believed the lack of clear guidelines or policies outlining these location-monitoring practices was unfair and unjust.

OJ-Distributive Justice	Overall the majority of the respondents did not believe the collection and use of the data obtained through TETRA was applied fairly across the force. The majority of the respondents expressed strong concerns that the monitoring practices were only applied to frontline uniformed officers.
OJ-Interactional Justice	Overall the majority of interviewees did not believe the introduction, use and function of the GPS system on the TETRA radio was clearly or fairly communicated to Garda members. Overall the majority of interviewees did not perceive that Managements rationale for implementing the GPS function on the TETRA was fair or just.
Organisational Trust	Overall the introduction of the GPS tracking function on the TETRA radio negatively impacted Garda members' perceptions of trust in management.
Affective Commitment	Overall the introduction of the GPS tracking function on the TETRA radio did not negatively impact Garda member's commitment to An Garda Síochána.
Stress***	There is a strong relationship between location monitoring and stress. A significant number of Garda members experienced high levels of stress as a result of having their location monitored by Senior Management. High levels of stress influenced the behaviours and actions of a specific number of interviewees.
Morale***	There is a strong relationship between Tetra location monitoring and loss of morale. A significant number of Garda members believe the monitoring of their locations while on duty lowers morale.

*** Constructs identified through qualitative research. Not part of Research Model.

The final stage of the analysis involved comparing the qualitative research with the research hypotheses identified in chapter 5. By comparing the results obtained through the interview sets with the results from the survey instrument, with respect to the research hypotheses, reliability of the quantitative data and relationship identified in the model

could be confirmed. A summary of the qualitative and quantitative findings with respect to the research study hypotheses is presented in table 7.18.

Table 7.18: Hypotheses Results - Qualitative and Quantitative

#	Hypothesis	Quantitative		Qualitative		Hypothesis cannot be tested
		Supported	Not Supported	Supported	Not Supported	
H1a	Digital collection of employee location information will result in higher employee IPC.	✓		✓		
H1b	Unauthorised secondary use of digitally collected location information will increase employee IPC.	✓		✓		
H1c	Errors in digitally collected location information will increase employee IPC.	✓			✓	
H1d	Improper access of digitally collected location information will increase employee IPC.	✓		✓		
H1e	Lack of control over digitally collected location	✓		✓		

	information will increase employee IPC		
H1f	Awareness of organisational digital location monitoring will increase employee IPC.	✓	✓
H2	IPC increase employees' perceived loss of autonomy.	✓	✓
H3	IPC increase employees' perception of the illegitimacy of digital location monitoring	✓	✓
H4	Employee IPC regarding digital location monitoring decreases organisational trust.	✓	✓
H5	Employee IPC relating to digital location monitoring decreases affective commitment to the organisation.	✓	✓

H6	IPC will decrease employees' perceptions of the value of digital location monitoring.	✓		✓
H7	Loss of employee autonomy arising from digital location monitoring will decrease trust in the organisation.	✓	✓	
H8	Loss of autonomy will decrease employees' perception of the value of location monitoring technology.	✓		✓
H9	The perceived illegitimacy of workplace digital monitoring will influence employees' perception of the value of the monitoring technology.	✓		✓
H10	The perceived illegitimacy of digital location monitoring will decrease		✓	✓

	employee trust in the organisation.		
H11	The perceived value of digital location monitoring will increase employee commitment to the organisation.	✓	✓
H12	Employee trust in the organisation influences affective commitment.	✓	✓
H13	IPC will decrease employee perceptions that the procedures used to monitor their location are fair.	✓	✓
H14	IPC will decrease employee perceptions that the outcomes associated with use of location tracking technologies are fair	✓	✓
H15	IPC will decrease employee perceptions that information regarding use of	✓	✓

	location tracking technology and data management is communicated in a fair and transparent way		
H16	Perceived procedural justice will increase employee trust in the organisation	✓	✓
H17	Perceived distributive justice will increase employee trust in the organisation	✓	✓
H18	Perceived interactional justice will increase employee trust in the organisation	✓	✓

7.10 Conclusion

This chapter presented the results of the quantitative and qualitative research conducted for this study. Firstly, the quantitative data was analysed. A breakdown of the response rate and respondent profile was outlined, followed by frequency analyses.

The research framework was tested in stages. Each individual model was subjected to Preliminary Analysis (statistical power and overall model fit), Assessment of Measurement (reliability and validity, convergent and discriminant validity, internal

reliability, and construct reliability) and Assessment of Structural Model (correlation and associations between independent and dependent variables). Finally, a number of post-hoc tests were undertaken for each individual model.

A full analysis of the qualitative data followed. Each interview was reviewed repeatedly and a number of emergent themes were discussed in detail. Finally, the interview findings were compared and integrated with results obtained via the survey instrument. The interviews were supportive of the survey data and additionally provided valuable insight into two major outcomes resulting from Tetra location monitoring

In the following chapter the implications of these findings are discussed in detail.

Chapter Eight: Discussion

“The aim of argument, or of discussion, should not be victory, but progress.”

- Joseph Joubert

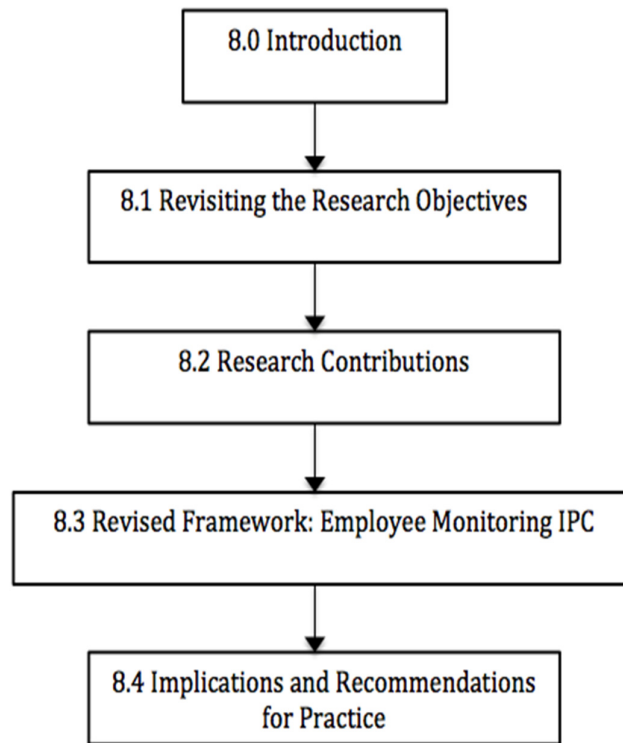
8.0 Introduction

This chapter provides a detailed discussion of the study findings, highlighting their significance in light of current and past research and illustrating how they progress the body of knowledge. To assist, the discussion begins with a brief review of the research objectives and hypotheses tested. The research findings provide interesting insights in relation to three key issues:

1. Dimensions of employees' IPC in relation to mandatory wearable location tracking technologies in an organisational context.
2. The influence of employee IPC on perceptions of organisational trust and affective commitment
3. The nature of the relationship between employee IPC and organisational justice perceptions and the influence of those justice perceptions on organisational trust and affective commitment.

These insights, their contribution to the literature and their implications for management are discussed in detail. An integrated model of IPC and organisational justice dimensions is presented and its contribution to the literature is discussed. The chapter outline is depicted in figure 8.1.

Figure 8.1: Chapter Structure



8.1 Revisiting the Research Objectives

This research set out to examine the nature and impact of information privacy concerns (IPC) in relation to mandatory location-tracking technology within an organisational context. Specifically, it explores how an employee's information privacy concerns relating to such technology intersects with their perceptions of organisational justice and how these impact the employee's relationship with the organisation as expressed through organisational trust and affective commitment.

An extensive review of the information privacy, technology adoption, surveillance and organisational-based literature identified a number of gaps in our current understanding of these key issues. Moreover, it highlighted the need for new research to be conducted to help integrate these key research areas, specifically to explore the relationship between information privacy, location monitoring, organisational justice and organisational impacts. Consequently, an integrated research framework was developed. Employing the case study of An Garda Síochána, it explored how IPC of Gardaí regarding mandatory location monitoring technology intersect with their perceptions of organisational justice to influence their trust of and commitment to the organisation. This framework harnesses a number of theories identified across the three literature review chapters to further enhance and support our understanding of the key issues involved in the study. The framework was tested using three models, with each model being analysed in three stages – preliminary analysis, assessment of measurement model and assessment of structural model. The hypotheses identified in chapter six were then tested within the research models and overall framework. Finally, a number of interviews were conducted with Garda members across various ranks within An Garda Síochána.

The research had three key objectives, which are briefly revisited in the sections below.

8.1.1 Examining Dimensions of Employee Information Privacy Concerns

The first objective of the study was to explore the dimensions to employees' IPC in relation to location monitoring technology mandated by the organisation. The literature review revealed a dearth of research focusing on employee IPC (Alge, 2006; Alder et al., 2006; Snyder, 2010; Chory et al., 2016). Prior research has examined many dimensions across a multitude of contexts (Waldo et al., 2007; Miyazaki, 2008; Taddicken, 2014;

Kenny, 2016; Fox and Connolly, 2018). Based on that review and exploratory interviews, six key dimensions of IPC were determined as being relevant to this study. These derive from the work of Hong and Thong (2013) and encompass concerns regarding the *collection, control, unauthorised secondary use* and *improper access* of information, as well as *errors* in the information and one's *awareness* of information privacy practices. It was necessary to determine both presence and nature of these concerns in the first instance as knowledge regarding employee IPC in relation to organisational locational tracking is in very short supply (Bhave et al., 2019). H1a – H1f examined the presence and measured the strength of these concerns in the context of organisational monitoring, whilst complementary interviews explored the nature and employee articulation of these concerns within that unique situation.

8.1.2 The Influence of IPC on organisational trust and affective commitment

The second main objective of the research study was to examine the influence of employees' IPC regarding workplace monitoring technologies, primarily on their organisational trust and affective commitment, but also on a number of related factors. Trust within an organisational context has been recognised as an important concept within the literature (Nyhan, 2000; Synder, 2000; Mayer et al., 1995), with more recent studies considering it in terms of the psychological contract that exists between the employee and the employer in the workplace (Ellis and Shockley-Zalabak, 2001; Chory et al., 2016). IPC are a threat to that contract and are therefore IPC in relation to location monitoring technologies are likely to influence employee trust in the organisation. For that reason, the relationship merited examination. Organisational commitment is an equally important concept when considering the influence of IPC on the employee-employer psychological contract (Allen et al., 2007; Snyder, 2010; Grimland et al., 2012; Chory et al., 2016) with previous studies indicating that organisational practices which impinge upon employees' privacy lower their commitment to the organisation (Brown, 1996; Fairweather, 1999; Tabak and Smith, 2005; Lee and Kleiner, 2003; Rosenberg, 1999). As previously discussed, affective commitment is the commitment measure most relevant to this study and the guiding theoretical frameworks of Protection Motivation and Social Exchange. It was therefore hypothesised that IPC relating to location monitoring via the TETRA radio would decrease a Garda member's trust in the

organisation (H4) and decrease their affective commitment to the organisation of An Garda Síochána (H5).

A related objective was to examine whether these IPC influence employee's perception of the illegitimacy of organisational monitoring (as distinct from data-related concerns) and whether IPC is associated with a loss of autonomy from their perspective. Loss of autonomy explored the degree to which Garda members felt that they were unable to use their personal initiative at work as a result of mandatory location tracking via TETRA radio system. Perceived illegitimacy referred to the degree to which Garda members believed that gathering and handling of their location information data by the organisation was legitimate and just. The literature indicated the need to examine these relationships as they are likely to change the employee's relationship with the organisation (Bhave et al., 2019; Alge, 2006). For that reason, they were examined via hypothesis 2 and 3. Both loss of autonomy and perceived illegitimacy was subsequently also examined in relation how they influenced perceived functional value (personal benefit) of the monitoring technology and how this influences Garda member's trust in the organisation (H8; H9).

8.1.3 The nature of the employee IPC-Perceived organisational justice relationship and its outcomes

The third main objective of this study was to examine employee organisational justice perceptions in relation to mandatory location tracking technology. It did so by first examining whether and to what degree IPC intersect with those organisational justice perceptions and then by examining the influence of those perceptions on organisational trust and affective commitment. The literature shows that little attention has been paid to the perspective of employees in relation to the fairness of monitoring technologies (Stanton, 2000a; Butler, 2012; Chory et al., 2016). What does exist tends to focus on call centres (Butler, 2012), manufacturing companies (Colquitt, 2001) or multiple organisations (Martin et al., 2016; Kaya et al., 2016; Stanton, 2000a). Moreover, research has tended to focus on singular dimensions of justice perceptions and is therefore bounded (Chory et al., 2016). This research draws on existing literature to provide a comprehensive examination of organisational justice dimensions, enabling determination of which justice dimension is perceived as most important within a mandatory location tracking context. It then examines whether and to what extent these justice perceptions are shaped by IPC, before moving to examine how those justice perceptions influence

employee trust and commitment to the organisation. This answers calls from the literature to move from isolated examinations of IPC and incorporate the theoretical richness of insight available in other complementary literature (Bhave et al., 2019; Smith et al., 2011; Son and Kim, 2008), in particular to explore how IPC associated with electronic monitoring influence fairness perceptions (Butler, 2012).

While many researchers have recognised the three dimensions of organisational justice as separate variables within the literature (Colquitt, 2001; Cohen-Charash and Spector, 2001), few studies have explored the effects of these distinct elements of justice on organisational or managerial trust (Hubbell and Chory-Assad, 2005) or affective commitment. Similarly, while researchers Chory et al., (2016) explored the relationship between employee privacy concerns and their corresponding evaluations of organisational justice on trust and commitment to the organisation, they focused their study on only one variable of organisational justice – procedural justice – as opposed to considering all three dimensions within their study. Addressing that gap, this study explored how IPC intersect with all three dimensions of organisational justice to influence an employee's trust and affective commitment. The quantitative element of the analysis examined the strength and direction of the relationship between these two constructs (IPC and organisational justice dimensions) and their impact, while complementary interviews provided insight into the nature of that relationship. In doing so, it enables insight into how the impact of IPC unfolds in a workplace digital monitoring context and its impact on the employee's relationship with the organisation.

8.2 Research Contributions

This study enhances our understanding of employee IPC in relation to mandatory wearable location-monitoring technologies and contains implications for theory in a number of fields. Previous researchers have highlighted the importance of context in relation to fully exploring and understanding IPC (e.g. Hong and Thong, 2013; Malhotra et al., 2004; Culnan, 1993). Thus, by examining Irish Garda members' IPC in relation to mandatory wearable location monitoring technologies, this research study answers that call. It not only represents Ireland's first National Dataveillance study conducted within the public sector, but more importantly, it is a study that synthesises IPC and justice

perceptions within a context of active employee monitoring, focusing on the measurable outcomes of that practice, rather than simply intention or potential outcomes.

The study makes three key theoretical contributions to the literature, which are now discussed in sequence.

8.2.1 Dimensions of employee IPC in relation to workplace location monitoring technologies

This study explored dimensions of employee IPC in relation to the use of mandatory location monitoring technologies within an organisational context. A six-dimensional measure of information privacy concerns adapted from Hong and Thong (2013) was applied within this study. The quantitative results provide support for each of these measures of IPC in the context of employee monitoring via wearable technology. The ability to control one's information was found to have the strongest influence on employee IPC. This finding is consistent with that of Hong and Thong (2013) who also found control of information to be the strongest driver of IPC in their theoretical framework. Although the current work extends that finding to the context of employee location monitoring technologies, it is also consistent with the findings of (Khakurel et al., 2017; Martin et al., 2016) in this regard. The quantitative findings also confirmed that collection and unauthorised secondary use of information exerted a strong influence on employee IPC in relation to workplace location tracking technologies. Again, this aligns with the findings of studies of IPC in other contexts such as that of (Bhave et al., 2019; Ball et al., 2012; Turow et al., 2005) while extending it to the current context.

However, the qualitative findings of the study provide a more granular understanding of IPC dimensions and their inter-relationship. Employees' lack of awareness relating to the location monitoring practices of Senior Management emerged as a key driver of information privacy concerns. For example, a number of interviewees described how they were never formally notified that the GPS function was active on their personal issue radio handsets, and only became accidentally aware that Senior Management were actively monitoring their live locations through conversations with other colleagues or when they themselves or other Garda colleagues were publicly reprimanded by Senior Management. Moreover, the interviews confirmed a trajectory effect of this awareness dimension on other dimensions of IPC, with a number of interviewees confirming that

their initial lack of awareness relating to these location monitoring practices subsequently heightened their IPC regarding the collection, control and unauthorised secondary use of their information. For example, a number of interviewees expressed significant concerns that their location information could be used against them in some way, either in disciplinary proceedings, to scrutinise them or to specifically target individual themselves or their colleagues. Consequently, this study achieves three contributions in regard to this examination of the dimensions of employee IPC. *First*, it confirms the importance of each of the measures of IPC examined in this study showing that they are relevant to the context of employee monitoring; *Second*, it empirically demonstrates that data control, collection and unauthorised secondary use of information are respectively the most pertinent employee concerns in this context; and *third*, it provides new insight into important role of the awareness dimension of the IPC construct, identifying it as an important accentuator of other IPC.

IPC are specific to data. However, an important and linked issue relates to employees' perceptions of the fundamental legitimacy or illegitimacy of the organisation's decision to implement monitoring technologies in the first instance. Consistent with the work of Alge (2006), the quantitative results of this study confirm the relationship between IPC and perceived illegitimacy, showing that Garda members' IPC increase their perception of the illegitimacy of Senior Management's decision to use digital technologies to track their location in real time. The interviews provide further support and a deeper understanding into the intertwined nature of this relationship, with many interviewees describing how the information obtained through the TETRA radio was at times being used as a mechanism to supervise, control, micromanage and discipline Garda members, rather than for the legitimate purpose of assisting and protecting them while on duty. The interviews confirmed that a number of Garda members were deeply concerned that Senior Management could illegitimately utilise their location information for potentially punitive purposes and as a result they modified their behaviours while on duty. Significantly, interviewees noted that a number of junior and lower ranking Garda members in particular had become fearful and anxious within their roles, refusing to take breaks or deviate from their assigned posts for any reason while on duty. In a number of cases, the constant scrutiny through the daily use of the TETRA radio was negatively impacting Garda member's self-esteem and morale, consequently impacting their relationship with Senior Management. In this way, this study extends our understanding

of the relationship between employee IPC and their perception of monitoring technologies as illegitimate within an organisational context, and further signifies the trajectory impact of this relationship on employee's self-esteem, morale, workplace behaviours and their relationship with the organisation (Martin et al., 2016; Holland et al., 2015; Alder, 1998; Nussbaum and duRivage, 1986).

A similarly connected issue relates to the (quantitatively and qualitatively) confirmed influence of IPC on employee loss of autonomy as evidenced through reduced freedom to use personal initiative in dealing with work-related tasks. The use of electronic monitoring has been shown to affect employee autonomy (Martin et al., 2016; Brey, 1999) and these study findings confirm that by showing that Garda members' autonomy was significantly reduced through their use of the TETRA radio system. Once again the interviews provide deeper insight into this issue. For example, a number of interviewees expressed concerns that the liberty of choosing when, how and why they police had been significantly curtailed as a result of the measures employed by Senior Management to monitor and control Garda resources through the TETRA radio system. A number of interviewees displayed extreme levels of frustration and anger towards Senior Management as a result of the reduced level of autonomous decision-making they were experiencing within their roles as a result of using TETRA. This finding is consistent with a study conducted by Spector (1986) who found that employees who experience higher levels of autonomy and control at work experience less conflict in the workplace, display fewer emotional symptoms and are more satisfied within their roles. Garda members described having been disciplined and publicly reprimanded for choosing how they police and complete their duties while on patrol, with one Garda member describing how his colleague was severely disciplined and fined for making the decision to leave his assigned district to refill his patrol car with diesel while on duty, despite the fact there were no diesel garages within his district of patrol. Consequently, this study extends our understanding of workplace IPC by confirming its reductive influence on employee autonomy.

8.2.2 The Impact of employee IPC on organisational trust and affective commitment

A second important contribution of this study is that it extends our understanding of how employees' IPC regarding location monitoring influences their relationship with their organisation. Consistent with previous research conducted within the privacy and

organisational science literatures (Holland et al., 2015; Chory et al., 2016), the quantitative results confirm a strong negative association between employee IPC and organisational trust for the study respondents. This finding is also consistent with a previous study conducted by Chory et al., (2016) which found that employees who are less concerned about management infringing on their privacy, display higher levels of organisational trust and with the earlier findings of Robinson and Rousseau (1994) who reported a reduced level of organisational trust amongst employees as a result of management's perceived violation of the employee – employer psychological contract. However, the current study confirms that outcome in the context of employee location monitoring via digital technologies. The qualitative findings provide insight into that relationship with a number of interviewees describing how their data privacy concerns negatively impacted their trust in Senior Management. They described low levels of trust in Management as a direct result of their previous experiences, where Senior Personnel had blatantly accessed and misused their private data or location information for secondary or improper purposes without the employee's prior knowledge or consent.

The relationship between IPC and affective commitment was also confirmed as negative, but was not significant. This contrasts somewhat with the findings of Chory et al., (2016) who reported a *significant* negative relationship between IPC and organisational commitment. Nonetheless, despite the negative effect of IPC, all interviewees described a strong affective commitment to An Garda Síochána, indicating their ability to distinguish between Management and the organisation.

Other studies of organisational monitoring (e.g., Butler (2012) which focused on organisational support in a call centre context) have found the path to affective commitment to be more circuitous than originally expected. This study confirms that to be the case in the context of employee location monitoring and further illustrates that pathway, showing that IPC influences the employee's perception of the value or personal benefit accruing from monitoring technology, which in turn influences their organisational commitment. The interviews provide insight into these findings with all interviewees acknowledging the significant benefits associated with use of the TETRA radio, associating use of the GPS function of the TETRA radio with increased safety and security within their roles. In fact, throughout the interviews, a number of male and female interviewees detailed specific situations in which they had utilised the GPS

function on the TETRA radio to request urgent assistance, expressing increased job satisfaction and affective commitment to An Garda Síochána as a result. Moreover, it was confirmed that the relationship between perceived value and organisational commitment was strongest amongst Garda members who had between 4 and 6 years' experience of using TETRA radio. One possible explanation for this finding is that Garda members within this grouping have completed their probationary service period and are now working more independently within crime and incident policing, which causes them to place greater value on the functional support and reassurance which the technology confers, thereby not impacting their commitment. From a theoretical perspective, the value of this finding lies in the fact that it advances our understanding of how the negative impact of IPC on affective commitment can be reduced - not only through the development of effective policies to protect employee data - but also through more effective communication of the functional benefits of the technology for employees at all stages of their career, which has been shown to be positively associated with employees' affective organisational commitment.

An associated contribution relates to the strong positive association that emerged between organisational trust and affective commitment. This is consistent with findings obtained in previous studies (Nyhan, 2000; Tan and Lim, 2009) including Butler's (2012) examination of the electronic monitoring of Call Centre employees, all of which found that employees who have trust in Management are more likely to feel affective commitment to the organisation. However, in this study, post hoc testing further extended our understanding of the trust-commitment relationship by showing that the relationship between organisational trust and affective commitment was stronger for Garda Sergeants than was the case for rank and file Gardaí. This finding is particularly interesting as it indicates that employee trust in management increases with seniority and level of experience with the organisation, something not previously established in the literature.

An unexpected finding of interest related to this examination was preliminary evidence of automation bias. This emerged from the qualitative analysis of Garda interviews. Automation bias has been defined as the propensity of individuals to accept data provided by automated systems and to ignore any contradictory information even if it is correct (Mosier et al., 1996). In this study it presented through Management's over-reliance on

the TETRA location monitoring technology as the ultimate source of correct information, to the point of ignoring important additional contradictory information. For example, a small number of interviewees described situations whereby the GPS function of the TETRA located the Garda member in a different location to their actual location, and they were questioned by Senior Management regarding their whereabouts as a result, with trust in the technology and its outputs being prioritized despite clear evidence of error.

8.2.3 The nature of the relationship between employee IPC and organisational justice and the influence of those justice perceptions on organisational trust and affective commitment.

The third theoretical contribution of this research contains two elements, the first being the nature of the relationship between employee IPC and organisational justice dimensions. To date, research on how IPC influence employee perceptions of justice in relation to mandatory location monitoring is absent. Moreover, while many researchers have utilised justice theories to examine the information privacy construct on a theoretical level (Introna, 2000; Ashworth and Free, 2006), this current study extends our understanding of the relationship by exploring it empirically, through a comprehensive examination of all three of its key dimensions. The findings confirm that employee privacy concerns do exert a significant effect on all three dimensions of organisational justice, with the strongest effect exerted on distributive justice. From a theoretical perspective this finding is particularly important to current research as it challenges previous research which bounded examinations to only one dimension of organisational justice (such as that of Chory et al., 2016 which focused on procedural justice) and provides clear evidence of the need for more dimensionally inclusive examinations of the construct and how it is shaped by IPC. Secondly, it shows that employee IPC regarding mandatory location monitoring exert the strongest effect on their perception of distributive justice, which relates to perceived fairness regarding allocations of organisational practices, in this case that the monitoring practices were applied fairly to all Garda members regardless of seniority, rank or unit.

Post hoc testing provided further insight into these relationships, showing that IPC exert a weaker effect on the justice perceptions of longer serving Garda in relation to the fairness of the location tracking data collection and usage procedures employed by the

organisation. Recognition of the role of organisational experience (as opposed to age) has not received adequate attention in the IPC literature to date and this finding illustrates the need for its consideration.

In addition, this study explores outcome, specifically how employee IPC intersects with their perceptions of organisational justice to influence their organisational response. Consistent with previous research conducted by Hubbell and Chory-Assad (2005) the findings confirm a significant relationship between procedural justice and organisational trust. As hypothesised, the findings further confirmed perceptions of distributive and interactional justice to be strong predictors of organisational trust. These findings support previous studies, which have found a significant association between distributive justice and organisational trust (Colquitt, 2001) and interactional justice and trust in management (Saunders and Thornhill, 2003), albeit not in the context of organisational monitoring. Other empirical studies (Hubbell and Chory-Assad, 2005; Gopinath and Becker, 2000; Konvosky and Cropanzano, 1991) have reported procedural justice as exerting the strongest influence on organisational trust. Previous research by Butler (2012) on electronic monitoring of Call Centre employees found that perceptions of procedural and distributive justice on organisational trust was not supported. This study shows that such an interpretation does not apply in the context of organisationally mandated wearable location tracking technologies. Rather the findings of the current study confirm the influence of both procedural and distributive justice (as well as interactional justice) on organisational trust, with the latter justice perception being the strongest predictor of that trust in the context of mandatory employee location tracking. In doing so, it increases theoretical clarity within the body of knowledge regarding the dimensions of organisational fairness and justice that most influence employees who are subject to mandatory workplace monitoring, providing guidance to future research in this area, whilst equally illustrating the direction in which organisations should focus their policies and communications to increase employee trust. The fact that this finding challenges that obtained by Butler (tested in a North American context) is important as it points to the fact that fairness perceptions may vary in relation to different electronic monitoring technologies and also highlights the value of testing the culture independence of study findings.

A further theoretical contribution relates to the examination of organisational justice perceptions in relation to their influence on affective commitment. The study findings demonstrate that this relationship was positive but not significant for this sample. This is directionally consistent with the results obtained by Butler (2012) who found the relationship both positive and also significant, as well as with previous research in a general management context (such as Ruppel and Harrington, 2000; Whitener, 2001). The fact that it is insignificant in this context may relate to the unique training and membership associated with being a member of the national policing organisation. For example, insights obtained from the qualitative section of the study showed that Garda commitment to the organisation remained remarkably stable, regardless of their IPC or perceptions of organisational fairness. Therefore, this finding may be specific to the unique characteristics associated with membership of the police force. However, it does point to the need for further testing of this association in other electronic monitoring contexts.

A final contribution relates to the comparison of the differential pathways of influence of IPC and organisational justice perceptions on employee trust and affective commitment. As mentioned, the study findings show that employee IPC was expressed through their influence on loss of autonomy, which in turn influences organisational trust. They also influence employees' perceptions of electronic monitoring as an illegitimate action by management. However, in this specific organisational monitoring context, IPC did not exert a direct significant effect on affective commitment. Nonetheless, to assume that indicates that IPC has no effect on this outcome would be incorrect. To the contrary, this research also shows, through its synthesis of employee IPC and organisational justice perceptions, that the effect of IPC on affective commitment unfolds through organisational trust. From a theoretical perspective, this illustrates the need to progress our conceptualisations of IPC in relation to electronic monitoring beyond the limited boundaries of linear association measures and instead to recognise that the unique nature of employee IPC in relation to organisational electronic monitoring requires that examinations of its effect be situated in a context of justice and fairness in order for a more complete understanding of its effects to be obtained. In synthesising both employee IPC and organisational justice perceptions regarding electronic monitoring within a framework of trust and commitment outcomes, this research breaks new ground, illustrating the effectiveness of this synthesis and its ability to provide richer insights.

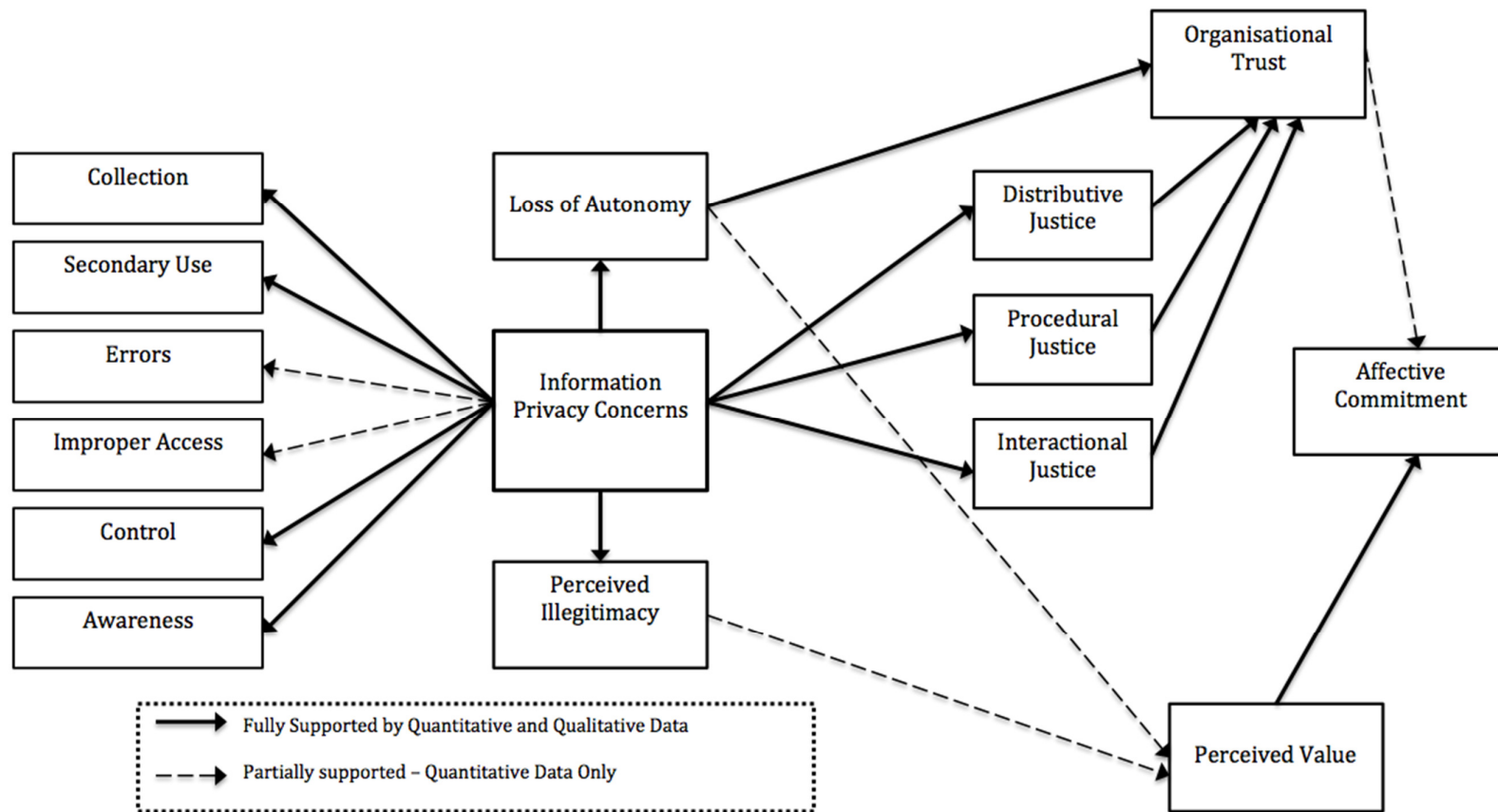
In summary, this study develops an integrated conceptualisation of the complex inter-relationship between employee IPC regarding mandatory electronic location monitoring and organisational justice perceptions, in order to more fully understand how those concerns impact the employee's trust and affective commitment to the organisation. This is tested using a triangulated data collection approach that is mirrored through structural equation model analysis of survey data, complemented by thematic analysis of interviews. The empirical findings provide three sets of valuable contributions which advance our theoretical understanding of the employee IPC in the context of electronic location monitoring, the nature of the IPC-organisational justice relationship and shows how IPC influence the employee's relationship with the organisation, illustrating this with a real-world public-sector case study.

The revised model that results from that examination is shown in figure 8.2.

8.3 Revised Framework: Employee monitoring IPC

This section provides a brief description of the revised framework resulting from the integrated quantitative and qualitative findings of this research. This revised framework is depicted in figure 8.2 below.

Figure 8.2: Revised Employee Monitoring IPC Framework



The revised model represents a fully comprehensive framework that explores the degree to which employee IPC intersect with organisational justice perceptions to influence their organisational trust and affective commitment. As depicted in the model above, the majority of the relationships were supported by both the quantitative and qualitative data in the study. In a few cases, relationships were supported predominantly through the quantitative data. For example, the first pillar of this model focuses on IPC dimensions regarding electronic monitoring of employees. While the quantitative element of the study provided support for all six dimensions of information privacy concerns and demonstrated the predominant concern regarding *ability to control data*, the qualitative findings found that *errors* and *improper access* did not significantly influence employee's privacy concerns.

Significantly, the central pillar of this model, the relationship between IPC and all three organisational justice perceptions, was supported by both the quantitative and qualitative results. Similarly, the final pillar of the model, that illustrating the relationship between those justice perceptions and organisational trust was also strongly supported by both the quantitative and qualitative findings, confirming the particular value of this 'IPC-justice perceptions-organisational trust' synthesis for understanding employee concerns and perceptions in relation to organisational electronic monitoring of employees.

The relationship between organisational trust and affective commitment is supported in the quantitative element of study, an outcome that is consistent with the findings of Butler (2012). However, this is a mixed method study and the qualitative findings did not provide specific support for this relationship. As previously noted, the explanation for this may relate to the unique characteristics of the case study, with membership of Irish police force implying stable commitment to the organisation and its objectives, rather than being influenced by trust or distrust in Management. Similarly, the quantitative results confirmed that perceived value had a significant negative relationship with both loss of autonomy and perceived illegitimacy, no specific support was found for these relationships within the qualitative element of this study. As discussed in the sections above, the interviews themselves provide possible explanations for these findings, by highlighting the value and benefits Garda members associate in terms of increased safety and security from their use of the TETRA radio system. Significantly the relationship

between perceived value and affective commitment was supported by both the qualitative and quantitative data within the study.

The utility and richness of this model lies in the fact that it draws on the information privacy, organisational justice and trust literatures, providing both conceptual and directional clarity for researchers seeking to examine employee IPC regarding any type of workplace electronic monitoring. It provides a pertinent and empirically tested guiding framework that reduces conceptual ambiguity regarding IPC dimensions, situating them in relation to organisational justice perceptions and elucidates their influence pathway in relation to employee trust and affective commitment. Through its synthesis of differing disciplinary literatures, this model is relevant to researchers from across a spectrum of disciplines, seeking to understand employee IPC and its outcomes. As it was tested using an Irish case study, it also has significant potential for culture independence testing within other contexts as well as presenting researchers with the opportunity to use it to guide their examinations using other types of electronic monitoring.

The study findings also provide a number of actionable insights for organisations.

8.4 Implications and Recommendations for Practice

This current research study provides 3 key actionable insights for practice. Each one of these key insights are addressed in sequence below. A number of recommendations are then presented. These will be valuable for organisations seeking to mitigate employee IPCs while effectively leveraging the improved resource management insights that are offered by employee monitoring technologies.

8.4.1 Employee Awareness of Monitoring Practices

In this study, awareness was confirmed as a strong predictor of IPC in both the qualitative and quantitative data. Many of the interviewees described how they were never formally notified by Senior Management that their location information was being electronically monitored, nor who was accessing it or perhaps most importantly why the monitoring decision was taken in the first place. This initial lack of awareness relating to location monitoring practices had a trajectory impact on other dimensions of information privacy

concern, specifically relating to the collection, control and unauthorised secondary use of their personal data.

Significantly, all interviewees confirmed that there was no clear policy, procedure or guidelines set in place regarding the location-monitoring function of the TETRA radio. This lack of a clear policy to govern the use of the GPS function of the TETRA radio accentuated Garda members concerns and heightened their awareness of and attention to the electronic location monitoring practices of An Garda Síochána.

Recommendation: Previous research has argued that individuals have the right to be fully informed regarding why their data is being collated, how it will be used, who has access to it and how it will be protected (Jensen et al., 2005). Increased transparency regarding Senior Management's gathering of location data via TETRA radio is necessary to alleviate employee privacy concerns. Moreover, the development and communication of policies and guidelines governing control of data collected is imperative in order to reduce employee IPC. Therefore, organisations seeking to mitigate employee privacy concerns relating to the monitoring practices of the organisation should introduce clear policies, procedures and guidelines governing the monitoring practices of the organisation. Moreover, they should ensure that employees are fully informed and made aware of these monitoring practices, specifically in terms of why the data is being collated, how it is being used, who can access it as well as the measures in place to protect their data.

8.4.2 The Relationship between Loss of Autonomy and Organisational Trust

The results of the study confirmed that IPC regarding the mandatory monitoring technology reduced Garda autonomy in relation to task performance and that this had a negative impact on their organisational trust. A number of interviewees described feelings of anger and frustration towards Senior Management due to the reduced level of autonomy they were experiencing and their inability to counter this as the technology was mandatory. More worryingly, a number of Garda members expressed their belief that the use of the GPS function of TETRA to monitor their locations and the associated loss of autonomy they were experiencing within their job roles was a strong indication that Senior Management did not trust them to fulfil their duties within their job roles. This in

itself further reduced Garda members trust in Senior Management and the organisation of An Garda Síochána.

Recommendation: Previous research has argued that employees who experience more autonomy and control in the workplace are more satisfied in their roles, display fewer emotional symptoms and experience less conflict in their working environment (Spector, 1986). Allowing employees freedom to use their own initiative in relation to task performance within the workplace has the potential to increase their organisational trust.

Organisations seeking to leverage new electronic monitoring technologies in a way that enhances employee's organisational trust should leverage these technologies in a way that empowers the employee, allowing them to exercise their problem solving autonomy in relation to tasks, rather than, rather than using the electronic monitoring technology to limit employees in their task completion.

8.4.3 The Role of Distributive Justice in Organisational Trust

The findings of this study confirmed that Garda members concerns regarding the fair allocation of the organisational monitoring practices had a significant impact on their organisational trust. For example, a number of interviewees expressed serious concerns that the use of these monitoring practices by Senior Management was not fairly distributed amongst the force, noting their belief that junior officers and lower ranking Garda members were monitored more frequently than was the case for senior colleagues. Interestingly, throughout the interviews it became apparent that Garda members from the Dublin Metropolitan Region (DMR) perceived that they were monitored more closely than their rural based colleagues, with rural based Gardaí perceiving the opposite. The belief of Garda members that certain members of the force were more frequently monitored than others exerted a significant impact on their trust in Senior Management and the organisation.

Recommendation: It is imperative that organisations consider an employee's perceptions relating to fairness of application and outcome, when employing electronic monitoring practices. The monitoring, its application and outcomes, should be audited regularly by an independent third party and the results made available to employees on request. In this way, concerns regarding being targeted can be mitigated and any

inadvertent unfair application of electronic monitoring eliminated, with such transparency increasing employee trust.

In summary, this study provides a number of actionable insights pertinent to organisations seeking to implement new and innovative technologies or monitoring systems. By considering the implications and recommendations discussed above, organisations are likely to experience greater success in leveraging value from electronic monitoring technology in a way that mitigates employee IPC and strengthens their organisational trust.

The following chapter briefly reviews the study key contributions, outlines the study limitations and identifies a number of key areas which this study has indicated may provide fruitful future research opportunities.

Chapter Nine: Conclusion

“Now this is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning.”

- Winston Churchill

9.0 Introduction

The aim of this research was to provide better insight into employee IPC regarding mandatory electronic location monitoring in an Irish context. It examined the dimensionality of IPC and employee justice perceptions, illustrating their important inter-relationship and showing how this influences employee’s trust and affective commitment to the organisation.

9.1 Summary of Contributions

The core focus of this study was to identify employee IPC regarding mandatory electronic location monitoring and examine how these IPC intersect with organisational justice perceptions to influence their organisational trust and affective commitment. The framework for this study spans three disciplinary fields and harnesses two theoretical guiding frameworks. It was tested both quantitatively and qualitatively through an active public sector case study. The findings provide important theoretical and empirical contributions which advance insight as to the nature of employee IPC regarding electronic location monitoring technologies, how those IPC relate to the employee’s perceptions of organisational fairness and the influence of same in terms of the employee’s trust and affective commitment response. The study also provides a number of actionable insights and recommendations for organisations seeking to successfully leverage new technologies or innovations into the workplace in a way that allows them

to meet their strategic and digital objectives, while mitigating employee privacy concerns and enhancing their relationship with the organisation.

The key contributions of the study are summarised in table 9.1 below.

Table 9.1: Summary of Study Contributions

Area	Call for Research	Current Study
Empirical	> Future studies should explore the individual dimensions of IPC after a social or technological change, which may influence individuals' privacy perceptions (Hong and Thong, 2013).	> This study identifies the individual dimensions of employee IPC that relate to electronic location monitoring.
	> Future studies should empirically explore organisational justice perceptions in terms of the three distinct elements of justice (Hubbell and Chory-Assad, 2005)	> This study empirically tests the three distinct dimensions of organisational justice.
Theoretical	> There is no current study that explores how IPC regarding electronic monitoring intersect with organisational justice perceptions to influence their	> This current study developed an integrative framework, spanning three disciplinary areas of research to answer this call. It synthesises IPC, organisational justice

Method

relationship with the organisation (Butler, 2012)	perceptions and trust and affective commitment to examine the unfolding IPC impact pathway in relation to electronic monitoring.
> There is scant research exploring the organisational impact of IPC in a mandatory electronic monitoring adoption context (Butler, 2012).	> By examining a mandatory use location tracking technology, the current study addresses this gap in the literature.
> Future studies of organisational justice should consider a mixed method approach and avoid the reliance on self-reporting measures such as either survey and questionnaires (Hubbell and Chory-Assad, 2005).	> A mixed method research approach was utilised in this study. The quantitative element of the study confirmed the significance of the relationships and pathways between the constructs. The qualitative element of the study developed deeper insights into the key relationships and core focus of the research.
> Gaps in the literature indicate the need for a fully integrative conceptualisation and large-scale empirical study to augment our understanding of the inter-relationships between privacy concerns, organisational	> The integrative framework developed for this study answers this call.

	justice and organisational outcomes.	
Context	> Future studies exploring IPC should consider the importance of context in their study (Hong and Thong, 2013).	> The unique and highly sensitive public sector sample base and context of this study answers this call.
	> Of the few studies of electronic monitoring that exist, these have taken place in North American or Australian contexts (e.g. Butler, 2012; Chory et al., 2016; Martin et al., 2016), leading to questions regarding their culture independence.	> This current study takes place in an Irish public sector context, representing Ireland's first national dataveillance study.
Practice	> The inter-relationship between privacy concerns, organisational justice and organisation impacts must be understood at practitioner level to ensure that organisations can effectively leverage their technologies and innovative systems in a way that allows them to meet their strategic and digital objectives whilst mitigating employee privacy concerns, enhancing their organisational trust and commitment,	> The findings of this study provide actionable insights for practitioners and organisations in both the public and private sector. The implications and recommendations for practice can be leveraged by organisations seeking to effectively harness new technologies, innovations and systems in a way that enhances their relationship with the employees.

ultimately protecting the
employee-employer
psychological contract.
(Butler, 2012).

9.2 Study Limitations and Directions for Future Research

As is the case with all research, this study contains a number of limitations. These provide fruitful opportunities for future research.

The first limitation relates to the need to have access to a sample of employees who would be able to provide insights into the issues of concern that form the basis of this study. In order to achieve the insights required, a key consideration was that the respondents chosen would (1) have experience of workplace electronic monitoring and (ii) have the ability to provide detailed insight into IPC regarding same and how this impacts their relationship with the organisation. As a consequence, this study focuses on a public sector context in which employees are explicitly aware and mandated to use monitoring technology. However, being a member of An Garda Síochána is distinctly different to being an employee of a commercial company or even a public sector department. It assumes high levels of commitment to the organisation, something that is not replicated in most commercial organisations. In the study results, this is reflected in the fact that Gardai were able to distinguish between trust in Management and trust in the organisation and that IPC did not directly influence their affective commitment to the organisation. This sample therefore does not presume to be representative of all Irish employees across all employment sectors. Rather it was chosen with the understanding that these respondents would be most likely to provide the required information as they represent highly informed employees who are required to use location monitoring technology as part of their daily work. Research by Butler (2012) in a Call Centre context also examined some of the justice perceptions and outcomes contained in the current study and achieved similar results. Therefore it is arguable that the same IPC concerns, justice perceptions and organisational outcomes may apply in private sector organisational contexts. Nonetheless, future research testing this model in alternative employment

contexts where commitment ties might be less strong is necessary in order to determine that conclusively.

A second limitation relates to the direction of the trust measure. In this study trust is treated as an outcome variable that captures employees' perceptions of the organisation as trustworthy. However, researchers such as Blau (1964) have contended that the social exchange process involves two exchange partners being able to reciprocally trust one another, which may influence the employee's trust response. The current study provides support for this as while the extent to which an employee feels that their organization trusts them was not explicitly measured in the survey, it emerged as an issue of employee contention in interviews. Therefore, examination of the extent to which an employee considers that their organization trusts them is an important consideration, as it may influence whether and to what degree the employee feels that they can trust their organization (Schoorman, Mayer & Davis, 2007). For that reason, future research examining the reciprocal nature and impact of trust perceptions in the context of workplace electronic monitoring is to be welcomed.

A third limitation relates to the fact that the empirical data collected in this research represents a single point in time. It would be interesting to return to the original employees in a number of years to see whether their IPC prevail and whether changing organisational conditions (such as availability and improved communication of data governance policies) and increasing familiarity with electronic location monitoring has changed their perspectives. For instance, researchers such as Allen et al., (2007) and Levin (2007) have posited that privacy expectations regarding workplace electronic monitoring are socially constructed and therefore will be influenced by societal changes. One outcome related to Covid -19 is that privacy expectations have changed in line with societal needs for improved tracking. This will undoubtedly influence information privacy expectations and increase awareness of how location tracking and other forms of electronic monitoring increase organisational effectiveness. Therefore, longitudinal research is required to determine whether and how employee IPC and underpinning expectations transition over time in line with changing societal expectations also represents a fruitful research avenue.

Finally, further testing of this model is required in other countries in order to establish whether it is culture independent, i.e. robust regardless of culture. For example, employees from countries with strong familiarity of social monitoring technologies, such as China or Finland, may have different privacy expectations to employees from other Western countries.

9.3 Summary

This research provides a refined understanding of employee IPC in a context of mandatory electronic monitoring. Answering calls from the literature, it moves beyond the bounded disciplinary approach that typifies much privacy research and synthesises IPC and organisational justice perceptions, demonstrating their impact on the employee's relationship with the organisation.

The study findings provide theoretical contributions that advance the body of knowledge, whilst also containing insights of benefit to practitioners. The revised model that emerges from this study is underpinned by rigorous empirical testing and provides strong theoretical guidance for those seeking to understand the nature and impact of employee IPC and fairness perceptions in relation to electronic monitoring. It provides detailed insight into the dimensions of employee IPC in relation to electronic monitoring, as well as the impact of same. It further illustrates the relationship between these IPC and organisational justice perceptions, elucidating the pathways through which this relationship impacts employees' organisational trust and affective commitment.

The study findings and revised research model can also be used to guide public and private sector organisations seeking to harness electronic monitoring in order to increase resource and operational efficiencies, providing them with more detailed insight as to the nature of employee privacy concerns, thereby enabling them to address those concerns more effectively through targeted communications and policies. This will assist in mitigating the negative effects of electronic monitoring on employee trust and commitment, enabling organisations to achieve their strategic, digital and operational objectives.

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Appendix (A): Ethics Approval 1

Ollscoil Chathair Bhaile Átha Cliath
Dublin City University



Ms. Cliona McParland
DCU Business School

Prof. Regina Connolly
DCU Business School

28th November 2019

REC Reference: DCUREC/2019/205

Proposal Title: An examination of the impact of organizational justice perceptions on employee attitudes towards digital mobile radio technology: A trust and organizational commitment perspective.

Applicant(s): Ms. Cliona McParland and Prof. Regina Connolly

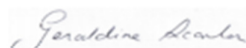
Dear Colleagues,

This research proposal qualifies under our Notification Procedure, as a low risk social research project. Therefore, the DCU Research Ethics Committee approves this project.

Materials used to recruit participants should state that ethical approval for this project has been obtained from the Dublin City University Research Ethics Committee.

Should substantial modifications to the research protocol be required at a later stage, a further amendment submission should be made to the REC.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Geraldine Scanlon'.

Dr Geraldine Scanlon
Chairperson
DCU Research Ethics Committee



Taighde & Nuálaíocht Tacalocht
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Ethics Approval 1



Garda Representative Association

Floor 5, Phibsboro Tower, Dublin 7 Tel: 01 830 3533 Email: gra@indigo.ie [@gardarep](https://www.facebook.com/gardarep)

15th July, 2020

Alan Mulligan,
Acting Executive Director,
Human Resources & People Development,
An Garda Síochána,
Garda Headquarters,
Phoenix Park,
Dublin 8.

Re: TETRA Survey – Research being conducted by Dublin City University

Dear Acting Executive Director,

I write to inform you that Dublin City University is conducting research into the use of TETRA radio in An Garda Síochána. The research consists of a nationwide survey of Gardaí that examines potential privacy and health concerns, as well as their perceptions regarding the value and benefits of TETRA radio. The survey is anonymous and will take less than 10 minutes to complete. I am advised that it has been approved by DCU Research Ethics Committee and the Garda Analysis Unit.

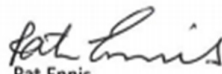
It is against that background that the assistance of Garda management is being sought in order to ensure that all Gardaí have the opportunity to participate in the survey. Specifically, it would be appreciated if Garda management could circulate the survey link via internal email, in the same way as was done for the previous Rostering survey. This will ensure a full and balanced representation of responses from Gardaí nationwide.

The survey can be accessed at: <https://tinyurl.com/Tetra-Survey>

The research findings will provide the Garda representative associations (GRA and AGSI) with valuable and balanced insights into the views of our members regarding Tetra Radio, helping to identify any issues that may need to be addressed and benefiting the organization and its members.

I would be grateful for your urgent assistance in facilitating and approving the circulation of the survey link via the internal Garda email.

Yours sincerely,


Pat Ennis
General Secretary

Appendix (B): Survey Instrument

Plain Language Statement

This research entitled “An examination of the impact of organisational justice perceptions on employee attitude towards digital mobile radio technology: A trust and organisational commitment perspective” is being conducted by Ms. Cliona McParland (email: cliona.mcparland@dcu.ie) and Professor Regina Connolly (email: regina.connolly@dcu.ie)

Details of research

- Our understanding of organisational technology adoption is particularly limited, as to are the factors that influence employee attitude towards the technology.
- The purpose of this research is examine the factors that lead to the successful adoption of the Tetra Radio system.
- The data collected in the research will be used for the purpose of a PhD doctrite and in the publication of journal articles, book chapters, conferences papers and presentations made by the principal researcher and PhD supervisor.

Details of Involvement

- By choosing to take part in this study, you will be expected to complete an online questionnaire which will take approximately 10 – 15 minutes to complete.
- In compliance with GDPR all data that you give will be password protected and securely stored in an encryted file. All print material will be stored in a secured cabinet in a secured office and will be shredded and disposed of via a secure bin within 3 months of the project completion. All electronic data will be fully deleted and wiped 3 months post data completion.
- Please note that the DCU Data Protection Officer is Mr. Martin Ward (data.protection@dcu.ie) Tel – 01 7005118/7008257).
- Participation in this study is voluntary. You may withdraw from the study at any point and no explanation is required by contacting Ms. Cliona McParland (cliona.mcparland@dcu.ie).
- All information you provide is deemed confidential and will be kept anonymous.

If participants have any concerns about this study and wish to contact an independent person, please contact:

The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel: 01-7008000, email: rec@dcu.ie.

Survey Welcome Page

Thank you for taking part in this survey.

In the survey you are asked your views on a number of issues relating to your use of the TETRA radio handset at work. The purpose is to determine how you feel about use of TETRA and to identify if there are any data privacy and health or welfare issues that need to be addressed.

The survey has been approved by the GRA and AGSI. It is being conducted as part of PhD research at Dublin City University and has received ethical approval from the Garda Research Unit and DCU's Research Ethics Committee.

The survey is anonymous and your responses to questions will be kept strictly confidential. It should take approximately 10 minutes to complete.

If you are ready to continue please click onto the next page.

1	USE AND PURPOSE AWARENESS

Please answer YES or NO to the following question:

	Use
Use 1	I use a TETRA radio handset as part of my daily work.
Use 2	I use TETRA radio handset occasionally - when on operational duties.

	Purpose Awareness
PURP1	I am aware that the TETRA radio handset can be used to identify my precise location at any time during my work.
PURP2	I am aware that the location information collected via my TETRA radio handset can be used for analysis purposes by An Garda Síochána.
PURP3	Have you ever personally needed to use TETRA radio handset in an emergency situation?

All of the following items are based on five point Likert scales with anchors ranging from -2 (strongly disagree) to +2 (strongly agree).

Please indicate the extent to which you AGREE or DISAGREE with each of them.

-2	-1	0	1	2
Strongly Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Strongly Agree

2	PRIVACY CONCERNS

	Perceived Illegitimacy
LEGIT 1	I feel that An Garda Síochána's location monitoring policies and practices are an invasion of my privacy.
LEGIT 2	I feel uncomfortable that An Garda Síochána forces me to use a TETRA radio during my daily work.
LEGIT 3	Being forced by An Garda Síochána to use a TETRA radio makes me feel uneasy.
LEGIT 4	I feel that the methods used by An Garda Síochána to track my location via the GPS function of TETRA radio are personally invasive.
LEGIT 5	I have reason to be concerned about my privacy within An Garda Síochána.

	Collection
COLL 1	It bothers me that my location information is being collected via my TETRA radio.
COLL 2	Knowing that my location information is being collected via my TETRA radio concerns me.
COLL 3	I am concerned that too much of my personal location information is being collected via my TETRA radio.

COLL 4	It makes me anxious that my location information is being collected through my TETRA radio.
COLL 5	I am uneasy about the fact that my location information is collected via my TETRA radio.

	Unauthorised Secondary Use
SU 1	I am concerned that An Garda Síochána may use my TETRA location information for other purposes.
SU 2	I am concerned that my location information history may be shared with analysts or management without my permission.
SU 3	I am concerned that An Garda Síochána might use my TETRA location information for purposes that I have not authorized.
SU 4	An Garda Síochána should not use TETRA location information for any purpose unless it has been authorized by the individuals to whom the information belongs.
SU 5	I am apprehensive that An Garda Síochána may use my TETRA location history for purposes that do not benefit me.
ATT 1	Attention Check: If you are reading this thank you for your attention. Please select 'strongly agree'.

	Improper Access
IA 1	I am concerned that my TETRA location information may not be protected from unauthorized access by others.
IA 2	I am concerned that An Garda Síochána do not devote enough time and effort to prevent unauthorized access to my TETRA location information.

IA 3	I am concerned that An Garda Síochána do not take enough steps to make sure that unauthorized people cannot access my Tetra location information, that is stored on their systems.
IA 4	I am uneasy about the fact that others may be able to access my TETRA location without my permission.

	Control
CON 1	It bothers me not having control of the record of my location information that was collected via my TETRA radio.
CON 2	It bothers me that I don't have control or autonomy over decisions about how my location information is collected, used, and shared by An Garda Síochána.
CON 3	I am concerned that I may lose control of my location information record that is collected via my TETRA radio.
CON 4	I am uneasy about the fact that I don't have control over how An Garda Síochána may use my TETRA location information record.

	Errors
ERR 1	I am concerned that there are not enough steps being taken to ensure that records of my TETRA location information are accurate.
ERR 2	I am concerned that An Garda Síochána do not have adequate procedures to correct errors in my stored location information.
ERR 3	I am concerned that An Garda Síochána do not devote enough time and effort to verify the accuracy of my location information in their databases.
ERR 4	All location information in computer databases should be double-checked for accuracy – no matter how much it would cost.

	Awareness
AW 1	I am concerned that An Garda Síochána do not provide clear policies disclosing the ways in which my TETRA Radio location information will be used.
AW 2	It bothers me that I don't know how my location information collected via my TETRA radio will be used by An Garda Síochána.
AW 3	It bothers me that An Garda Síochána collects my location information via TETRA Radio but does not disclose the ways in which that data is processed and used.
AW 4	I am uneasy about the fact that An Garda Síochána have not clarified how my location data will be stored and the purposes for which it will be used.

3	Job Autonomy

	Loss of Autonomy
LA 1	I feel that being monitored via my TETRA radio has reduced my personal initiative and judgement to carry out my daily work.
LA 2	I feel that being monitored via my TETRA radio has limited my freedom to decide how I perform assigned tasks.
LA 3	I feel that being monitored via my TETRA radio has constrained my ability to set my own schedule for completing assigned tasks.
LA 4	I feel that being monitored via TETRA radio has reduced my freedom to show initiative in doing my job.
LA 5	I feel that being monitored via TETRA radio has compromised my ability to determine the manner in which to complete my job tasks.

4	Perceived Value

	Perceived Value
PV 1	Using TETRA Radio enhances my effectiveness on the job.
PV 2	Using TETRA Radio enables more effective communication with the control centre.
PV 3	Using TETRA Radio improves my safety and that of my colleagues.
PV 4	Using TETRA increases my sense of security at work

5	Organisational Justice

	Procedural Justice
PJ 1	I have influence over the outcomes of location monitoring via TETRA radio (how that data is stored and used).
PJ 2	The procedures for location monitoring are applied consistently to all members of the force regardless of unit or rank.
PJ 3	The procedures for monitoring location of Gardaí are free from bias.
PJ 4	I would be able to appeal any outcomes arrived at based on use of my TETRA data.
PJ 5	The procedures for monitoring Garda location via TETRA radio are transparent.
PJ 6	The procedures for how the location data of Gardaí are stored and used are transparent.
PJ 7	The procedures for how the location data of Gardaí are stored and used uphold ethical and moral standards.

ATT 2	Attention Check: If you are reading this thank you for your attention. Please select 'somewhat disagree'.

	Distributive Justice
DJ 1	I feel that the outcomes of location monitoring via TETRA radio are fair (how data is used).
DJ 2	I am satisfied with the consequences from use of TETRA location monitoring technology for Gardaí generally.
DJ 3	I feel that the outcomes to Gardaí from use of TETRA location monitoring technology are appropriate.
DJ 4	I am satisfied that the outcomes from the use of TETRA location monitoring technology are fair for all members of the force regardless of unit or rank.

	Interactional Justice
IJ 1	An Garda Síochána has been transparent in their communications regarding how location data collected via my TETRA radio will be used.
IJ 2	An Garda Síochána has fully explained how TETRA radio data will be used.
IJ 3	The information provided by An Garda Síochána regarding use of TETRA location data is clear.
IJ 4	An Garda Síochána have clearly communicated how they intend to use TETRA radio location data.
IJ 5	An Garda Síochána have been transparent in their communications regarding any potential health consequences from using TETRA radio.
IJ 6	I feel that Senior Management of the Force has provided full information regarding any possible health consequences from using TETRA radio.

6	Strain and Demoralisation

	Strain
ST 1	I feel burned out from work.
ST 2	I feel drained from being in work.
ST 3	I feel tired from being in work.
ST 4	Work is a strain for me.
ST 5	I feel stressed in work.
ST 6	My work causes me stress

	Demoralisation
DM 1	Location monitoring demoralises me and my colleagues.
DM 2	Location monitoring at work makes me feel weak and powerless.
DM 3	The use of location monitoring at work implies that Senior Management do not trust Gardaí.
DM 4	Location monitoring at work erodes trust between Gardaí and Management.

7	Organisational Trust and Affective Commitment

	Organisational Trust
OT 1	I believe that An Garda Síochána has high integrity towards its members.
OT 2	I can expect An Garda Síochána to treat me in a consistent and predictable fashion.

OT 3	I believe that An Garda Síochána (management) are always honest and truthful.
OT 4	In general, I believe that the motives and intentions of An Garda Síochána (management) are good.
OT 5	My organisation is open and upfront with me.
OT 6	I fully trust An Garda Síochána.

	Affective Commitment
AC 1	I am happy that I chose a career with An Garda Síochána.
AC 2	I don't think I could become as easily attached to another organisation or job as I am to this one.
AC 3	I feel emotionally attached to An Garda Síochána.
AC 4	I feel like a part of a family in An Garda Síochána.
AC 5	I feel a strong sense of belonging to An Garda Síochána.
AC 6	An Garda Síochána has a great deal of personal meaning for me.

8	Marker Variables

	Focused Immersion
FI 1	Whenever I am online I am able to block out most other distractions.
FI 2	Whenever I am online I become absorbed in what I am doing.
FI 3	Whenever I am online I can easily become immersed in the task I am performing.
FI 4	Whenever I am online I am able to focus completely on what I am doing.

	Blue Scale
BS 1	I prefer blue to other colours.
BS 2	I like the colour blue.
BS 3	I like blue clothes.
BS 4	I hope my next car is blue.

9	Demographics

- What is your age?
 - 18-24
 - 25-34
 - 35-44
 - 45-54
 - 55-64
 - 65+

- Gender: Are you:
 - Male
 - Female
 - Other (please specify)
 - Would prefer not to say.

- How long have you been a member of An Garda Síochána? (years).
 - 0-5
 - 6-10
 - 11-15
 - 16-20
 - 21+

- How many years have you used TETRA radio?
 - 0-3
 - 4-6
 - 7-9
 - 10+

-
- What is your current job position/rank?
 - Garda
 - Sergeant
 - Inspector
 - Superintendent
 - Chief Superintendent
 - Analyst
 - Other (please specify).

We thank you for your time spent taking this survey.

Your response has been recorded.

Appendix (C): Interview Template

USE

- Please describe whether and how often you use Tetra radio as part of your work.

PERCEIVED BENEFITS

- In your opinion, is use of Tetra Radio system by AGS a positive initiative for the Force? Please explain why you think this way?
- What do you consider to be the main benefits of using Tetra radio?
- Have you or your colleagues found Tetra helpful in your job and if so, can you give me an example?

INFORMATION PRIVACY VIOLATION CONCERNS

- Do you consider that AGS have the right to collect your location information? Can you explain why you think this way? (LEGITIMACY).
- Some Gardaí have expressed concerns that management are monitoring some of their work activities via Tetra unnecessarily. Do you have similar concerns, and if so, what are they? (LEGITIMACY)
- Have you concerns regarding the fact that AGS can collect your location information via Tetra? If so, please elaborate regarding those concerns. (COLLECTION)
- Do you have any control over whether and how much location tracking data is collected by AGS? If so, please describe. (CONTROL)
- Some Gardaí are concerned about *how* the location-monitoring data can be used by AGS. Do you have any concerns regarding how location-monitoring data can be used by AGS and if so, what are those concerns? (SECONDARY USE)
- Can you please describe if you have any concerns regarding the unauthorised access of your location-data from your use of Tetra by other colleagues or other outside sources? (IMPROPER ACCESS)
- Have you any concerns regarding the accuracy of location-data gathered via your Tetra unit, and if so, what are those concerns? (ERROR)

STRESS AND DEMORALISATION

- Do you feel that your use of your Tetra radio unit reduces your own personal sense of autonomy, and if so, how? (AUTONOMY)
- Does having your location information gathered by AGS affect your morale? If so, why and how does that manifest? (MORALE)
- In what way do you think the uncertainty of how your location-data collected through your use of your Tetra unit is used by AGS impacts you? (STRESS)
- Has/does it cause you to feel stressed and if so, can you explain why and how this affects you and your work? (STRESS)

ORGANISATIONAL JUSTICE

- What are your views on the way that Tetra radio was introduced and rolled out to the police service? (PROCEDURAL JUSTICE)
- Can you please explain the level of input you had in the decision to introduce Tetra radio for location monitoring purposes? (PROCEDURAL JUSTICE)
- Do you believe that the collection and use of data obtained through Tetra applies fairly across the force? What are your views on this? (DISTRIBUTIVE JUSTICE)
- Do you think about the way in which the introduction of Tetra and the rationale for its usage was communicated clearly by AGS? Please elaborate. (INTERACTIONAL JUSTICE)
- And what about location-data specifically? Do you feel that AGS has communicated clearly to members all the ways in which location-tracking data can be used by the organisation? Why/ why not? (INTERACTIONAL JUSTICE)
-

PERCEIVED ORGANISATIONAL TRUST AND AFFECTIVE COMMITMENT

- In what ways, if any, has introduction of the Tetra radio affected your level of trust in AGS? (ORGANISATIONAL TRUST)
- Can you please explain the reasons why you either trust or distrust the management of AGS in relation to the usage of Tetra radio? (ORGANISATIONAL TRUST)
- In what way do you think the introduction of the Tetra radio system has affected your attitude towards working as a Garda? (AFFECTIVE COMMITMENT)

-
- In what way do you feel the introduction of the Tetra radio system has influenced your job satisfaction in AGS? (AFFECTIVE COMMITMENT)

Appendix (D): Data Results – Frequency Analysis

The behavioural frequencies of respondents were broken into four main categories; *use and purpose awareness*, *information privacy violation concerns* and *antecedent variables*, *organisational justice* and *outcome variables*. The frequency rates in relation to the statements in each section have been cross-compared across a number of demographics in an effort to elicit comparators worthy of note.

For clarity purposes, the sample respondents were grouped and analysed by their Garda associations. Thus Garda members (GRA) are identified as rank Garda members and Garda Sergeants and Inspectors are analysed together as AGSI. ‘Analysts’ (0.11%) and ‘others’ (0.44%) did not show a significant representation in this study. As such they are not represented in the frequencies below.

D.1 Use and Purpose Awareness

81% of the sample base used a TETRA radio handset on a daily basis. 38% were of Garda rank and 6% were Garda sergeants, Inspectors. 37% not indicate their rank or level within An Garda Síochána. When looked at in aggregate 95% of respondents were aware that their TETRA radio handset could be used to identify their precise location while they were on duty with 36% citing a time or incident in which they used this GPS tracking function to call for help or back up in an emergency situation. Of those that indicated they had used the GPS function of their radio to call for assistance 15% were of Garda rank and 3% were Garda Sergeants and Inspectors. The remaining 18% who had used this function did not indicate their rank or level within An Garda Síochána. 63% of the total sample base were aware that An Garda Síochána could use the location information collected via their TETRA radios for analysis purposes. From this 28% were of Garda rank and 6% were Garda Sergeants and Inspectors. The remaining 29% did not indicate their rank or level in the study.

When looked at in more granular detail 32% of the sample who used the TETRA radio on a daily basis had 11 – 15 years experience within the force. 30% of the respondents cited 21 or more year’s Garda service with 24% noting at least 16 – 20 years within the

force. Of those that used the radio on a daily basis, 59% had 10 or more years experience using the TETRA radio system. 33% of the respondents who were aware that TETRA radio could be used to identify their precise location while in the workplace were members of An Garda Síochána for 21 or more years, with 30% and 24% citing 11-15 years and 16-20 years service within the force. The remaining 13% were members of the force for 10 years or less. Of those who had used the GPS function of the TETRA radio for an emergency situation, 62% had over 10 years experience using the TETRA radio, with a further 42% citing 11 – 15 years of being a Garda member. 33% of the sample who were not aware that the location information collected via their TETRA radio could be analysed by management of An Garda Síochána were members of the organisation for 21 or more years. A further 31% noted 11 – 15 years and 22% 16 -20 years service within the force. The remaining 14% noted 10 years or less within An Garda Síochána.

These behavioural frequencies are outlined in figure 1.A and 1.B below.

Figure 1.A: Frequency Analysis – Use and Purpose Awareness (GRA)

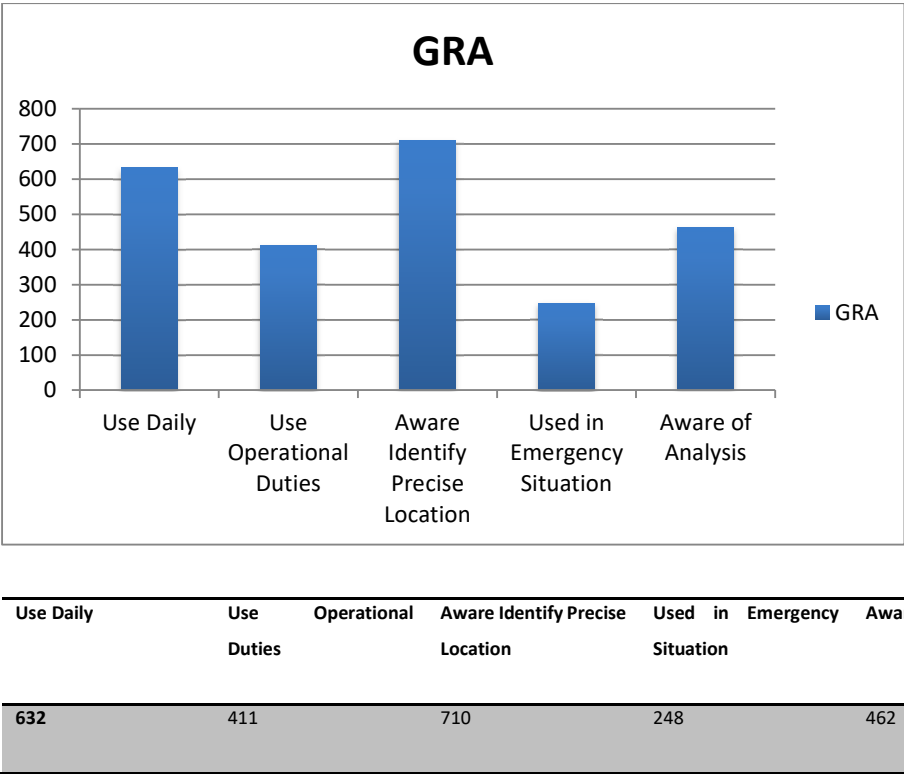
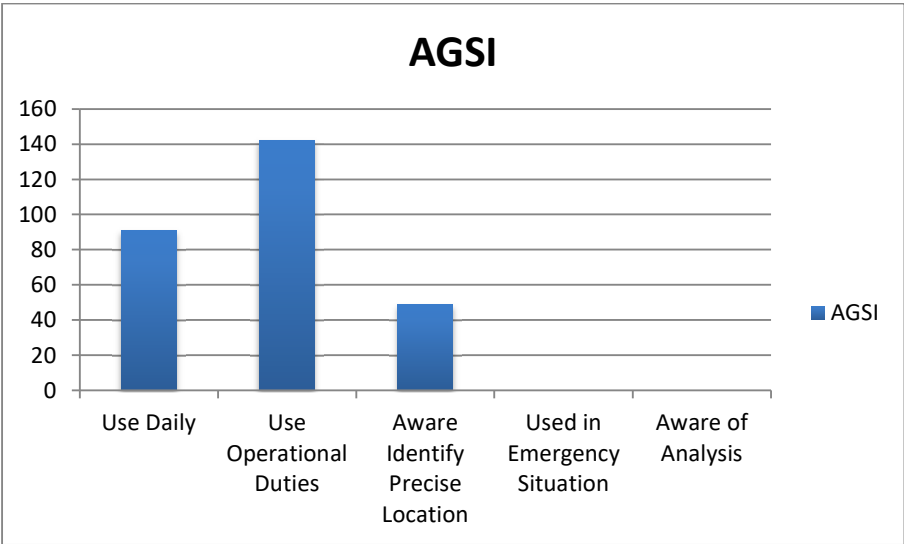


Figure 1.B: Frequency Analysis - Use and Purpose (AGSI)



Use Daily	Use Operational Duties	Aware Identify Precise Location	Used in Emergency Situation	Aware of Analysis
91	85	142	49	104

D.2 Information Privacy Concerns and Related Variables

A number of information privacy concerns dimensions and corresponding antecedents were examined in this framework. The frequency analysis of each construct is examined in detail below.

- Information Privacy Concerns*

Collection

Overall 62% of the sample base agreed that having their information location collected via their TETRA radio bothered them, with 34% strongly agreeing with the statement and 28% somewhat agreeing with the statement. Of those that agreed with this statement 34% were of Garda rank, 3% were Sergeants and Inspectors in the sample. 24% of those who agreed with this statement did not disclose their rank or level in the study. Similarly the majority of the sample - 64% - were concerned that too much personal information was being gathered via their radio with 56% agreeing that it made them anxious in some

way. Once again the majority of those that agreed with these statements were of Garda rank, representing 36% and 32% respectively. 64% agreed that knowing their location information could be collected through their radios concerned them with 46% highlighting their unease with the situation by agreeing with statement 15 *'I am uneasy about the fact that my location information is collected via my TETRA radio'*.

24% disagreed with the statement that having their location information gathered through their bothered them, with 23% further disagreeing that knowing their information could be collated through their radio would concern them in any way. 10% of those who disagreed with both these statements did not identify their rank in the study. 26% of the sample disagreed that having their location information collected using their TETRA radio made them feel anxious in any way. 26% also disagreed that they were uneasy regarding the fact their information could be gathered via their TETRA radio.

When the data was looked at in more granular detail it emerged that 95% of Garda rank strongly agreed and 86% somewhat agreed that having their location gathered by their TETRA radio bothered them. 32% of those who strongly agreed with this statement cited 11 – 15 years experience working within An Garda Síochána and 61% with 10 or more years experience using the TETRA radio. 15% of Garda members aged between 25 and 34 also *'strongly agreed'* with this statement. 44% of Garda Sergeants and Inspectors in this sample however *'strongly disagreed'* that having their location information collected via TETRA bothered them. When asked if the gathering of their location information made them feel anxious, 95% of those who strongly agreed and 90% who somewhat agreed were of Garda rank. 34% of the sample who strongly agreed with this statement noted 21 or more years service to the force. Similarly 94% of those who strongly agreed and 90% of those who somewhat agreed that they were uneasy regarding the fact their information could be collected via their TETRA radios represented rank Garda. Again the largest percentage of those who strongly agreed with this statement (35%) were long serving members of 21 or more years within An Garda Síochána with 60% noting 10 or more years experience using the TETRA radio. 52% of those who strongly disagreed they were anxious that their location information could be collected through their TETRA radio were aged between 35 and 44 years, with 69% noting 10 or more years experience using the TETRA radio system. Of those who strongly disagreed that they were uneasy

regarding the fact that their TETRA unit could collect their location information 33% had over 21 years experience in the force and 66% had used a TETRA for 10 years or more.

Secondary Use

Overall 85% of the respondents were concerned that An Garda Síochána may use the location information from their TETRA for other purposes than what it was originally intended. 46% of those who agreed with this statement identified as Garda rank, with 7% representing the Sergeants and Inspectors of the sample base. 33% of the sample did not identify their rank or role in An Garda Síochána. Similarly 85% were concerned that location information could be shared within the organisation without their permission with 87% also noting their concern that it could be used in ways they had not authorised. Overall 86% agreed that An Garda Síochána should not use the location information collected through the TETRA radio's for any purpose unless it has been authorised by the individual to whom it belongs. Of this 45% of the respondents were of Garda rank, 7% were sergeants and inspectors and 33% did not disclose their rank within the force. Finally 86% of the respondents agreed that they were apprehensive that An Garda Síochána may use their TETRA location history for purposes that did not benefit them. 78% of the respondents strongly agreed and 22% somewhat agreed with this statement. Of those who strongly agreed with this statement, 56% were of Garda rank, 6% were sergeants and inspectors and 38% remained unidentified in the sample.

When looked at in more granular detail 32% of those who strongly agreed that they were concerned that An Garda Síochána may use the location data from their TETRA radio for other purposes than what was originally intended had 21 or more years' service within the force. 31% who strongly agreed with this statement were Garda members for 11-15 years and 25% for 16 – 20 years. 60% of those who strongly agreed with this statement also had 10 or more years experience using the TETRA radio handset. 33% who strongly agreed that they were concerned that management might share the location data from their TETRA without their permission or authorisation had been working within An Garda Síochána for 21 or more years, 32% for 11 – 15 years and 23% for 16 – 20 years. Of the 4% who strongly disagreed with this statement 53% were aged between 35 and 44 years with 32% noting 16 – 20 years within the force. The largest percentage (50%) of those who were greatly concerned (strongly agreed) that management may use their

TETRA location data for purposes that did not benefit them were aged between 35 and 44 years. 32% of those who strongly agreed with this statement cited 21 or more years working within An Garda Síochána and 59% with 10 or more years experience using the TETRA radio.

Improper Access

Overall 75% of the sample agreed that they were concerned that their TETRA location information may not be protected from unauthorised access by other users. 60% also agreed that An Garda Síochána did not devote enough time and effort to prevent unauthorised access to their TETRA location data. Of the 48% who strongly agreed with statement 21 *‘I am concerned that my TETRA location information may not be protected from unauthorised access by others’*, 30% were of Garda rank and 3% represented sergeants and Inspectors. 15% of the respondents who strongly agreed with this statement did not indicate their rank or level in the force. In terms of statement 22 *‘I am concerned that An Garda Síochána do not devote enough time and effort to prevent unauthorised access to my TETRA location information’*, 37% of those who agreed with the statement were Garda rank, 5% represented sergeants and inspectors and 18% did not identify their rank in the force. 61% of the respondents agreed that they were concerned that management of An Garda Síochána did not take enough steps to protect members TETRA location data that is stored on their systems. 9% disagreed and 30% neither agreed nor disagreed with this statement. The majority of the sample – 80% - agreed that they felt uneasy that others may be able to access their TETRA location information or history without their permission. Of this 49% were Garda rank, 8% were Sergeants and Inspectors and 23% did not identify their rank in the study. Specifically 35% of those who strongly agreed with this statement were of Garda rank and 4% were rank of sergeant and inspector. The remaining 15% who strongly agreed with this statement did not indicate their rank or level in the study.

When looked at in more detail 49% of those who strongly agreed and 50% of those who somewhat agreed that they were concerned that their TETRA location information may not be protected from unauthorised access by others were aged between 35 and 44 years, with 59% recording 10 or more years experience using TETRA radio. 34% who strongly

agreed with this statement were Garda members for 21 or more years. 36% of those who strongly agreed that management did not devote enough time and effort into preventing unauthorised access to TETRA location information were Garda members for 21 or more years. 63% of those who strongly agreed with this statement had been using a TETRA radio for 10 or more years. 18% of those who strongly disagreed with statement were members of An Garda Síochána for 5 years or less, while 32% of those in the force for 11 – 15 years neither agreed nor disagreed with this statement. 36% of members who were in the force for 21 or more years ‘*strongly agreed*’ and 33% ‘*somewhat agreed*’ that management did not take enough steps to ensure that TETRA data stored on Garda systems were protected from unauthorised access. 19% of the sample who were aged between 25 and 34 years neither agreed nor disagreed with this statement. In terms of the statement 24 ‘*I am uneasy about the fact that others may be able to access my TETRA location information without my permission*’, 36% were in the force for 21 or more years with 61% citing 10 or more years experience using the TETRA radio system. 54% of those who ‘*somewhat agreed*’ with this statement also noted a 10 or more year period of using the TETRA radio system.

Control

Overall 72% of the respondents indicated that it bothered them that they did not have control over the location information that was collected via their TETRA radio handsets. 45% indicated they were of Garda rank, with 6% representing sergeants and inspectors in the sample. The remaining 21% who agreed with this statement did not disclose their rank in the study. 79% agreed that they were bothered by the fact they had no control and autonomy over the decisions relating to how their location information was collected, used and shared by management. 35% of rank Gardaí and 3% of Garda Sergeants and Inspectors strongly agreed with this statement. The remaining 16% who ‘*strongly agreed*’ with this statement did not indicate their rank within An Garda Síochána. Overall 10% disagreed and 11% neither agreed nor disagreed with this statement. 70% of the respondents agreed with the statement 27 ‘*I am concerned that I may lose control over my location information record that is collected via my TETRA radio*’. Of this 44% strongly agreed and 26% somewhat agreed with this statement. Of those who agreed with this statement 44% were Garda rank members, 6% were sergeants and inspectors and 20% did not disclose their rank in the study. Overall 11% disagreed with this statement

with the remaining 19% choosing to neither agree nor disagree in this case. The majority of the sample – 81% indicated that they were uneasy about the fact they have no control over how An Garda Síochána could use their TETRA location information. 37% of Garda rank ‘*strongly agreed*’ and 14% ‘*somewhat agreed*’ with this statement. 7% of sergeants and inspectors also agreed with this statement, 3% ‘*strongly agreeing*’ and 4% ‘*somewhat agreeing*’. 23% of those who agreed with this statement did not indicate their rank or level within An Garda Síochána.

When the sample was looked at in more granular detail it emerged that 34% of the sample who indicated they were strongly concerned that they did not have any control over the record of their location information collected from their TETRA radio were members of the force for 21 or more years. 34% of those who were Garda members for 21 or more years also indicated that they were ‘bothered’ that they did not have any control or autonomy over the decisions relating to how their location information is collected, used and shared by An Garda Síochána. 48% of those who strongly agreed with this statement regarding lack of control over this decision process were aged between 35 and 44 years, with 60% noting that they had been using the TETRA radio system for 10 or more years. Of those who noted their strong discomfort and unease over their lack of control relating to how Garda management may use the TETRA location information, 33% indicated they had been Garda members for 21 or more years, 25% for 16 – 20 years and 30% for between 11 and 15 years. 50% of the respondents who agreed with this statement were aged between 35 and 44 years of age. Of the 6% who strongly disagreed with this statement, 71% cited 10 or more years experience using the radio with 32% noting 16 to 20 years within the force.

Errors

Overall 67% of the respondents indicated that they were concerned that management of An Garda Síochána were not taking enough steps to ensure that their records of the TETRA location information were accurate. 41% of those who agreed with this statement were of Garda rank and 6% were rank of Sergeant and Inspector. 20% of those who agreed with this statement did not disclose their rank or position in the survey. A further 69% of the sample also agreed that the procedures employed to correct errors in their stored information were inadequate. Of this, 28% of those who strongly agreed with this

statement were of Garda rank. 25% of the aggregate sample neither agreed nor disagreed with this statement. Overall 66% of the total respondents indicated that they were concerned that management did not devote enough time and effort in verifying if the location information stored in their databases was accurate. 40% who agreed with this statement indicated they were of Garda rank level within the force. 7% disagreed and 27% neither agreed nor disagreed with this statement. When looked at in aggregate 71% of the total respondents agreed that all location information stored in the Garda databases should be double checked for accuracy. 46% '*strongly agreed*' and 25% '*somewhat agreed*' with this statement. Of those who strongly agreed with this statement, 28% were of Garda rank and 4% were rank of sergeant and inspector. 14% who strongly agreed with this statement did not indicate their rank within the force.

When the sample was looked at in more granular detail it emerged that 50% of those who strongly agreed that there were not enough steps taken by An Garda Síochána to ensure that the records of their TETRA location information was accurate were aged between 35 and 44 years, with the highest percentage -32% -citing 11 to 15 years service within the force. When asked about their degree of concern relating to whether they believed that adequate procedures were set in place to correct errors in their stored location information, 31% of those who strongly agreed that the procedures were not adequate were Garda members for 21 or more years with a further 31% citing 11 to 15 years service within the force. Of the 66% of respondents who indicated that they were concerned that management did not devote enough time and effort in verifying if the location information stored in their databases was accurate, 40% strongly agreed and 26% somewhat agreed with this statement. Of those who strongly agreed with this statement 33% had 21 or more years served in An Garda Síochána, with 31% noting 11 to 15 years in the force. Of those who somewhat agreed with this statement, 35% were Garda members for between 11 and 15 years and 32% had spent 21 or more years within An Garda Síochána. Of the 27% who neither agreed nor disagreed with this statement 47% were aged between 34 and 44 years of age. In terms of those who strongly agreed that all location information in the Garda computer databases should be checked for accuracy, 62% had 10 or more years experience using the TETRA radio system. Of those who somewhat agreed with this statement 60% had also been using the TETRA radio system for 10 or more years. 34% of those who strongly agreed with this statement were members

of An Garda Síochána for 21 or more years, with 31% noting 11 to 15 years service to the force.

Awareness

In aggregate 90% of the respondents indicated that they were concerned that An Garda Síochána does not provide clear policies disclosing the ways in which their TETRA location information will be used. 55% were rank Garda members, 9% were rank of sergeant and inspector with the remaining 26% choosing not to indicate their rank or position within An Garda Síochána. 91% of the sample base also indicated high levels of concern in relation to statement 35 *'It bothers me that An Garda Síochána collects my location information via my TETRA radio but it does not disclose the ways in which that data is processed and used'*. 55% of those who agreed with this statement were Garda rank with 9% representing sergeants and inspectors. 27% of those who also strongly agreed with this statement did not disclose their rank in the force. When looked at in aggregate 89% also agreed that they were 'uneasy' by the fact that An Garda Síochána have not clarified how their TETRA location data is stored and the purposes for which it will be used.

When looked at in more detail it emerged that 32% of those who strongly agreed that they were concerned that An Garda Síochána do not provide clear policies disclosing the ways in which their TETRA radio location will be used were members of the force for 21 or more years. A further 32% and 24% who also agreed with this statement were Garda members for between 11 and 15 years and 16 to 20 years respectively. 60% of those who strongly agreed with this statement had 10 or more years experience using the TETRA radio. 50% of the respondents who strongly agreed with statement 34 *'It bothers me that I don't know how my location information collected via TETRA radio will be used by An Garda Síochána'* were aged between 35 and 44 years with 60% having 10 or more years experience using the TETRA radio system. 51% of the sample who 'strongly agreed' that they were uneasy about the fact that An Garda Síochána had not clarified how their location information will be stored and used were aged between 35 and 44. 16% of Garda members aged between 25 and 34 years of age also agreed with this statement.

- ***Perceived Illegitimacy***

When looked at in aggregate 65% of the sample base agreed that the location monitoring policies of An Garda Síochána were an invasion of their privacy. 37% of those who agreed with this statement identified as Garda rank, 3% represented Sergeants and Inspectors and 25% did not indicate their rank within the force. Overall 19% of respondents disagreed and 16% neither agreed nor disagreed that the location monitoring policies of An Garda Síochána were an invasion of their privacy. Overall 52% of respondents disagreed with the statement that felt uncomfortable that management forces them to use a TETRA radio on a daily basis, with a further 55% also disagreeing that the mandatory required use of the radio system made them feel uneasy. Of those who disagreed with these statements 23% (uncomfortable) and 24% (uneasy) were of Garda rank, 7% (uncomfortable) and 7% (uneasy) were sergeants and inspectors with the remaining 22% (uncomfortable) and 24% (uneasy) choosing not to disclose their rank in the study. In terms of those who did agree with the statements, 26% agreed that they were uncomfortable and 22% agreed they felt uneasy at having to use the TETRA radio on a daily basis. The majority of the sample – 65% - agreed that the methods used by An Garda Síochána to track their location using their TETRA radio was personally invasive with a further 63% agreeing they had a reason to be concerned about their information privacy within the organisation of An Garda Síochána.

When looked at in more detail it emerged that 35% of those who agreed that the location monitoring policies of An Garda Síochána were an invasion of their privacy had worked in the force for 21 or more years, 26% for 16 – 20 years and 31% for 11 – 15 years. The remaining 8% of those who strongly agreed with this statement had 10 or less years served in the force. Similarly 60% of those who strongly agreed with this statement had 10 or more years experience using the TETRA radio, with 21% citing 7 – 9 years experience. Over half of the respondents -59%- who strongly agreed that mandatory requirement to carry a TETRA radio while on duty made them feel uneasy, had 10 or more years experience using the radio, with 34% citing over 21 or more years service in the force. 54% of those who disagreed with this statement were aged between 35 and 44 years, with 33% noting between 11 – 15 years service with An Garda Síochána. Overall it was noted that 63% of the sample believed they had a reason to be concerned about their information privacy within the organisation. Of those who strongly agreed with this

statement, 35% were members of An Garda Síochána for 21 or more years, 25% for 16 – 20 years, 29% for 11-15 years and 8% for less than 5 years. The remaining 3% noted between 6 and 10 years service within An Garda Síochána. 50% of those who agreed that the methods used by An Garda Síochána to track their location using their TETRA radio was personally invasive were aged between 35 and 44 years. 61% who ‘strongly agreed’ and 53% who ‘*somewhat agreed*’ with this statement had 10 or more years experience using the TETRA radio system.

- ***Loss of Autonomy***

Overall 57% of the respondents agreed that being monitored by TETRA radio has reduced their freedom to show initiative in doing their job. 50% of those who agreed with this statement were Garda rank members. A further 55% also agreed that being monitored via their TETRA radio compromised their ability to determine the manner in which to complete their job tasks. 34% of those who strongly agreed with this statement were sworn Garda members for between 11 and 15 years. 51% of Garda members aged between 35 and 44 strongly agreed that being monitored by their TETRA radio had significantly limited their freedom to decide how to perform their assigned tasks. 32% of those who strongly agreed with this statement were Garda members for between 11 and 15 years. A further 34% of Garda with between 11 and 15 years service within the force agreed that being monitored via their TETRA radio constrained their ability to set their own schedule for completing their assigned tasks. Overall 19% of the respondents ‘*strongly agreed*’ and 25% ‘*somewhat agreed*’ that being monitored via TETRA radio has reduced their own personal initiative and judgement to carry out their own work. Of those who strongly agreed with this statement, 97% were represented by rank and file Garda members. 11% somewhat disagreed and 22% strongly disagreed with this statement. The remaining 23% neither agreed nor disagreed with this statement.

D.3 Perceived Organisational Fairness

Perceptions of organisational fairness were examined using measures of organisational justice, the frequencies of which are outlined in detail below.

- ***Organisational Justice***

The organisational justice was examined via its three main antecedents – procedural justice, distributive justice and interactional justice, the frequency distributions of which are detailed below.

Procedural Justice.

When looked at in aggregate 88% of the respondents disagreed that they had any influence over the outcomes of the monitoring via their TETRA radios. Of those who strongly disagreed with this statement, 84% represented rank Garda members. Overall 73% of respondents disagreed that that the procedures for location monitoring are applied consistently to all members of the force. 33% of those who strongly disagreed and 31% who somewhat disagreed with this statement were Garda members for 21 or more years. 83% of the total respondents did not agree that the procedures for monitoring Garda location via the TETRA radio were transparent. The largest percentage of those who disagreed with this statement represented Garda rank members – (87%) strongly disagree and (82%) somewhat disagree. 33% of those who strongly disagreed with this statement noted 21 or more year's service within the force.

Overall it emerged that 74% of the respondents did not agree that the procedures used to monitor the location of Gardaí member were free from bias. When looked at in more granular detail the results indicated that 89% Garda members and 10% of sergeants and inspectors strongly disagreed with statement 79 '*The procedures for how the location data of Gardaí are stored and used uphold ethical and moral standards*'. 34% of the respondents were sworn Garda members for 21 or more years with 62% noting 10 or more years experience using the TETRA radio.

Distributive Justice

While 11% agreed they were generally happy with the consequences arising from the use of TETRA location data, 53% did not agree with this statement. Overall 58% of the respondents did not believe the outcomes of the location monitoring via TETRA radio in terms of how the data was used was fair or appropriate (57%). 73% of the respondents

indicated that they were not satisfied that the outcomes from the use of TETRA radio location monitoring was fair for all members regardless of unit or rank. 89% of those who strongly disagreed with this statement were rank Garda members.

When looked at in more detail it emerged that 92% of those who strongly disagreed that the outcomes of the location monitoring via the TETRA radio in terms of how the data was used was fair were rank Garda members. 64% of which were using the TETRA radio for 10 or more years. 90% of those who strongly disagreed that the outcomes of the location monitoring via the TETRA radio in terms of how the data was used was appropriate were rank Garda members. 52% of respondents who were aged between 35 and 44 years strongly disagreed with statement 83 *'I am satisfied that the outcomes from the use of TETRA radio location monitoring technology are fair for all members of the force regardless of unit or rank'*, 33% of which had 21 or more years service to An Garda Síochána.

Interactional Justice

When looked at in aggregate it emerged that 84% of the respondents did not agree that An Garda Síochána had been transparent in their communications regarding how the TETRA location data would be used. 66% of Gardaí and 10% of sergeants and inspectors strongly disagreed that An Garda Síochána had fully explained how the TETRA radio data would be used. Overall 95% did not believe that An Garda Síochána had not been clear regarding how they intend to use the location data obtained via the TETRA radio systems. 94% of the respondents did not believe that senior management had provided full information regarding the possible health consequences arising from using TETRA radio.

When the data was reviewed in more granular detail it emerged that 35% of those who strongly disagreed that An Garda Síochána had been fully transparent in their communications regarding how the TETRA location data would be used were Garda members for 21 or more years, 62% of which with 10 or more years experience using the TETRA radio system. 32% of those who strongly disagreed that An Garda Síochána had

been clear in relation to how they intend to use the location data obtained via the TETRA radio further noted 21 or more years service to the force. In terms of those who strongly disagreed that senior management have provided full information regarding the possible health consequences arising from using the TETRA radio, 52% were aged between 35 and 44 years, with 61% noting how they have used the TETRA radio for 10 or more years. 32% of respondents who strongly disagreed with this statement were Garda members for 21 or more years with 36% of those who ‘somewhat disagreed’ with this statement also citing 21 or more years service in the force.

D.4 Outcomes/Consequences

The frequency analysis of each outcome variable is discussed below.

- ***Perceived Value***

While 58% of the sample agreed that use of the TETRA radio enhanced their effectiveness on the job, 27% neither agreed nor disagreed with this statement. Of the 247 respondents who neither agreed nor disagreed with this statement 87% were rank Garda members. In terms of communication benefits, 79% of the sample agreed that use of the TETRA radio enabled effective communications between themselves and the control centre. 63% of Gardaí and 13% of sergeants and Inspectors agreed with this statement. Overall 81% of the respondents agreed that use of the TETRA radio improved their safety and that of their colleagues. 48% of those who strongly agreed with this statement were aged between 35 and 44 years of age. 33% who also strongly agreed with this statement were members of An Garda Síochána for between 11 and 15 years. In terms of personal safety 68% agreed that use of the TETRA radio increases their sense of security at work. 48% of those who ‘strongly’ agreed and 61% of those who ‘somewhat’ agreed with this statement were also aged between 35 and 44.

- ***Organisational Trust***

When looked at in aggregate 83% of Garda members did not believe that Garda management of An Garda Síochána were not always honest and truthful. Half of the

Inspector's who were surveyed also believed that management were not always truthful and honest. 64% disagreed that Garda Management had high integrity towards its members. Of those who '*strongly disagreed*' with this statement, 92% were rank Garda members. In relation to statement 103 '*In general I believe that the motives and intentions of An Garda Síochána (Management) are good*', 61% disagreed, 18% neither agreed nor disagreed and 21% agreed with this statement. Of those who strongly disagreed with this statement, 35% were Garda members for 21 or more years, 32% for 11-15 years and 24% for 16 – 20 years. 53% of respondents who strongly disagreed that An Garda Síochána were open and honest with members were aged between 35 and 44 years. Of those who strongly disagreed with this statement. 90% were rank Garda members. In aggregate 67% of respondents disagreed with statement 105 '*I fully trust An Garda Síochána*'. 17% neither agreed nor disagreed with this statement with 16% agreeing that they do fully trust An Garda Síochána. 91% of those who strongly disagreed with this statement were rank Garda members. Just over 1/5 of Garda Sergeants within this sample also strongly disagreed with this statement.

- ***Affective Commitment***

When looked at in aggregate 68% of the respondents were happy that they chose a career with An Garda Síochána. When looked at in more detail it emerged that 53% of rank Garda and 13% of sergeants and inspectors agreed with his statement. Overall 50% of the respondents agreed they had a strong sense of belonging to An Garda Síochána, with a further 62% agreeing that An Garda Síochána had a great deal of personal meaning for them. In terms of those who 'strongly' agreed with statement 110 '*I feel a strong sense of belonging to An Garda Síochána*', 36% represented Garda members with 21 or more years experience within the force. 16% of respondents who were Garda members for 5 years or less also 'strongly' agreed with this statement. 38% of respondents who 'strongly' agreed that An Garda Síochána had a great deal of personal meaning for them were also Garda members for 21 or more years. 14% of Garda members with 0 – 5 years service also 'strongly' agreed with this statement. Overall 55% of the respondents agreed that they felt like part of a family within An Garda Síochána. 27% disagreed and 18% neither agreed nor disagreed with this statement. Of those who 'strongly agreed' with this statement 31% were Garda members for 21 or more years, while 36% of those who

‘strongly disagreed’ with this statement were Garda members for between 11 and 15 years.

Appendix (E): Interview Analysis – Information Privacy Concerns

Interview Participant	Awareness Concern	Other Dominant Concern	Evidence
1	They did set up a screen in Station that showed your shoulder number so obviously as a – they (pause) eh they put – they connected your shoulder number so I had a K number say it was KXX to your device so when I looked at the screen and I had it with me I could see that there was a Tetra – my Tetra radio was down at the Garda station so obviously I knew if I was up the other side of the district that the screen there - somebody could look at it and go name is there – that's where they are.	Improper Access	It would concern me that – that – that anybody can just scroll in at any time and look and see where Tetra is of any rank you know so like that it would make more sense if you were detailed like logging onto Pulse if you were detailed to be the controller in a particular district that you logged into the system and YOU had access that given day and you're accountable for what you logged into and looked at – the accountably I suppose wise, if that makes sense (pause) but not a free for all for anybody to just look at the screen and say (pause) where's name well he said he's up in area –no he's not he's up the other side near - near wherever area – you know that of type of thing .
2	Initially we weren't - we didn't think that they were active - we know now that they are all active and certainly have been active for a few years em the GPS function we knew it was there but it was - no it probably wasn't – they didn't make a big issue about the GPS – they didn't tell us – I don't recall seeing any correspondence saying you know this GPS is now	Control	We can't control it. The only way we can control it is by switching your radio on and off and I don't even know if you switch off the radio is the GPS still live. I know that the GPS were only activated on some of the radios in recent times, they weren't always activated. I know my radio was recalled about a year ago and it - they done something to it and I think they probably activated the GPS – I know that some radios the GPS

	active and this is what the GPS is going to be used for and this is what the GPS wont be used for eh I don't recall seeing anything like that. That's not to say that they didn't come out but I don't recall seeing anything like that so yeah – in – in relation to the GPS I probably would agree that while we know that there is GPS on it - on the radios we haven't been given any clear advice as to what they will and wont be used for.		were active on for example the car radios – they have a GPS in them and they can actually tell what speed you're travelling at on the road from the control room
3	I didn't really even know about it – I don't think it was highlighted as such em I knew that there was a bit of a hullabaloo as regards to how they – they started to we'll say– the control centre were able to see where you were – and once or twice I think I was driving somewhere and they might come over the radio and say where – you're gone outside your district get back but then you'd be able to – you would have a reason for it – so you would be able to say well no I'm actually going on an enquiry down the country and they'd be like you should have informed us and that type of thing so yeah	Unauthorised Secondary Use	I suppose the only concern I would have is that they can listen to you. Okay yes you might be physically in work but you know there's nothing stopping you to have private conversations, so that would be a breach of privacy in my mind
4	We got no notification of this whatsoever. It came kind of third party in the station that there is this new unit now in Dublin Castle that's been set up and you know	Unauthorised Secondary Use	Well like you know I suppose there is a lot of concern that they're using it to monitor – you know monitor peoples performance maybe or something like that you know? When I

they're monitoring where you are going which, look it was coming down the line anyway but it certainly was just pushed out through the Covid19 thing you know so (pause) there was never an email sent out to me saying it was going to happen or you know – but sure look it I wouldn't expect that to happen in our job that I'd be told beforehand.

go in – when I go into work the jobs owns me for the 12 hours you know so.

5

They have specifically set up this office with this Covid19 and I think it was in the pipeline for a while but they never got it over the line but because of the Covid19 they have set this office up to monitor where personnel are and they are using it to monitor. This was just set up over night and all of a sudden we are dots on a screen and we are accountable and – we're always accountable – but we're being monitored and micro managed and I just don't see the necessity in it. And it wasn't – it wasn't brought in and explained to members it wasn't agreed by our associations. There was no details as to what this office was but this member was to go in there full time working 777 say so we we're sitting there going ' well who has to go in and why do they have to go in' – it just came down like a normal duty detail as if you were sending someone to court or

Unauthorised Secondary Use

It has become a tool to micro-manage and supervise people that (pause) they are just going about doing their jobs and I think from being on the ground and myself working with lads and it has - especially with these Covid19 times they are monitoring a lot more – so my belief that the whole GPS system on it was for our safety not for a supervisory or monitoring purpose. We've had recent calls from this new office that they have created that – where is such and such a member they are meant to be at this location on this checkpoint – and they are barking down the phone – and lads are doing what they are supposed to be doing or there's a very - a reason – they are not looking at command and control system where it actually says they've been reassigned to another call or they've had to go to court or – so they are actually just monitoring the radio as opposed to looking to see you know if they are not where there are as opposed to be what's the reason – And its in relation to checkpoints its not

	you were sending someone to go on an escort but the clarity around it was (shakes head) and even my inspector was there at the time and he knew nothing of it which - and he's - he's getting up to senior level management rank but - so that was how it was initiated with the members being asked - requested to go in and then it was only then people were going - 'well what exactly is that' and then you heard of one or two people in there and they were explaining it and then the Inspector went in to have a look at it to see what the story was and then he's explaining it to you so there was no - no transparency or clarity		being used for their safety its being used to say oh well we have a checkpoint set up here on the N7 and I know that there's three members at it or whatever - it's a PR thing you know?
6	I work in **Station** and we have an office where you can actually see our GPS's monitored on a television screen. it was never communicated clearly. You feel a bit disheartened that they couldn't just actually communicate it correctly to us - you know?	Unauthorised Secondary Use	I agree with it if it was for safety purposes. I don't think it should be used for supervisory purposes. They either trust me to be in a position or they don't. If they give, if they tell me I have to be somewhere they should just believe that I am going to be there instead of having the GPS to check on me. I don't think it should be used for that like. I work in **station name** and we have an office where you can actually see our GPS's monitored on a television screen.
7	I cant really recall much about it I just remember them saying you know we're going to get new personal issues and radios and that you know you're obviously	Unauthorised Secondary Use	They are seeing exactly where you are and obviously its logging me to the station now where I'm supposed to be out in the car kind of you know that they are looking to see how long you are

	given the ear pieces and things like that to go with it and yeah and as I said new technology is always good in this job because we tend to lack behind a good bit. I don't think it was highlighted to much that it has it (GPS).		in the station. I've no doubt that it probably is being used for that. The only reason they should be looking at it I suppose is if we look for assistance or whatever so if someone was looking for it for another reason yeah I suppose it would – would worry me
8	I think there is a big responsibility on the organisation to communicate that to people as well and I'm not familiar that that message has gone out, this is what is being tracked and this is what it will or will not be used for so that is a (pause) that is a policy document really that's needs to be communicated.	Collection/Unauthorised Secondary Use	There was concerns around what, where the information was going to be used em and what - what members were going to do with it as well. there was concerns over who was going to use that information and I know the control rooms also have it as well, where they have automatic location where you can just can just put it on the big screen and they can see where all the guards (Gardaí) are or see where all the Garda radios are I should say – or where they should be. There was concerns about that, that somebody would be adding in that layer of supervision which wasn't there previously.
9	One of the lads here had to drop our officer in to – she was working in there one of the weekends and you could see it on the screen and lads were being called by the supervisor in charge on the day “phone that car there, ask them or call that car there. Why are they not at their location? We can see on the map” they had a live map that they weren't there.	Improper Access/Unauthorised Secondary Use	Unfortunately because it's a large organisation certain people in management . . .and certain people - the wrong person in the right position could use it for the wrong reasons. If the wrong person had access to that as in a bully or what not of management, that would be a very - they could make a very uncomfortable working environment for the people they work with. We were always told that's not meant to be used against you for, for work. It's not meant to be used – as in the radio is

		not meant to be used to monitor your location. It's for health and safety only and then when - you do hear stories after that well that cars were being checked on their locations you know?
10	Oh yes there is a massive concern yeah. Massive concern. Its just (pause) yeah there is, its just (pause) you just have to explain to lads and that's probably what it is that it should have been explained beforehand that this was going to happen and maybe when you explain to lads "look lads this is not because we are trying to catch you out. We're just making sure that the system is being run properly and that, that checkpoints are being done".	Like once anyone collects data there's always that fear you know its going to be used against you for some reason. But how or where or when or by who I can't answer that like you know. I would have a concern about criminals using it obviously.
11		
12	Well about two weeks ago there, maybe even longer I just heard over the radio that someone was being asked about being on a checkpoint and they said they were on the checkpoint and it came over our control, our command and control saying 'we're looking at you here on the map lads and you aren't where you's are meant to be . . ' and that was the first time we'd ever heard of it so it was kind of a shock to the system that we were being monitored in that way. But that kind of	Collection Everyone has that kind of fear in the back of their mind. If they tell you to do a 30 minute checkpoint for example and they are going to record it from minute 1 to minute 30 to show that you are on that exact spot I mean not everything is always black and white with our job. It could be a car goes through a checkpoint and you go after it and you could be off the checkpoint then and they look at it and see your GPS is in a different location so its

	. . . I suppose you feel like you've been stabbed in the back because you could have been being watched for the last couple of years and you weren't meant to be. It was never brought in for that purpose it was brought in for safety only.		very to sit in front of the screen and kind of look and see this data but its not always accurate in the real world.
13	You know there's no policy document for it?	Unauthorised Secondary Use	I suppose if you are going to be disciplined over it. I suppose it would be the widespread use of it to try and catch people out and use it for discipline purposes that I'd have a concern with. Like I said that there's a big room up in Dublin somewhere and there's a heap of sergeants and inspectors and supers out there trying to catch lads out. I'd say that's they're only concern. And that sounds mad but that's probably not outside the bounds of possibility that that is happening so I'd say that . . . I'd imagine that's their only concern like. I couldn't imagine that the storage of that data has any concern to them at all. That's just my personal view .
14	Well to be honest with you I don't know much about it. Maybe there was an email or a few notifications sent down, maybe I missed it or maybe it was said at a briefing briefly . . . you're being tracked now on GPS or with your TETRA's. Like it's known but the transparency of the degree to which they are tracked	Unauthorised Secondary Use	I suppose if they were to use it against you, you know? To say to get you in trouble or if they were to . . . like disciplinary proceedings if they were to use it against you in disciplinary proceedings or anything like that . . I don't think that would be fair.

and what it's used for has been . . . like I know nothing about it. You know?

15

I don't know how long ago that was introduced. All I know with the GPS is there, they know where you are. And then once your radio is off they don't know where you are. That's all I know about it. They could be using it for a lot of more things. They could be using it in studies or . . . geez I wouldn't know.

Unauthorised Secondary Use

If they're just collecting it to see locations and that you're not – you're somewhere you're not meant to be and they are just doing it off their own bat no . . . I'd have a serious issue with that now. I'd have an issue that it's almost like you are being picked on

For me to go down to North Strand and to get on the radio and I'm being watched on a big screen up somewhere . . . no . . . I don't like that. They can't just decide to check up on you specifically but I've seen them look at the screen up in thing. You're paying someone there to look at a screen to follow members. Why don't you just . . . why don't you just get that person to go out on the street and do something or gone down and be useful? As again if something hairy happens or something yeah use the screen it's there but don't have it on 24/7 and have someone watch it the whole time. That's wrong.

16

I don't remember ever being do you know. . . maybe we were . . . I don't know maybe something was thrown out to us but I don't remember ever . . . do you know it being a discussion or anything like that like you know? we probably didn't realise at the time how important it was do you know that kind of a way or how . . . it's only

Collection

In some ways it's like they're tracking us do you know that kind of a way? You kind of say oh Jesus they know now where we are when the radio is on

	kind of in the last few years I think they've gone a### with the, with the TETRA and the GPS on it.		
17	I think that's the kind of concerning thing that we don't know who has access to it you know? And what they are using it for and is there a kind of cheques and balances system.	Collection/Unauthorised Secondary Use	I'm in **Station** but there's no 3F espresso on our side of the world so I might go over take a trip on the Southside just for 15 minutes to get a coffee. I could potentially be getting a phone call asking me why you know I'm going over to the **area** side or Southside. They could build up a portfolio of everything you do and they could I suppose use it to make a narrative of something that isn't true if that makes sense?
18			
19	You'd like to know what the story is because even . . yeah you would.	Collection/Unauthorised Secondary Use	I do believe in some parts of the country they are monitoring . . the TETRA radios unnecessarily. To find out where members are and what they're up to. For the purpose of trying to get you in bother down the road. If they are monitoring they should be notifying people because it's just the way it should be.
20	No. We're guards (Gardaí) we're just given it.		
21	I suppose we thought it was only a live system that . . and it was for health and safety reasons and I suppose a lot of people . . .since COVID I suppose it's been	Unauthorised Secondary Use	I suppose my fear would be that it would be used to target you know if you had we'll say a line manager or a super or a chief or whatever who took a particular dislike to somebody they could

explained to us that yeah we are monitoring it and it is . . . that the information is being recorded but I suppose the bigger – the big concern down here is that it is constantly being monitored now whereas we were always aware that they could look at it and see where you were at a particular time but now it's constant monitoring if you know what I mean?

use it as a tool to you know constantly monitor that person and I think that element of it is unfair. I do see it being used . . . (pause) abused should I say as a tool to target individuals that have fallen out with supervisors you know and it could be a personal – it could be a personal thing that they have fallen out over . . . so I don't think it should be used for that reason.

22

I'm in **Station A**, I'm not to go near **Station B** or **Station C** or **area** and I am not to enter the station due to cross contamination so on and so forth. And a couple of times so far already – I'm after being out in **Station B** having the tea and the chats with some of the lads that are out there and I wouldn't be there 5 minutes and the super is there ringing saying 'what the f### is the **Station A** patrol car doing outside**Station B**?'. Now there is only two ways he could know that. One if he was monitoring the GPS tracking system of the radio or secondly someone rang him to say the Garda car is there. Maybe I'm super paranoid but I don't think someone is ringing them because we're literally in the place five minutes and he's able to tell that we're there. So I am convinced that he is monitoring. Now he can't say it, he can't use

Collection/Unauthorised
Secondary Use

Basically to me that would be a form of micro management. Its . . they are constantly monitoring where you are, what you are doing, Do I think they should have access to that information? Certainly not no. There's an easy counter argument for it obviously I appreciate that but no - yeah that's my answer.

it because there is no real policy on it I appreciate that on the use of TETRA and the GPS, the AVPLS I suppose but I am convinced he is using it like.

23

It's never been negotiated with the members. No it's . it's something they have tried to sneak in and it's supervision beyond supervision. It should have been discussed before it went live. Sneaky b##### as usual you know? That's the way they are. I'm someone who's been working 19 years without being monitored and then without any request or permission or debate or discussions or negotiations with my association they've decided to start monitoring me without telling me.

Collection/Unauthorised
Secondary Use

It's being used as a supervision tool as I said, now the inspector doesn't have to get up off his arse and go out and get into the car and check the checkpoints. He's probably at home with a beady eye set up on his computer looking and he's looking at it from home. He picks up the phone then his own space phone he starts ringing members private phones asking they why they aren't here and why they aren't there, so it's supervisory – supervision tool. Members are now being monitored without any consultation and the device they're using to monitor them just happens to be the device that we use to communicate with everybody. We have plenty of examples. But sure it's the guards (Gardaí) that are being asked to do it. The map is up on the wall in **Station**. And there's red dots all over the wall where, were on the panel. My radio was stunned because I hadn't brought it in for an update so it was effectively useless so I had to bring it in for the update and during that update was when the GPS was activated I'm told.

24

As with management there was no communication. We all knew it was a function on TETRA. We all knew it was there. There was a lot of rumours in the early days

Unauthorised Secondary Use

They do monitor it for the wrong reasons and I know this and that's the biggest issue that members have is not the technology but it's a distrust of management – well across the board

was it activated, was it not activated. Was the TETRA in the car activated or not activated and then over time, a couple of years ago – we were getting emails about having to go and get your radio updated for x,y and z purpose and it turned out this was the activation of the GPS. And it seemed somewhat sneaky. We all knew what was happening but instead of making it perfectly obvious and open or transparent and these are all the key words that are being bandied about these days . . transparency and what not, they never actually came out and said look lads your GPS should have been activated. You need to go to Telecoms get them update, this is why it needs to be done by a certain date. Well we had all that information except for specifically to activate the GPS. So it was somewhat . . the feeling was somewhat underhanded and a lot of members did not update their radio purely because of the uncertainty and they kicked back and said I'm not updating my TETRA, don't know what's going on, why are they doing it so again it goes back to a mistrust of management.

management is not trusted full stop but members know that officers use that information for . . not the right purposes. To keep an eye on certain members and maybe to use it against that member maybe down the line or if that member is out of their area or their district. Now the reason could be genuine but . . . the officers aren't looking at your location with your best interests in mind. They're looking at your location to see if it can be used to your detriment.

25

Like I kind of know they're doing it but they haven't told me so it's annoying me. We don't know what

Unauthorised Secondary Use

We've had reports of people who have got phone calls from the control room 'what are you down there?' or 'why are you over

purpose they are retaining it for, how long they are keeping it for . . I mean it's like any data – if you have data somewhere these days you generally know what it's kept for and used for. Because that . . the policy has never been agreed and signed off on this thing and it's being used now and I think that's one of the biggest problems we're finding now it's being used in relation to Covid for tracking checkpoints . . there's no clear understanding as to where my data is and how long it's being kept for or what it's being used for. If I knew that I might feel a little bit more comfortable.

here?'. There are some sergeants that seem to be, who might get on the radio – I see you're on the main street you're supposed to be over there - and they might only be 100 yards away from where they're supposed to be . . it's micromanagement is the problem you know? and I can see it in people they're concerned and they're rushing to these checkpoints they're saying 'oh we've to be there for 10 o'clock. Someone is going to be on the phone if we're not there bang on 10 o'clock wondering where we are' you know? That micro management gets in on top of you because it's a stress and a worry all day long 'am I in the right place? That's my biggest problem with it is that the rules of the game aren't in place for everyone to see and understand.

26

I think it hasn't been clarified. As in, like, we've heard anecdotally, you know, people will say oh yeah it's . . during the . . . when we were getting the TETRA radio training and that like you'd hear . . . you'd hear . . you know that we won't be storing that this won't be used against you because we haven't seen any policy on that or any you know . . . it's definitely something that needs to be cleared up. Because guards (Gardaí) kind of have a think if they're left to fill in the blanks in things it's usually the worst case scenario that we go for like so.

Unauthorised
Use/Collection

Secondary

I think there's a capability for it to be used improperly. Definitely. . . (pause). Yeah, it depends on how well you know the organisation I suppose. My views on some people in management might - how would you put it - bend the rules when it comes to I suppose keeping an eye on people and that you know? I would have, I would have concerns over that definitely. It's like having an ankle bracelet really do you know like one of them tracking location devices and apps like it's pretty much the same thing when you think it has the same capability like to monitor, where you go.

27	We were in a different townland and our Superintendent was able to ring us and tell us where we were. So you know the only – we were trying to think – how did he know where we were? So we thought maybe he's monitoring the GPS. You know we don't know why he'd be checking up on – on us you know if he . . . if there was any . . . unless he didn't trust us. Unless – unless he's psychic I don't know. I don't understand how he could have figured out where we were in the first place.	Unauthorised Secondary Use	I do think we're being monitored where we are patrolling and we're being spot-checked.
28	There's no policy. They haven't informed any member of the force what they're at . . . so, nobody actually really knows. I think there should be clear guidelines in what they can and can't do. Now those guidelines don't exist. It definitely hasn't been agreed by the associations. So we are now in limbo we don't know what . . . what can't or can't be used or can and cant be done so I think that's a very bad position to be in.	Collection/Unauthorised Secondary Access	We've been told unofficially that officers can check any members location from their own personal issue mobile phone. We don't know if they are . . . that's the point. I don't know if my superintendent is checking where I am when he's sitting at home bed at any time. So we haven't been told. It would concern because . . . they may not utilise that information directly on that period . . . on that date but they could utilise the information gained from it to target members at a later stage.
29	Anecdotaly I hear that they maintain – they have a crew in Dublin watching the . . . particularly monitoring the checkpoints in the DMR and the Dublin Region you know and I suppose that's of concern.	Collection/Unauthorised Secondary Use	It pings every couple of seconds or every . . . over such a distance and it basically leaves a snail trail on a map. So like it has been used at the start of Covid by Snior Management for – to see are members on checkpoints, you know are they doing their checkpoints, are they on their checkpoints and I suppose it's

			being used as a supervisory tool for that. And that is not what it is geared at. And that wasn't part of the buy in from the GRA perspective. Could it be used in a disciplinary investigation? Could it be used in a criminal investigation? Whereas that's not one of the reasons that it is there. It is there as a health and safety feature but they have developed it further. Ultimately it can be used as a means of covert surveillance on members while they are at work.
30	We were told there was some sort of Headquarters and someone in there said we were being monitored. You wouldn't know from the radio itself. It's not as if there is a crackling on it or anything so we'll know there is someone listening in on this.	Collection/Unauthorised Secondary Use	If it's used for discipline yeah I would have a concern. There's no need for them to retain it. And why are they retaining it? And for me being cynical I would say they are retaining it to use against members and that would be a big problem. Ultimately they are using it against members and not for the good of their health. They're using it to discipline them.
31	One day by accident we went up to **Station** and we said 'what's that computer for?' and he goes 'that's for tracking'. I don't think we ever got an email saying they were actually tracking. It was only by coincidence that we found out there was a live system.	Unauthorised Secondary Use	If they could use this to catch you out I'd say they probably would. It is not unheard of in this job if they want rid of they'll try their best to.
32	It was kind of just put – it was just given to us like. It's something you're going to do or you have to from now	Unauthorised Secondary Use	I suppose it just feels like they are trying to catch you out or something. That would be my big thing that I think that they – like they should trust us to be able to do what we're saying we're

on. And every single call you go to, or every – no matter what it is you have to put GPS on for it.

doing. And not be following us around the place if you know what I mean? You see there was something previous with me that – like this is 10 years ago that they got my telephone (mobile) records without contacting me, without any authorisation and I'd be afraid they'd do the same thing with the TETRA radio.

33

The members on the ground aren't aware of it either like do you know? They aren't aware if they are being monitored or what's being done with it. Like there was a protocol that was never signed off to see what it can be used for. So there was no kind of – no rules ever written for the . . for our TETRA radio and oh we do appreciate the GPS like but there was no, not for – there's no rules written for it and the members aren't aware of it.

Collection/Unauthorised
Secondary Use

It'd be an awful fear to say that it's going to be used in discipline down the road and you weren't aware of it you know? It kind of feels like Big Brother is watching you again. Like if you wanted to go offside for the want of a better word or go into the bathroom or whatever like that – like should they know? It's a good manager, bad manager or somebody wants to be domineering or not domineering and some of us feel that – that Big Brother is watching. There was somebody offside a while ago there and somebody rang from the control room and said to them 'why are you in **area**?' or whatever like this and how would they have known that like? It can give the speed a car was going. So which way the car went down Main Street and turned left and then went right . . but that's all tracked from the TETRA.

34

They tell you very little about it. In what way it's being used you're not told. Management have probably been

Collection/Unauthorised
Secondary Use

It was only meant to be used if a guard (Gardaí) was in trouble or an emergency or to pinpoint the location if they were in trouble, but they are using it to monitor in work and stuff like

	told but it doesn't filter down to the guards (Gardai). It has to be explained clearly.		that. They use it in a way they shouldn't be using it. We don't know who is looking at it. Is it civilian staff, is it Garda staff? If they are collecting it what they are really doing is they are keeping an eye on you to see where you are and stuff like that.
35	There was a draft policy under discussion for years but it hasn't been bottomed out and management made a move there recently to introduce it all be it to the finalisation of the agreement but it's the checks and balances that should be in agreement – that should be . the invasions that have been identified and the potential invasions of privacy and that that peoples rights are not trampled upon. Because in an hierarchical organisation – that susceptibility of abuse exists, it doesn't matter if it's the church or the medical profession – the policing, the teaching. Any of these things where you have hierarchical structures, that risk exists. This research will help us in identifying the concerns that people will have and what it is that the policy documents that underpin it need to consider.	Collection/Unauthorised Secondary Use	I have anecdotal evidence that there are Sergeants that when they are off duty they can whip out their mobile phone and are able to check where the people that are at work are at any given point and time. Like that's Big Brother stuff 24/7. There's no respite from it and like any of us can get a short corner on, you know you are sent out on a patrol beat, you are walking the beat for several hours and you need to use the bathroom and if you stop somewhere for 15 minutes – male or female – if you stop somewhere for 15 minutes to address that requirement and you have somebody watching you and monitoring you to see that you are moving fast enough – that is not appropriate at all. If an Inspector or Sergeant can take their phone out of their back pocket while they are off duty and are able to tell people that they can find out where everybody is? Not good enough.
36	I have no memory other than being trained in the use of the emergency facility.		

Appendix (F): Interview Analysis – Perceptions of Organisational Justice

Interview Participant	Distributive Justice	Other Dominant Justice Perception	Evidence
1	Well its not for everybody – because everybody doesn't have one so (pause) we don't use them, we don't switch them on. Where we are at any given time is down to (pause) where we say we are you know – unless we are on a specific operation but then we'd be probably on a closed channel and there'd be nobody monitoring it, we don't have a screen so (pause) we'd be using it from an operational point of view – it wouldn't be from a 'where are you?' point of view if you know what I mean. Its only really be for people on the beat or maybe if you're in a detective unit or a non core unit.	Procedural Justice/Interactional Justice	You know what (pause) I cant even remember how (pause) it was - it sounded - it was more word of mouth basically and it was like you need to put GPS – it was more like the incidents – the Pulse incidents, the crime incidents had to have a GPS attached to it and then it was like well how do you get GPS? Oh well you get GPS from your Tetra and I think somebody told me. I don't ever remember reading about a how to or given an instruction on it – it was like (pause) oh this technology is on your – on your Tetra – its like oh is it? And I went in an looked and went oh it is yeah look – eh my GPS – and that was it like for me anyway as I recall it. That's how it was kind of communicated.
2		Procedural Justice/Interactional Justice	I don't recall seeing any correspondence saying you know this GPS is now active and this is what the GPS is going to be used for and this is what the GPS wont be used for eh I don't recall seeing anything like that. That's not to say that they didn't come out but I don't recall seeing anything like that so yeah – in – in relation to the GPS I probably would

		agree that while we know that there is GPS on it - on the radios we haven't been given any clear advice as to what they will and wont be used for.
3	Interactional Justice	I don't even remember being told about it so. If it had been it would be in my mind somewhere but no.
4	I don't know because as again I don't really know much about it. We – I was just kind of told through kind of other Guards (Gardaí) that you know this was going on you know so I actually don't know what way its being collected or are they sending like you know a report at the end of the month up to some Superintendent going – oh well this was done or people aren't where they are supposed to be – I'm not sure em you know so.	Procedural Justice/Interactional Justice It's probably caused a lot more stress for younger guards (Gardaí) maybe you know – that haven't been told you know this is happening or what's being expected of them or you know – are you entitled to turn off your radio if you want to or you know what's it being used for? Is it being used for you know to help– help the guard (Garda) on the beat for their own you know – to be able to track down so you know if something happens to them you know or – or as to – to catch the guard (Garda) out as such you know so that hasn't been explained you know?
5	I think junior members are shy enough about speaking up. They're kind of the scape goats because they're the ones they make an example of then because they are easy targets	Procedural Justice/Interactional Justice its disappointing that they're not informing members as to – this is here, this is the reason why its here – like we don't know is it because we are being monitored, is it because its for health and safety is it they need to record these statistics because they have to have this return like you know what is – what is the rationale behind it? It hasn't been explained and it hasn't been filtered down to the members on the ground as

			much as management might know what the reasoning is or what they are going to utilise it for, the members on the ground that are using it day in day out (pause) we don't know.
6	I don't think it is applied fairly at all no. I think that it can be used to discipline one person and not used to discipline another person so no I don't think its fair. They have one rule for one person and other rule for another person so there's no (pause) there's no black or white they have the red in the middle that they act upon	Interactional Justice	We were just told that – that was what was occurring. It was never communicated clearly
7	To be honest eh I'd say maybe it could say if someone is you know are not where they are supposed to be the whole they might maybe monitor them a bit more so it could be, it could be used unfairly.	Procedural Justice	No – no. I didn't feel that I did (have any input into the decision to implement TETRA and the GPS) anyway no. None whatsoever. No.
8		Procedural Justice	I would have been probably operating as a Guard (Garda) Rank Garda at the time so I'm guessing those senior decisions would have been made at a higher level
9	Well the DMR (Dublin Metropolitan Region) only has that office you know. The lads down the country don't - aren't being monitored like that you know. I find even in relation to discipline it can very much vary between districts or divisions the length and breath of the country where one lad	Procedural Justice/Interactional Justice	The only thing I can take from that course all those years ago was that we were told the GPS wasn't on it. That the Government hadn't paid for it and then – its not like we all got a message one day or I cant recall maybe there was

might do one thing you get hammered but another fella might do the same thing somewhere else and might get a slap on the wrist. It's very inconsistent.

something came up on the portal or whatever came out saying there was going to be GPS but I don't recall it.

10

I don't know who is collecting data and for what purpose so I wouldn't be able to answer that unless you said to me well they're collecting and the reason why they're collecting. . . and I go yeah or no. . . yeah that's right or that's wrong so . . you'd have to give me specific incidents as to the reason why the data is being collected.

Procedural
Justice/Interactional
Justice

You know I've yet to see a document that says 'we will have this and we will be using this and the reason being and this is for your benefit and of course the organisations benefit and all that you know and this is the advantages and disadvantages . . . ' I think to roll something in like that and not discuss it with people is probably the wrong way of doing it and I'd say a lot of people, a lot of guards (Gardaí) think well there must be something else here you know . . . the guys that are trying to pull the wires out of it and switch it off for 5 minutes you know. They're the, you know. . they're not exactly . . . but they're wondering why and why they need to do that? They need to be told this is the reason being.

it was basically, all it was, was a case of you got a new car years ago or a new radio and then it all came out sure look they copped the GPS was being used and obviously it was being used for location of incidents as well which was great, that it gives you data on that. But then obviously everyone then realised well Jesus if they can do that then they can watch us at all times. So its just kind of another step in the evolution of the organisation that's really all it is. I think if

		you're bringing in something that's going to affect somebody on a daily basis you know and like as you've put it yourself people knowing where you are at all times then you have to explain it to them before you give them the tools to say look 'this is what this is, this is what we will be using it for and the advantages of that for you and the organisation are x, y and z. The disadvantages are look we know where you are at all times . . . '
11	Procedural Justice	I can't really remember. I remember doing a course in Harcourt Square years ago (long pause) I don't really have any views on whether it was good or bad. It was just one of these things you just pick up as you go along. Like a lot of stuff that they introduce into the organisation you're sent on a course so you do something online nowadays. And it doesn't mean much, you forget it as soon as you do it. But you only, with these kind of things you only start to get good at them when you start using them. You know?
12	If they are going to monitor a certain element of the guards (Gardaí) like the regular lads in uniform I suppose then everybody should be monitored. It should be either everyone or no one. Interactional Justice	Nothing has been communicated to us about it. It's been brought in and that's it. We should have been told in advance of this coming in and then our representative association would have a chance to kind of argue out or iron out and let people know exactly what you are being monitored for, whos looking at that data etc as opposed to just throwing it in and

			then us finding out some day a few weeks later and being told in that respect . . like we still haven't been told about this so . .
13	In city's and I suppose the likes of Dublin and that maybe it's just what they're used to and they be used to of all of that but down the country it's different you know? I think probably in rural locations they probably feel that more that there's no . . just let me get into my car and do my patrol and leave me alone.	Procedural Justice	There's no policy document for it and there's a whole lot of different things really it hasn't really . . . it hasn't worked out so I suppose when you think back well what did they need the GPS for so?
14		Procedural Justice/Interactional Justice	Well to be honest with you I don't know much about it so I'd say poor. Because maybe there was an email or a few notifications sent down, maybe I missed it or maybe it was said at a briefing briefly . . . you're being tracked now on GPS or with your TETRA's. Like it's known but the transparency of the degree to which they are tracked and what it's used for has been . . . like I know nothing about it. You know?
15	I'd hope they wouldn't just focus in on one person you know picking one individual you know or picking a group of individuals out. Yeah it's a tough question because. Again I don't know how long ago that was introduced. All I know with the GPS is yeah they know where you are. And then	Procedural Justice	If you're working for an organisation where there's 15,000 members everyone should have a say in what's going on. Look I'm sure there's stuff that has been implemented into the job that I don't agree on and I'm sure there's stuff I do totally agree on and other people don't like it's everyone's

once your radio is off they don't know where you are. That's all I know about it. They could be using it for a lot of more things. They could be using it in studies or geez I wouldn't know.

own opinion but I definitely think you should have a say in it. Like there's no way it should just be implemented and that's it. That's the whole point of the GRA and you know I'm one of these people where majority rules and the more people you know give it out there and let people see what they want to think. Not every answer is going to be right or wrong everyone has an opinion but . . yeah . . they should be. I think as guards (Gardaí) you have absolutely no say (sighs). I'd be very interested to find out what . . their rationality on the GPS is. Now I'm sure you'll have other . . other parts of management . . members there who will say 'we want to account for where our members are so if an incident happens we know that we have four members on that street and they dealt with it accordingly . . .' but I'd say deep down it's . . I'd say they want to know where we are. Do you know?

16

I always think the guard (Garda) in uniform is tracked more than any other guards (Gardaí) do you know that kind of a way? Easy targets. If you're in DDU or if you're in drugs or if you're in immigration or anything like that . . I kind of don't really think that they are . . it's always uniform guards (Garda) that I think they are . . do you know what I mean? I just think maybe the uniform lads get the . . are the ones that are followed up more . . maybe . . that's my opinion on it

Procedural
Justice/Interactional
Justice

I don't remember ever being do you know. . . maybe we were . . . I don't know maybe something was thrown out to us but I don't remember ever . . do you know it being a discussion or anything like that like you know?

anyway. I think anyone in plain clothes is kind of, they have that bit more breathing space than the uniform has do you know? I definitely think uniform guards (Gardaí) feel they are more under scrutiny and being watched more than lets say plain clothes. I'd say a lot would feel like that do you know especially in the country, I don't know how it works in the city in Dublin or anything but I think maybe down here you're definitely under the radar more do you know?

17

I think there's double and triple standards when it comes to different units . . . I mean with some detective units you know they can get away with not logging on you know? I mean there's some people that don't even log on let alone you know have their radio's on they just go out and do their own thing . . . but it seems to be in my opinion that the kind of - the more junior you are in the job and the more if you are on a regular unit in uniform the more kind of . . what you're getting at is . . . applies you know that kind of way - where you are all the time you know that kind of way? Whereas if you're just like I men if you're on a detective unit, a drug unit, a street crime unit you've more free reign but if you're in uniform and you're on the . . you're starting out they see to apply where you are and what you are doing more . . more strictly.

Procedural Justice

As far as things go with the guards (Gardaí) I mean they could tell you 101 things that would bother me but you know as far as my input not being considered it would be down there.

18	I presume it's a common, I presume it's likewise with your movements that – even though personally as supervisor I don't go around checking.	Procedural Justice/Interactional Justice	Thinking back no we were told it was just there and that was it.
19	Up in Dublin they are keeping an eye on where members are at all times. You see down the country I don't know if they are or not because it hasn't been said to us.	Procedural Justice/Interactional Justice	I just think if they are they should tell you. That's it. Just no that's it. They should be letting people know if they are monitoring the radios and an email should be sent out and that's it. People are all appraised then and that's it.
20		Procedural Justice/Interactional Justice	We're guards (Gardaí) we're just given it. A few years later you kind of think they should have given us a bit of clarity.
21	I think that system will be very much open to abuse. Because like . . we'll say me as the guard (Garda) on the ground won't be able to access it but if I'm being targeted for some reason you know if I don't get on with my chief or I don't get on with my superintendent or whatever they WILL have access to it and it will be easy enough for them to access it - and you know if they are going into access it inside a regional control room, they're not going to be asked questions as to why they're accessing it. And even if they were asked the questions they could very well turn around to you know the Garda Sergeant and say it's none of your business – you do	Procedural Justice/Interactional Justice	Very recently I suppose was – explained what it was going to be used for and stuff like that but from a –I could be wrong in this Cliona but my understanding is that is only a very recent development do you know even since COVID that we've questioned the use of gathering this information and stuff like that and again especially the AVPLS side of things where the constant monitoring . . (pause) and like we have only recently received explanations as to exactly what is being done there. the big concern down here is that it is constantly being monitored now whereas we were always aware that they could look at it and see where you were at a

	what you have to do, I have to do something here – it's you know . . . kind of above your pay grade kind of thing. And that will be accepted. So I just think it is very open for abuse the collection of information.		particular time but now it's constant monitoring if you know what I mean?
22	Do I feel that it is applied fairly . . . no I don't. Why do I not feel . . . I don't know . . . (pause) again I don't want to sound like a ##### paranoid freak but . . . like it's just a tool that management use if and when they want do you know what I mean? I don't believe . . . you know like the only time they would want to use that is when they want to catch somebody out or discipline somebody. I don't see when or why they would want to use it other than that . . . do you know?	Procedural Justice/Interactional Justice	I would have thought that the staff associations would have had more on an input into that and again there would have been an agreed policy document drafted in relation to it I suppose for the protection of members more so than anything else. But again there was no . . . no engagement between the staff associations and Garda management so that would have been a concern to me yeah. I don't know what the rationale was so if I don't know what the rationale was I'm fairly sure a lot of people don't know what the rationale was for the use of it. . . It was just one of these things that was rolled out and wasn't challenged by the staff associations.
23	I'd imagine they're using it just for . . . primarily for uniform beats. It doesn't affect me but I know that the majority of Guards (Gardaí) which are in uniform have a serious grievance against it and I'd rather stand with them as opposed to . . .	Procedural Justice/Interactional Justice	It just came down . . . it came down like everything else – it came down as a rumour and then the GRA your local GRA rep you go like 'here what's the story I'm hearing from the lads up in **Station** where they're monitoring and they're like here let me check and they brought it up in a meeting and then they bring it up in a bigger meeting and then they bring it up at one of the executives meetings and then it

		transpires that yeah we have that technology. So it just snuck out as a rumour and then it turned out to be true you know?
24	Nobody actually knows are they fully activated? Do they actually work? In what circumstances do they work? Do they work every time you turn on the radio? Or do you have to turn on the radio and maybe press another button to activate something further? There's a lot . . of uncertainty about how the actual thing works so.	Procedural Justice I've - like many things in the guards (AGS) – I've come to accept that it's . . . you know they rule with an iron fist. There's no negotiation so you just (shrugs) look get on with it.
25	The consistency across the country needs to be there .. and it's not there. There's different understandings at different levels of management and supervisors as to what its there for . . and you're right. That is . . that is the problem. You need a consistent use where everybody knows where they stand and to be honest with you I wouldn't have a problem with it at all if that was the case because at least I know well I'm in work now. I know they're using this if I get into trouble or if they need me to go to a call I'm near . . in a hurry and . . but it's when you have different supervisors have different understandings of what it's there for that's when the problems start. You know?	Procedural Justice We did start a policy document with them but it was never finished off and signed off on. One of the things we did - I remember looking at the bullying on the roster policy to see was there anything relevant on it . . over supervision is a form of bullying you know – and that's why . . that's why we wanted to get it into this policy that it wasn't a supervisory management tool. It was to be used for health and safety reasons, for dispatch reasons, for the health and safety of the public in an emergency – stuff like that. That's my biggest problem with it is that the rules of the game aren't in place for everyone to see and understand. We know on the ground that it is being misused and that supervisors are over monitoring. Particularly people who they don't get on with. You know I had one guy who was at a board recall and he drove away from it to go back to the station and he was about

			10 minutes away from it and he got a phone call on his mobile phone 'I see you're moving away from that call you never cleared it' and he say 'oh' he says 'I forgot' and the next thing he's being told well that's not good enough. I mean the guy sat back in the car and drove away. I'm sure he would have remembered at one stage to ring control and see 'look will you clear that call I'm finished' you know? But the fact he got a phone call within a couple of minutes of leaving the scene and then he's saying . . whoever was there was watching me to see how long I was there and when I left and all the rest of it.
26	That's one of the main issues with the organisation. There'd still be a lot of people who wouldn't bother putting on the radio but it seems to be the girls and guys in blue who have their radios on where the other people it doesn't seem to apply to.	Procedural Justice	I don't recall any survey or any . . no I don't. I suppose, if you had a forum there to fly around questions as in like the questions you're asking me, I suppose, like, you know, about the GPS. How would it be, would it be stored and that like you would, Yeah, all the roads seem to be pointing back towards a policy on their part . . . that's what I would be thinking. It's a lack of clarity, that's, that's what I think the problem is with the whole, you know?
27	I think it's impossible, do you know? God they have, should have bigger jobs as it is with paperwork and keeping districts going and divisions going. If you were to monitor every	Interactional Justice	I wasn't say aware that someone could just monitor. Now I don't even know if they are like I am a bit ignorant to how they can monitor it.

	TETRA radio in the division I think it would be your full time job.	
28	Some supervisors can ask the members to do it. And some of them are doing themselves and we don't know what they're doing. Obviously like their not going to tell us.	Procedural Justice I think there should be clear guidelines in what they can and can't do. Now those guidelines don't exist. It definitely hasn't been agreed by the associations. So we are now in limbo we don't know what . . what can't or can't be used or can and cant be done so I think that's a very bad position to be in. I'd like clear procedures and policy documents. And also clear procedures in relation to the storage of the data. Not only the monitoring but the storage of it as well. Who was viewing it and who was accessing it. As I said it's the lack of guidelines, the lack of clarity as to what to what they're using it for, keeping it for, storing it, who has access to it, when they have access to it . . . like without that. We don't know what's . . what's occuring which is bad. You see the problem with the TETRA is the policy document has never been signed off on it and it's never been agreed and it's enforced now . . I'd say it must be 10 years . . TETRA is here . . . I couldn't be sure now. So that was a big, that's a big flaw.
29	I suppose from a rank and file member it's lawful order, you can't you know – you're being asked to utilise this system, we have to follow lawful orders. If we don't we are subject to discipline regulations and if we don't do it we could be	Procedural Justice We were told it was being used for one, it was being brought in for one particular reason but that reason seems to have, through the policy procedure seems to have totally moved focus now really it's kind of like, it nearly feels like it is

	cited for a discipline regulation for breach of discipline, you know and I suppose that is a fear most members would have. You know if you question it you could get your knuckles slapped.		being used as a discipline, discipling tool as opposed to a health and safety tool. As a working party on this we would hope to move towards getting a resolution because to get the final sign of on the policy and procedure manual which has never been fully signed off by the Garda Management as far as I know.
30	Well no . . I don't know like . . how this concerns you now I don't want to be saying anything too much but . . (pause) . . so . . . (pause) let's say we had to be a certain point at a certain time, and if you weren't at that a certain point you were made aware that you weren't there. Do you understand . . can you get that without saying . . I hope I'm not saying too much. If you were supposed to be somewhere at say 10 O'clock and you weren't there they would be on to you as to where were you. Where were you basically?	Procedural Justice/Interactional Justice	The GPS was always – the GPS tracking was always a concern. That was always a concern. But ultimately, we do need radios and yeah, and we were always told that we wouldn't be tracked . . and in fairness the first time we have really been aware – and in fairness how long is it there now? Would it be 10 years maybe? In fairness, I think until the COVID was the first time that this is really . . that this issue has really raised it's head that we were actually informed that we are being followed.
31	See I don't really know what it records like no one actually knows, what the data is being used, and I don't even know how long it is kept for. I haven't a clue.	Procedural Justice/Interactional Justice	It was only by chance that we heard – that I heard it had gone live (GPS). Like noone was ever notified by email or correspondence. I never read it anyway. I don't even know if there is a policy document on ot or anything like that.
32		Interactional Justice	Well, it was kind of just put . . . it was given to us like . . . it's just something you're going to do, or you have to do from

		now on. And every single call you go to, or every - no matter what it is you have to put on GPS for it.
33	We don't know. Black and white we don't know. We've no proof. We don't know.	Procedural Justice/Interactional Justice There was a protocol that was never signed off to see what it can be used – there was no kind of, no rules ever written for the . . . our TETRA radio. There's no rules written for it and the members aren't aware of it (GPS monitoring).
34	No, no, no, it's a simple answer. Well you see if you're a guard (Garda) on a regular unit or if you're a guard (Garda) on a National Unit it'll be used differently . . . do you know what I mean? Depending on who the management . . . you're manager . . . who your super, chief or CIG is – and the role . . . what you're doing it will be used differently. Ah look, you're a guard (Garda) in the organisation, . . . a guard (Garda) organisation of the rank Garda across the organisation. You're . . . depending on what unit you are in you are treated differently. It's just . . . it is.	Procedural Justice/Interactional Justice They tell you very little about it. I don't know, the introduction yeah you've been told very little about it. In what way it's being used you're not told. Management have probably been told but it doesn't filter down to . . . the guards (Gardaí). It has to be explained clearly. Sending out a letter and then saying aw sign this to say you've read and agree with it . . . it's - it's wrong.
35	I'd say not. Well you see I suppose . . . all we have Cliona is anecdotal information . . . that information collated through the system has been used for purposes – now I would say organisationally . . . that the general trend is not to be using it for purposes that you shouldn't be using it but of course you have people who are less smart in every walk and every rank	Procedural Justice You know there is a draft document – it took a bit of a bounce under COVID19 there they put it in place for response measures to deal with the pandemic and there was a draft policy under discussion for years that hadn't been bottomed out and management made a move there recently to introduce it all be it to the finalisation of the agreement but

and they might say or do something . . I am aware that . .
 (pause) . . . a slightly ill-informed supervisor took out his
 mobile phone at a checkpoint one day when he was off duty
 to show the members on the checkpoint how he was able to
 check them. Now that's . . you know . . that reflects two
 things – an over authorisation and stupidity. An over
 authorisation by the organisation – he shouldn't be able to do
 it –when he's off duty a) and b) he was a stupid individual
 to have said it because he caused distinct upset and concern
 to people because where does it stop and where does it start?
 And who has it and for what purpose? So there needs to be
 clear parameters around what is retained, why it's retained
 and who has access to it. And those checks and balances do
 not exist.

it's the checks and balances that should be in the agreement
 that should be – and that's why your research is of such value
 to us because it will bring forward the concerns . . the
 legitimate concerns in a scientific way of the membership so
 as we can use it positively and negatively I suppose – there
 will be positives and negatives in it but, but I would hope that
 we end up with a balanced approach to this.

36

I don't know what policies are followed.

Interactional Justice

I have no memory of this other than being trained in the use
 of the emergency facility.

Appendix (G): Interview Analysis – Organisational Outcomes

Interview Participant	Dominant Outcome	Evidence	Secondary Outcome	Evidence
1	Morale	If I didn't have one I would be more annoyed than having to carry one (pause) if you understand?		
2	Autonomy	If anything it assists I mean I've a control of a unit of ten guards – and you know having a Tetra radio and knowing they're - if they were on a job and we have their Tetra radios on you know I've control of the whole thing so. No it doesn't if anything it probably for myself it helps you know.		
3	Autonomy	So we have traffic units so they have free reign pretty much to go wherever – they are not really under the control of our control centre, they are and they aren't like so they don't have to be really within a certain radius or you know so I would find that maybe they could – what we all call in the job - offside as in whether it be doing		

		their shopping, gone home for dinner yeah so that would curtail them I think.		
4	Morale	There is an awful lot of Guards (Gardaí) that would feel a bit of pressure you know that – like their mentality is geez there's enough to be doing there's enough going on now at the moment without this other hurdle of being kind of like big brother watching you or on your back like are you there or why are you going – why are you going there or ringing down this type of thing so you know.	Stress	Its been just absolutely rushed in you know like none of us got an email to say from this date we're starting this thing you know it's going to be blah blah blah you know so yeah I think it probably obviously guards (Gardaí) are concerned that you know (pause) where does it end or what are they using the information for yeah.
5	Morale	You can see morale is on the floor here (pause) I suppose the trust element is gone that you know, they're not trusting that members are doing their jobs and I suppose for me as a supervisor I feel I'm not being trusted that my own members are doing – you know its my own job to supervise them and make sure they are or they're not and if not I should know why and generally you know there's no issue there there's no problem but I feel like I'm being micro-managed now no more than I suppose the inspector above me and even local districts so	Stress	You'd be p####d off like – I suppose I haven't got a direct call – I wasn't working one of the days when my own unit were – they were questioned as to why they were or weren't and you know when I came back into the office I was like – that is ridiculous – and of all the people, the lads that they were questioning are (sighs) they would never do anything they shouldn't be doing so I got annoyed. I can see definitely that different members have been stressed and if you get this call from an office going 'why aren't they where they're supposed to be according to this excel sheet' and I'm looking

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Morale

you can see the impact even the system has had since it has been set up properly and I suppose – well I don't know how proper it is but you can see the impact so I would say yes morale is definitely very low as a result of it.

It would be if it was a case that they didn't disclose it that would – that would be my concern like. If they gave us full disclosure and told us that they were using it I would have no

at a dot and they're in a different location and you're kind of going well if you look at CAD you'll see they were reassigned or you know there's an error in that sense (pause) as soon as something is not where its should be their on the phone straight away instead of just going 'maybe there's a reason for that' or you know it's a once off – do we need to get on their backs over this? So I think there is a certain element of stress em and I'd anticipate that I would be stressed if – stress, frustrated are they similar I guess? (pause) Yeah there is definitely an element of stress there that (pause) there's Guards (Gardaí) inside ringing you as a supervisor as to where these people are – and you're looking at them going, listening to them going (pause) you just feel like saying feck off and I know some members have not got abusive on the phone but basically told them to f##k off you know?

		difficulty with this – its – its – if they disclose it yes theres no problem Ive nothing to hide but its just not be dishonest and take from – let us know they are doing it is all.	
7	Morale	The only reason I'd find it (pause) you know that it would affect your morale is if they are calling you going oh I can see you are here and you're not supposed to be there	
8	Autonomy	You are getting solid advice on the ground, another way in looking at that was if a supervisor could probably be saying well why didn't you ask have you done something wrong? So maybe autonomy has been reduced or it could also be increased that you're better informed in your decision making and I think it will be down to the individual Guard (Garda) like.	Stress I think people have become a lot more accustomed to the point, to the fact that no matter where you go now you are on camera em there probably will be somebody recording you em (pause) and people are acting accordingly. Particularly in for guards (Gardaí) on the street because every incident a guard (Garda) deals with now they are nearly assuming someone has a mobile phone out recording them now which is - is frustrating in its own right because you have no control over that information and you don't know where its going. We see whatsapp and YouTube full of incidents where Gardaí are dealing with an incident on the street, arresting somebody and dealing with all that commonly - we only seen it last week with

			Gemma Waters (O'Doherty) when she was stopped at the checkpoint and decided to hurl (shout) a load of abuse at a guard (Garda) those are the situations you are dealing with.
9	Morale/Autonomy	The job is definitely getting more (pause) I'll say intense. There would be very little downtime in-between your calls only bar your refreshments. And then for your refreshments you're meant to leave your radio on as well like so in case a panic alarm comes in.	Stress I'd say it causes stress for some people yeah, yeah. The em (pause) there is, there would be colleagues there who they would be concerned about these issues and especially when they don't get addressed. We find with the GRA it's a weak body, it's not a union by any means (pause) when they ask, when they contact management, headquarters, the Commissioner, the reply is very slow and sometimes it's very vague you know and it doesn't really address the issues.
10	Morale	I know as a guard (Garda) I've a different attitude now I'm a Sergeant, you would have, you'd probably get a different view from a guard (Garda) to a Sergeant look I understand why you need it but morale wise we all have the conspiracy theories as guards (Gardaí). You just have to accept it.	Stress You know there might be some people who don't like the idea of being watched at all times and big brother is watching you. Guards (Gardaí) are very resourceful. They will probably find out how to get around it more so than anything else

11	Morale	If anything it makes me feel more secure.		
12	Morale	I just wouldn't like to see it used for that purpose . . . for checking up on people. When it was brought in initially there was a policy brought in with them that they weren't going to be used for this and for disciplinary purposes or for checking up on guards (Gardaí) to see where they are. It was meant to be purely for safety with the GPS on them and that seems to have gone now in the last couple of weeks, It seems to be they are looking at us on a map in Dublin city centre there to see where we are.		
13	Autonomy	Yeah it definitely has in the last, since we went to Command and Control it definitely has . . . there's a sense of . . . there's a sense of . . just that everything . . it's like if I go over to the shop I have to let control know you know? And if I'm not letting him know he's asking me where I am you know and . . in city's and I suppose the likes of Dublin and that maybe it's just what they're used to and they be used to of all of that but down the country it's different you know? Do I need to tell Control that I am going to visit an	Stress	Ah yeah it get's you down. I don't know stress . . . it's touching on stress maybe it's just I mean really . . . and you know when something starts annoying you it kind of amplifies it, it just . . it's really not that big a deal but because when it starts annoying you that just hear it even more and it . . you just can't shake it and it may take a blow out just to get rid of it, one of those things you know? I don't know if it's stressing you out or anything like that per say. . maybe it might have the impact to do that for somebody else but I don't know so .

old woman just to have a cup of tea with her because she's lonely? No. But I feel like if they don't know where I am they are just going to be hounding me to know where I am you know? It's particularly prevalent since this COVID thing kicked in because you know we have to be out there and we have checkpoints to be done and patrols and stuff like that . . and there seems to be with some, not with all with some of the controllers that you know if you don't tell them where you are then they are just hounding you. And I'm there like during the day going look I'll let you know when I'm doing another patrol. I'm 42 years of age and I don't need to be babysat . . there is that feeling yeah. I feel that and I think probably in rural locations they probably feel that more that there's no . . just let me get into my car and do my patrol and leave me alone.

. I'm sure it's could come close to it but that's just more the traffic on it than anything else then. it's annoying just constant you know you're in the car there and you'd find yourself screaming not on the radio but just sitting there 'would you ever stop talking . .' you know? So it can be annoying yeah. I've found it . . maybe it's just me I don't know but I find it . . you're driving around the country and there's a lad on the radio just will not stop talking and you know you could be literally trying to do anything you know and even at you'd notice . . . yeah it is stressing you out a bit I don't know but it's like even when people are at calls he's trying to talk to them. And there's nothing worse then when you're trying to deal with a situation and there's a controller – now that's not every controller to be fair but maybe we just got stuck with a bad one but . . trying to talk to you when you're trying to deal with something is just . . it just throws you off and you can't . . you can't deal with it and you can't be worrying about the controller when you're in a situation that you have to deal with. That's my thing. And it's not even calls I'm going to. I'm listening to him interacting

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Autonomy

I don't know if it's more because of COVID19 now that it has an influence on it but . . . there's a lot more . . . you're being detailed to certain places a lot more and a lot more frequently in a shift and it's kind of taken away from Garda initiative when you are out in the street and you say you want to go somewhere and do something because you think something might be going on but you can't because you have to be on a certain checkpoint at a certain time and you can't leave that location because you could get in trouble. you know you could be 10 hours into a 12 hour shift, you could be feeling a little bit sleepy but you have to stay at that location whereas it might be safer to go and get a cup of coffee you know do it for ten minutes go get a cup of coffee and come back to it but you feel like maybe it's kind of . . . it can put a risk on

with people in a different county and I'm getting .
. I'm getting thick (annoyed) on the radio saying
'will you leave them alone they are trying to deal
with something . . ' you know? But anyway that's
just me.

15

Morale

your health and safety because you feel like oh I don't want to get in trouble, I don't want management to know I'm not doing my job when really . . you know because you think you're being watched. Guards (Gardaí) straight away look to the negative of it and would say 'right this is what they are using it for. They are going to come after us . . they are going to track us, we're going to get into trouble . . we won't have the same level of autonomy when we are doing our job, we won't be able to use our initiative . . . ' because they think management are going to use it you know to get them. And I think . . like if that information is there, I can't see them not using it to help them in certain ways.

Again I hope they're not gathering it just for the sake of gathering it. I'd hope that they are gathering it if you were in a situation that was bad and they needed to back YOU up. Whether they do do that . . . but yeah look if something happened where a complaint came in and they were able to gather it for you to benefit YOU

		perfect. But if they are gathering it just for their own thing to try and punish you no I wouldn't be into that now . . . I wouldn't like that.		
16	Morale	I just think just it's the way the job is going . . like they say things are going to get tougher in the guards (Gardaí) do you know that kind of a way and I suppose things are – I'm the same as Fiona so we've nearly 15 years done so like even we've seen how it's changed since we've joined and never mind the older guards (Gardaí) again. I just think the job is getting more . . . stricter and logging on and CAD { <i>Command and Control</i> } and all these things so I just think it's the way it's going like. We just have to - there's nothing we can do about it.	Autonomy	I suppose . . . like here now when I was going on this with you I did use the radio to say look I'm taking a statement for 20 minutes you know that kind of a way? It was my way of saying right don't be calling me but ring my phone if there's a panic do you know because I'm obviously in the station but like . . I . . you're definitely more aware of the radio now because of do you know with CAD and everything else you know what I mean they're – they want to know where you are like so do you know what I mean so I am definitely more aware of using the radio, I think we're all definitely using the radio more to give our whereabouts and what we are doing and stuff.
17	Stress	To be honest with you it depends on the person who . . (pause) who is the sergeant in charge or who is the sergeant in control you know?	Morale	I can't see it being hugely detrimental on morale just more so annoying I think there is 101 issues before the radio that would affect morale more so than you know the tracking of people you know?

18	Autonomy	The nature of the guards (Gardaí) is they work on the regular or wherever they are and they are directed to a particular duty so that's the duty you are doing. You are giving up autonomy anyway.		
19	Morale	It kind of increases it if . . for all the world because you know like it's an extra incentive just to have there and you know there's something there even if . . it's just like having something in the background you know like having a shield . . like having a protection . . you like just having that extra bit.		
20	Morale	I suppose I feel more secure with it. But that's only since I came to the country and I just . . . in Dublin you know there's assistance there and then within 5 minutes but in the country you could be waiting half an hour for assistance.		
21	Stress/Morale	Would I like to be able to go home and have my dinner at home you know if . . we'll say at the moment we're doing a late - 4pm – 4am is our late shift you know like I've a family at home and I'd like to be able to go home at 7pm, I'm	Autonomy	Yeah well I suppose look when you have your radio with you . . you have to be conscious that you are where you are supposed to be and that you are not say venturing outside of we'll say . . . Cork City is my division that I'm not venturing outside

		only about 15 minutes down the road. Can I do that anymore – no I can't because it's outside of my division. So like it does . . . I suppose . . . from that point of view it would cause you a bit of distress or grief or whatever but you know you learn to get over these things.		of the division and if I am I would be conscious that I tell the regional control room that you know I am you know I going to . . . that I have to go down to Tralee to take a statement and let them know that I would be out of the division because obviously if they see my radio travelling down the Cork/Kerry road and the next thing you know I'm 80 miles from where I'm supposed to be . . . people are talking and I suppose just so that you don't have people talking wrongly you would let them know that you are gone. So yeah look I suppose you . . . it does affect it a small bit alright yeah.
22	Autonomy	Basically yeah Command and Control when I go out in the car . . . Command and Control are the governing body basically. They dictate what call I go to, when I go do it, when I get my mini breaks and so on and so forth. And when they call me on the radio if I don't answer the radio the protocols are that then I am committing an offense . . . disciplinary offense. The protocols I suppose – it's all to do with the policy document then – if I answer it, the language to be used on it – but again these aren't issues that are solely	Morale/Stress	100% yeah. Yeah. I think it changes your approach to . . . to how you do stuff and maybe what you say as well and how you deal with people. Some people would be super paranoid and they wouldn't say nothing around the place when the TETRA radio be present or in the car or turned on or whatever the case may be and if you were speaking about anything they would become a bit anxious.

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	for TETRA, they could also be for any other make or model of it . . of a radio.		
Morale	Well it's just another, just another one of these tools . . it's another way that they do things. There should have been negotiations in relation to this before they ever bought the facility to be able to do what they did. But they just try and steam roll and . . . add it to other things they have done particularly in recent times . . two weeks ago they took . . they cut . . well the overtime has been slaughtered, but now they have cut away two hours Sunday pay you were getting off your basic off everybody is it's just this constant . . there's very little giving at the moment. For the last 3 or 4 years it's been take, take, take and this is just another added part of it you know? So yeah it's spying on members without even a discussion process is always going to affect morale you know?	Stress/Morale	I don't know if it's a stress but it's a frustration and it just adds to the anger of other stuff they have done you know it's all cuts . . there's nine fellas in here but you've got to remember when they cut the service in here, it's a cut to the public service that everybody - the taxpayer is getting . . . you know? You've got to remember . . . you need high morale and enthusiasm and motivation in Garda . . particularly in investigation units and sections like that. Because if you want people to do more than the bare bones, people need to be motivated in any walk of life. Particularly in the civil service the problem is with civil servants they get paid anyway. It's not as if it's the cut and thrust of a corporate job where you're paid extra for your performance and you could face the prospect of getting sacked tomorrow if they don't like your work ethic. And unfortunately in public servants jobs some days if they don't feel like doing a whole lot some fellas won't you know? It's not the place where you want people badly motivated or

carrying a grudge or being chipped away at gradually when the service that is being provided to the public is being chipped away at you know steadily for the last 3 or 4 years no more than the nurses are steadily being chipped away at. And although it's hard work for the nurses it means the service that is being provided to the public is being chipped away at really. But they'll always paint it as oh we've taken more overtime off the guards (Gardaí) and of course the fella in hand not getting overtime in his job could be like fuck them why should they be getting the overtime but really it's affecting what they are investigating, what reports were carried through, what statements were collected and it just slows down the whole process which means that the members of the public who were getting the service in the first place isn't getting what they hoped they were getting you know? All in all it's huge. You need . . there was times . . . certain years when morale was great and high but no. Management now don't know how to manage morale you know . . at all. And they don't care about it either do you know?

Autonomy	Absolutely yeah. Yeah. Yeah. Even if they're . . . again if there was more trust of management members wouldn't have an issue with his because they would realise that if they were using it for the correct purposes there would be no problem. But I see it myself whenever we're out on operations or whenever something is going on, someone will always without fail make the comment about being monitored and watched and my point is it's always close in members minds. And I'd imagine that prevents them from maybe . . . I don't know maybe doing something that . . . I don't know . . . maybe it wouldn't prevent them from doing their job but it is a concern in the back of their minds at all times. And it's a concern that shouldn't be there. You shouldn't have to be going to work thinking right well if I go down to this district, if I go down to this street this sector or if I go over here now am I going to get a phone call? Are they watching me? Will I be told when I go back to the station? Will I be reprimanded for it if I go somewhere that I might not specifically have been detailed for? And it's just a constant {rolls	Morale/Stress	Now members have to take their radios out with them and they know this so they are kind of caught between a rock and a hard place. They'll go out with their radios they'll do their job but like I said it's always in the back of their minds. So that being said it can't but not impact morale. It has to impact morale if something like that is constantly in the back of your mind as to who's watching you? When? Why? How? I know some members it's in the back of their minds they're aware of it. They don't care. Other members are a lot more conscious of it . . . would be a little bit more worried about what's going on, who's watching them, when and how? stress might be too strong a word. Somewhere between anxious and stressed you know like? It's one of those things like I said will be in the back of their minds at all times and it's just one another thing they shouldn't have to be worrying about when they are out doing their job. As too who's watching them.

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Autonomy

hand around} in the back of members heads . .
that someone could potentially be watching
them at all times.

Like you know– lets say I had an arrangement
to meet somebody for a statement you know I
mean I suppose it's a good example and I'm
driving along and I see some fella robbing a lad
on the side of the road I'm going to get out and
stop it and do whatever I have to do but I know
myself well I'll ring this person I was supposed
to have the appointment with and tell them I
wont be there – well the next thing its in the back
of your head well Jesus someone is going to ring
me now and want to know why because I didn't
arrive down the house? its silly stuff, it's silly
stuff but it comes down to an autonomy to do
your job that's what it comes down to. It comes
down to . . you know and that's what the feeling
is . . . they're saying – like Jesus do they
actually trust me to do the job? There's a certain
amount of autonomy when you're a guard
(Garda) you know you're expected to follow up
on things which might involve going over a

There is the stress there of being under the
microscope all day long everyday. That micro
management gets in on top of you because it's a
stress and a worry all day long 'am I in the right
place? Am I doing the right thing? Where am I
supposed to be now?'. Like you know we all make
mistakes. Something could come up as you're
driving by it and you kind of say well I better not
stop there because I'm supposed to be here. It's
that added stress. . . the potential for micro
management with it. And I can see it in other
people around because - and the amount of people
that are saying to me like 'I'm being watched' and
I say well what do you mean you're being watched
and they say well they're tracking my radio all day
and I'm afraid to go on my lunch 10 minutes early
or spend 5 minutes extra having a cup of coffee
because I'm being tracked and I suppose that does
build up a little stress in you. If you're on the clock
constantly it is stressful you know. You're kind of

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	house here or you know or if you see something happening to deal with it. You're very cognisant of the fact that there's a map somewhere and somebody knows what you're doing at all times. It's micromanagement is the problem you know? It's taking away that little bit of autonomy that you had when you went out on the beat or you went out on patrol that's what and I can see it in people they're concerned and they're rushing to these checkpoints they're saying 'oh we've to be there for 10 o clock. Someone is going to be on the phone if we're not there bang on 10 o clock wondering where we are" you know?		well where do I need to be now and like . . . I suppose it's the repetitive nature of that little bit of stress that builds up on you during the day and you know it sort puts a different perplexion on things . . . when you know that there's somebody there. You know they're watching you on the map. They're checking if you're there. You know they're watching you on camera . . it's just not a nice feeling that you know not a nice feeling that you are being watched all day long.
Stress	It would cause stress if it was revealed that they do store it and they do store it you know like, it would depend on . . it would depend on what the policy is on it. If it was a thing that you found out yes they are monitoring you every second that you're in work - yeah I guess it would. I don't think its anything that anybody would like . . . to think that they're being tracked all the time like.	Morale	I think it hasn't been clarified. As in, like, we've heard anecdotally, you know, people will say oh yeah it's . . during the .. . when we were getting the TETRA radio training and that like you'd hear . . . you'd hear . . you know that we won't be storing that this won't be used against you because we haven't seen any policy on that or any you know . . it's definitely something that needs to be cleared up. Because guards (Gardaí) kind of have

				a think if they're left to fill in the blanks in things it's usually the worst case scenario that we go for like so.
27	Autonomy	I know if the car is stationary for an extended time period, I'd be conscious to get out and be patrolling more – more, more patrols you know? I will be trying to get in more patrols more and more. You know if it was a case this was being monitored for patrols solely. Amd yeah like you know you'd meet people and you know you'd want to have a chat with people on the street, you'd think I'd better move on here.	Stress	I would say for probationers or things like that on top of what they have to do with college amd, and keeping on top of the day to day running of the job, I think if that was in the back of their minds I think it would cause them stress. I think they'd be stressed enough as it is. I'm a fairly proud guard (Garda) and I think if someone didn't trust me from the top down I'd rather them you know say something to me then be sneaky about it you know?
28	Autonomy	Well . . .you have to stick to it . . . (pause) it's like I suppose a statement outside of TETRA it's like . . in years gone by when I was a wee lad on the traffic we used to be told you're working 9 – 5 , you're in 9 – 5. What you did, where you went, what checkpoints you did that was left up to you. So you were under no pressure. You just did your job. Nowadays they're telling you that from 9 o clock to half 9 you're here, from half nine to 10 o clock your there . . you've a break	Morale/Stress	TETRA in terms of affecting morale is like if you're told you have to have two tickets – do you know what I mean? If they tell you, you must do this, this, this and this, members will only do this, this, this and this. They won't go above that. So they're losing - the associations . . the organisation is losing out. And obviously members morale is suffering because they won't . . they're not going to give anything extra, they'll give what's required of them. There's no initiative

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	from 10 o'clock to a quarter past then you're back out so the autonomy is nearly going anyway in that way where your decision making is being taken away from you nearly so.		to take that away. Now if you're a junior member I don't know you might have a different view. They may have a different view . . . more . . . especially as there is pressure on them to perform because are not fully in job for the first two years and at any stage in those two years they can be dismissed so there is pressure them to constantly perform and do what you're supposed to do.
Autonomy	If you were to go anywhere else you have to have the TETRA with you. You have to you know your decisions aren't always your own. You know if you want to a particular thing on a particular day you could be directed to go somewhere else. You know, well it's a feeling that I also appreciate that it's Management and as my duty as a Guard (Garda) is to respond to calls and to answer calls for assistance and that's ultimately what I do. They should be giving members more of a buy in and more of a hands on approach to their own autonomy and the way they deal with a particular incident themselves. Like if the member is required to do maybe three	Morale/Stress	I think it does because – particularly the location because, because people don't know what they are doing with it. The anecdotal information is they're using it as a tool to monitor, as a further means – particularly the location aspect of it – they're using this as a tool to further monitor and – I won't say supervise but it's a sneaky way of seeing, of monitoring the members. If someone was to make an allegation to me about well it took you 20 minutes, it took you 20 minutes to get to the scene of a fatal road traffic accident, or a fatal accident or or it took you 20 minutes to get to a sudden death or an armed response call – where were you? What were you doing? You know you should have been here quicker. I suppose we only have it

		checkpoints in a tour, in a 10 or 12 hour tour they should be letting the member do that.		in one kind of area in division where members have to go to district to get diesel for the car but the system then shows in as being in district all be it to get diesel but they're outside their area and I had a member who was disciplined a number of years ago. The member received a fine for it.
30	Morale	Well the whole COVID thing was definitely annoying, and it was . . . I don't know how morale but there was definitely a lack of trust that would affect morale. So, yeah, probably yeah it did affect morale. It's a lack of trust. Yeah it's a lack of trust.	Stress	Well, it's a double edged sword like if I'm on I work and I'm out there so you know what I mean so I don't really care. They can track me because I'm there where I'm supposed to be, but I suppose if there are members there let's say stationed in Station A who have gone to Station B or somewhere well then obviously you could have an issue then but . . . I think it . . . I think it shouldn't be done but how do we stop it?
31	Autonomy/Morale	You know you're on one street and say there's a call on the street opposite that the AVPLS is going to say you are the nearest resource – go. Like it's not going to be human input in it just an automated system and can you just go take details. The days of talking to someone in control are probably going to go now and it's all	Stress	You're always conscious like that the AVPLS is live like geez I can't go there and I can't go here and you're always thinking if I go there what happens if something happens? And it could cause stress in that way but of needs be you try and get around it as best you can. That's what we're good at anyway. If they bring something in we will try

		going to be computerised. You'll get your area to patrol and you'll have to stay in that area and you'll never be able to go off. Say you were given 200 yards to walk and if you had to walk that for 8 hours, you'd be quaire (very) bored after 8 hours. And if the system tracks and gave a red alert when you were gone off your beat – I'd say morale will just go through the floor if that comes in like. If the AVPLS is going to start going on red alert if you've gone out of your town, area of patrol I'd say you'll see members dropping out of this job like flies.		and find a way around it, to do a by-pass around it.
32	Stress/Morale	It was - yeah it would cause anxiety. If they make like you obviously if they're gonna check your phone - your radio records, your TETRA records - they obviously don't trust you . . what you say to them. They're trying to catch you out again.		
33	Morale	It's your own immediate supervisor. It depends on how on how he or she, how he or she manages and they handle things. I kind of feel if someone is coming in and wants to make a name	Stress	If I'm being very critical I would say it does (cause stress). We've got used to it now.

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	for themselves and they are being checked by that person like it does have a fear.		
Stress/Morale	They're not doing it . . I don't believe they're doing it . . there's very few that are doing it for the interests of the guard (Garda) and the member on the ground. It's for their own . . it's to get them further in the job. It's not . . they don't give a s###. It stats, figures and money. . And it's purely to catch you out and stuff like that, you know. It does . . there's enough stresses within the job in your day to day duties or dealings with colleagues, members of the public or other agencies. You've got constant strain, there's enough stress without having to worry about additional stress. Because, at the end of he day its a job but you don't know what's going on outside the job with other people do you know what I mean? It's an unnecessary – ah you're being watched now. And you're like ah alright. Yeah it can definitely can affect the role of certain units and members. Yeah, and the morale. Yeah, yeah.	Autonomy	They're like, yeah, you're on such and such a road. I want you to go here . . there's another unit going there and just because he can see your location and he's trying to guide you in. . . it works in certain incidents but it doesn't work for certain others. And then you're like Control no I'm going – and they're like well I'm directing you . . Control you're not. Well then they come back with I've directed you and you get a yoke down saying 'please explain' Blah, blah, blah, and so on and you're trying to answer it. It works in certain situations in relation to maybe car containment and stuff like that. But it doesn't work if you're dealing with . . . other incidents.

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Morale

Well if any workforce feels like they are being oppressively supervised it can do terrible terrible damage very very quickly and you know it can – not just a timeframe it can do it over a period of time as well. Like the people in An Garda Síochána, members are adults. They're not children and they have very responsible job and the world out there not withstanding TETRA is quite accountable in terms of the modern world we live in. The whole thing is so accountable and to have this thing riding shotgun over it and then without any checks and balances in place it's going to affect morale. It can send a sense of a lack of trust which is a terrible thing for people to believe they are not trusted in the ordinary course of events, particularly in an environment like policing where they would be predisposed, predisposed to honorable individuals in the first place.

Stress

Go back to what I said earlier, if people have a predisposition to get anxious and be worried and like as I say some would get up in the morning and it wouldn't cost them a thought. If someone has a camera on the back of their heads they'd just get on with it. But other people would take this thing and if you're in difficulty or having problems with the organisation all of these things become amplified you know and it can do terrible terrible damage to their mental health and their well-being. If you don't have a purpose you shouldn't be gathering anything. It's basic GDPR. Evidence is evidence and if there is evidence of wrong doing or criminality coming to light through this technology well that has to be captured on one hand. But equally it can't be done in a nonsensical oppressive way where you have supervisors and managers losing the run of themselves for want of a better term and you know impacting on people, individuals as well as not just the collective but I suppose that's where the potential for abuse comes. It's targeting. Whether it's predatorial whether it's basic bog standard

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		bullying or whatever but all those things have to be boxed off.
Autonomy	As a super (Superintendent) I have great autonomy in the operational area.	

Appendix (H): Interview Analysis: Organisational Trust and Affective Commitment

Interview Participant	Evidence		Evidence
1	Organisational Trust	I haven't had a reason to not to trust it - as of yet.	Affective Commitment A bit more confidence I suppose. You were– I felt a bit more reassured, like I said the communication was better, the eh location your location was a lot better and like that you felt a bit more reassured that if you were in a situation that you needed help so more reassured by the technology as opposed to uneasy about it.
2	Organisational Trust	I wouldn't say I have an element of distrust in AGS based on the fact I have a radio.	Affective Commitment I would say the fact that we have Tetra radio network shows that we are a modern police force moving with the times and as I said when I worked with the old analogue network the Tetra network is a massive improvement. now I mean so it's a good – a massive improvement it probably a bit more confidence I suppose in how we do our job too you know.
3	Organisational Trust		Affective Commitment I suppose prior to that there probably would have been a level of frustration like em because we would have had the old radios – I remember

			them because I would have what 16 years service so I remember the old radios -whereas these radios it would kind of make you believe that you've have become more modern that your function – is able to be carried out more sufficiently.	
4	Organisational Trust	I cant say its really made any difference in the level of trust – you know I wouldn't say its kind of affected my level of trust really you know? It might have affected their level of trust on me though. You know – if the job wants to get you they'll get you, you know what I mean?	Affective Commitment	When the Tetra radios came in first whenever it was ten or twelve years ago I thought it was – it was brilliant you know because you know it was much better reception on the radio and it was a much better set up you know and you weren't having to – it was a personal issue radio as well so you weren't having to sign out your radio or – I remember when I was in Store Street you were doing down trying to get a good radio some of them would be kind of wreaked you know and then you'd be swapping batteries then because some of batteries would only be half charged or whatever you know. So at least now when you have a personal issue radio now its your radio so you keep it the way you want to keep it so you know so I think the Tetra radios are actually very good you know?

5	Organisational Trust	I don't have much faith in senior management in this organisation. I don't trust them but they've never - they don't trust us – management. Like I trust the members on my unit but once it goes above a certain rank, the level of trust, its not there. I wouldn't trust, I don't trust management in this job at all. There is a lack of communication, there's a lack of sincerity, there's a lack of trust in us. I think trust works both ways and respect and trust both ways and I think our job has become that we're just all numbers as opposed to individuals with lives and families and stresses and worries and so eh there's a lack of trust on my part anyway, I cant speak for every member but I wouldn't have the utmost faith or trust in management in this organisation.	Affective Commitment	Yeah well if you don't believe in (pause) if you don't have faith in management and they're the ones that are meant to be driving the job and the organisation – of course you know its going to filter down that way so. I've got members on the unit here that haven't been home to Mayo, haven't seen family, haven't seen their girlfriends, are living in rented accommodation they're coming into work which is a break from the monotony of being in their rented accommodation but then they are coming into work and they are only here half an hour and they are being hammered 'where are you going, what are you doing, why are you . . ' you know you can see it has impacted definitely and since the introduction of this Tetra thing people - people are on edge. Its like big brother is watching you I think is the phrase that's going around the station.
6	Organisational Trust	There would be a big distrust with management in the Guards (Gardaí) to begin with so – I'm assuming – assuming that its for their own benefit either way so there	Affective Commitment	I love my job and it wouldn't change me either way. A few heart felt answers in there like, yeah I do love my job by the way!

		would be a big distrust there anyway so – yeah. The underhanded way that it was brought in, the underhanded kind of way that its being used (pause) as I said if – if it was full disclosure and they were telling us what they were using it for there'd be no difficulty but they – they don't disclose all that.		
7	Organisational Trust	I said that recent situation where someone was disciplined (pause) I suppose they were right, they were way away from where they were supposed to be so you know you kind of deserve to be disciplined so I don't think, I don't think that's lessened by trust in the job because of it so I have no reason really to distrust no.	Affective Commitment	Well its one of the better things we got so I suppose it helps me in my job so it's a plus point - so yeah I suppose it'd help me to feel a bit better about the job. It'd make me feel safer working in the job so yeah you'd feel a bit more satisfied that they have given us some decent – decent technology, and something to keep us safe.
8	Organisational Trust	I haven't seen any cases where the TETRA radio has been used to do anything other than to build trust in the organisation in general. It's there to provide you with the correct tools to do your job. And I think that was the motive behind the introduction of TETRA	Affective Commitment	It made you feel more like a professional organisation considering where you came from and the old radio works or doesn't work depending on where you are and now you're part of a proper – eh a proper eh emergency designed radio system working within that I think it makes

	not as a – something that we are going to potentially invade your privacy or to hold you more to account but to allow you to do your job in a safe environment. To give you communications with other members of your unit of the, within the organisation at any one time		you feel more like we're moving as a professional organisation like or whatever you're in a better place – I think it helped in that regard. when you are going out to work at an event or to work in any day once you bring your TETRA radio, you know you are not on your own, you know you can contact somebody if need be and it's a tool to, that does help you do your job (pause) most definitely.	
9	Organisational Trust	Its probably reaffirmed a previous thought of how management and trust and stuff like that which wouldn't have been valued very highly anyway. Obviously from the point like when the GRA are, when it says its not being used for monitoring its for health and safety and then it clearly is. If lads aren't at a location at a certain time and they are getting called, that's not for health and safety that's it monitoring the location of the checkpoint at that time like so. the lads were told its going to be used for this and its being used for something else like.	Affective Commitment	It's just reaffirmed other feelings that I've already had about the job, that's all like. The job is always very quick to correct lads and even if its just a verbal correction like, no one likes to be – to be given out to you know. And I think that's the issue like.

10	Organisational Trust	There would be a mistrust in it alright, now you go back to the word trust in so far as (pause) some people would think, well why is this necessary? the guys that are trying to pull the wires out of it and switch it off for 5 minutes you know. They're the, you know. . they're not exactly . . . but they're wondering why and why they need to do that? They need to be told this is the reason being.	Affective Commitment	I wouldn't go as far as job satisfaction . . . I'd say that it's a necessary tool . . . and do I miss it? If I don't have it, there was a time where I wouldn't use it. I'd run out the door without it but sure you just use your mobile phone then you know? So it is a necessary tool but as far as job satisfaction? Genie mac that's a bit too far.
11	Organisational Trust		Affective Commitment	It makes me feel more secure. If you get into trouble they know where you are.
12	Organisational Trust	I suppose now you are kind of a bit cautious because you think big brother is watching you. Now as I said I don't really, I never step out of line. I've never been disciplined so I don't do anything I shouldn't be doing anyway but you kind of do have it in the back of your mind that there is a little bit of a trust element that if you're not being trusted you're not going to trust the people who you are meant to trust if you get me? If it was my	Affective Commitment	On the whole up until a couple of weeks ago it would have been very positive because its modern technology which this organisation have been extremely, extremely slow to bring out. So it was great in that respect but (pause) this kind of an element, there's a sneakiness to it as well that we weren't told that we were going to be monitored on a map now where the GPS locations are up on it so that's kind of tainted it . . . in the last couple of weeks.

	own personal information no I wouldn't trust them.			
13	Organisational Trust	There's a long list before GPS and TETRA radio now that has impacted on the trust I have. There's a lot of other things. Maybe it's just me now but I definitely know a good few that would be like me. Just a bit cynical and stuff like that so . . . why is there a mistrust? I suppose just past experiences, little things. It's just lads trying to get up the ladder and they'll just step on your head just to get up there so why would you trust anything they do? I've 20 years service so it just a whole lot of different things and it's just the culture in the job is that you have to climb – if you're climbing the ladder you just step on everyone on the way and . . . that's it you know? Different experiences I suppose has lead me to be that way. A bit cynical but there you go but you always have to be thinking 'why did he ask me to do that? you know . . . or why did he tell me to do that? .	Affective Commitment	This COVID19 pandemic has actually refocused and has done more . . . I would say done huge benefit to AGS in that we are back doing what we really should be doing all the time, engaging with the community, out visiting auld ones and drinking tea you know particularly in rural locations there's – there's plenty of Gardaí that want to fight crime and catch drugs and all of that. There's also plenty out there that just want to engage with the community, talk to people you know get to know people, be seen you know? And that has been lost over the last number of years through a load of different reasons. Just manpower being one . . not having enough, constantly chasing your tail constantly, all this oversight . . . the focus of management is covering their arse rather than do anything positive so. They were trying to turn us like a business so there's all this nonsense on you know this Q1 and Q2 and all this business talk and we're not a f##### business, we're a police

		... did he do that for me? ... ' you know so that's it.		force you know ... police men and women, just treat us like police men and women and let us go out and do our job and actually over the last number of months it's like a breath of fresh air. You're given a list of patrols to do or checkpoints or whatever and just encouraged to get out there, advise, talk to people you know what I mean without obviously adhering to the rules. That to me is what it's all about and we had strayed away from that and hopefully it might refocus management into what we are all about because we I don't think our stock has been as high in as long as I can remember now
14	Organisational Trust	Yeah like trust is a big issue. Like I'm only in the job ... nearly three years now and one thing I've noticed coming from the private sector into a public sector job and being a guard (Garda) is that there is – seems to be a disconnect between management trusting employees and employees trusting management. You know I think it's a two way street and people tend to think the worst when they see change coming or if they see,	Affective Commitment	So far so good for me but I'm only three years in the job I haven't had any – any problems you know? So I'm kind of ... as I said before I kinda like that ... if they know where I am if I need backup that it's there for me ... and my colleagues. I think I've definitely gotten more like ... I suppose covering my ass (laughs) do you know? Making sure I do things right ... and just you know that you're aware that you are being kind of watched ... so like that example I

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	say they see this roll out of the Garda say GPS. Guards (Gardai) straight away look to the negative of it and would say 'right this is what they are using it for. They are going to come after us . . . they are going to track us, we're going to get into trouble, we won't have the same level of autonomy when we are doing our job, we won't be able to use our initiative' because they think management are going to use it you know to get them. And I think - like if that information is there, I can't see them not using it to help them in certain ways	gave going for a cup of coffee maybe where you might need it it's eh you might still go get it because you can stand over your decision because you'd be confident enough to tell them well look I needed to do that, I was feeling tired, I was driving you know?
Organisational Trust	I think it would affect my trust if they used it against me. It is not something that has bothered me, no it is not something that has bothered me really - no I never . . . yeah the whole checkpoint thing a few weeks ago. Now again you hear a lot of small talk that every checkpoint was - that was conducted in our area anyway obviously because it was - geez there's cameras everywhere . . . that they were done in view of a camera . . . I don't	Affective Commitment I'd say 90% of the force now, people who are on frontline force . . . it's different. It's all well and good you sitting behind a desk 'oh absolutely . . . have them be followed . . . ' yeah but you're not on the frontline so. They're sitting behind a desk there you know? I'm not saying sitting behind a desk I've nothing - like they're still doing a great job but why don't you put GPS then - let them carry a radio around and let's see where they go in a day you know? I find that in the job as well

		like that. And you'll have someone of management say you're my superintendent and you turn around and say why . . . and I turn around and go because I'm being watched and he goes yeah we're doing it for your safety . . are you? You've GPS on us why do you need cameras on us as well? What next?		you ask a . . . there's no right or wrong answer. It is good and it is bad but like I could talk about an arrest of someone and he could tell me do a, b and c and then you go and you're going down the road to do it and the other sergeant goes no, no, no don't do that do x, y and z. There's no right answer that's the problem. And do you know like in maths if you're doing a profit and loss account there has to be a right answer at the end or . . . but I find with the guards (Gardaí) there's – you can do things a million ways and you're going to get a million answers on that GPS fact.
16	Organisational Trust	Sometimes you're just waiting for a sergeant or an inspector to try catch you out doing something or not doing something you should have done or things like that do you know? So you would be kind of walking on eggshells sometimes because of that you know like?	Affective Commitment	It does change the way you work? It probably makes the job . . harder do you know what I mean? It's not an easy job anyway do you know dealing with different things but it probably . . it probably just keeps us all on our toes do you know what I mean? It probably does make it a bit harder but look . . we'll just have to deal with it do you know what I mean?
17	Organisational Trust	I don't really trust them in general to be honest with you so (laughs) I mean I don't	Affective Commitment	It kind of shows to me that you kind of have to earn your stripes that little bit more you know

think they . . I don't think they'd do it in a malicious way it's just some of the levels of incompetence is frightening you know that kind of way with – with your own personal information let alone where you could be I mean. The trust . . . the trust would be an issue but I just think the incompetence as well I wouldn't be surprised if they have it saved on a laptop or something like that. Wherever that information is I wouldn't trust that it's secure

that kind of way? But you know what I mean don't get me wrong there are detectives that are in the job 20 years that just take the p### you know just come in for the pay check and then there are other guys that are working their ass off you know and they are only 3, 4 years in the job . . yeah it could bother me sometimes but . . . I suppose it's just the nature of that person's role and the culture more so than the use of the radio if that makes sense? To put a synopsis on it I think the higher you kind of go up the more of a Politian you become and less of a policeman or woman you know that kind of way? If that makes sense? I believe you should just focus a bit more on police work then trying to cater to politicians and such. I think the guards (Gardaí) now in recent years are just too obsessed with it's own image. It's trying to hard to seem like it's not doing anything wrong. It's trying to explain itself too much in my opinion.

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Organisational Trust

I would trust that that information is not readily available to everybody that its centrally stored and that I'm sure there's a

Affective Commitment

As I said going back to when I joined in '96 it makes my life an awful lot easier. It does make your life an awful lot easier. You do feel safer

governmental process. I can't walk in and simply ask for a guards (Garda's) . . I'd have to go through a governance step before I get access to that information so I would trust that that it is safe and secure alright.

conducting your duties and on the beat. It's a safe and secure means of communication and if I ever was in an emergency, which I have before – I have used the emergency button and I can see in real time how it does work and how it does assist you. It would – back then it would improve your job satisfaction. Now its another tool, it's like a torch it's like your mobile phone it's a tool like that's it you know? You know I've been there where – one thing I say when a probation is up you give them all the advice and guidance but one thing you always say to them is if you're walking down a street always check the street name in case you get into trouble, Now that's going back to my day where you had a radio that if you did get into trouble unless you knew the street name you were in trouble. Whereas then if you don't know the street name you just press the button and help will come their way. The radios we had initially (shakes head) they were . . like if you could bring them back those to people and show them what we had back then . . they'd be delighted you know?

19	Organisational Trust	It would discourage my trust because if they are doing that they should tell us do you understand?	Affective Commitment	It's like an extra blanket a safety blanket if you're in bother on the street you can press that button and they can locate where you are and just to have it that's it.
20	Organisational Trust	Many things have affected my trust in An Garda Síochána.	Affective Commitment	I suppose I feel more secure with it. I suppose as a girl and I work on my own it gives me a bit more security so yeah I'd get a bit more job satisfaction out of it yeah.
21	Organisational Trust	Well I always mistrusted it. I always mistrusted management because I suppose I'm long in the tooth now in the guards (Gardaí) and I've always seen you know stuff . . the cans being kicked down the road and we'll sort that, we'll sort that and you know hoping the problem will go away and so I've always had that little bit of mistrust for the vast majority of management. Thankfully I currently get on with most of them but if you had a falling out with somebody I just think that they would, they would use it to their advantage and not mine.	Affective Commitment	I would be conscious that you know if I'm supposed to be somewhere I'd be there whereas I suppose if it wasn't there you might have – I wont say blasé attitude but you know . . . instead of starting the checkpoint at half past two you might say ah sure look we'll leave it off. We'll have the coffee there first and we'll do it at three o'clock. So I'd be conscious of it that way that you know this is being monitored, this is being stored and we'd better . . . you know it's not that we weren't going to do it but you'd better be doing it the time you are supposed to be doing it do you what I mean?

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Organisational Trust

It displaces any trust I had in Garda management yeah a little bit more than it probably already was at that level anyway but's probably a bit more displaced.

Affective Commitment

Look I do see positives to it. I can't say I don't see positives to it. For the, for the - what's the word I'm looking for . . . for the Garda who's diligent and done everything by the letter of the law and you know? It's a great system do you know what I mean? And I think . . . going forward I think it's necessary anyway. Before long we're going to have body worn cameras so everything it's going . . . and at the moment look it Big Brother is watching you at the moment no matter what call you go to somebody is there with a phone recording it. So the only difference between it and this is at the moment Garda management can't use this against you. Now they use a print off a mobile phone that you know that a neighbour has or a bystander has but they can't use the GPS TETRA s.

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Organisational Trust

I don't trust management with anything. Just years of experience with them. It's just the sneaky connividence of them all the time do you know? It's no different than any sort of relationship – fellas are finding out now – oh we're being monitored. No one even asked.

Affective Commitment

It's not the place where you want people badly motivated or carrying a grudge or being chipped away at gradually when the service that is being provided to the public is being chipped away at you know steadily for the last 3 or 4 years no more than the nurses are steadily being chipped

No one even told us. Even if you told us we had to find it out obviously through the grapevine because there's lads, guards (Gardaí) working in these offices who have said here do you know what? All of your radios are on and they're all up on a board here in the city and they're checked regularly. Sneaky b#####s as usual you know? That's the way they are.

away at. And although it's hard work for the nurses it means the service that is being provided to the public is being chipped away at really. But they'll always paint it as oh we've taken more overtime off the guards (Gardaí) and of course the fella in hand not getting overtime in his job could be like f### them why should they be getting the overtime but really it's affecting what they are investigating, what reports were carried through, what statements were collected and it just slows down the whole process which means that the members of the public who were getting the service in the first place isn't getting what they hoped they were getting you know? I think the public are very, they are not informed half enough about the sort of service cuts that are being made. The overtime might affect a guard (Garda) himself personally but it affects whatever he was working on which is something that is affecting the public. There's nine fellas in here but you've got to remember when they cut the service in here, it's a cut to the public service that everybody - the taxpayer is getting . . . you know? The overtime has been slaughtered, but

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			now they have cut away two hours Sunday pay you were getting off your basic off everybody is it's just this constant . . there's very little giving at the moment. For the last 3 or 4 years it's been take, take, take and this is just another added part of it you know?
Organisational Trust	Personally I wouldn't trust management at all really. It's unfortunate. And I would like to add as well – I've never been in trouble. It's not like I'm constantly having run ins with management where I'm constantly butting heads and fighting with them. I have very little to do with management. I come in I keep my head down and I go about my business which makes it even worse that I have a distrust because I'm distrusting them just from day to day interactions . . things they say, things they never follow through on or the way they go about implementing things. But like look it's unfortunate but it is what it is. It's a certain type of person that is in management. It's a club and it may take a	Affective Commitment	I've adapted to their way of doing things over the years. When I first started and I'm sure it's the same for many young guards (Gardaí) it's a bit of a shock and you might feel hindered or whatever in your work but as you become more senior you learn to . . . you learn to adapt and you learn to work with whatever restrictions are placed in front of you.

		couple of generations to change . . if ever. If ever.		
25	Organisational Trust	I've seen others that have come to me who – and that's the line they use like 'they don't trust me anymore. Why should I bother?' And when I hear that I say to myself this thing now is damaging. That person when I met them last week was into their job and they were active and now they're saying to me well you know why am I bothering with this?	Affective Commitment	I suppose in the private sector every other business now is using tracking systems for employees particularly in the transport industry and all of that it's the way of the future but . . . when yourself – when ye were talking to us at the CEC one of the things I took from it was – once everyone has a clear understanding and knows where they stand and knows where their data is going . . which we don't and that's the problem with it. And we highlighted that to them you know if it's going to be misused because haven't done this and supervisors have different interpretations and different ways of using it, they're going to have huge inconsistencies, it will cause trust problems and it will affect their employees trust in the – in the organisation which is not good for anyone. But they haven't reacted . . they haven't reacted really you know?
26	Organisational Trust	Trust in An Garda Síochána – yeah how is the best way to describe this? You know, you will always be aware of the potential for	Affective Commitment	It's still very important in the guards (AGS) to be out mixing the community and talking to colleagues and things like that, like so. Like, if

management to - how do you put it - use things inappropriately to keep an eye on people. That is just the thing that is still definitely in . . . the organisation you know? It's very hard to trust anyone in any given circumstance but I think, by having the likes of restricted access and reason for accessing and that like, that's the, that's, you know, something that leaves . . . that leaves a digital print or something there that's, you know, someone has accessed it and that if you will need to find that out that you can do that like, that's, that's the important thing, I think, when it comes to anything like . . . that you know, who has access to this and the reason why. And then that information is available to you.

you were worried about having a cup of tea with you know Tommy Joe down the road or if you're afraid of meeting up with the lads for a cup of tea and a chat, which is very, very important thing that that interaction, and you're worried that someone's going to look at the GPS and give you a ring and say, Where are you and where do you know like? That does . . . that definitely has an impact like.

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Organisational Trust

It bothers me that we can't be trusted. You know if management can't trust us to do our job and are checking in on us it bothers me. If they are monitoring us I don't see why they can't be open and transparent about it.

Affective Commitment

It's made me more cautious even though I don't know know why. I don't know like I still do my job the way I have always done it, it's just probably – just that whole trust thing bothers me.

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Organisational Trust	Definitely not, definitely not no. Not unless it was written blood. I would be of the view that they would . . management would keep everything unless they're told they can't . . . in my view. And I think that's what is badly required is obviously what you can and can't do with it. And members know then at least we have some protection saying about we can look for – even something simple like data protection with just a request even – at least you know what can and can't be there as they say. As it stands with TETRA we don't actually know what they can and can't retain . . . that's the problem. One or two members in particular would be very vocal about the fact that they don't have the right or authority to keep data, monitor it or even monitor your location every day . . . definitely not to retain that data anyway.	Affective Commitment	If I knew I wasn't being monitored I think I would be slightly more satisfied in my daily job than if I was under the impression that somebody . . . big brother was watching over my shoulder in relation to where I was – so I suppose it has some small part to play in job satisfaction yeah.

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Organisational Trust	I don't trust him at the moment on it to be honest. And I don't believe members do trust them because literally it's against – and going back to the start of Covid you know	Affective Commitment	If you were to let it affect your trust in An Garda Síochána well then you are going to have an issue regarding how you actually perform your duty and the vast majority of guards (Gardaí)

		there was one set of rules and now they have changed the rules to use it as a monitoring tool. The members have a distrust in how this information is being used.		that I know of and I've ever worked with want to perform their job but they also want a safe – again to go back to the 2005 Safety Health and Welfare Act – they want to be provided with a safe, both a safe place of work and a safe system of work which is a statutory obligation of our employer, the Garda Commissioner. If members are doing their job and they want to do their job, they will do their job. But it will be in the back of their head, they will have a consideration regarding what's this thing actually doing to me?
30	Organisational Trust	Oh no! I don't have much trust. You're asking the wrong person there . . honest to god! Certainly with the COVID now I would . . like individually some of them are grand right and I do know some of them okay. - not an individual but the whole culture – no absolutely . . there'd be no trust and they'd . . as soon as they get promoted from guards (Garda) they're gone. They're separate to us. They're like a different organisation. And I know the general public might not believe this but they treat guards (Gardai) worse than	Affective Commitment	And I think as a culture now of it being a business which is wrong. I think the general public aren't served by it. It's all about getting returns in now which is an abomination. If – you know the general public - we do have a very good relationship with the general public and have witnessed that over the last three months. . . but it's just they are not being served by the upper levels of management just looking for returns. That we had these many arrests or these many this or these many zones but that's just the wrong way the police . . you know in fairness

anyone from the outside. Yeah, that would be pure - a lot of cynicism there now. There'd be no trust anyway. It's just a different mentality it's about they can see the next promotion and they see the next promotion, and they lose touch of actual fact they actually were guards (Gardaí) at one stage.

you know the way we police would be totally different to nearly most Western European countries, and certainly be different to America, but it's just been lost now because of the - upper management just want returns. Where the empathy that we would have with the public. . . is beginning to be lost because of this, this push by management. Yeah it's gone more - in the last 5/10 years it's like a business. It's all about returns, returns, returns. That's not about policing. Like if you get you're things you get your things but it's all about . . the pressure on the junior members now it's all about returns, which is wrong. It's all about serving the public at the end of the day, and if you get no prisoners and or no arrests well that's just the way it goes. If you get 50, you get 50, you know what I mean. So that's . . the whole emphasis is just is wrong. In my opinion.

31

Organisational Trust

I don't trust Management at all. Just over the years of working with them. Anyone with red on their shoulder I just don't trust. See the problem with Management is they always

Affective Commitment

I love my job I just don't trust management. Like I'd be very careful what I say to them. Ever since day 1 I've been wary of things in this job anyway because I was in **Station** and that's a

want the next step and they'll burn anyone they can to get the that jump. That's the problem. A lot of them – most of the ones I've had they're all just looking for the next rank up and they'll do whatever they can to get that next rank even if it's burning a guard (Garda) saying they caught him out doing this, it's a tick on their shoulder and they're not afraid of ethics and all this. Some Inspectors and all that and Supers (Superintendents) are looking to sack a guard (Garda) because it looks good in the Commissioners eyes and he's not afraid to tackle guards (Gardaí) and I have an issue like with that. They'll look for a way to get rid of you just to make themselves look good, because that is one way to get promoted in our job is to sack a guard (Garda). You'll never find a guard (Garda) to trust Management unless they're looking to go to Management themselves.

promotion station. That's where I learned about things and Management will look for – if they want to get rid of you they'll look for a reason – someone, a Senior Garda told me, he says they will get rid of you if they want to. Just be careful what you do, in relation to them like. I think, its not the guards (Gardaí) it's the Commissioner that I have the trust with because he's – for bringing in the UK model of policing instead of our own one. Everything is based on the UK. This system of saying where the closest resource, you go like – basically we're just like computers. I think they want us to be like robots. Tick the box, that's it. Move along.

32

Organisational Trust

It's more so the fact that you think they don't trust you. Yeah you know like I suppose they

Affective Commitment

Obviously, you're doing the job for them so you want to be doing the best, you're obviously going

		don't trust what you're saying so you have to try and . . . it's like they yeah they just don't trust us. Because they (TETRA) can be monitored anytime that they want to monitor them. And they have been used for disciplinary actions previously. And information has been looked for and found and members have got, obviously, in trouble for it so.		to be doing the best you can, so why can't they just trust that you're trying to do what you can do.
33	Organisational Trust	Some Management we just can't trust. You know over the years – yeah, just some of them like. Yeah no it's an awful thing. As I've said to you some Middle Management have come in and kind of – they have used that (TETRA) and the cameras to check where the lads were you know?	Affective Commitment	We've to go out and do our jobs that's it. Yeah it's a hard one to answer, yeah I don't know.
34	Organisational Trust	Well I'm a guard (Garda) so by my very nature I don't trust anyone. Look there's certain management I would trust but others no because it depends where they are in their career and if they're happy because they're usually looking for the next and to do that they'll do anything and if that means	Affective Commitment	Well, I actually think the introduction of the TETRA radio is a good thing from, I think it's a good idea from it's secure, it's secure comms as in you can't listen in. You know people can't hear what you are being told only the other guards (Gardai) do you know what I mean? All that's a plus. But they've been fighting with

	collecting data and giving it on and saying how they complied it . . yeah they'll do it.		management for ages in relation to the use of it. The guards (Gardaí) can put in - the surveys can be done you know they can put forward what they think but at the end of the day I actually don't think they will have a big say in it. The powers that be will say no we're bringing it in and that's it. And it's just they will. You can fight it and all that . . but yeah . . you know they'll do what they want to do with it at the end of the day.
35	Organisational Trust I think it has the potential to do huge damage if it's improperly used to the trust of members. The good, the ordinary decent members of An Garda Síochána who have nothing to hide. I think if it's not dealt with appropriately and it's not properly managed and the organisation doesn't deal with the people who are abusing their authority very quickly, I think you could find it to become a very, very serious issue.	Affective Commitment I think if any one of us in any walk of life felt like the person working for us didn't trust us – it's bad for business is it not? It would impact you right from start to end. Because first of all the natural inclination with anyone who distrusts you is to have the bare minimum of engagement and interaction with them for fear that they'd misrepresent you. And it will impact on output. And it will impact on efficiency, effectiveness and like after a while it's a like a cancer. Distrust eats into every, whether it's any relationship. If distrust exists it will do terrible damage to it and it's corrosive. So as it moves along it will become even more so. And unless people can be	

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Organisational Trust

They (Management) have the welfare of the members and public at heart. The radio system is to facilitate better control of staff and delivery of service.

Affective Commitment

absolutely certain and assured that they are not going to be abused through the use of a particular technology they won't embrace it for it's full effectiveness from either sides perspective. We're no different from people you know from any other walk of life whether it's academia you know, factory workers you know service providers and you know everyone is entitled to be treated fairly and with respect.

Appendix (I): Literature Review: Technology Adoption

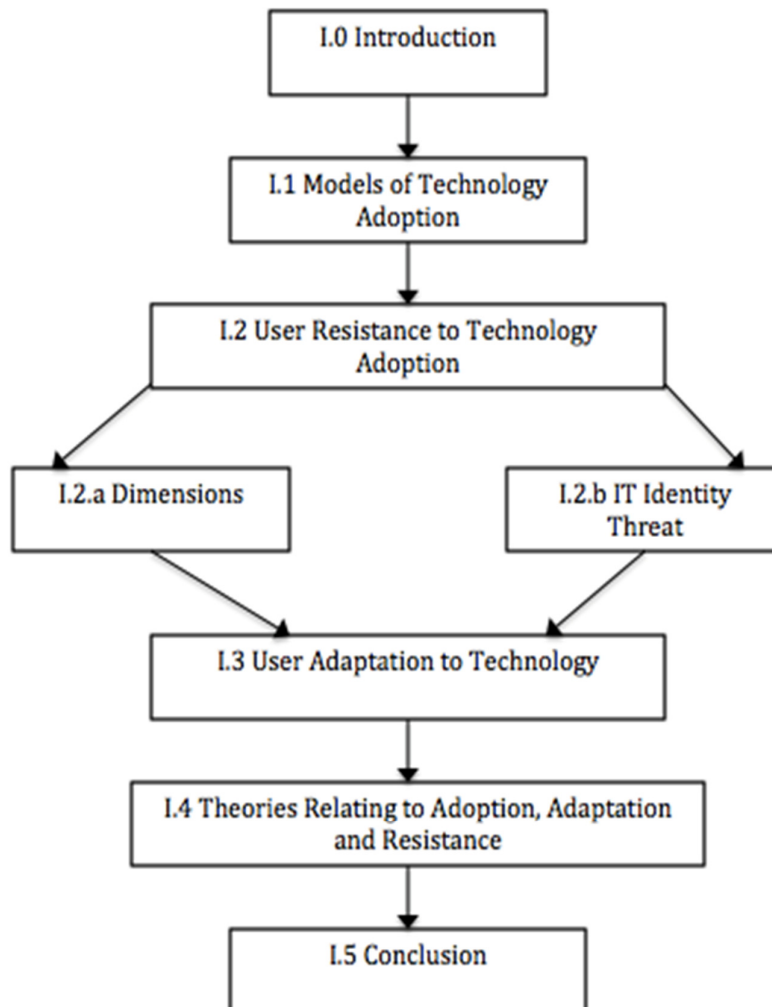
*'Once a new technology rolls over you, if you're not part of the steamroller,
you're part of the road'*

-Stewart Brand

I.0. Introduction

The aim of this chapter is to provide a thorough review of the technology adoption literature. The chapter begins by discussing the technology adoption lifecycle. Following that the key factors that influence user resistance to technology adoption are outlined in section I.2, while the factors that influence users to adapt to new technologies are discussed in section I.3. The theories that underpin technology adoption, adaption and resistance are discussed in section I.4. Finally the chapter concludes with a brief summary in section I.5.

Figure I.1: Chapter Structure



I.1 Innovation Adoption

Technology adoption is not a linear process, but rather progresses through a number of stages and is subject to factors independent of the technology. Our understanding of this issue is assisted by Innovation Adoption Lifecycle, which was a framework developed by Beal and Bohn in 1957, to explore the purchase decisions of rural farmers in North America in the late 1950's. These researchers identified five unique stages associated with the decision-making process of an individual when they are faced with a decision to accept or reject a new idea or innovation. They suggest that an individual is introduced to a new idea at the *awareness stage* and seek further clarification on how it will work at the *interest stage*. They then apply the information learned at the *evaluation stage*, test it in the *trial stage* and finally accept it through continued use at the *adoption stage*.

This Innovation Adoption Lifecycle (commonly referred to as Innovation Diffusion Theory) originally proposed by Beal and Bohen (1957) has subsequently been expanded on by researchers Rodgers (1962) and Moore (1991) within IS literature and is now primarily associated with the adoption of new and innovative technologies. It has also been used to categorise adopters in relation to their speed of adoption. For example, Rodgers (1962) adapted the original decision making process identified by Beal and Bohen (1957) by identifying five distinct adopter groups. He suggests that *innovators* are the first to adopt a new idea or technology. These individuals are easily engaged by modern innovations and often aggressively pursue new or modern technologies. Similarly, *early adopters* accept a new technology or product at the early stages of the technology adoption lifecycle, however they show slightly more caution than do their predecessors. The next phase of adopters are *the early majority*. These individuals are commonly driven by a sense of practicality to guide their decision-making, often relying on feedback from their peers before accepting or rejecting a new innovation or technology. The fourth category – *the late majority* – are more commonly driven by economic necessity or intense pressure from their peers, often waiting until the technology or innovation has reached a recognised standard before choosing to adopt it (Rodgers, 1962; Moore, 1991). The final category is that of *laggards* or *non-adopters*, individuals who are the last to adopt an innovation or new technology and in many cases will only do so if it is so embedded into another product that they do not realise it is there

(Moore, 1991). For Rodgers (1962) this group of adopters embody more traditional values, are suspicious of innovations and must be certain a product or idea will not fail before deciding to adopt it.

Utilising this categorisation as his starting point, Moore (1991) proposed a revised version of the Technology Adoption Lifecycle, which introduced gaps of dissociation between adopter groups. The minor gaps known as cracks in the bell curve are located between the innovators and early adopters (stage one and stage two) and between the early and late majority (stage three and stage four) and highlight the differences in an individual's willingness to adopt new technologies. The largest gap, which he identified as the Chasm, is positioned between the early adopters and the early majority (stage two and stage three) and for Moore (1991) explains why so many new technologies fail to break into the mainstream market by being accepted by the public. He suggests that the differing expectations and views of the adopter groups create the large gap and therefore it is vital that marketers and innovators understand the differences between the visionaries (early adopters) and the pragmatists (early majority) in order to introduce the technology to the market in a manner in which '*the pragmatic customer will be comfortable*' (Moore, 1991: 168).

The value of the Technology Adoption Lifecycle lies in the acknowledgement that technology adoption is not necessary an immediate process and individuals do not adopt new technologies or innovations at the same time. For example, some individuals will accept a technology immediately while others will wait until the idea has proven its worth or simply resist adoption. As user resistance is commonly identified as a primary factor in technology and software failures within the computer-mediated workplace environment (Kim and Kankanhalli, 2009; Hill, 2003; Lapointe and Rivard, 2005; Markus, 1983), it is important develop a clear understanding of the factors that contribute to user resistance to new technology adoption.

I.2 Understanding User Resistance to Technology Adoption

Much research has focused on understanding user resistance to new technologies and systems within the literature. However while user resistance has commonly been used to

explain the unsuccessful implementation and adoption of new systems (Hill, 2003; Kim and Kankanhalli, 2009; Lapointe and Rivard, 2005), little empirical research has been conducted – particularly in relation to the psychological and decision making mechanism underlying technology resistance - to fully explore the factors that influence user resistance to new technologies in the first place.

The introduction of new technologies into the computer mediated workplace environment frequently impacts core business processes and practices through complete reform or change. The response to these changes can range from partial or complete acceptance to complete rejection of the new technology. For example Jain (2004) conducted a summary of 13 studies of new system implementation and project failure and found that at least six of the failures were a direct result of employee resistance to change. Despite the importance of understanding and managing user resistance in relation to the successful implementation of new technologies and systems (Joshi, 2005; Lapointe and Rivard, 2005; Martinko et al., 1996) few researchers have proposed clear theoretical explanations or frameworks to address the issue (Kim and Kankanhalli, 2009). For example user resistance is commonly identified as a multifaceted concept (Ansoff, 1988), covering a wide range of areas, spanning numerous disciplines and involving multiple factors within the literature (Ali et al., 2016). Thus for researchers such as Jiang et al., (2000) there is no single feature that can describe the phenomenon entirely, with King and Anderson (1995: 168) describing it as a *'complex kaleidoscope of interrelated factors'*.

Modern and innovative technology plays a critical role in improving organisational effectiveness. In this way many researchers have centred their definitions of user resistance to include the behaviours associated with opposition of change related to the implementation of new technologies or systems, particularly within the workplace. For example many researchers (Klaus and Blanton, 2010; Kim and Kankanhalli, 2009) define it in terms of the behavioural expressions of user opposition to the changes associated with new system implementation, with other researchers such as Markus (1983) classifying it in terms of the behaviour associated with preventing the implementation of the new system through adverse reactions (either covert or overt fashion) in an attempt to stall or ultimately kill a new project for example.

There are a number of important dimensions surrounding user resistance in the technology-based literature. Consequently the following section provides a comprehensive understanding of the factors and dimensions that predict user resistance to the acceptance of new system implementation.

1.2.a Factors influencing user resistance

In the literature, user resistance is commonly viewed from three perspectives – people orientated, system orientated and interaction theories (Kling, 1980). People orientated resistance suggests that user resistance occurs as a result of individual traits, attitudes or experience towards technology (Markus, 1983; Bukhari, 2005; Norzaidi et al., 2008). For example many researchers have argued that the user's age (Lucas, 1973), education level (Fuerst and Cheney, 1982), perceived need of the system (Dickson and Wetherbe, 1985) and the degree to which they expect to use a new system (Zmud, 1979) directly impacts how they will respond to a new technology. Similarly much research focuses on a number of social factors, which underpin user resistance to technology in the literature. For example, Waddell and Sohal (1988) classify user resistance in terms of rational, non-rational, political and managerial based factors. In an organisational context, they suggest that resistance can occur when an employee's own rational assessment of outcomes of a proposed change does not match the outcomes envisioned by management (rational), when an employees reaction is considered to be non-rational assessment of change – i.e. they simply don't want to use the new system (non-rational), they want to work against the person initiating the system change (political), or in retaliation to a poor or inappropriate management style (managerial) (Ansoff 1988; Gruskey and Miller, 1970; Kotter et al., (1986); Judson, 1966; McNurry, 1973; Blau, 1970). Interestingly however, prior research indicates that resistance is commonly higher at a group (socio-political) level as opposed to individual (psychological) level, whereby employees will be more inclined to resist any changes with IT implementation when supported by their peers (Lapoint and Rivard, 2005).

Resistance and performance experience may also be associated. For example, Tzeng (2011) postulates that a user's perception of value in a system lies in their practical experience with the technology. Thus, the system-orientated approach suggests that

resistance occurs as a result of technology-based and design related factors such as speed of the system, security and overall performance (Markus, 1983). For example, many researchers (Dickson and Wetherbe, 1985; Markus, 1983; Martinko et al., 1996; Hirschhiem and Newman, 1988) have argued that a system that performs slowly, crashes regularly or has poor quality will result in lower usability. If the user views the system as being difficult to use or the data output is of poor quality they will tend to avoid it. On the other hand if they perceive that the new system will add value or improve task performance they will adopt the system either partially or completely. Other researchers such as Markus (1983) however have argued that employees resist new technologies due to a number of organisational-based factors – particularly in relation to the system design and intended use within the company. Thus it can be argued that users are more likely to adopt the new system if they are involved to some degree in the systems development – particularly if they are consulted regarding the specific design elements that will impact their job functions and overall use of the system (Ives and Olson, 1984).

The last perspective –that of the interaction orientated approach – analyses the interaction between the user and the system and suggests that as different users can perceive the effects, benefits and constraints of the same system differently, certain users may resist the system based on a certain factor that might not impact another user (Joshi, 1991; Kling, 1980; Jiang et al., 2000). Moreover, there are a number of perceived social losses associated with a users interaction with a new system. For example, new IT implementation can cause a shift in the power relationship within the organisation, altering the business structure, job structures and reducing the autonomy of employees (Markus, 1983; Lapointe and Rivard, 2005; Kim and Kankanhalli, 2009). These changes can also affect the resource distribution across the organisation impacting departmental budgets, individual authority, status, role and salary (Hirschhiem and Newman, 1988). In this way it is apparent that the psychological contract between the employee and the organisation can be affected by new technology introduction, which may also contribute to a resistance response. Other research has further extended the concept of technology resistance by examining it in terms of personal factors, exploring the link between loss of identity and self-esteem and subsequent resistance to IT in the literature. The following section draws on the identity threat literature and outlines the relationship between technology resistance and threat to identity below.

1.2.b User Resistance and IT Identity Threat

In an effort to explore the social, task-related and personal factors related to technology resistance, Craig et al., (2019) developed a new construct within the IS related literature, referred to as IT Identity Threat. This construct captures the degree to which technologies can threaten an individual's identity and therefore influence an individual's overall perception of the IT (Craig et al., 2019). It draws on Petriglerei's (2011) Identity Threat framework– a process driven model used to explain an individual's reactions to situations, events or stimuli that conflict with their self beliefs that comprise of identity. Craig et al., (2019) leveraged this identity threat concept to explore an individual's reaction to new technologies within the computer-mediated workplace environment. For example the authors note how the introduction of new technology to the workplace may result in a loss of power or prestige for the individual forcing them to engage in protective behaviours in an effort to maintain their self-esteem. Moreover, as new technologies can force unwanted change onto the individual – in how they work or perform their daily task for example– the individual may experience situations that challenge or alter their self-belief and self esteem, resulting in an IT identity threat that could cause resistance to the technology (Wilson, 2002).

The IT identity threat construct provides a novel and unique approach to exploring resistance to technology from both a rigour and relevance perspective as it integrates a broad range of social factors and perceptions relating to technology into a single construct within the literature. It explores perhaps the most fundamental element of resistance to IT i.e., the individual. As technologies grow and develop, they are becoming more personal in use (Carter and Grover, 2015), thus it is apparent that resistance may result from more personal factors or perceptions – a factor which is addressed by the IT identity threat construct. While it is apparent that previous studies within both the psychology and sociology literature have explored the issue of identity threats (Nach and Lejeune, 2010; Parson and Rizzo, 2008; Petriglerei; 2011; Witte and Allen, 2000) the definitions offered have been broad and vague with no clear form of measurement detailed (Petriglerei, 2011; Craig et al., 2019). Thus, researchers Craig et al., (2019) have expanded upon the identity based literature by developing a clear definition and measure of IT identity threat construct thereby alleviating much of the operational and conceptual confusion

surrounding identity treats in the literature. From a practical perspective the IT identity threat construct helps management better understand resistance to IT within the workplace. For example by understanding how the implementation of new technologies into the workplace may cause employees to feel less competent or result in a feeling of a loss of status, self- authenticity and by association lowered self esteem (Craig et al., 2019), management can create proactive interventions focused on alleviating perceived threats, thereby reducing some of the protective or counterproductive behaviours associated with introduction of new technology. In this way it is clear that IT identity threat is a critical and integrative construct that explains resistance behaviours within the IS based literature. Moreover, it offers a theory driven and forward-thinking approach to IT resistance, particularly within the computer mediated workplace environment. However, whilst much research focuses on why users reject or resist new systems and technologies, other researchers have studied user reaction to IT in terms of user adaptation and the consequent IT use behaviours.

1.3 User adaptation to information systems

There has been a growing interest in user-focused studies of IT adaptation in the literature over recent years (Griffith, 1999; Beaudry and Pinsonneault, 2005; Barki et al., 2007; Fadel and Brown, 2010; Kashefi et al., 2015). Much of the research remains fragmented, particularly within the IS based literature (Beaudry and Pinsonneault, 2005; Kashefi et al., 2015). This in part stems from the fact that the construct has been diversely understood and defined in the literature and to date there is no universally accepted approach that IS researchers agree on through which to study this complex phenomenon. For example, Kashefi et al., (2015) note that researchers define and explore user adaptation differently by choosing to focus on one of two perspectives. In some cases, researchers chose to focus on the ‘technology-side’ approach, exploring how users alter, adjust or reinvent the technology to allow them to adapt to it (Rice and Rodgers, 1980; Leonard-Barton, 1988; Majchrzak and Cotton, 1988). A large body of research however considers a ‘user-aspect’ approach, exploring how a user’s perceptions (Clarke, 1987), attitudes (Ives and Olsen, 1984; Leonard-Barton, 1988; Sokol, 1994; Tyre and Orlikowski, 1994; Beaudry and Pinsonneault, 2001; 2005; Fadel, 2011; 2012; Kashefi et

al., 2014; Wu et al., 2014) and post-adoptive technology behaviour (Fadel and Browne, 2010; Techakriengkrai et al., 2014) are affected by the implementation of technology.

It is apparent that studies on user adaptation frequently focus on the individual's response to technology implementation. However, a review of the literature indicates that the user adaptation construct is often seamlessly integrated into the overarching technology adoption focus of the study as opposed to standing alone within the framework, thus adding to the ambiguity that surround the construct. For example, researchers Elie-Dit-Cosaque and Straub (2011) note that despite the fact that studies of user adaptation are commonly related with technology adoption studies in the literature, the user adaptation construct does not explicitly nor clearly appear within any model of technology adoption. It is important to note however that there are in fact several meaningful differences between user adoption and user adaptation outlined in the literature (Bruque et al., 2008), in that 'adaption' is a continuous, long term process (and frequently takes place in a context of mandatory technology implementation) which 'adoption' is typically the end result of the decision-making process (Kashefi et al., 2015). However, Kashefi et al., (2015) note that user adaptation studies within the IS literature share a common theme – that is an adaptation process between the work system, technology and user, with all studies fundamentally focusing on the way users respond to changes or disruptions induced by IT change.

I.4 Models and Theories of Technology Adoption, Adaptation and Resistance

It is clear that technology adoption is a multifaceted construct encompassing various social and behavioural aspects within the literature. However, despite the growing interest of user resistance and adaptation to IT within IS literature, little research has been conducted to explore the various psychological constructs that underlie the behaviours through which users cope with new system implementation. Many of these theories and models help explain why users accept, reject, adapt to or cope with new technologies and systems in the workplace thus providing direction and clarity for both researchers and practitioners alike. Some of these theories fundamentally underpin this study's research framework, and as such are discussed in detail below.

- ***Technology Acceptance (TAM/TAM2/TAM3)***

The Technology Acceptance Model (TAM) developed by Davis (1986) is an important theoretical framework explaining the adoption and acceptance of modern technology. This model is based on Fishbien and Ajzen's (1975) Theory of Reasoned Action (TRA) and suggests that perceived usefulness (PU) and perceived ease of use (PEOU) determine an individuals adoption of a new technology (Davis, 1989; Szanja, 1996; Malhotra and Galletta, 1999; Gefen and Straub, 2000; Lu et al., 2003; Shih, 2003). For example PU refers to a persons belief or understanding that they will be able to use the technology with ease or with little effort (Davis, 1989; Venkatesh and Bala, 2008) whereas PEOU refers to their belief that use of the technology will improve their task or job performance (Davis et al., 1989; Venkatesh and Bala, 2008). In this way, it is apparent, that TAM can be applied by both practitioners and researchers, to explore the primary factors that influence an individual's decision to accept or reject a new technology innovation (Davis et al., 1989; Venkatesh and Bala, 2008).

Many researchers have employed this model (Davis et al., 1989; Chau, 1996; Davis, 1996; Szanjna, 1996; Malhotra and Galletta, 1999; Moore and Benbasat, 1991; Venkatesh, 2000; Lu et al., 2003; Shih, 2003), producing revised versions of the Technology adoption model. For example, in later research Venkatesh (2000) and Davis (1993) himself concede that perceived usefulness is a stronger predictor of attitude than perceived ease of use, despite the fact the perceived ease of use influences perceived usefulness.

Venkatesh and Davis (2000) extended the original TAM model by identifying five determinants of perceived usefulness – subjective norm, image, job relevance, output quality, result demonstrability and two moderators of perceived ease of use, which are experience and voluntariness. This TAM2 suggests that perceived ease of use and result demonstrability will have a positive direct influence on PU (Moore and Benbasset, 1991), whereas job relevance and output quality (the degree to which an individual believes a technology can be applied to their job or task to aid performance) will have a moderating effect on PU (Venkatesh and Davis, 2000; Venkatesh and Bala, 2008). It also suggests

that while subjective norm has a moderating affect on PU and behavioural intention, when combined with image - the degree to which an individual perceives that use of a system will enhance their social status (Moore and Benbasset, 1991) subjective norm will positively influence PU (Venkatesh and Bala, 2008).

Venkatesh and Bala (2008) combined TAM2 with the model of determinants of PEOU to develop a comprehensive model of technology acceptance known as TAM3 or C-TAM-TpB. The authors suggest three theoretical extensions beyond TAM2 and by combining these with Venkatesh's (2000) original model of the Determinants of Perceived Ease of Use create a fully integrated model of technology acceptance that represents a '*complete nomological network of the determinants of an individuals' IT adoption and use*' (Venkatesh and Bala, 2008: 279). TAM3 posits that experience will have a moderating effect on the relationship between (i) PEOU and PU; (ii) computer anxiety and PEOU; and (iii) PEOU and behavioural intention.

Prior research highlights the importance of the experience variable in the adoption of information system (Karahanna et al., 1999; Bhattacharjee and Premkumar, 2004) with other researchers (Rai et al., 2002; DeLone and McLean, 2003) suggesting a correlation between long-term use and the success of the technology or system. In a similar vein, Bhattacharjee (2001) notes how experience with the system can ultimately change an individuals' overall perception of the system, which can further determine adoption, and long term use of a system. Perhaps the most important theoretical contributions of TAM3 relates to the moderating effect of the experience variable, whereby increased experience will increase the effect of PEOU on PU but will further diminish the effect of PEOU on behavioural intentions. For Venkatesh and Bala (2008) this clearly indicates that PEOU is an important user reaction to technology, even if they have gained substantial hands on experience with the IT system itself.

The value of the technology adoption models (TAM/TAM2/TAM3) lies within their integrated frameworks in that they can be adapted and extended to consider many diverse situations and allow for the integration of various antecedents as moderators of the diverse relationships being examined. It is important to note however that much of the prior research relating to technology adoption (Taylor and Todd, 1995; Venkatesh, 2000;

Venkatesh et al., 2003) suggests that employee perceptions regarding organisational *support* will lead to great technology adoption in the workplace (Venkatesh and Bala, 2008). Organisations can provide support in various forms through providing employee system training, setting up dedicated system help desks and providing the necessary infrastructure to implement the system correctly.

- ***Model of Perceived Ease of Use (PEOU)***

The Model of Perceived Ease of Use (PEOU) – a model of antecedents of PEOU - developed by Venkatesh (2000) suggests that individuals formulate early perceptions of the perceived ease of use of a technology based on their prior perceptions or beliefs regarding technology. For example, Venkatesh (2000) suggests that computer anxiety (the degree to which a user experiences stress or fear regarding use of technology) computer self-efficacy (the degree to which an individual believes they are capable of using a technology) and computer playfulness (the tendency of an individual to interact spontaneously with a technology) will influence their PEOU of a system or technology.

Research conducted by Hackbarth et al., (2003) further indicated that playfulness and anxiety were significant antecedents to PEOU, with computer anxiety yielding the strongest effect. Venkatesh (2000) however, suggests that computer playfulness and computer anxiety will decrease as individuals gain experience with a new system whereas computer self-efficacy (and the users perceptions of control) will not, thus theorising self-efficacy as the most significant antecedent of perceived ease of use.

- ***Model of Personal Computer Utilisation (MPCU)***

The model of Personal Computer Utilisation (MPCU) was developed by Thompson et al., (1991) to explore the adoption of personal computers. MPCU adopts Triandis (1980) theory of attitudes and behaviour to examine the direct effects of perceived consequences, social factors, affect and facilitating conditions on behaviour. MPCU suggests that behavioural intentions are developed as a result of an individuals feelings towards a behaviour, the perceived consequences of the behaviour, as well as social factors, complexity, job fit and long term benefits or consequences. Thus the model posits that actual behaviour is influenced by past behaviours, behavioural intentions and facilitating

factors – i.e. support and training – in facilitating an individual in undertaking the behaviour (Thompson et al., 1991). Although habits are not specifically tested in the study, prior research (Sugar, 1967) indicates the importance of habits as a determinant of behaviour. Moreover it can be argued that experience influences many factors including the expected consequences of behaviour and other social norms (Triandis, 1980; Thompson et al., 1991).

- ***Motivation Model***

Understanding what motivates individuals to accept or reject technology has been one of the most challenging issues in information systems research over the years. For example over the years researchers have studied the impacts of users beliefs and attitudes on usage behaviour (DeSanctis, 1983; Ives et al., 1983; Robey, 1979), as well as how these beliefs and attitudes are influenced by external factors relating to the system development process (Alavi, 1984; King and Rodriguez, 1981), the nature of the system implementation process (Ginzberg, 1978) and the system design characteristics (Benbasat and Dextor, 1986; Malone, 1981).

Thus the Motivation Model is comprised of two core elements – extrinsic motivation and intrinsic motivation. Extrinsic motivation refers to an individuals motivation to perform an action, behaviour or activity based on their perception it will lead to a positive outcome – i.e. improved job performance, whereas intrinsic motivation refers to their motivation to perform an activity or behaviour based on no other benefit than performing the action itself (Davis et al., 1992). In other words extrinsic motivation occurs when an individual is motivated by a external reward whereas intrinsic motivation involves engaging in a behaviour as it is personally rewarding, whereby the behaviour itself is often the main reward. Thus for researchers Venkatesh and Speier (1999) when extrinsic and intrinsic motivations are combined they consequently influence an individuals behavioural intention as well as their actual behaviour in most instances.

- ***Unified Theory of Acceptance and Use of Technology***

The Unified Theory of Acceptance and Use of Technology model was developed as an extension of other technology acceptance and behavioural models in the literature. It uses

behavioural intention as a predictor of technology adoption and consists of four key dimensions – performance expectancy, effort expectancy, social factors and facilitating conditions (Venkatesh et al., 2003).

According to UTUAT behavioural intention is directly influenced by performance expectancy, effort expectancy and social factors, which along with facilitating conditions have a direct impact on actual use (Thomas et al., 2013). Although attitude is commonly used to explore an individuals feelings towards using a technology – and thus is represented as an important component in TRA and TAM – it is not explicitly included in the UTUAT model as for Venkatesh et al., (2003) its effect on intention is spurious and as such only emerges when performance expectancy and effort expectancy are omitted from the model.

- ***Herd Behaviour Theory***

Herd behaviour is an area of research that is gaining increased attention within the technology adoption based literature, with many researchers (Duan et al., 2009; Walden and Browne, 2009; Li, 2004; Sun, 2013) using it to explain an individuals adoption decisions in relation to implementation of new systems and technologies. Herding theory suggests that individuals overlook their own beliefs, by imitating others or ‘following the crowd’ when making decisions (Banerjee, 1992; Sun, 2013). When applied to studies of technology adoption, herding theory can be used to explain the technology adoption choices an individual makes. For example, prior research (Brynjolfsson and Kemer, 1996; Gandal, 1994) indicates a strong link between software adoption and herding behaviour, with Waldron and Browne, (2009; 34) suggesting that new technologies or software become popular as new users ‘*rapidly converge toward the same decision simply because they saw others make that decision*’. This type of herding is commonly referred to as an information cascade as the information perceived by the first user influences the decision of others, and thus is often explored in relation to technology, software and even product adoption via the Internet (Waldron and Browne, 2009; Duan et al., 2009). Similarly, for Sun (2013) herding can help explain the rapid adoption and convergence of many social media platforms, noting Facebook’s acquisition of one million active users just 10 months after its initial launch and Twitters explosive growth from 1.6 million users to 32.1 million users between mid 2008 and mid 2009.

Herding theory and subjective norm are two constructs which are commonly interlinked in literature (Li, 2004; Sun, 2013) however while both concepts capture the importance of social influence on adoption decisions they are inherently different concepts and such are recognised as two separate concepts in this study. For example, social norms usually originate from a peer group whereas herding usually consists of a much larger information source group, e.g. previous purchasers of Apple products (Sun, 2013). Moreover, when considering social norms, individuals often base their decision making process on the expectation that their decision may later be judged by their peer group (Moore and Benbasat, 1991), whereas through herding, individuals base their decisions through information they have obtained indirectly regarding the perceived value of the technology, consequently avoiding any blame for an incorrect choice or decision (Sun, 2013).

- ***Coping Theory***

The coping construct is commonly defined as the cognitive or behavioural efforts exerted by an individual to manage specific internal and external demands in order to master, reduce or tolerate stress or conflict (Lazarus and Folkman, 1984). Both internal demands - i.e. personal desires, obligations - and external demands - i.e. job requirements, social pressures - can be considered 'disruptive' if they exceed an individuals ability to manage or cope with them. Thus coping theory explores the processes – i.e. their coping responses – by which individuals respond to disruptive events in their environment (Bhattacharjee et al., 2018).

The individual's coping process is centred around two interrelated sub-processes of coping appraisal and coping effort. For example, an individual will assess the importance and potential consequences of a situation (coping appraisal) as well as the behavioural actions they would need to take to deal with the situation (coping effort), prior to engaging with a situation or event (Lazarus, 1966; Lazarus and Folkman, 1984; Beaudry and Pinsonneault, 2005). According to Bhattacharjee et al., (2018), if an individual believes they have some degree of control over the situation, they engage in a process known as *problem-focused* coping, whereby they manipulate themselves or the surrounding environment in an effort to 'cope' with the situation. Alternatively, the authors note that

if an individual perceives that they lack control over a situation or event, they may adjust their emotions regarding the situation as a coping mechanism, a process known as *emotion-focused* coping. In this way an individual may modify their expectations, ignore any feelings of frustration or disappointment regarding the situation, remain optimistic that the situation may reverse, live in denial or completely withdraw from or avoid the event in question (Folkman et al., 1986; Lazarus and Folkman, 1984). They outline four adaptation responses – benefits maximizing, benefits sacrificing, disturbance handling and self-preservation - in their model. For example, *benefit-maximising* refers to users who view the system as an opportunity and perceive high levels of control over it. This group maximise the benefits from the system, whereas *benefits-sacrificing* refers to users who understand the benefits of the system but perceive low levels of control over it, whereby they do not believe they can utilise or exploit the technology to their own benefit. Alternatively, *disturbance-handling* refers to those users who view the new technology as a threat, yet believe they can control or mitigate the threat, whereas *self-preservation* refers to those users who consider the new system as a threat but perceive low levels of control over the technology and ways in which to avoid the threat (Beaudry and Pinsonneault, 2005; Bhattacharjee et al., 2018).

Bhattacharjee et al., (2018) applied coping theory to examine user response to mandatory IT use, specifically the factors that drive specific IT user responses and how they might change over time. Similar to other studies in the literature, the authors found that users can appraise the same technology in different ways i.e. as an opportunity or threat, and perceive themselves as having different levels of control over the situation. Interestingly however, opportunity and threat are presented as separate independent constructs in the model as opposed to viewing them as opposite ends of the primary appraisal continuum, suggesting that users can view a certain IT as a threat in some ways and an opportunity in others. Moreover, they argue that secondary appraisal in coping theory can be considered in terms of internal control i.e. self efficacy beliefs and external control i.e. an individuals control over their environment. In this way the authors note how it may be possible for management to transition employees towards a more desirable response i.e. compliant or engaged behaviour – by designing and applying appropriate managerial interventions and procedures to target the needs and concerns of the employees such as training and development programmes, technical support and open based discussions in

an effort to motivate them to see the IT as an opportunity rather than a threat. The recognition that individuals, including employees, can adapt a spectrum of responses to technology dependent on level of control, coping theory and this model is of particular interest to the current research.

- *Equity Theory*

Equity Theory developed by social psychologist Adams (1963) proposes that individuals are motivated by what they consider to be fair when compared to others. When applied to the workplace this theory focuses on the employee work-compensation relationship, highlighting the value employees place on fairness in the organisation. For example, equity theory proposes that employees seek to be fairly compensated for their contributions in the workplace in line with their work colleagues. In this way, equity theory focuses on determining whether the distribution of resources is fair between all parties in the workplace as an employee's belief regarding what they perceive to be fair or unfair can negatively impact their attitude, behaviour and motivation in the workplace (Redmond and Wood, 2016).

Joshi (1991; 2005) conducted many studies within the literature to explore the effect of equity theory on technology adoption within the literature. For example, equity theory can be used to explore the ways in which a user evaluates the changes associated with the introduction of new systems or technologies in order to assess whether they will accept, reject or adapt to the new technology. Based on the employee effort-reward relationship, many researchers (Redmond and Wood, 2016; Stecher and Rosse, 2007) note how an employee may be less inclined to alter their behaviour if they do not perceive their efforts will pay off – i.e. they perceive a negative outcome-input ratio. Thus, assuming that individuals will behave rationally or in their best interests when faced with a decision, it can be argued that changes that will produce a positive outcome will be welcomed by the user, whereas changes that are viewed in an unfavourable light will be resisted (Joshi, 2005). Joshi (1991) developed the Equity Implementation model that harnessed the concept of equity theory in an effort to provide a theory-based understanding of information systems users' resistance to change. According to EIM the user draws comparisons with their employers at the second level of analysis. It is apparent that the resulting

improvements, which accompany new system implementation, commonly benefit the employer and organisation. Thus the user may feel entitled to a share of any benefits accrued to the employer as a result of the new system or technology implementation (Joshi, 1991; 2005). In the third stage of analysis the user draws further comparisons with other users of the system whereby they may resist the change if they believe others are experiencing greater benefits from the system than they are themselves (Joshi, 1991; 2005). Thus, at this stage of the decision-making process, an individual's perception of organisational justice and fairness are paramount in the decision to accept or reject the new technology. The emphasis placed on employee perceptions of equity, justice and fairness are particularly relevant to the current study.

- ***Status Quo Bias Theory***

One final model, Status Quo Bias Theory, can provide valuable guidance to this study. Samuelson and Zeckhauser (1988) classify status quo bias in terms of three main perspectives – rational decision-making, cognitive misperceptions and psychological commitment. Rational decision making is influenced by the cost-benefit analysis of the situation -whereby costs greater than benefits will lead to status quo bias- and various psychological factors such as uncertainty costs -whereby the psychological uncertainty or perceived risk associated with the alternative will also lead to status quo bias (Kim and Kankanhalli, 2009; Lee and Joshi, 2016). Cognitive misperception refers to the psychological principle of loss aversion, which suggests that potential loss is valued greater than potential benefit within the decision-making process (Kahneman and Tversky, 1979; Samuelson and Zeckhauser, 1988; Kim and Kankanhalli, 2009). The third perspective of status quo bias theory is concerned with psychological commitment and includes factors such as sunk costs, social norms and control (Lee and Joshi, 2016). For example sunk costs refer to previous commitments which may cause a reluctance to switch to an alternative, social norms refer to the norms that are embedded in the organisation which may contribute to or influence an individual's decision to switch i.e. the opinion of a trusted colleague, whereas the notion of control stems from their desire to control their own actions and decisions thus determining their own situation (Samuelson and Zeckhauser, 1988; Kim and Kankanhalli, 2009; Lee and Joshi, 2016). Lee and Joshi (2016) further note the importance of regret avoidance in status quo bias theory, thus highlighting the importance that fear of regret may play in dissuading or

motivating an individual to take a particular action. The model authors applied status quo bias theory to explore the psychological and decision-making mechanisms that underlie resistance to new system implementation.

Kim and Kankanhalli (2009) model makes a number of interesting contributions to the literature. It extends previous research of user resistance by combining models of technology adoption and resistance theories to provide a deeper understanding of user resistance by examining the overall changes associated with new system implementation.

The study further extends the literature by exploring the effects of normative and control beliefs on change evaluation. It is apparent the technology adoption literature provides an important theoretical and conceptual background for this study and that theories relating to technology adoption, adaptation and resistance underpin the research framework. The perceived value construct and scale was developed using items from the switching benefits construct within this study as discussed in chapters 4 and 6 of this study. Thus it is apparent the technology adoption literature provides an important theoretical and conceptual background for this study and that theories relating to technology adoption, adaptation and resistance underpin the research framework.

I.5. Conclusion

This chapter has provided a thorough review of the technology adoption literature, examining the factors that influence an individual to accept, reject or adapt to a new technology or system. The technology adoption lifecycle was discussed in section 4.1, the dimensions of user resistance were discussed in section 4.2 and the factors that influence an individual to adapt to a new technology were outlined in section 4.3. A number of theories relating to technology adoption, adaptation and resistance were discussed in section 4.4. These theoretical frameworks and models underpin and frame the research framework of this study.

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